IN THE SUPREME COURT OF THE STATE OF DELAWARE

SOURCEHOV HOLDINGS, INC.,

    Respondent Below,
    Appellant,

    vs.

MANICHAEAN CAPITAL, LLC,
CHARLES CASCARILLA, EMIL
KHAN WOODS, LGC
FOUNDATION, INC. and IMAGO
DEI FOUNDATION INC.,

    Petitioners Below,
    Appellees.

No. 215, 2020

Court Below: Court of Chancery
of the State of Delaware,
C.A. No.2017-0673-JRS

BRIEF OF CORPORATE FINANCE PROFESSORS AS *AMICI CURIAE* IN SUPPORT OF APPELLANT AND REMAND

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INTEREST OF *AMICI CURIAE*

Professors Emeriti Michael Bradley, Bradford Cornell, and Donald J. Puglisi ("*Amici*") are university business school professors who, for multiple decades, have studied, written and taught in the field of corporate finance and finance theory.[1] *Amici* have frequently submitted independent expert opinions in statutory appraisal and other litigation in Delaware courts. Their work on valuation is often cited as authority by commentators, litigants, and judges. *Amici* have also taught courses concerning appraisal and corporate valuation, including the valuation of highly-leveraged companies. *Amici* have no financial interest in this case or its outcome.

In this Brief, the *Amici* address a single issue separate and apart from other questions raised on this appeal: whether the Court of Chancery erred in rejecting, for 8 *Del. C.* § 262 appraisal purposes, an expert's determination of a company's minimum unlevered equity beta based on an application of the Modigliani & Miller Theorem (the "M&M Theorem"), a well-established finance theory and principle first developed in the 1950s. This question falls within the expertise and scholarly

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[1] Michael Bradley is the F.M. Kirby Professor Emeritus of Investment Banking at the Fuqua School of Business and Professor of Law at Duke University. Bradford Cornell is a Professor Emeritus of Finance at UCLA Anderson School of Management. Donald J. Puglisi is the MBNA America Professor of Business Emeritus at the University of Delaware.

interest of *Amici*, who offer their academic perspective and experience to aid this Court in considering this issue on appeal.

Amici respectfully submit that, contrary to the trial court's determination, the M&M Theorem is not novel, nor was its application in estimating equity beta inappropriate or "not credible" from a methodological standpoint. Rather, utilizing the M&M Theorem to estimate equity beta is consistent with, and solidly grounded in, generally accepted principles of corporate finance. Moreover, the methodology can provide a useful tool in corporate appraisals, particularly where the company being valued is privately held and for which there exist no sufficiently comparable companies.

SUMMARY OF ARGUMENT[2]

The objective of an appraisal action is to value a corporate enterprise as reliably and accurately as possible. In doing that, the Court of Chancery must consider all relevant methodologies so long as they are admissible in evidence and premised on sound finance theory. That mandate is especially critical where, as here, certain valuation methodologies are inapplicable or are otherwise problematic. This appeal affords this Court an opportunity to provide guidance to Delaware trial courts regarding the proper application of that mandate where conventional valuation approaches are not available, and would therefore require resort to different valuation methodologies.

One critical, yet complex, ingredient considered in modern statutory appraisal proceedings is how best to estimate a company's equity beta. Customarily, Delaware courts choose one of two methods: (1) a "direct" calculation based on statistical regressions of a public company's historical stock returns against a market index, or (2) an "indirect" calculation based on comparable publicly traded companies. But these two methods are not the only ones available, nor are they exclusive of all others. The unique facts and circumstances of a particular case may require the deployment of other approaches that would more accurately account for

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[2] For purposes of the views expressed in this Brief, the *Amici* are relying on the facts as stated in the Court of Chancery's January 30, 2020 Memorandum Opinion.

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the operative reality of the company being appraised, and thereby yield a better estimate of the company's equity beta.

