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Appendix 14C Final Spreadsheet Only Form of CVM&A Seven -Step DCF Model

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APPENDIX 14C, *SPREADSHEET-ONLY FORM OF CORPORATE VALUATION IN M&A SEVEN-STEP DCF MODEL*
*(Or the "**Appendix 14C***, Spreadsheet-Only CVM&A Seven-Step DCF Model")*

<mark>[JANUARY 17, 2024; TO BE UPDATED PERIODICALLY</mark>]

THIS APPENDIX 14C CONTAINS THE FOLLOWING:
(1) A SHORT *GUIDE TO THE STRUCTURE OF THIS SPREADSHEET-ONLY FORM OF THE CVMA SEVEN-STEP DCF MODEL*, AND
(2) THE *IMPLEMENTING EXCEL SPREADSHEETS FOR THE CVMA SEVEN-STEP MODEL*

A SUPPLEMENT TO:

CORPORATE VALUATION IN M&A

A BOOK PUBLISHED IN DECEMBER 2023 BY:
THE PRACTISING LAW INSTITUTE (PLI)

THE BOOK WAS WRITTEN BY
SAMUEL C. THOMPSON, JR., PROFESSOR PENN STATE LAW

THIS IS A VALUATION MODEL THAT IS A SUPPLEMENT TO THIS BOOK
:
FIRST EDITION OF THIS MODEL:

JANUARY 17, 2024 © SAMULE C. THOMPSON, JR.

THIS MODEL IS AVAILABLE WITHOUT CHARGE, ON THE PENN STATE LAW

WEBSITE AT, https://elibrary.law.psu.edu/valuation/.

THE AUTHORS OF THIS FIRST VERSION OF THE MODEL:

THIS FIRST VERSION OF THIS DCF MODEL BECAME EFFECTIVE ON JANUARY ____, 2024, AND WAS PREPARED BY PROFESSOR SAMUEL C. THOMPSON, JR. AND HIS FOLLOWING RESEARCH ASSISTANTS AT PENN STATE LAW: (1) ABDULRAHMAN ABDULLAH H AZZOUNI, A 2023-4 LLM STUDENT; (2) AKSHAYA SENTHIL KUMAR, A 2023-4 LLM STUDENT; (3) WILLIAN SCHROEDER, A 2023-4 THIRD YEAR LAW STUDENT; AND (4) LUKE M. GLAVIN, A 2023-4 THIRD YEAR LAW STUDENT.

- **THIS DOCUMENT WILL BE UPDATED AND EXPANDED PERIODICALLY; AND THE MOST RECENT VERSION WILL BE ON THE PENN STATE LAW WEBSITE.**
- **THIS MODEL IS DESIGNED PRINCIPALLY FOR USE IN THE VALUATION OF A PUBLICLY HELD CORPORATION THAT IS THE TARGET IN AN M&A TRANSACTION.**
- **WITH APPROPRIATE ADJUSTMENTS, IF ANY, THIS MODEL MAY ALSO BE USED FOR THE VALUATION OF A FIRM THAT IS NOT THE TARGET IN AN M&A TRANSACTION.**
- **THIS DOCUMENT IS IMPLEMENTED BY ATTACHED EXCEL SHEETS.**
- **THIS APPENDIX 14C WILL BE BUTILIZED IN THE VALUATION, AS OF FEBRUARY __, 2024, OF DELL TECHNOLOGIES INC. (DELL), A PUBLICLY HELD CORPORATION. THIS DELL VALUATION IS ENTITLED:**

   > **APPENDIX 14A,** *DELL, INC. FORM OF CORPORATE VALUATION IN M&A SEVEN-STEP DCF MODEL, AS OF FEBRUARY __, 2024, THE CLOSE OF DELL'S LAST FISCAL YEAR PRECEDING THE PREPARATION OF THIS DOCUMENT*
   > **(Or the "Appendix 14A** *Dell Form CVM&A DCF Model as of February __, 2024"***);**

- **THUS, THE THREE RELATED APPENDICIES ARE:**
  - **Appendix 14A** *Dell Form CVM&A DCF Model as of February __,* **2024;**
  - **Appendix 14B,** *Generic Form CVM&A- Seven-Step DCF Model***; and**
  - **Appendix 14C,** *Spreadsheet-Only CVM&A Seven-Step DCF Model*

