IN THE COURT OF CHANCERY OF THE STATE OF DELAWARE

WILLIAM RICHARD KRUSE, individually and as TRUSTEE for THE VIVIAN CALVERT KRUSE LIVING TRUST and THE WILLIAM RICHARD KRUSE LIVING TRUST,	)	
Petitioners,	)	
v.	)	**C.A. No. 12392-VCS**
SYNAPSE WIRELESS, INC.,	)	
Respondent.	)	

MEMORANDUM OPINION

Date Submitted: April 22, 2020
Date Decided: July 14, 2020

Evan O. Williford, Esquire of The Williford Firm LLC, Wilmington, Delaware, Attorney for Petitioner.

Richard P. Rollo, Esquire of Richards, Layton & Finger, P.A., Wilmington, Delaware and Michael D. Mulvaney, Esquire, J. Ethan McDaniel, Esquire and James C. Lester, Esquire of Maynard, Cooper & Gale P.C., Birmingham, Alabama, Attorneys for Respondent.

SLIGHTS, Vice Chancellor

To follow is the Court's fair value appraisal of Respondent, Synapse Wireless, Inc. ("Synapse" or the "Company"), per 8 *Del. C.* § 262. Synapse is an internet of things (or "IoT") company that sells hardware and software to industrial clients.[1] The IoT industry has experienced tremendous growth in recent years, particularly within the industrial machinery space. Sensing that Synapse was well positioned to take advantage of this market opportunity, McWane Inc. ("McWane"), a large, traditional manufacturer, gained control of Synapse through a merger in 2012 (the "2012 Merger").

In contrast to McWane's high hopes, Synapse did not grow as expected following the 2012 Merger. It repeatedly missed its management's financial targets, usually by wide margins. As Synapse hemorrhaged cash, McWane propped up its subsidiary through loans and equity purchases at the price set by the 2012 Merger. In 2016, McWane decided to buyout the remaining minority shareholders and make Synapse a wholly owned subsidiary (the "2016 Merger"). In connection with that transaction, McWane offered the remaining Synapse stockholders $0.42899 per

[1] The Internet of Things "refers to a network comprised of physical objects capable of gathering and sharing electronic information. The Internet of Things includes a wide variety of smart devices, from industrial machines that transmit data about the production process to sensors that track information about the human body." Will Keaton, *The Internet of Things (IoT)*, INVESTOPEDIA (Feb. 9, 2020) https://www.investopedia.com/terms/i/internet-things.asp (last visited July 6, 2020).

share, and all but one Synapse stockholder accepted. That one stockholder, Petitioner, William Richard Kruse ("Kruse"), seeks appraisal of his Synapse stock under 8 *Del. C.* § 262.

While Delaware courts typically look for market-based evidence of fair value in appraisal proceedings, there is no contemporaneous market evidence available here with respect to the 2016 Merger. It is undisputed that there was no market-check or competitive sales process for Synapse leading up to that transaction. Instead, a controlling shareholder of a private company bought out the minority stockholders at a price set by a previously bargained-for settlement agreement. With neither party arguing this Court should defer to the deal price, Kruse and Synapse both have relied on expert witnesses to value Kruse's Synapse shares.

The experts used similar valuation techniques: each presented valuations based on discounted cash flow ("DCF") models, comparable transactions and McWane's prior purchases of Synapse's stock (the only market-based evidence presented). And, in doing so, the experts materially agreed on several important inputs in their valuation models. Nevertheless, as has become standard fare for appraisal litigation,[2] the experts reached monumentally different valuations. Kruse's

[2] *See, e.g.*, *Golden Telecom, Inc. v. Global GT LP*, 11 A.3d 214, 218 (Del. 2010) ("[I]t is difficult for . . . Vice Chancellors to assess wildly divergent expert opinions regarding value."); *In re Appraisal of Jarden Corp.*, 2019 WL 3244085, at *1 (Del. Ch. July 19, 2019) (observing that well credentialed experts were "miles apart"); *Gonsalves v. Straight Arrow Publ'rs, Inc.*, 1996 WL 696936, at *1 (Del. Ch. Nov. 27, 1996) ("Gonsalves I"),

expert opined that each Synapse share was worth $4.1876 at the time of the 2016 Merger. Synapse's expert declined to give a single valuation, but his summary values ranged from $0.06 to $0.11 per share.

When dueling experts proffer wildly divergent valuations, the resulting trial dynamic presents difficult and, frankly, frustrating challenges for the judicial appraiser. This case presents another, more fundamental challenge; after carefully reviewing the evidence, it is difficult to discern *any* wholly reliable indicators of Synapse's fair value. There is no reliable market evidence, the comparable transactions analyses both experts utilized—a dicey valuation method in the best of circumstances—have significant flaws and the management projections relied upon by both experts in their DCF valuations are difficult to reconcile with Synapse's operative reality.

In the typical litigation context, the lack of fully reliable evidence might lead the factfinder to conclude that neither party carried their burden of proof and neither party, therefore, is entitled to a verdict. But "no" is not an answer in the unique world of statutory appraisal litigation. If the parties fall short in their respective burdens, the court must still reach an answer—a fair value appraisal must still be

rev'd, 701 A.2d 357 (Del. 1997) ("Gonsalves II") (stating it is "rather a typical appraisal trial" when experts advance "absurdly differing values").

provided.[3] In this case, one expert credibly made the best of less than perfect data to reach a proportionately reliable conclusion, while the other did not. In such circumstances, this court is free to adopt, in part or in whole, the more credible valuation.[4] This is especially so when the court is satisfied that it can do no better on its own.

After carefully reviewing the evidence, I find that Synapse has marshalled sufficient evidence to carry its burden of proving a reliable appraisal of Synapse's fair value as of the 2016 Merger. Accordingly, with two minor adjustments, I adopt one of the discounted cash flow valuations proffered by Synapse and appraise the fair value of Synapse's equity as of the 2016 Merger at $20,347,822, or $0.228 per share. Kruse's 582,216 shares, therefore, are appraised at a fair value of $133,015.09.

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[3] *M.G. Bancorporation, Inc. v. LeBeau*, 737 A.2d 513, 526 (Del. 1999).

[4] *See id.; Cede & Co. v. Technicolor, Inc.*, 884 A.2d 26, 35–36 (Del. 2005) ("*Cede III*") ("It is often the case in statutory appraisal proceedings that a valuation dispute becomes a battle of experts. This is evidenced by the fact that the Court of Chancery is frequently presented with conflicting expert testimony. The Court of Chancery, as the finder of fact in an appraisal case, enjoys the unique opportunity to examine the record and assess the demeanor and credibility of witnesses. Thus, the Court of Chancery is the sole judge of the credibility of live witness testimony. This Court will accept the Court of Chancery's factual determinations if they turn on a question of credibility and the acceptance or rejection of particular pieces of testimony. A factual finding made by the Court of Chancery based on a weighing of expert opinion may be overturned only if arbitrary or lacking evidential support.") (quotations omitted).

I. BACKGROUND

The following facts were proven by a preponderance of the evidence after a three-day trial.[5]

A. Parties and Relevant Non-Parties

Respondent, Synapse, is a Delaware corporation that manufactures products in the "Internet of Things" and "Smart Manufacturing" spaces.[6] Synapse has several business lines. In its "Core" or "Legacy Core" business, the Company provides customers a small hardware module with an operating system, a radio and the ability to accept instructions in the Python programming language, allowing customers to build and connect their own applications for the technology.[7] The "Lighting" business sells special purpose controls for LED lighting, and configuring networks for those controls.[8] Synapse's "Smart Manufacturing" business provides products as services to manufacturing companies, which allows Synapse to obtain recurring revenue by offering continuing configuration and computing services.[9]

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[5] I cite to the trial record as "Tr.__ (name)", the Joint Pre-Trial Stipulation and Order as "PTO ¶ __", the joint trial exhibits as "JX__" and Depositions as "(Name) Dep.__."

[6] JX 305 ("Myers Dep.") 29:22–30:10.

[7] Myers Dep. 25:9–27:25.

[8] Myers Dep. 28:1–29:13.

[9] Myers Dep. 30:3–31:13.

Non-party, McWane, is a major national manufacturer of products including "cast iron, drainpipe fittings, couplings, ductile pipe, fire hydrants, underground valves, fittings like the bends and Ts that connect the water underground, [and] propane tanks, like [] gas grill tanks."[10] McWane is a private company and remains under the control of its founders, the McWane family.[11]

Petitioner, William Richard Kruse, is a former aerospace engineer who has invested in numerous startup companies, both as an individual and through the Huntsville Angel Network, an investor group.[12] Kruse first invested in Synapse in 2009 after the company pitched the Huntsville Angel Network, and he invested additional money in 2009 and 2010 through his IRA, his trust and his wife's trust.[13] Kruse, individually, and as trustee for the Vivian Calvert Kruse Living Trust and the William Richard Kruse Living Trust, held 582,216 shares of Synapse before the 2016 Merger.[14]

[10] JX 301 ("Page Dep.") 18:15–19:7.

[11] Tr. 22:21–22:2 (Page); Tr. 61:15–22 (Page).

[12] Tr. 128:1–131:4 (Kruse).

[13] Tr. 133:4–134:3 (Kruse).

[14] PTO ¶ 7.

B. The 2012 Merger

On May 23, 2012, Synapse entered into an Agreement and Plan of Reorganization with McWane.[15] The Agreement and Plan of Reorganization contained two key parts: the 2012 Merger between Synapse and McWane, which gave McWane a controlling stake in Synapse, and a Stockholders Agreement (the "2012 Stockholders Agreement") between Synapse, McWane, the designated stockholder representative and consenting Synapse stockholders.[16]

In the 2012 Merger, McWane acquired Synapse stock at a per-share price of $4.997, implying an enterprise value of $109 million.[17] The 2012 Merger Agreement contains certain Company representations, warranties and covenants, and an agreement to indemnify the purchasers against losses arising out of or connected to breaches of those representations, warranties and covenants.[18] The parties established an $8 million escrow account as partial security for the

[15] JX 52 (the "2012 Merger Agreement").

[16] PTO ¶¶ 3–4.

[17] *Id.* Synapse effectuated a 3:1 stock split on September 30, 2014, implying a pre-merger price per share of $1.667. PTO ¶ 6.