Professor Gregg A. Jarrell was retained as a valuation expert for SourceHOV Holdings Inc. ("SourceHOV"), the Respondent-Below. He opined that neither the direct (stock market price based) method nor the indirect (comparable companies) approach to estimating equity beta was applicable, because SourceHOV is a privately held company with no sufficiently comparable peers. Professor Jarrell therefore utilized an alternative method, based on the M&M Theorem, to estimate SourceHOV's unlevered equity beta.[3] The M&M Theorem is neither new nor untested. Professors Modigliani & Miller first proposed it in a paper they published in 1958.[4] Modigliani was awarded the Nobel Prize in Economics in 1985, and Miller was awarded the Nobel Prize in Economics in 1990. Both Nobel Laureates were recognized for their ground-breaking M&M Theorem. Manifestly, Professor Jarrell's valuation methodology was grounded on well-accepted principles of corporate finance that valuation experts and academics have employed for decades.

Amici submit that Professor Jarrell's methodology for estimating equity beta in this case was sound and straightforward. That approach can be a useful part of

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[3] What Professor Jarrell estimated was *unlevered* equity beta, because he employed an adjusted present value analysis based on unlevered cost of equity.

[4] *See generally* Franco Modigliani & Merton H. Miller, *The Cost of Capital, Corporation Finance and the Theory of Investment*, 48 AM. ECON. REV. 261 (1958).

the Court of Chancery's appraisal toolkit in cases where the two commonly-used methods for estimating beta are not available or otherwise not appropriate.

ARGUMENT

"Beta" is the measure of a given company's risk relative to the market.[5] A company whose risk is the same as that of the market is conventionally assigned a beta of 1. Companies "that are more unstable and leveraged, less established and financially and competitively secure, and in colloquial terms 'riskier,' should have higher betas."[6]

As academics and practitioners widely recognize, "[w]hen shares of a company being valued are publicly traded in an active market, customary practice is to determine beta by reference to the company's own market prices."[7] But where a company is privately held or its stock is thinly traded, beta is frequently derived from an analysis of "the betas of guideline publicly traded companies."[8]

Here, because SourceHOV was a private company, calculating the company's beta directly was not possible. (Op.[9] 40-41.) Moreover, the parties' experts agreed that there were no sufficiently comparable peers for purposes of conducting a trading

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[5] *In re Emerging Commc'ns, Inc. S'holders Litig.*, 2004 WL 1305745, at *16 (Del. Ch. May 3, 2004).

[6] *Merion Capital, L.P. v. 3M Cogent, Inc.*, 2013 WL 3793896, at *16 (Del. Ch. July 8, 2013).

[7] S. Pratt & R. Grabowski, COST OF CAPITAL, APPLICATIONS AND EXAMPLES, at 908 (Wiley & Sons 5th ed. 2014).

[8] *Id.*

[9] Citations to "Op." are to the Court of Chancery's January 30, 2020 Memorandum Opinion.

multiples analysis. (Op. 51.) Even so, the expert for Petitioners-Below, Timothy Meinhart, calculated an indirect peer-based beta using as "guideline" companies the very same 19 firms that he had rejected as not sufficiently comparable for purposes of a trading multiples analysis. (Op. 57.) Professor Jarrell did not take that approach.

Professor Jarrell instead estimated SourceHOV's unlevered equity beta based on the M&M Theorem (Op. 40), which pertinently dictates that a company's cost of equity will always be higher than its cost of debt (*see infra* at 13-15). A corollary of that principle is that where the M&M Theorem is applied to the widely-used Capital Asset Pricing Model ("CAPM"), the beta of a company's equity will necessarily be higher than the beta of its debt. (*See id.*; *see also* Op. 40.) Using the CAPM formula, Professor Jarrell derived SourceHOV's implied debt beta of 1.4 from its cost of debt, which he estimated to be 11%.[10] (Op. 40-41.) Because it follows from the M&M Theorem that a company's equity beta cannot be lower than its implied debt beta, Professor Jarrell set SourceHOV's unlevered equity beta as equal to its implied debt beta. (Op. 40.) In using implied debt beta as a proxy for unlevered equity beta,

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[10] *Amici* take no position on the merit or substance of Professor Jarrell's estimation of cost of debt (11%) (Op. 41), which is a matter based on the specific trial record in this case.