[18] 2012 Merger Agreement §§ 3.1–3.28, 8.2(a).

sellers' indemnification obligations.[19] Moro Lanier, III was named as the Stockholder Representative.[20]

The 2012 Stockholders Agreement contains a provision giving the minority stockholders the right, beginning in 2016, to demand that McWane purchase their outstanding Synapse stock based on Synapse's then-current valuation—subject to a valuation floor of $76.3 million.[21] That agreement also gave McWane the right, beginning in 2018, to require the remaining minority stockholders to sell their Synapse stock to McWane.[22] Important here, the agreement further provided McWane with the right, expiring in 2016, to purchase any newly issued Synapse shares at a price per-share based on the 2012 Merger.[23] As discussed below, McWane would go on to exercise this option on numerous occasions.

[19] 2012 Merger Agreement § 8.4, 6.

[20] 2012 Merger Agreement § 8.6. Kruse has criticized the selection of Mr. Lanier as stockholder representative, suggesting that his relationship with Ruffner Page, McWane's President, made Mr. Lanier an inappropriate choice to represent Synapse stockholders. *See, e.g.*, Pet'r's Post-Trial Opening Br. ("Post-Trial OB") 8–9, 58. After reviewing the evidence of the Page/Lanier relationship, I find the argument unpersuasive.

[21] PTO ¶ 10.

[22] *Id.*

[23] PTO ¶ 11.

C. Synapse Continuously Misses its Revenue Targets

In the years following the 2012 Merger, Synapse repeatedly missed its revenue targets, at times by wide margins. For instance, Synapse's 2013 revenue target was $11.78 million;[24] its actual 2013 revenue was $2.154 million.[25] Synapse's 2014 revenue target was $7.1 million;[26] its actual 2014 revenue was $3.025 million.[27] Synapse's 2015 revenue target was $10.14 million;[28] its actual 2015 revenue was $2.33 million.[29] Synapse's 2016 revenue target was $11.91 million;[30] its actual 2016 revenue was $3.96 million.[31] And so it went; suffice it to say, Synapse's management were not proficient forecasters. Indeed, in 2015, Synapse missed its revenue projections for *every month*, even when accounting for monthly downward revisions.[32] The chart below illustrates the forecast misses:

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[24] JX 76 at 2.

[25] *Id.*

[26] JX 98 at 2.

[27] *Id.*

[28] JX 197 at 14.

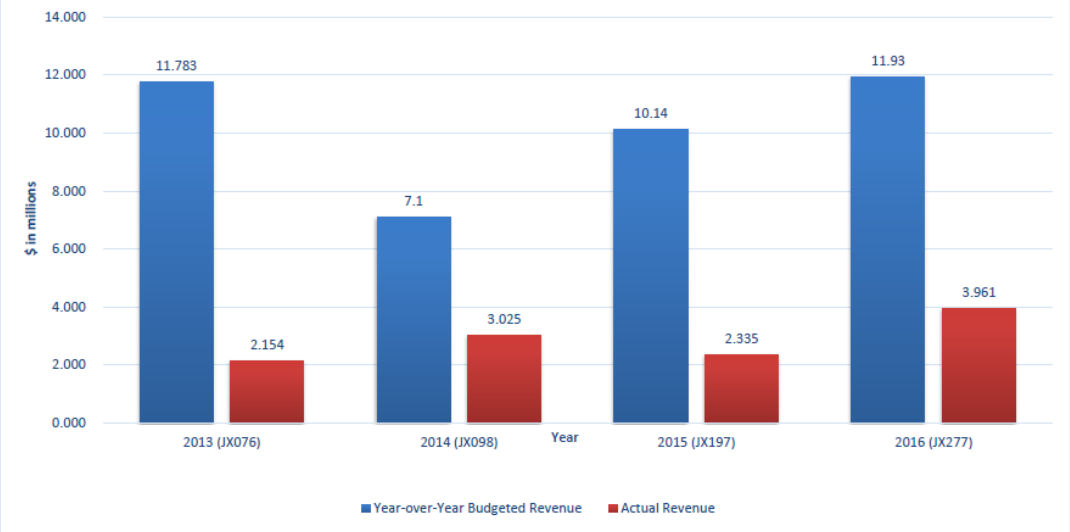
[29] *Id.*

[30] JX 277 at 13.

[31] *Id.*

[32] Tr. 179:4–180:11 (Reinhardt); JX 197 at 22.

Year-over-Year Budgeted Revenues Compared to Actual Revenues



[33]

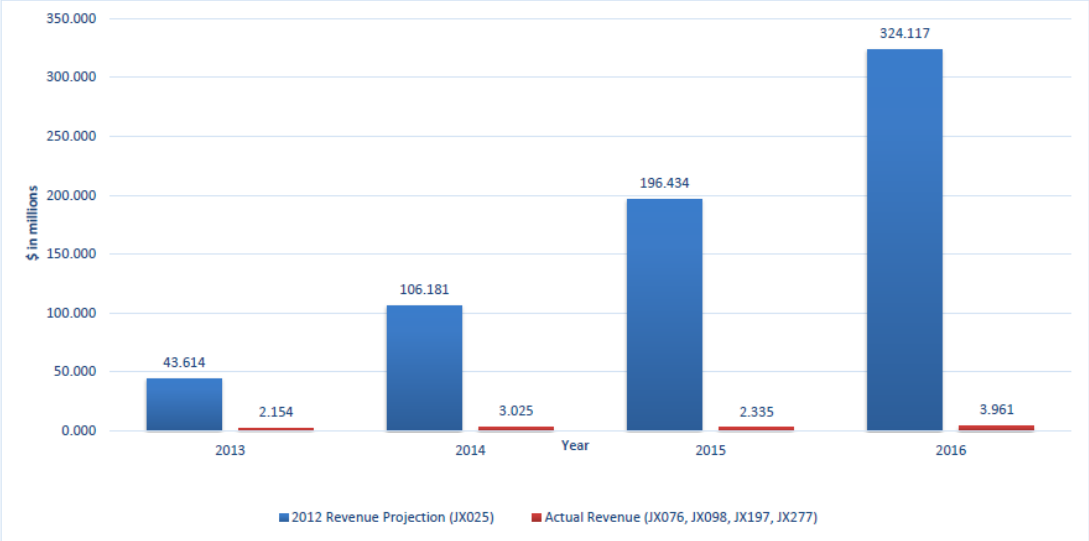
Synapse's disappointing post-2012 Merger performance stands in stark contrast to the financial projections used to calculate the 2012 Merger price. As depicted in the chart below, before that merger, Synapse's projected revenues were $43.6 million for 2013, $106.18 million for 2014, $196.43 million for 2015, and $324.11 million for 2016.[34] Cumulatively, Synapse's actual revenues missed these projections by hundreds of millions of dollars.[35]

[33] Respondent's Demonstrative 2.

[34] JX 25 at 7.

[35] *Compare id. with* JX 76 at 2; JX 98 at 2; JX 197 at 14; JX 277 at 13.

2012 Projected Revenues Compared to Actual Revenues



[36]

Synapse developed six distinct business lines after the 2012 Merger, but by 2015, it had already shut down three of them. [37]

Kruse waves away this dismal history and makes much of Synapse's 2016 business plan. He argues it represented a turning point for the Company that "put it on an accelerated path to success," using this argument to justify a higher valuation.[38] According to Kruse, the shuttering of business units meant, "Synapse was retooled to be a more profitable vertical business."[39] This supposed "retooling," however,

[36] Respondent's Demonstrative 1.

[37] JX 170 at 5; JX 303 ("Reinhardt Dep.") 217:4–13.

[38] Petitioner's Pre-Trial Opening Br. 9.

[39] *Id.*

did nothing to improve Synapse's fortunes. The Company's revenue was only $5.7 million in 2017 and $7.5 million in 2018, orders of magnitude lower than the lofty revenue projections used to justify the 2012 Merger price.[40]

D. McWane Provides Synapse with Additional Funds

With Synapse repeatedly missing its revenue targets and being miles away from profitability, the Company relied on McWane to finance its operations.[41] To fund its subsidiary, McWane purchased newly-issued Synapse stock eight times after the 2012 Merger, eventually acquiring over ten million newly issued Synapse shares at the contractually mandated pre-split price of $4.997 per share.[42] The majority of these shares were purchased in one block in January 2014, when McWane paid $31 million for 6,203,660 shares of Synapse.[43] In addition to new stock issuances, McWane also acquired nearly a million existing shares from Synapse stockholders at the contractually pre-determined price.[44]

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[40] Tr. 196:19–21 (Reinhardt); Tr. 123:3–9 (Page). While these post-merger numbers cannot impact my appraisal of Synapse's fair value as of the 2016 Merger, they are useful to keep in mind when assessing the fanciful nature of Synapse's management's financial targets.

[41] Tr. 186:10–192:15 (Reinhardt).

[42] JX 256.

[43] Tr. 186:21–23 (Reinhardt).

[44] JX 256. This excludes purchases associated with the 2016 Merger and Lanier Settlement Agreement, both discussed later.

Shortly after the January 2014 equity purchase, Synapse loaned the entire $31 million back to McWane.[45] This transaction structure allowed McWane to fund Synapse's operations while keeping Synapse on a short leash—each month Synapse requested McWane repay a portion of the $31 million according to the Company's current financial needs, and each month McWane repaid the requested amount.[46] Importantly, by purchasing the shares up front, McWane increased its ownership interest in Synapse beyond 80%. This permitted McWane to consolidate Synapse's and McWane's federal tax returns, allowing it to employ Synapse's prior tax losses fully for its own benefit.[47]

The parties dispute what happened next. The $31 million was paid back and spent by November or December of 2014, after which McWane began to loan money (the "Disputed Money") to Synapse directly.[48] The first loan occurred on December 3, 2014, for $870,000.[49] By January 11, 2016, the balance on the loan

[45] Tr. 187:13–188:1 (Reinhardt).

[46] Tr. 187:16–188:4 (Reinhardt).

[47] Tr. 371:22–372:22 (Petty). These tax benefits would eventually exceed the $31 million McWane paid for these shares. Tr. 373:3–11.

[48] Tr. 188:9–21 (Reinhardt).

[49] JX 349 ("Sweet Opening Report") 15.

totaled $29,343,000.[50] The loan carried a rock-bottom interest rate of 1.16%, and while Synapse appears to have made some interest payments, it never generated enough free cash to pay back principal on the loan.[51]

The parties dispute whether this money was truly a loan from McWane to Synapse, or was, instead, a capital contribution.[52] Synapse and McWane describe the money as a loan, support that characterization with loan documentation and identify "interest payable" and "intercompany notes payable" attributable to the loan on Synapse's balance sheet.[53] Kruse responds that Synapse never made any principal payments, McWane intended to forgive the loan and, therefore, the Disputed Money should be treated as contributed capital.[54]

After reviewing the evidence, I am satisfied the Disputed Money is debt. Synapse's executives credibly testified to that fact, and the Company was able to support this claim with contemporaneous, original loan documentation.[55] Although Synapse had not repaid any principle as of the 2016 Merger, Synapse did appear to

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[50] Sweet Opening Report 15–16; *see* JX 197 at 11 (noting a $27,747,500 balance on December 31, 2015).