Professor Jarrell made the most conservative possible estimate of SourceHOV's unlevered equity beta.[11]

The Court of Chancery, however, rejected this approach. The Court declined to take into account Professor Jarrell's beta calculation, because it was not one of the "two ways" that "[v]aluation experts calculate beta," and because Professor Jarrell's approach was "methodologically novel." (Op. 58.) Instead, the Court of Chancery decided to adopt the "generally accepted [principle] that when a company is privately held, a comparable companies analysis is the best tool available to derive beta." (Op. 62.)

We respectfully disagree with the Court of Chancery's rationale for rejecting Professor Jarrell's methodology, for the two reasons discussed below.

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[11] A debt beta of 1.4 is regarded as high. As a result, SourceHOV's true equity beta must have been significantly higher than 1.4 in economic terms. *See* Pratt & Grabowski at 550-51 (noting "nonlinear" relationship between leverage and firm's debt and equity betas).

I.   There Are More Than Two Ways To Calculate Beta.

No financial literature of which the *Amici* are aware cabins or constrains the methodologies available for determining a privately held company's beta for the reasons posited by the Court of Chancery. To the contrary, under fundamental principles of corporate finance, (1) a comparable companies analysis is appropriate only where sufficient comparables actually exist, and (2) where no sufficient comparables exist, other financially sound methodologies may be used to value a private company.

First, it is firmly established, and Delaware courts have recognized, that an "indirect" approach based on peer betas should be used only where "'truly' comparable peers exist that can meaningfully be compared to the target company."[12] Academics have emphasized that truly comparable companies should include only those located within an industry for which "the revenue that the company generates from that industry should constitute a vast majority of the company's total revenue,"

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[12] *In re Appraisal of Jarden Corp.*, 2019 WL 3244085, at *46 (Del. Ch. July 19, 2019) (describing requirements for a comparable companies analysis), *aff'd*, 2020 WL 3885166 (Del. July 9, 2020); *see also In re Appraisal of Dell Inc.*, 2016 WL 3186538, at *49 (Del. Ch. May 31, 2016) ("A beta specific to the Company is more targeted than a blended beta calculated from peer companies, particularly when both experts opined that the Company had few peers."), *aff'd in part, rev'd on other grounds*, 177 A.3d 1 (Del. 2017).

with "a minimum of 75 percent of revenues" coming from "a single SIC code."[13]

Consistent with those academic authorities, the Court of Chancery, acknowledging the limitations of the peer-beta method, has refused to employ the indirect approach in cases where no reliable comparables exist.[14]

In the present case, both experts struggled with comparability and both rejected valuations based on trading multiples. (Op. 51.) Where sufficient comparability cannot be identified or demonstrated, an indirect peer-based approach is not (as the trial court found) the "best" or the "only" way to proceed. Instead, the Court of Chancery can and should look to other appropriate methodologies for estimating equity beta.[15]

Second, reliable alternative methodologies are available and have been recognized as even superior under certain conditions. One example is the

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[13] Ibbotson SBBI 2013 Valuation Yearbook at 81; *see also* Koller *et al*., *Valuation: Measuring and Managing the Valuation of Companies* at 253 (2010) (proposing "the simple smoothing process" where "few direct comparables exist").

[14] *See, e.g.*, *In re Appraisal of DFC Global Corp.*, 2016 WL 3753123, at *9 (Del. Ch. July 8, 2016) (rejecting indirect beta calculated using three companies for which comparability was neither shown nor agreed), *rev'd on other grounds*, 172 A.3d 346 (Del. 2017); *Merion Capital*, 2013 WL 3793896, at *18 (relying "solely" on adjusted historical beta estimate after rejecting comparable companies analysis).

[15] Even where the direct or peer beta approaches are practicable, estimates of a company's beta will vary depending on numerous variables, including (among others): number of prices used in the analysis; whether returns are measured on a daily, weekly, or monthly basis; how debt is measured for delivering the beta; and whether the regression analysis is linear or non-linear.

"smoothing" approach, which adjusts historical beta by a market beta of 1, using a 1/3 weighting factor for the market and a 2/3 weighting for the subject company's beta.[16]

Other examples involve alternative approaches, proposed by Professor Aswath Damodaran, to calculate beta where there are insufficiently comparable companies. These alternatives include estimating risk parameters "using the financial characteristics of the firm – the volatility in earnings, their size, cash flow characteristics and financial leverage."[17]

These alternative approaches, like Professor Jarrell's, offer useful methodologies where sufficiently comparable companies are not available. Delaware courts should not be categorically proscribed from considering alternatives that are well-grounded in established economic and finance theory, particularly where a comparable companies analysis is not possible or, even if possible, would be deeply flawed.

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[16] *See, e.g.*, *Appraisal of DFC Global*, 2016 WL 3753123, at *11; *Merion Capital*, 2013 WL 3793896, at *18 (citing Pratt & Grabowski at 203; Koller et al. at 253).

[17] Aswath Damodaran, THE DARK SIDE OF VALUATION at 28 (2000); *see also* Aswath Damodaran, ESTIMATING RISK PARAMETERS at 21–31 (2002).

II. **Contrary To The Trial Court's Findings, Professor Jarrell's Use Of Debt Beta As A Proxy For SourceHOV's Unlevered Equity Beta Was A Conservative Methodology Grounded In Bedrock Principles Of Corporate Finance And Should Have Been Considered On Its Merits.**

The Court of Chancery also refused to consider Professor Jarrell's approach because the Court found it "methodologically novel," even suggesting that Professor Jarrell's willingness "to go out on a limb to support a forensic valuation opinion" raised "serious questions about the credibility of his entire valuation analysis." (Op. 58.) To be clear, Professor Jarrell candidly acknowledged that he was unaware of other instances in which the specific approach he employed here had been used in previously litigated appraisal cases. (Op. 59-60). But that concession, without more, hardly establishes that his approach was "methodologically novel" or that he was "going out on a limb." Professor Jarrell's approach was not only a permissible alternative method to estimate equity beta, but also it was professionally credible and well-grounded in bedrock principles of corporate finance.

Professor Jarrell calculated what he believed to be the minimum reasonable cost of debt of a standalone SourceHOV as of the valuation date. Using the widely accepted CAPM formula (Op. 41 n.205), he derived SourceHOV's implied debt beta (Op. 40-41). That calculation involved nothing novel or controversial: in the finance

world it is well-accepted that the CAPM formula can be used to derive an implied debt beta.[18]

Professor Jarrell next used that implied debt beta as a conservative proxy for SourceHOV's unlevered equity beta. In doing so, he invoked the M&M Theorem (Op. 40), which proceeds from the basic, incontrovertible principle that "equity is riskier than debt." Why is that so? Because "the firm is legally obligated" to pay its debt, but "a company typically has no legal obligation to pay dividends to common shareholders."[19] It therefore must follow that "[t]he cost of debt is always less than the cost of equity."[20]

That relationship between debt and equity applies also to the concept of company-specific risk (*i.e.*, beta). M&M Theorem dictates that "the total risk of the company's assets, real and financial, must equal the total risk of the financial claims

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[18] *See, e.g.*, R. Holthausen, M. Zmijewski, *Corporate Valuation: Theory, Evidence & Practice* at 454 (2d ed. 2020) (showing that CAPM can be used to derive "implied debt beta" when "a company's debt cost of capital" is known).