[51] Tr. 810:5–16 (Noe); Tr. 389:4–15 (Petty). Sweet Opening Report 15–16.

[52] *See* Sweet Opening Report 16; JX 358 ("Noe Rebuttal Report") ¶ 14.

[53] Noe Rebuttal Report ¶¶ 14, 14 n.1; JX 197 at 11; JX 217; JX 252.

[54] Sweet Opening Report 15–16; JX 207.

[55] Tr. 182:13–22 (Reinhardt); Tr. 183:11–16 (Reinhardt); JX 197 at 11; JX 217; JX 252.

have made interest payments and McWane has never forgiven this debt.[56] I address the implications of this finding below.

E. The Lanier Action

On December 13, 2013, McWane filed a claim certificate related to the 2012 Merger in which it alleged it had suffered losses due to Sellers' breaches and misrepresentations exceeding the $8 million escrow account.[57] The parties commenced negotiations to resolve the claim, but were unable to do so.[58] On March 31, 2014, McWane filed a complaint in this court (the "Lanier Action") to recover its purported losses.[59]

The Lanier Action focused on alleged "channel stuffing," a practice in which a company intentionally sells more inventory to retailers and distributors than it expects those intermediaries will ultimately sell to consumers.[60] This practice allows

[56] Tr. 188:22–190:9 (Reinhardt).

[57] PTO ¶ 12.

[58] JX 421 (the "Lanier Action") 6.

[59] *Id.*

[60] *See generally*, Tracy Byrnes, *Too Many Thin Mints: Spotting the Practice of 'Channel Stuffing'*, WALL ST. J. (Feb. 7, 2002) https://www.wsj.com/articles/SB1013117089572671360; Tr. 263:3–8 (Foster).

a company to recognize revenue earlier than it otherwise would.[61] Channel stuffing often requires the company to extend discounts or other incentives to the intermediaries, lowering the ultimate price the company receives for its products.[62] Additionally, intermediaries typically have the right to return unsold inventory, potentially rendering the sales boost illusory.[63] Channel stuffing is only possible when a company uses a "sales-in" method of revenue recognition (which allows the seller to recognize revenue when the product goes to a distributor), rather than a "sales-through" method (which requires the seller to wait to recognize revenue until the distributor sells to the ultimate consumer).[64]

The complaint in the Lanier Action alleges, "Synapse improperly recognized revenue from sales to distributors prior to the time of the Merger, resulting in inflated and misstated revenue numbers."[65] The parties spent considerable time at trial presenting evidence related to purported channel stuffing before the 2012 Merger and the propriety of Synapse's revenue recognition and accounting methods.

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[61] There may be legitimate reasons for a company to recognize revenue in an earlier sales period. The practice is illegitimate, however, when used to create a misleading impression of current sales. *See id.*

[62] *Id.*

[63] Tr. 396:24–398:2 (Petty).

[64] Tr. 392:23–395:6 (Petty).

[65] Lanier Action 12.

The parties settled the Lanier Action in December 2015, prior to the court's verdict. According to the settlement documents (collectively, the "Lanier Settlement Agreement"), McWane received the following: (1) $4.65 million from the escrow account; (2) a reduction in the price of McWane's call option to a post-split price of $0.42899 per share; and (3) an acceleration of McWane's call option to make it immediately exercisable.[66] After the Lanier Settlement Agreement was executed, McWane exercised its accelerated call option, giving it beneficial ownership of 99.346% of the outstanding Synapse stock.[67] Kruse was the only stockholder who refused to sell his shares pursuant to this agreement.[68]

F. The 2016 Merger

On February 2, 2016, Synapse and McWane effectuated a squeeze-out merger, and offered Kruse the Lanier Settlement price of $0.42899 per share for his stock.[69] Instead of accepting the 2016 Merger price, Kruse brought this action for appraisal.

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[66] JX 199 (the "Lanier Settlement Agreement").

[67] PTO ¶ 16.

[68] PTO ¶ 18.

[69] PTO ¶ 19.

G. The Experts

Both Kruse and Synapse retained experts who opined on the fair value of Synapse as of the 2016 Merger. Kruse retained Athen Sweet ("Sweet"), whose reports I will refer to as the "Sweet Opening Report" and the "Sweet Rebuttal Report."[70] Synapse retained Christopher Noe ("Noe"), whose reports I will refer to as the "Noe Opening Report" and the "Noe Rebuttal Report."[71]

Sweet applied three valuation techniques to reach his fair value conclusion. First, he performed a "Prior Company Transactions" analysis that yielded an enterprise value for Synapse of $386,622,000.[72] Next, he performed a DCF analysis, resulting in an enterprise value of $331,973,000.[73] Finally, he performed a

[70] Athen Sweet is the founder and CEO of Innovatus IQ, LLC, a merger and acquisition advisory firm. Sweet Opening Report Appx. A. He previously worked as a Certified Public Accountant at Faulk & Winkler, LLC, an accounting firm. *Id.* Mr. Sweet received his B.S. in Accounting and M.B.A. from Southeastern Louisiana University, where he currently serves as Professional Chairman of the school's Accounting Advisory Committee. *Id.*

[71] Christopher Noe, Ph.D is a Senior Lecturer at the Massachusetts Institute of Technology's Sloan School of Management, where he teaches classes on accounting, financial statement analysis and valuation. JX 319 ("Noe Opening Report") ¶ 1; Noe Opening Report Ex. 1. He previously worked as a consultant at Charles River Associates, an economics, finance and business consulting firm, and as an Assistant Professor at Harvard Business School. *Id.* Dr. Noe received his Ph.D in Accounting and his M.S. in Applied Economics from the William E. Simon Graduate School of Business Administration at the University of Rochester and his B.A. in Economics from Emory University. *Id.*

[72] Sweet Opening Report 17; Tr. 582:18–583:16 (Sweet).

[73] Sweet Opening Report 17; Tr. 595:8–596:2 (Sweet).

"Guideline Transactions (Private)" analysis (or "Comparable Transactions" analysis), which reached an enterprise value of $190,356,000.[74] Ultimately, and for reasons not entirely clear, Sweet relied 75% on his Prior Company Transactions analysis, 25% on his Discounted Cash Flow analysis, and 0% on his Comparable Transactions analysis, to land on a final valuation of $372,960,000, and a per-share fair value of $4.1876.[75]

Noe utilized the same three valuation techniques as Sweet, but reached very different conclusions. He first performed DCF valuations utilizing two different sets of assumptions, leading to enterprise values in one model of $48.9 million or $0.24 per share,[76] and in the other model a value of negative $3.4 million or $0 per share.[77] Noe then employed a "Comparable Transactions" analysis, which resulted in a value of $0.01 per share.[78] Last, Noe performed a Prior Company Transactions analysis that produced a value of $0.19 per share.[79] Ultimately, Noe declined to provide a single valuation for Synapse stock. Instead, he offered two possibilities. If the 2012

[74] Sweet Opening Report 17; Tr. 632:6–20 (Sweet).

[75] Sweet Opening Report 17.

[76] Noe Opening Report ¶ 13; Tr. 763:18–764:1 (Noe).

[77] Noe Opening Report ¶ 16; Tr. 770:19–777:7 (Noe).

[78] Noe Opening Report ¶ 21; Tr. 779:5–783:9 (Noe).

[79] Noe Opening Report ¶ 24.

Merger price was unreliable, he applied equal weight to his DCF and Comparable Transactions analyses to reach a fair value share price of $0.06.[80] If the 2012 Merger was a reliable indication of value, he weighed all three of his techniques equally and valued Synapse at $0.11 per share.[81]

H. Procedural History

Kruse filed this action on May 31, 2016.[82] This Court held a three-day trial from February 11, 2019 to February 13, 2019, and post-trial oral argument was held on September 19, 2019. After reassignment of this case to me,[83] I certified my familiarity with the case and trial evidence (including a video recording of the trial testimony) under Court of Chancery Rule 63 on April 16, 2020, and deemed the matter submitted for decision on April 20, 2020.[84]

II. ANALYSIS

Kruse seeks appraisal of his Synapse shares under 8 *Del. C.* § 262. That statute entitles shareholders who satisfy certain form and manner requirements to "an appraisal by the Court of Chancery of the fair value of the stockholder's shares

[80] Noe Opening Report ¶ 25; Tr. 738:7–15 (Noe).

[81] *Id.*

[82] JX 246.

[83] D.I. 170.

[84] D.I. 176.

of stock . . . ."[85] The parties do not dispute that Kruse continuously held shares or that he has properly perfected his appraisal rights under Section 262. Instead, as usual, the dispute centers on the proper determination of Synapse's fair value.

A. The Statutory Appraisal Remedy

"An action seeking appraisal is intended to provide shareholders who dissent from a merger, on the basis of the inadequacy of the offering price, with a judicial determination of the fair value of their shares."[86] "'The underlying assumption in an appraisal valuation is that the dissenting shareholders would be willing to maintain their investment position had the merger not occurred.' Accordingly, the corporation must be valued as a going concern based upon the 'operative reality' of the company as of the time of the merger."[87] "[T]he purpose of an appraisal is . . . to make sure that [shareholders] receive fair compensation for their shares in the sense that it reflects what they deserve to receive based on what would fairly be given to them in an arm's-length transaction."[88] "Since every company is different,

[85] 8 *Del. C.* § 262.

[86] *Cavalier Oil Corp. v. Harnett*, 564 A.2d 1137, 1142 (Del. 1989).

[87] *M.G. Bancorporation*, 737 A.2d at 525 (quoting *Cede & Co. v. Technicolor, Inc.*, 684 A.2d 289, 298 (Del. 1996) ("*Cede II*")).

[88] *DFC Global Corp. v. Muirfield Value P'rs, L.P.*, 172 A.3d 346, 370–71 (Del. 2017).

and every merger is different, the appraisal endeavor is by design, a flexible process."[89]

The Appraisal Statute is a "[b]roth of many cooks and opaque of intent."[90] In this spirit, the statute eschews specific guidance in favor of a more cryptic mandate that this court consider "all relevant factors" as it determines the fair value of a dissenting stockholder's shares.[91] As I undertake my independent appraisal of Synapse, I may consider "proof of value by any techniques or methods which are generally considered acceptable in the financial community and otherwise admissible in court. . . ."[92] Because "corporate finance is not law," expert witnesses often play the lead role in sponsoring competing appraisals to the court.[93]

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[89] *In re Appraisal of Jarden Corp.*, 2019 WL 3244085, at *23 (Del. Ch. July 19, 2019) (quotations omitted), *aff'd sub nom*. 2020 WL 3885166 (Del. July 9, 2020).

[90] *In re AOL Inc.*, 2018 WL 1037450, at *1 (Del. Ch. Feb. 23, 2018).

[91] 8 *Del. C.* § 262(h). "Relevant factors" do not include value deriving from the transaction itself. "The court should exclude 'any synergies or other value expected from the merger giving rise to the appraisal proceeding.' '[O]nce the total standalone value is determined, the court awards each petitioning stockholder his pro rata portion of this total . . . plus interest.'" *Verition P'rs Master Fund Ltd. v. Aruba Networks, Inc.*, 2018 WL 922139, at *23 (Del. Ch. Feb. 15, 2018) (*rev'd* on different grounds, 2019 WL 1614026 (Del. Apr. 16, 2019)) (quoting *Global GT LP v. Golden Telecom, Inc.*, 993 A.2d 497, 507 (Del. Ch. 2010) (*aff'd*, 11 A.3d 214 (Del. 2010)).

[92] *Weinberger v. UOP, Inc.*, 457 A.2d 701, 713 (Del. 1983). *See also Laidler v. Hesco Bastion Envtl., Inc.*, 2014 WL 1877536, at *6 (Del. Ch. May 12, 2014) (discussing the parties' competing burdens of proof and the court's obligation independently to appraise the target company).

[93] *In re Jarden*, 2019 WL 3244085, at *1.

When it comes to evaluating expert testimony, appraisal cases are no different from any other adversarial proceeding. The court's fact-finding role allows it to consider reliable and credible expert testimony and to reject unreliable or incredible expert testimony.[94] In this regard, the court "has the discretion to select one of the parties' valuation models as its general framework or to fashion its own."[95] And, "although not required to do so, it is entirely proper for the Court of Chancery to adopt any one expert's model, methodology, and mathematical calculations, *in toto*, if that valuation is supported by credible evidence and withstands a critical judicial analysis on the record."[96]

As mentioned, Kruse and Synapse's expert witnesses both relied on three valuation techniques. The first technique links the value of Synapse to the price McWane paid for Synapse shares in prior transactions. I refer to this approach as the Prior Company Transactions model. The second is a Comparable Transactions analysis, which looks to other transactions within a similar timeframe, industry and company size, and uses financial metrics from those transactions to estimate Synapse's value. The third technique is a DCF, which builds a valuation from the

[94] *M.G. Bancorporation*, 737 A.2d at 526.

[95] *Id.* at 525–26.

[96] *Id*. at 526.

ground up using projections of future cash flows, and then discounting those projections to present value. I address each approach in turn.

B. Market Evidence of Fair Value

Both experts performed valuations based on McWane's previous purchases of Synapse stock, though they differ on how much weight to give these valuations in the final determination of Synapse's fair value. As these purchases, and in particular the 2012 Merger, are the transactions most likely to provide the Court with market-based evidence of Synapse's value, they must be examined first.[97]

Recent decisions of our Supreme Court have emphasized the important role market evidence plays in valuing a company.[98] Vice Chancellor Glasscock concisely summarized this focus noting, "[w]here [] transaction price represents an unhindered, informed, and competitive market valuation," and the "terms of the transaction are not structurally prohibitive or unduly limiting to [] market participation," then "the trial judge must give particular and serious consideration to transaction price as evidence of fair value."[99] While the cases emphasizing the

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[97] *See Dell, Inc. v. Magnetar Global Event Driven Master Fund Ltd.*, 177 A.3d 1, 35 (Del. 2017) (holding that the price of transactions occurring in an efficient market are to be given "heavy weight" in appraisal cases).

[98] *See id.; DFC*, 172 A.3d at 366.

[99] *In re AOL*, 2018 WL 1037450, at *1 (citations omitted); *see also DFC*, 172 A.3d at 367 (holding "the most reliable evidence of value is that produced by a competitive market, so long as interested buyers are given a fair opportunity to price and bid on the something in question"); *Aruba*, 2019 WL 1614026, at *5 ("*DFC* and *Dell* recognized that when a public

importance of market evidence focus on the transaction that caused a dissenting shareholder to sue for appraisal, purchases of company stock predating the event triggering appraisal could potentially provide market evidence of fair value if those transactions were "Dell Compliant."[100]

1. McWane's Stock Purchases and the 2016 Merger

Kruse argues that McWane's purchases of Synapse stock preceding the 2016 Merger provide important insight into Synapse's fair value because McWane voluntarily bought Synapse stock with full information about the Company's struggling business prospects.[101] Synapse disagrees, arguing McWane made these purchases at a contractually mandated price to provide Synapse with desperately needed capital.[102] Stock purchases in such circumstances, Synapse argues, provide little to no reliable evidence of Synapse's value.

Neither McWane's series of stock purchases after the 2012 Merger nor the 2016 Merger occurred in a competitive market. These purchases involved no robust market check, and each occurred in the absence of unhindered, informed and

company with a deep trading market is sold at a substantial premium to the preannouncement price, after a process in which interested buyers all had a fair and viable opportunity to bid, the deal price is a strong indicator of fair value. . . .").

[100] *In re AOL*, 2018 WL 1037450, at *1.

[101] Post-Trial OB 31.

[102] Tr. 374:5–22 (Petty).

competitive market conditions.[103] Information was not widely disseminated to other potential buyers, and there is no evidence other willing purchasers of Synapse stock existed, let alone bid for the stock.[104] In each of these transactions, McWane was the dominant controlling stockholder making purchases at a price set not by market conditions or independent appraisers, but by a years-old contract.[105] And, the largest of these capital investments—the $31 million January 2014 purchase—was motivated, in large part, by McWane's desire to keep Synapse afloat and to increase its ownership of Synapse over the 80% threshold so that it could reap the attendant tax benefits.[106] As such, I do not find these purchases to be reliable or relevant indicators of Synapse's fair value.

2. The 2012 Merger

While the 2012 Merger was an arm's-length transaction between a willing buyer and seller, I likewise find it is not probative of Synapse's value as of the 2016 Merger.[107] The 2012 Merger was nearly four-years-old at the time of the 2016

[103] Tr. 366:20–369:19 (Petty).

[104] *See* Tr. 368:11–16 (Petty); Tr. 369:14–19 (Petty); Tr. 387:1–7 (Petty).

[105] JX 61 at 1.

[106] Tr. 371:22–373:16 (Petty); JX 443 at 2. The tax savings from this transaction eventually exceeded the $31 million paid for the shares. Tr. 373:3–11 (Petty).

[107] *See DFC*, 172 A.3d at 370–71 (noting the purpose of appraisal is to give a shareholder the price they would fairly receive in an arms-length transaction).

Merger. It was, in a word, stale as of the 2016 Merger. Moreover, Synapse faced dramatically different prospects in 2016 than it did in 2012.[108] In the years since the 2012 Merger, the Company had demonstrated a serial inability to meet even conservative financial targets.[109] Of particular consequence, its 2015 revenue was nearly *84 times* lower than the projection used to calculate the 2012 Merger price—a miss of nearly $200 million.[110]

The parties argued at great length about whether the 2012 Merger involved fraud.[111] That issue was front and center in the Lanier Action, but that case is not before me. Instead, I am tasked with deciding whether the 2012 Merger is evidence of Synapse's value as of the 2016 Merger. After reviewing the evidence and arguments of counsel, I am satisfied that the 2012 Merger was either the product of Synapse's officers' misleading inflation of the company's value, or the product of McWane's failure to perform adequate due diligence regarding Synapse's revenue recognition model. In either instance, McWane did not understand the company it

[108] *See* Respondent's Demonstrative 1.

[109] *See, e.g.*, *supra* Section I.C; Tr. 183:17–186:9 (Reinhardt).

[110] JX 25 at 7; JX 197 at 14.

[111] *See, e.g.*, Post-Trial OB 31, 41; Respondent's Post-Trial Answering Br. ("Post-Trial AB") 47–59.

was buying in 2012, limiting the probative value of the 2012 Merger price in my appraisal of the Company's fair value as of the 2016 Merger.[112]

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The experts' determinations of fair value using Prior Company Transaction methods rest on an assumption that the prior transactions bear some relevance to Synapse's fair value in 2016. Because I am not persuaded that this connection is factually supported, I reject the experts' Prior Company Transaction analyses as unreliable and, therefore, irrelevant.

3. Pre-litigation Valuations

The parties dispute the relevance of several valuations carried out by Stout Risius Ross ("SRR"), an investment bank, before the appraisal litigation began.[113] While SRR valued Synapse numerous times over a period of a year,[114] its final June 2015 valuation concluded that Synapse was worth only $0.02 per share.[115] Kruse

[112] *See Dell*, 177 A.3d at 25 ("A market is more likely efficient, or semi-strong efficient . . . if information about the company is widely available and easily disseminated to the market. In such circumstances, a company's stock price reflects the judgments of many stockholders about the company's future prospects, based on public filings, industry information, and research conducted by equity analysts. In these circumstances, a mass of investors quickly digests all publicly available information about a company, and in trading the company's stock, recalibrates its price to reflect the market's adjusted, consensus valuation of the company.") (quotation omitted).

[113] *See, e.g.*, JX 107; JX 122; JX 123; JX 132; JX 229; JX 259.

[114] *Id.*

[115] JX 229.

argues that SRR's work should not be trusted because it was pressured by a potential client, McWane, to produce a valuation favorable to McWane.[116] Synapse responds that SRR was never beholden to McWane, and that Synapse's management's reliance upon the SRR valuations in 2015 to deem stock options worthless is a strong indication they believed those valuations to be accurate.[117]

While Kruse asks me to disregard these valuations because SRR's valuation teams were biased, I do not need to reach that issue. No SRR employee testified at trial, and therefore the sponsors of those valuations were not subject to the "crucible of cross-examination," a key tool in the assessment of evidence during the deliberations of any factfinder, including the appraisal factfinder.[118] Accordingly, I do not rely on the SRR valuations in appraising the fair value of Synapse.[119]

C. Comparable Transactions Analyses

Both Sweet and Noe utilize a Comparable Transaction analyses in valuing Synapse.[120] "It [is] well within the [Court's] discretion to view [a] comparable

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[116] Post-Trial OB 10–12.

[117] Post-Trial AB 10.