[19] K. Berman & J. Knight, *When Is Debt Good?*, HARVARD BUSINESS REVIEW, July 15, 2009, available at: https://hbr.org/2009/07/when-is-debt-good.

[20] R. Brealey et al., PRINCIPLES OF CORPORATE FINANCE at 229 (12th ed. 2017); *see also* K.H. Erickson, CORPORATE FINANCE: A SIMPLE INTRODUCTION at 9 (2018) ("To make up for taking on this greater risk equity holders will demand a greater return than debt holders, and this ensures that the required rate of return for shareholders, the cost of equity, is always greater than the cost of debt.").

against those assets."[21] Because "[t]he stockholders and debtholders both receive a share of the firm's cash flows, and both bear part of the risk," "the firm's asset beta is equal to the beta of a portfolio of all the firm's debt and its equity. The beta of this hypothetical portfolio is just a weighted average of the debt and equity betas."[22]

For an unlevered firm, where debt (and debt beta) are zero, the asset beta will be equal to the equity beta.[23] For a levered firm, in practice debt beta is often very low, so valuation experts frequently "make the commonplace assumption that the beta of debt is zero."[24] As a result, for a levered firm (which has positive debt), the asset beta must be less than equity beta, under the formula noted *supra* at footnote 22.[25] Similarly, because "[f]inancial leverage does not affect the risk or the expected return on the firm's assets," it necessarily increases the risk of the company's equity.[26] Because of that financial risk, "[s]hareholders demand a correspondingly higher return[.]"[27]

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[21] Koller *et al*. at 155.

[22] Brealey *et al.* at 455; *see also* S. Ross *et al*., CORPORATE FINANCE at 318 (6th ed. 2002) (same). The formula describing the relationship among asset beta, debt beta, and equity beta is typically expressed as follows: $\beta_{assets} = (\beta_{debt} \times Debt/Debt+Equity) + (\beta_{equity} \times Equity/Debt+Equity)$. Brealey *et al*. at 455.

[23] S. Ross *et al*. at 318.

[24] *Id*.

[25] *Id*.

[26] Brealey *et al*. at 455.

[27] *Id*.

Combining these analytic steps leads to the conclusion, supported by the finance literature, that equity beta must always be greater than debt beta. To recapitulate:

- Financial leverage increases a company's equity beta, since equity holders, who sit behind debt holders, have increased risk;

- The company's equity beta must be greater than its asset beta;

- The company's asset beta remains constant, per M&M Theorem, even as the company takes on debt;

- Therefore, the company's debt beta must always be less than its equity beta.[28]

Because debt beta is always less than equity beta, Professor Jarrell's use of his 1.4 implied debt beta as a proxy for unlevered equity beta was a highly conservative valuation approach. In reality (in contrast to the beta that Professor Jarrell estimated), the appraised company's true equity beta would have been higher.

To summarize, Professor Jarrell's valuation approach was a straightforward and conservative method—solidly grounded in bedrock finance theory—for calculating equity beta. It was particularly appropriate where, as here, no direct beta could be calculated (because the company's stock was not publicly traded) and no

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[28] This outcome can be proven another way. M&M Theorem dictates that the riskiness of assets equals the riskiness of debt and equity, reflected in the formula noted *supra* at n.22. If debt beta were greater than equity beta, than asset beta would also have to be greater than equity beta. But that cannot be, as the riskiness of company assets cannot exceed that of equity. Accordingly, debt beta cannot be greater than equity beta. *See also* Brealey *et al*. at 455.

sufficiently comparable companies for an indirect peer-based beta could be identified.

CONCLUSION

For the foregoing reasons, the *Amici* respectfully submit that there was nothing "methodologically novel" or lacking in credibility about Professor Jarrell's approach to estimating beta. Rather, his methodology was grounded in well-accepted, fundamental principles of corporate finance and should have been considered by the trial court on its merits when determining SourceHOV's fair value under 8 *Del. C.* § 262.

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