[118] *In re Jarden*, 2019 WL 3244085, at *1 (quoting *Gilbert v. M.P.M. Enters., Inc.*, 1998 WL 229439, at *3 (Del. Ch. Apr. 24, 1998)).

[119] This does not mean, however, that these valuations are of no aid to me in determining Synapse's fair value. SRR's valuations can function as something of a "sanity check" comparison point if my final valuation is miles from theirs.

[120] Noe Opening Report ¶¶ 19–21; Sweet Opening Report 12–14.

companies analysis as providing relevant insights into [the company's] value based on inferences from how the market value[s] companies in the same industry, facing most of the same risks."[121] It is important to keep in mind, however, that the financial ratios utilized in a comparables analyses "can vary widely even within the same industry."[122] One prominent valuation treatise, therefore, advises that comparables analyses are a "cautious" enterprise and not as useful in determining a company's value as a DCF analysis.[123]

Sweet ultimately assigned no weight to his Comparable Transactions analysis, noting "[t]he difficulty associated with identifying truly comparable private transactions is great and should not be understated."[124] This fundamental shortcoming did not stop him from completing the analysis, however. To find comparable transactions, he searched the PitchBook database for transactions that meet the following criteria: (1) the company operates in the IoT industry; (2) the

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[121] *DFC*, 172 A.3d at 387.

[122] JX 425 (Richard A. Brealey, Stewart C. Myers and Franklin Allen, *Principles of Corporate Finance* 81 (McGraw-Hill Irwin, 12th ed. 2017) [hereinafter Brealey Myers & Allen]).

[123] *See id.* (Noting that to understand why comparables analyses can fluctuate widely "we need to look more carefully at what determines a stock's market value. We start by connecting stock prices to the cash flows that stockholders receive from the company in the form of cash dividends. This will lead us to a discounted cash flow (DCF) model of stock prices.").

[124] Sweet Opening Report 13; Tr. 634:15–635:10 (Sweet).

transaction occurred no more than 6 years before the 2016 Merger; (3) the company generates revenue; (4) the company is not profitable; (5) the company operates in the United States; (6) the company has revenue no more than twice Synapse's revenue; and (7) there exists sufficient revenue data.[125] These search parameters yielded seven transactions, of which five did not involve transfers of control, leading him to apply a control premium to those five.[126] He then weighted the revenue multiples for these transactions based on how similar in size the companies were to Synapse—with weights ranging from 1.69 to 85.53—and calculated a weighted revenue multiple of 66.26.[127] Applying this weighted revenue multiple to Synapse's revenue, Sweet valued the Company at $190,356,000.[128]

Noe approaches the problem in a similar manner but, unsurprisingly, utilizes a different set of comparable transactions. Noe looked to the Capital IQ database for "transactions between January 1, 2012 and December 31, 2016 involving U.S. targets where the business description of the target or buyer contains keywords 'internet of things,' 'IoT,' 'machine to machine,' or 'M2M,'" and selected only those

[125] Sweet Opening Report 12–13; Tr. 632:21–633:14 (Sweet).

[126] Sweet Opening Report 13.

[127] *Id.*

[128] *Id.*; Tr. 633:15–17 (Sweet).

transactions with sufficient data to construct a revenue multiple.[129] He then excluded transactions involving companies that he considered to be only tangentially related to the IoT industry.[130] This left him with 15 transactions, which valued the firms at a median of 2.4x revenue and a mean of 2.53x revenue.[131] Applying a 2.47x revenue multiplier—the midpoint between the median and mean—to Synapse's historical revenue, and then adding Synapse's cash on hand, Noe reached a firm value of $6.6 million, implying negative equity value.[132] Nonetheless, he concluded that the equity had value as an option, and valued the equity at $0.01 per share using the Black-Scholes option pricing formula.[133]

This dramatic difference between the experts neatly captures the perils of the comparable transactions method. The two experts largely agree on Synapse's revenue baseline and that a revenue multiplier should be used to calculate enterprise value, and neither uses facially unreasonable methods in selecting that revenue

[129] Noe Opening Report ¶ 19; Tr. 779:8–780:16 (Noe).

[130] *Id.*; Tr. 780:7–16 (Noe).

[131] *Id.*; Tr. 781:10–782:5 (Noe).

[132] Noe Opening Report ¶ 20; Tr. 782:6–783:9 (Noe). Noe operated under the assumption the Disputed Money is debt. *Id.*

[133] Noe Opening Report ¶¶ 20–21; Tr. 782:21–783:9 (Noe).

multiplier.[134] Nonetheless, Sweet selected a revenue multiplier nearly 27 times larger than Noe's, and the experts reach valuations nearly $200 million apart.[135]

As is typical, both experts had much to say about the other's analysis. Sweet points out that some of the companies in Noe's model had vastly more revenue than Synapse—including companies with annual revenues of $370 million, $340 million and $258 million.[136] He argues these inclusions skew Noe's results because, "as companies grow in size, the revenue multiple is less and less reliable."[137] Sweet also notes that Noe incorporated profitable companies in his comparable set, and that profitable companies are often valued based on earnings multiples rather than revenue multiples.[138]

Noe argues that Sweet's seven comparable transactions set included two inappropriate entries: one included as a result of a data error,[139] and one transaction

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[134] *See* Sweet Opening Report Ex. 5 (applying a revenue multiple to a baseline of $2,460,210); Noe Opening Report Ex. 5 (applying a revenue multiple to a revenue of $2,335,466).

[135] *Id.*

[136] Tr. 683:9–18 (Sweet); Noe Opening Report at Ex. 4.

[137] Tr. 683:9–10 (Sweet).

[138] Tr. 684:16–23 (Sweet).

[139] Sweet's model included a company, Newport Media, listed as having $0.043 million in revenue. JX 343. Newport Media actually had revenue of $43 million in the year before its acquisition. Noe Rebuttal Report ¶ 20; Tr. 790:10–791:8 (Noe). Correcting this error

where the target's value derived from its possession of user data, not its potential in the IoT space.[140] Additionally, he finds Sweet's use of the 2012 Merger as a comparable transaction to be inappropriate.[141] After adjusting Sweet's findings to remove these transactions, and correct what he saw as other, less consequential errors,[142] Noe's Rebuttal Report argues that Sweet's model should find a value of $0.01 per-share.[143]

I reject both the Sweet and Noe Comparable Transactions analyses. The parties bear the burden of establishing that their respective Comparable Transactions analyses are reliable and probative of the fair value of Synapse.[144] Neither did so. Each expert was able to make well-considered, convincing objections to the other's model that were not effectively rebutted.[145] Accordingly, I find these models are not probative of Synapse's fair value.

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results in that transaction having a revenue multiple of 3.95x, not the 3,953x used by Sweet. *Id.*

[140] Noe Rebuttal Report ¶¶ 19–23; Tr. 791:9–792:4 (Noe).

[141] Noe Rebuttal Report ¶ 23.

[142] Noe Rebuttal Report ¶ 22–23 (removing value of Synapse's NOLs from the model and changing the cash on hand figure).

[143] Noe Rebuttal Report ¶¶ 20–23; Tr. 793:11–15 (Noe).

[144] *In re Jarden*, 2019 WL 3244085, at *33.

[145] *See* Noe Rebuttal Report ¶¶ 19–23; Sweet Rebuttal Report 4–6. Sweet, to his credit, gave his Comparable Transactions Analysis no weight.

D. Discounted Cash Flow

I turn next to the parties' competing DCF models. Our Supreme Court has noted that a DCF is "widely considered the best tool for valuing companies when there is no credible market information and no market check. . . ."[146] The Supreme Court has also recognized the reality, however, that "DCF valuations involve many inputs—all subject to disagreement by well-compensated and highly credentialed experts—and even slight differences in these inputs can produce large valuation gaps."[147] With these limitations in mind, I don my waders and begin the trek into the DCF marsh.

A DCF requires three primary inputs: (1) a projection of future cash flows; (2) a terminal value; and (3) a discount rate.[148] The company's available cash is then added to this calculation and its debt subtracted to arrive at a final enterprise value.[149] In reviewing these inputs, I will discuss where the parties' experts disagreed and,

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[146] *Dell*, 177 A.3d at 38; *see also In re Petsmart, Inc.*, 2017 WL 2303599, at *23 (Del. Ch. May 26, 2017) (Noting that, "DCF is considered by many to be the 'gold standard' of valuation tools . . . .").

[147] *Dell*, 177 A.3d at 38. Stated more colorfully by an expert in a prior case, "garbage in, garbage out." *In re Petsmart*, 2017 WL 2303599, at *22.

[148] JX 329 (Robert W. Holthausen & Mark E. Zmijewski, *Corporate Valuation: Theory, Evidence, and Practice* 182 (first ed. 2013) [hereinafter Holthausen & Zmijewski]); Noe Opening Report ¶¶ 7–9.

[149] *Id.*

when appropriate, determine if either expert has credibly offered a reliable input that this Court should adopt in its own appraisal.[150]

1. Free Cash Flows

The first ingredient in a DCF model is a company's future profits.[151] One common measure of profits, utilized by both experts in this case, is free cash flows. "Free cash flows can be thought of as the cash generated by a company's net operating assets before any payments are made to debtholders in the form of interest and/or principal to shareholders in the form of dividends."[152] They include several inputs, including: Earnings Before Interest, Taxes, Depreciation, and Amortization ("EBITDA"); capital expenditures ("CAPEX")—the money a company spends on maintaining and upgrading its capital stock—and changes in working capital and

[150] *M.G. Bancorporation*, 737 A.2d at 526 (noting, "it is entirely proper for the [court] to adopt any one expert's model, methodology, and mathematical calculations, *in toto*, if that valuation is supported by credible evidence and withstands a critical judicial analysis on the record.").

[151] Brealey Myers & Allen 84.

[152] Noe Opening Report ¶ 9. While free cash flows are not accepted under the Generally Accepted Accounting Principles ("GAAP"), they are routinely used in DCF models accepted by this Court. *See generally Merion Capital, L.P. v 3M Cogent, Inc.*, 2013 WL 3793896, at *12–15 (Del. Ch. July 8, 2013) (calculating free cash flows); *Blueblade Capital Opportunities LLC v. Norcraft Cos., Inc.*, 2018 WL 3602940, at *36–39 (Del. Ch. July 27, 2018) (same).

taxes.[153] Here, both experts assume Synapse would have no future tax liabilities.[154] Thus, taxes require no treatment separate from free cash flows.

For the most part, Noe and Sweet agree on projections of free cash flows for 2016 through 2020—although Noe's are marginally higher—and both base their numbers on Synapse's management's projections.[155] I acknowledge I have some reservations about relying on Synapse's management's projections given the Company's serial inability to meet its financial targets.[156] But, both experts rely on management projections in their analyses, and no alternate projections were offered for my consideration.[157] With little dispute between the parties' proffered

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[153] Noe Opening Report Ex. 3A; Brealey Myers & Allen 84.

[154] Although Sweet and Noe originally treated the net operating losses differently, with Sweet counting the present value of the net operating losses separately from profits, Sweet revised his analysis in that regard. *See* Tr. 629:9–631:24 (Sweet). Both experts now agree not to account for taxes, although they get there through different methods. I have adopted Noe's more straightforward method of not counting taxes at all, rather than Sweet's method of adding the value of the previous losses back by valuing net operating losses.

[155] Tr. 807:10–13 (Noe). Sweet used the Synapse 2016 Plan and supplemented it with an Excel projection file, both prepared by Synapse management before this litigation. Tr. 603:14–24 (Sweet); Sweet Opening Report 14. Noe used a different set of projections, also prepared by Synapse management. Noe Opening Report ¶ 8. While Kruse attacks Noe's use of projections he claims are "incorrect," looking to the projections used by both experts confirms they do not contain any material differences. Tr. 640:6–9 (Sweet); *Compare* JX 178 at 5 (used by Noe) *with* JX 188 at 2; JX 193 (relied on by Sweet).

[156] *See* Respondent's Demonstratives 1–2.

[157] Sweet Opening Report 14; Noe Opening Report ¶ 15. If there were other financial projections in the record that more closely reflected the operative reality of the Company, I may well have relied on them.

projections, at least for this period, I adopt Noe's free cash flow projections for 2016–2020 for the simple reason that I find his overall DCF analysis more credible. In accepting Noe's free cash flow estimates, I also necessarily adopt the inputs he used when calculating the free cash flows for this period.

Noe and Sweet differ considerably on projections of free cash flows from 2021 to 2024, although they rely on substantially similar revenue estimates.[158] These differences are the product of very different estimates of the Company's profit margins.[159] It is necessary, therefore, first to analyze the experts' profit margin projections in order better to understand their differing free cash flow projections for this period.[160]

Profit margin is a measure of the difference between the cost of producing a good and the price at which that good is ultimately sold, expressed as a percentage.[161] In his Opening Report, Noe uses EBITDA profit margins from forecasts developed by Synapse management through 2020, and then assumes the profit margin will stay constant into the future at 12.3%—the 2020 management projection.[162] Noe then

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[158] *Compare* Noe Opening Report at 17 *with* JX 345 ("Sweet DCF") at 1.

[159] Tr. 748:21–749:4 (Noe).

[160] *See* Post-Trial OB 44–47; Post-Trial AB 28–32.

[161] *See* Tr. 602:20–603:13 (Sweet).

[162] Tr. 749:7–16 (Noe).

compares this assumed EBITDA margin with the margins of other companies in the IoT industry.[163] His search revealed that these companies have a median EBITDA margin of 5.3%, with profitable companies having a median of 14.2%, supporting his 12.3% assumption.[164]

Sweet likewise uses management projections for profit margins through 2020.[165] For projecting profit margins for 2020–24, Sweet relies on a data set from Aswath Damodaran, a highly-regarded finance professor at NYU, which shows an industry weighted average profit margin of 24%.[166] To state the experts' disagreement succinctly, Noe assumes profit margins will be static after 2020, while Sweet assumes they will continue to increase dramatically into the terminal period. Sweet justifies this assumption by arguing that cost of sales will remain at 49% of total revenue, the same as in management's 2020 projections, and operating expenses will increase 5% annually from 2021 to 2024.[167] Meanwhile, he projects depreciation and amortization will stay at the 2020 level.[168]

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[163] Tr. 750:9–751:15 (Noe).

[164] *Id.*

[165] Sweet DCF at 1; Tr. 596:7–599:11 (Sweet).

[166] Tr. 616:9–617:10 (Sweet); 674:1–12; 751:6–753:5 (Noe).

[167] Sweet Opening Report 15.

[168] *Id.*

After carefully considering the competing approaches, I find that Noe has utilized the more credible projections of profit margins. Noe's method of estimating a 12.3% margin is facially reasonable, and he backed this assumption with a comparison to the median profit margin of other companies in the IoT industry.[169] Although this estimate is almost certainly too optimistic given Synapse's dismal historic performance, Noe's projection at least partially accounts for these past failures by projecting Synapse's profit margin to be slightly lower than other profitable companies in the industry.[170]

Sweet, by contrast, refers to a proprietary dataset generated for the tech industry as a whole, including firms that are not remotely comparable to Synapse.[171] Sweet initially argued these companies are a solid comparison for Synapse because their net incomes were similar to projections of Synapse's net income for the period 2020–24.[172] On cross-examination, however, it was revealed that Sweet had made a fundamental error. He had mistakenly assumed the income numbers in the

[169] Tr. 749:21-751:5 (Noe); Noe Rebuttal Report ¶ 18.

[170] Noe Opening Report ¶ 18; Tr. 750:22–751:5 (Noe).

[171] Tr. 751:11–753:14 (Noe). While I am entirely confident that the dataset is reliable, I have no confidence that it has been reliably applied to this case. *See* Tr. 752:14–19 (Noe) ("The Damodaran database doesn't allow you to calculate different metrics, means, medians, because the individual company data is not provided because of licensing agreements. So he only provides these industry aggregates.").

[172] Tr. 621:17–622:22 (Sweet).

Damodaran database were measured in "millions," when, in fact, they were measured in "billions," making the companies he was comparing to Synapse much larger than he believed.[173]

With Sweet's error revealed, Kruse attempted to pivot and argue that because larger companies do not necessarily have the highest profit margins, the error was harmless.[174] Noe demonstrated, however, that in Damodaran's database the largest companies in Synapse's industry *did*, in fact, have the highest profit margins.[175] Because that database uses a "weighted average," not a median, these large companies with high profit margins skew the numbers higher.[176]

Kruse's disagreement with Noe's calculated 12.3% profit margin, by contrast, amounts to little more than "it is too low."[177] In particular, Kruse criticizes Noe for

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[173] Tr. 713:23–718:6 (Sweet).

[174] Tr. 799:15–24 (Noe). ("Q: Do the largest companies always have the highest EBITDA margins? A: No, that need not always be the case. For this particular industry at this particular time, it was the case. But it need not be the case. Q: In fact, it is possible that many large companies may have EBITDA margins lower than the average? A: That is possible. Not in this case, but it is possible.").

[175] *Id.;* Tr. 753:17–22 (Noe) ("Q: And so what's the significance of those large players when we're talking about Synapse? A: Well, those are the largest companies in the industry, and, therefore, they're going to have the largest effect on this industry aggregate metric. And it turns out, for this industry at this time period, that those large companies were also some of the most profitable companies.").

[176] Tr. 752:8–10 (Noe).

[177] Petitioner's Post-Trial Reply Brief 20 n.15 ("Synapse concedes Noe's EBITDA margin is lower than the median margin for profitable companies in those industries.").

assuming Synapse's profit margin would flatten out after 2020 despite growing the previous years.[178] In doing so, Kruse does not identify any academic literature that suggests Noe's assumptions are incorrect or disfavored.[179] Indeed, Kruse's breezy assertion that Noe's 12.3% profit margin is too pessimistic is hard to square with the undisputed fact that Synapse's management's financial projections, as a matter of course, wildly overestimate the Company's future earnings.[180]

As Sweet's method includes an error that appears artificially to inflate his proffered profit margin, and Kruse is unable to mount any persuasive criticism of Noe's methodology, I find Noe's more conservative methods to be credible and most reliable. Thus, I adopt a 12.3% profit margin going forward.

As noted, the experts used materially similar revenue estimates in their projections of Synapse's free cash flows for 2021–24.[181] The differences in the

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[178] Tr. 643:21–644:5 (Sweet); JX 371 ("Sweet Rebuttal Report") 2; Post-Trial OB 45 ("Noe's sharp year-to-year swing contrasts unfavorably to Sweet's reasonable and gradual decline . . . .").

[179] Sweet relies heavily on Professor Everett Rogers' book *Diffusion of Innovations* to support his growth trajectory of free cash flows (and therefore profit margins) and to argue against Noe's leveling off. Sweet Rebuttal Report 4. As was made clear at trial, however, *Diffusion of Innovations* discusses *revenue* growth, not *free cash flow* growth. Tr. 747:16–748:20 (Noe). It is, therefore, irrelevant here as both Sweet and Noe's revenue projections do not contain material differences. *Compare* JX 178 at 5 (used by Noe) *with* JX 188 at 2; JX 193 (relied on by Sweet).

[180] *See* Respondent's Demonstratives 1–2.

[181] *Compare* JX 178 at 5 (used by Noe) *with* JX 188 at 2; JX 193 (relied on by Sweet).

experts' free cash flow projections for this period emanate from their competing profit margin estimates.[182] In line with his profit margin estimates, Sweet generates his free cash flow projections for 2020–24 by reference to Synapse's projected 2019 growth rate.[183] Management's projected 2019 revenue growth rate was 48%, and Sweet projects this will drop to a projected 2020 growth rate of 38%.[184] Continuing this trend, Sweet projects a 28% growth rate in 2021 and an 18% growth rate in 2022, followed by a 13% growth rate in 2023, an 8% growth rate in 2024, and a 3% terminal growth rate.[185] He then uses his profit margin calculation—subtracting out Synapse's capital expenditures and additions to working capital—to estimate Synapse's free cash flows for this period.[186] By contrast, consistent with his profit margin estimates, Noe projects that Synapse's free cash flows would rise 20% per

[182] For a company with no taxes, FCF = EBITDA-CAPEX-Working Capital Investment. Noe Opening Report Ex. 3A. Noe did not include estimates for CAPEX and Working Capital Investments in his DCF. *Id.* Sweet, however, did include these numbers. As his estimates for 2021–24 hew closely to the estimates Noe used for the 2016–2020 period, it is reasonable to infer that their wildly different FCF estimates result from differences in calculated profit margins. *See* Sweet DCF; Noe Opening Report Ex. 3A. Noe confirmed at trial that the experts' different FCF estimates resulted from their different estimations of Synapse's profit margins. Tr. 748:21–749:4 (Noe).

[183] Sweet Opening Report 14; Tr. 616:11–617:1 (Sweet).

[184] Sweet Opening Report 14.

[185] Sweet Opening Report 14–15.

[186] Sweet DCF.

year through 2025 based on a report about future growth prospects in the industry, and then used a 3.1% terminal growth rate.[187]

Sweet's free cash flow projections for the disputed period are as follows:

Year	2021	2022	2023	2024
FCF[188]	18,455,394	29,521,774	38,372,499	44,223,998

And, Noe's projections for the disputed period are as follows:

Year	2021	2022	2023	2024
FCF[189]	8,956,673	10,748,008	12,897,610	15,477,131

Because I have adopted Noe's projected profit margin, I also adopt his projected free cash flows for 2021–24.[190]

2. Discount rates

Discount rates are the second crucial ingredient of a DCF analysis.[191] Discount rates reflect the common-sense notion that a dollar tomorrow is not as

[187] Noe Opening Report ¶ 10 (citing an April 2016 report by IHS Markit about projected IoT growth rates from 2021 to 2025 as an industry); Noe Opening Report Ex. 3A. Tr. 643:5–15 (Sweet). As discussed below, Noe only projected free cash flows through 2024 before making his terminal value calculation.

[188] Sweet DCF ("AMS-7 DCF" tab).

[189] Noe Opening Report Ex. 3A.

[190] I again express hesitancy in accepting any calculations based on management's projections. Given the lack of credible alternate indications of value in this case, however, I find using a DCF, even based on these questionable projections, to be the most (and, here, only) reliable indicator of Synapse's value.

[191] Brealey Myers & Allen 83–84.

valuable as a dollar today.[192] Accordingly, a discount rate is applied to each future cash flow to determine that cash flow's present value.[193] The applied discount rate reflects a combination of factors and can be calculated several different ways. Both experts here relied on the well-accepted weighted average cost of capital ("WACC") methodology in calculating Synapse's discount rate.[194] WACC is the "cost of capital (discount rate) determined by the weighted average, at market value, of the cost of all financing sources in the business enterprise's capital structure."[195]

Noe used two different models to calculate Synapse's WACC. His first model calculates a WACC of 12 percent; the second calculates a WACC of 40 percent.[196] For the first model, Noe looked to cost of capital estimates from Duff & Phelps 2015 Valuation Handbook—a common source for valuation experts—in industries that he found to be related to the IoT.[197] He identified four comparable industries, which, combined with Duff & Phelps' eight estimation methods, gave him 32 estimates of

[192] JX 357 at 3, 7.

[193] Noe Opening Report ¶ 7.

[194] Noe Opening Report ¶ 12: Sweet Opening Report 5.

[195] JX 357 at 9.

[196] Noe Opening Report ¶¶ 13, 16; Tr. 757:1–2 (Noe); Tr. 770:20–771:2 (Noe). Both experts adopted a half-year convention for their discounting, a convention I adopt as well. Sweet DCF n.6; Noe Opening Report Ex. 3A n.8.

[197] Noe Opening Report ¶ 12; Tr. 742:13–20 (Noe).

Synapse's WACC.[198] He averaged the 32 to arrive at a 12% estimate of Synapse's WACC.[199] In his second model, Noe added a premium based on a startup company's risk of complete failure.[200] He used a 40% discount rate between 2016 and 2020 in this model, which he described as "the low end of the discount rate range applied to first-stage ventures by venture capitalists, to incorporate the probability of failure."[201]

Sweet used the Capital Asset Pricing Model ("CAPM") to calculate Synapse's equity cost of capital.[202] Because Sweet assumes that Synapse's capital structure includes no debt, its equity cost of capital in his model is equal to its WACC.[203] CAPM is "a model in which the cost of capital for any stock or portfolio of stocks equals a risk-free [interest] rate plus a risk premium that is proportionate to the systematic risk of the stock or portfolio."[204] Estimating a company's cost of equity capital using the CAPM requires estimates of three main inputs: the risk-free interest

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[198] Noe Opening Report ¶ 12.

[199] *Id.* (citing *2015 Valuation Handbook – Industry Cost of Capital* (Duff & Phelps, 2015)).

[200] Noe Opening Report ¶ 16: Tr. 770:17–772:1 (Noe).

[201] Noe Opening Report ¶ 16. Noe then used a 12% discount rate after this first four years. *Id.*

[202] Sweet Opening Report 15; Tr. 652:19–23 (Sweet).

[203] Sweet DCF at 1; Tr. 652:19–653:16 (Sweet).

[204] JX 357 at 2.

rate, the company's beta, and the market risk premium.[205] Sweet found a risk free rate based on the 20-year US Treasury Bond yield of 2.68%; an equity risk premium of 6.03%; a full information beta multiplier of 1.01; and a size premium of 5.4%.[206] Thus, he finds an equity cost of capital, WACC, and discount rate of (2.68% + 6.03%) * 1.01 + 5.4% = 14.2%.[207]

After carefully considering the evidence, I give no weight to Noe's "probability of failure" WACC model. While Noe was able to point to academic studies backing use of a company specific risk adjustment, Synapse was not able convincingly to argue that its *actual* risk of failure justifies this adjustment.[208] McWane—a mature, profitable company—had demonstrated a persistent willingness to provide seemingly unlimited capital financing to Synapse.[209] Accepting Noe's risk adjustment would require this Court to assume, in essence, that McWane would abandon this practice and let its subsidiary fail. I decline to do so.

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[205] JX 399 (Shannon P. Pratt, *Cost of Capital* 76 (John Wiley & Sons, Inc., 2nd ed. 2002) [hereinafter Pratt]). More sophisticated models, like the one used by Sweet, also include "size effect and specific risk" inputs. *Id.*; JX 346 at 1.

[206] JX 346 at 1.

[207] *Id.*

[208] Noe Opening Report ¶ 16; Tr. 770:17–773:19 (Noe).

[209] *See* JX 256; JX 346.

I also decline to adopt Sweet's WACC calculation. As I have found that the Disputed Money is debt, I cannot accept Sweet's WACC model that assumes Synapse's capital structure is 100% equity, and accordingly does not include a cost of debt.[210]

As noted, Noe relied on industry estimates to peg Synapse's WACC at 12%. Kruse argues this was in error because, assuming, as Noe does, the Disputed Money is debt, the industry estimates Noe relied on do not properly value the unique benefit McWane provided Synapse by loaning it money at a rock bottom interest rate.[211] Synapse responds by invoking Modigliani and Miller's theory that altering a firm's capital structure by substituting cheaper debt for more expensive equity does not reduce its WACC because investors will react by treating that firm's equity as increasingly risky.[212]

The difficulty with Kruse's position is that his expert did not provide a calculation of what Synapse's WACC would be if the Company's capital structure included debt; Sweet simply criticized Noe's choice without providing an

[210] JX 346. As Sweet's calculated WACC is higher than Noe's, this choice is favorable to Kruse, resulting in a higher valuation.

[211] Tr. 623:11–19 (Sweet); Tr. 646:23–647:14 (Sweet); Post-Trial OB 52. Presumably, the typical IoT firm does not receive such heavily subsidized loans.

[212] Tr. 765:3–766:22 (Noe); Post-Trial AB 36. *See* generally JX 397.

alternative.[213] Consequently, even assuming Noe's choice not to account for Synapse's low cost of debt was improper (an assumption I do not make), I have no "corrected" WACC calculation to consider as an alternative.

While I could attempt this calculation *sua sponte*, such an exercise would be of questionable reliability. Given that Synapse has no warrants, no preferred stock and an assumed 0% tax rate, rWACC = rE * (VE/VF) + rD * (VD/VF).[214] While rD is known (1.16%), and rE could be calculated using the information the experts have provided, solving VE/VF and VD/VF—the capital structure ratio of equity and debt—would be far more difficult.[215] Solving for these ratios would require estimating the market value of both the debt and equity.[216] And there are serious problems with attempting to undertake these estimates. First, as Noe admits, the interest rate paid by Synapse on its debt is dramatically below the rate it would be able to secure in a market loan.[217] Given that the typical early-stage, unprofitable

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[213] *See* Sweet DCF; Sweet Rebuttal Report 3; Tr. 647:10–14 (Sweet).

[214] Pratt at 46. Where r_{WACC} is the weighted average cost of capital, r_E is the cost of equity capital, (V_E/V_F) is the capital structure ratio of equity (meaning the percentage of the company's capital structure that is equity), r_D is the cost of debt, and (V_D/V_F) is the capital structure ratio of debt (meaning the percentage of the company's capital structure that is debt).

[215] *Id.* This is, in no small part, because neither expert provided this calculation in their reports or in their trial testimony.

[216] *Id.* at 48–49.

[217] Tr. 743:15–744:10 (Noe).

company like Synapse would be required to pay a far higher interest rate than 1.16% on any market loan, calculating the debt's market value is especially tricky—it might well be close to zero.[218] Second, estimating the market value of Synapse's equity as a step in valuing Kruse's shares would involve an obviously recursive process. And, even assuming both these exercises could be undertaken, the iterative method utilized in estimating the value of a closely held company's equity involves a healthy dose of guesswork.[219]

Accordingly, I accept Noe's 12% calculation based on industry estimates. Utilizing industry estimates of WACC when, for the reasons discussed above, a company specific number is difficult to calculate is a well-accepted method in the valuation profession.[220] While it is possible this method does not properly value the extremely cheap debt that Synapse has access to, given the problems with the other proffered estimates, I am convinced Noe's methods result in the most reliable calculation of Synapse's WACC.

[218] Tr. 744:5–10 (Noe); Tr. 646:8–647:14 (Sweet).

[219] Pratt at 48–52.

[220] Tr. 742:13–743:7 (Noe); Noe Opening Report ¶ 12.

3. Terminal value

In a DCF analysis, future cash flows are only projected out for a certain period of time—five years in this instance.[221] Rather than continuing to forecast annual cash flows after this period, valuation experts typically calculate a firm's terminal value as an estimation of its cash flows into perpetuity.[222] Two common methods for computing a firm's terminal value are the perpetual growth model (commonly referred to as the Gordon Growth model) and an exit multiples method (which assumes a sale of the company).[223] This terminal value is then discounted to a present value.[224] As a company's terminal value can account for a large percentage of its value in a DCF (it is nearly 100% of Synapse's value in Sweet's DCF and 100% of the value in Noe's), understanding the experts' disagreements on this point is essential.[225]

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[221] JX 330 (Paul Asquith & Lawrence A. Weiss, *Lessons in Corporate Finance* 348 (John Wiley & Sons, Inc.) [hereinafter Asquith & Weiss]); Noe Opening Report Ex. 3A; Sweet DCF.

[222] Asquith & Weiss 348.

[223] *Id.*; Tr. 605:20–606:13 (Sweet).

[224] Brealey Myers & Allen 83.

[225] Sweet DCF at 1; Noe Rebuttal Report ¶ 13. Without the terminal value in Noe's calculation, Synapse has a negative equity value of over $30 million.

Both Noe and Sweet estimate free cash flows through 2024, then project those numbers into perpetuity to calculate a terminal value.[226] Noe calculates his terminal value using the Gordon Growth model.[227] This is a standard and accepted method of measuring terminal value; it assumes that the company's free cash flows will grow at a constant rate in perpetuity.[228] Noe's model uses a perpetual growth rate of 3.1%, in line with the long-term growth rate of the United States economy. [229] Again, this is a standard and accepted choice of a growth rate for a terminal value.[230] This method results in a terminal value of $206,680,424, with a present value of $79,639,499.[231]

Sweet calculates a terminal value using a different, but also well-accepted, method—the exit multiple model.[232] An exit multiple calculates a company's terminal value as some multiple of future earnings, in this case as a multiple of

[226] Noe Opening Report ¶ 10; Noe Opening Report Ex. 3A; Sweet Opening Report 14; Sweet DCF.

[227] Noe Opening Report ¶ 10; Tr. 741:6–9 (Noe).

[228] Tr. 754:17–755:2 (Noe); Asquith & Weiss 348.

[229] Noe Opening Report 10; Tr. 741:6–9 (Noe).

[230] Asquith & Weiss 350.

[231] Noe Opening Report Ex. 3A.

[232] Sweet DCF; Asquith & Weiss 348.

Synapse's projected EBITDA.[233] Sweet derived this multiple by examining the sales of companies similar to Synapse and calculating the sale price as a multiple of the target company's EBITDA.[234] This method resulted in an exit multiple of 21.9x.[235] Applying this multiple to his projection of Synapse's 2024 EBITDA results in a terminal value of $1,074,777,895, with a present value of $305,491,909.[236]

While neither of the terminal valuation methods utilized by the experts is, in a vacuum, superior to the other, Noe credibly points out that Sweet's terminal value calculation suffers from a serious flaw.[237] Although Sweet calculated his terminal valuation based on an EBITDA multiple, Noe was able to demonstrate that implicit in this calculation is an assumption Synapse will grow into perpetuity at a 10% growth rate—far beyond the conventional limit of the long-term GDP growth rate.[238] This is a highly questionable assumption because, although a company can be expected to grow at least at the rate of inflation, "[i]t is theoretically impossible for

[233] Tr. 755:15–20 (Noe); Tr. 656:16–657:13 (Sweet); Sweet DCF.

[234] JX 342.

[235] Tr. 609:1–2 (Sweet). Although Noe did not calculate an exit multiple, his model implies a 7.5x EBITDA multiple. Tr. 755:6–11 (Noe).

[236] Sweet DCF.

[237] Noe Rebuttal Report ¶ 13; Tr. 759:4–760:8 (Noe).

[238] *See* Noe Rebuttal Report Ex. 2. Sweet acknowledged that Noe's calculation was correct at trial. Tr. 718:12–719:3 (Sweet).

the sustainable perpetual growth rate for a company to significantly exceed the growth rate in the economy. Anything over a 6–7% perpetual growth rate should be questioned carefully."[239]

Sweet defends this choice on two grounds. First, he argues that a sale is in tune with Synapse's management's strategy, and therefore an exit multiple is the superior method to provide a terminal value in this case.[240] Second, he maintains that his model's assumption of a long-term growth rate of 10% is justified by historical nominal stock market returns "in the 11 ½ percent range."[241]

Neither justification is persuasive. Even assuming that an exit multiple better reflects Synapse's management's strategy,[242] any future suitor would be well aware of the impossibility of permanent 10% growth given the Company's abysmal track

[239] Pratt 113; *see* Asquith & Weiss 350 ("Growth rates many times faster than the overall economy usually occur only for a short period, when a firm is starting and is either increasing market share at the expense of its competitors or creating a new industry.").

[240] Tr. 657:1–13 (Sweet).

[241] Tr. 671:4–7 (Sweet).

[242] As Noe credibly explained at trial, because both methods seek to calculate the same thing, there should not be company specific reasons for applying one or the other. *See* Tr. 762:24–763:12 (Noe) ("Both the Gordon Growth methodology for estimating terminal value, as well as using a[n exit multiple], be it EBITDA or some other measure of financial performance, are both reasonable approaches to estimating terminal value. They are not context specific. So one would not apply a multiple just because you're envisioning an exit strategy that would involve the sale of the company. Both methodologies are doing the same thing, which is capitalizing those future cash flows beyond the terminal date into a terminal value. And, therefore, they should provide you with consistent answers.").

record, and would refuse to pay a purchase price that was based on such fantastical assumptions.[243] As to Sweet's second point, nominal stock market returns are simply not a relevant metric in a model, such as a DCF, that seeks to value a specific company. As Noe made clear at trial, "the stock returns of companies in the stock market reflect the returns of companies, some of which might be in a terminal growth phase, but many others of which will be in [a] high growth phase[,]" making any comparison between these returns and Synapse's *terminal* growth rate inappropriate.[244] Because I find Noe's calculation of Synapse's terminal value to be more credible, and have no basis in the credible evidence to alter it, I adopt it wholesale.[245]

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[243] Pratt 113; Asquith & Weiss 350.

[244] Tr. 761:14–20 (Noe).

[245] *M.G. Bancorporation*, 737 A.2d at 526. Although Kruse never criticized Noe's actual terminal value calculation—instead focusing his fire on Noe's decision to utilize a Gordon Growth model—I discovered something puzzling in Noe's calculation when reviewing the evidence. Noe discusses calculating FCFs for a five year period following Synapse's management's projections using an industry-wide 20% growth rate. *See* Noe Opening Report ¶ 10. His DCF, however, only projects out for four years before calculating a terminal value. *See* Noe Opening Report Ex. 3A. In calculating his terminal value, Noe also appears to deviate from the well-accepted perpetual growth formula. When using a perpetual growth model, a company's terminal value = (FCF_t * (1+g)) / (r-g), where FCF_t equals the last year of calculated free cash flows, g equals the chosen growth rate and r equals the applicable discount rate. Pratt 25. For Noe's chosen numbers, this should have resulted in ($15,477,131 * (1+.031) / (.12-.031)), equaling a terminal value of $179,291,265, with a net present value of $68,423,603. *See* Noe Opening Report Ex. 3A, attached workbook. This is not what Noe did, however. His terminal value formula, instead, was (FCF_t * (1+i) / (r-g)), where i is the projected growth rate for the IoT industry from 2021–25—which he used to calculate FCFs from 2021–24. Thus, his calculation was ($15,477,131 * (1+.20) / (.12-.031)) resulting in a terminal value of $208,680,424, with a

4. Cash available

Sweet makes an adjustment to Synapse's value based on cash available of $915,375,[246] but Noe argues that this is budgeted and not actual cash. Accordingly, he adopts a cash value of $828,280.[247] The issue was not vetted at trial. Because Sweet's number is indeed a projection, and Noe's is a reported number, I adopt $828,280 as Synapse's cash available for valuation purposes.[248]

5. Debt

The experts dispute how much debt Synapse carried on the date of the 2016 Merger. Noe lists the debt as $27.7 million as of December 2015, and Sweet lists it as $29.343 million as of January 11, 2016.[249] Neither expert provided a debt figure

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net present value of $79,636,499. *Id.* This is a long way of saying that I have found Noe's actual calculation (as opposed to his methodology) difficult to follow. Unfortunately, the nuts and bolts of the calculation were not discussed at trial or in Sweet's Rebuttal Report. Corporate finance is not law, and my expertise is not in valuation. It is entirely possible that I am mistaken in my analysis and Noe's calculation was wholly appropriate. Given that this aspect of Noe's calculation was not addressed during this litigation, and it is substantially more favorable to Kruse than my calculated alternative, I hesitate to fiddle with the final calculation now. Instead, with these reservations noted, I adopt Noe's calculation as fact.

[246] Sweet DCF.

[247] Noe Rebuttal Report 8 n.19.

[248] For reasons that were not discussed at trial, Noe did not add this cash available in his calculation of Synapse's value.

[249] Noe Opening Report ¶ 13; Sweet Opening Report 16. As discussed, Sweet treats this amount as contributed capital, not debt, in his DCF.

for the date that really matters—the date of the 2016 Merger. Although it would be possible to estimate the value of the debt as of the 2016 Merger using an approximate growth rate, given the imprecision of that exercise, I elect to use the calculated debt value most temporally proximate to the 2016 Merger ($29.343 million).

6. The DCF Valuation

For the reasons stated above, I am satisfied that Noe has offered the most reliable appraisal of Synapse's fair value in one of his two DCF valuations. While not perfect, Noe's DCF valuation is far more credible than any of the valuations proffered by Sweet, and far superior to any valuation I might endeavor to undertake on my own.

III. CONCLUSION

For the foregoing reasons, I find that the fair value of Synapse's equity as of February 2, 2016, was $20,347,822, or $0.228 per share.[250] The legal rate of interest, compounded quarterly, shall accrue on Kruse's appraisal award from the date of the 2016 Merger's closing to the date of payment. The parties shall confer and submit an implementing order and final judgment within ten days.

[250] The precise calculation is attached as Appendix A.

APPENDIX A

Year	2016	2017	2018	2019	2020
Free Cash Flow	$ (24,656,891)	$ (22,046,813)	$ (13,455,789)	$ (6,826,545)	$ 7,463,894
Present Value Factor	0.9449	0.8437	0.7533	0.6726	0.6005
NPV	$ (23,298,572)	$ (18,600,250)	$(10,135,942)	$ (4,591,323)	$ 4,482,129

2021	2022	2023	2024	Terminal	Terminal (Court)
$ 8,956,673	$ 10,748,008	$ 12,897,610	$ 15,477,131	$208,680,424	$ 179,291,265
0.5362	0.4787	0.4274	0.3816		
$ 4,802,281	$ 5,145,302	$ 5,512,823	$ 5,906,596	$ 79,639,499	$ 68,423,603

	Noe	Court
Firm Value	$ 48,862,542	$ 48,862,542
Cash available	$ -	$ 828,280
Debt	$ 27,747,500	$ 29,343,000
Equity value	$ 21,943,322	$ 20,347,822
Shares outstanding	89,063,787	89,063,787
Per share equity value	$ 0.246	$ 0.228
Number of Kruse shares	582,216	582,216
Value of Kruse shares	$ 143,444.98	$ 133,015.09

Court's Alteration