- **A CAVEAT ON THE USE OF THIS MODEL: VALUATION IN M&A AND OTHERWISE IS AN ART AND NOT A SCIENCE. THEREFORE, VALUATION IS SUBJECT TO POTENTIAL SIGNIFICANT DISAGREEMENT AMONG THE PROFESSIONALS WHO ARE CONDUCTING THE VALUATION. THERE IS NO ASSURANCE THAT IN ANY PARTICULAR SITUATION THIS MODEL WILL PRODUCE THE CORRECT, OR A REASONABLE, VALUATION RESULT. THEREFORE, ANY USER OF THIS MODEL MUST TAKE APPROPRIATE CARE IN USING AND POSSIBLY ADJUSTING THE MODEL. PROFESSOR THOMPSON IS PROVIDING THIS MODEL WITHOUT CHARGE, AND HE UNDERTAKES NO LIABILITY OF WHATEVER KIND TO WHOEVER MAY AT ANY POINT USE, OR RELY ON, THIS MODEL IN A VALUATION, OR OTHERWISE.**

A.   In General

This Appendix 14C, *Spreadsheet Only Form of Corporate Valuation in M&A Seven-Step DCF Model* (*Spreadsheet Only CVM&A Seven-Step DCF Model*) contains the spreadsheets and a guide thereto that implement Appendix 14B *Generic Form Corporate Valuation in M&A Seven-Step DCF Model* (*Generic Form CVM&A Seven-Step DCF Model*). This *Spreadsheet Only Form* implements the *Discounted Cash Flow (DCF) Valuation Model* discussed in chapter 14 of the book: *Corporate Valuation in M&A*. The author of this book, which is updated annually, is Professor Samuel C. Thompson, Jr. of Penn State Law, and the book is published by the Practising Law Institute (PLI).

B.   Relationship Among the Models in Appendix 14A, 14B and 14C

As discussed more fully in Appendix 14B, this DCF *Model* is designed to be used principally for the valuation of a publicly held Target[1] of an M&A transaction. The Model is implemented by the following three related appendices:

- APPENDIX 14A, DELL, INC. FORM OF CORPORATE VALUATION IN M&A SEVEN-STEP DCF MODEL, AS OF FEBRUARY __, 2024, THE CLOSE OF DELL'S FIRST FISCAL YEAR ENDING IMMEDIATELY AFTER THE PUBLICATION OF THIS BOOK IN DECEMBER 2023;

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[1] As used in this book and in Appendices 14A and 14B, depending on the context, the term "Target" is sometimes referred to as "Target," "a Target," and "the Target." Unless otherwise indicated, the term is referring to the company that is acquired in a conventional M&A transaction.

- APPENDIX 14B, GENERIC FORM OF CORPORATE VALUATION IN M&A SEVEN-STEP DCF MODEL; AND

- APPENDIX 14C, SPREADSHEET ONLY FORM OF CORPORATE VALUATION IN M&A SEVEN-STEP DCF MODEL.

Appendix 14B, the "Generic Form," has a relatively complete discussion regarding the implementation of all aspects of the *Model*, with references to more complete discussions of the applicable concept in the book. This Appendix 14C, the "Spread Sheet Only Form" is a "skinny downed" version of this Appendix 14B, and it contains only:

(1) a Guide to the Structure of the Implementing the Excel Sheets, and

(2) the Implementing Excel Sheets.

In illustrating the application of this *Model*, Appendix 14C is employed in Appendix 14A in the actual DCF valuation of Dell, Inc., a publicly held corporation. The DCF valuation of Dell will be done as of February _, 2024,[2] the close of Dell's first full fiscal year after the publication of this book in December 2023.

All of the *Models* (Appendices 14A, 14B, and 14C) implement the *Discounted Cash Flow (DCF) Valuation Model* discussed in chapter 14 of the book. Chapter 14 is entitled: *"CVM&A- Seven Step DCF Model for the Valuation of a Target*." To facilitate an understanding of the central valuation concepts, the actual *Seven Steps and Sub-Steps* implementing this *Model* are highlighted in turquois in this Appendix.

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[2] Dell's fiscal year will end on this date, and it varies between the last of January and the first of February, depending on the year.

C. Access to the Appendices

All three of these Appendices are available on the Penn State Law website at

https://elibrary.law.psu.edu/valuation/, and they can be used by anyone, without charge, in

conducting a DCF valuation.

D. Introduction to the Annexes to Appendix 14B

The following Annexes A through E to Appendix 14B set out excerpts, inter alia, from the

following valuation cases that are discussed in the book.

- ANNEX A, ILLUSTRATING THE SEVEN STEPS: (1) A SUMMARY OF THE SEVEN STEPS, AND (2) EXCERPTS FROM APPENDIX 1H TO THE BOOK, ILLUSTRATION OF THE DCF SEVEN STEPS IN J.P. MORGAN's DCF VALUATION IN RAI, A 2021 CASE;
- ANNEX B, EXCERPTS FROM APPENDIX 8B TO THE BOOK: LAZARD'S COMPUTATION IN 2017 OF RAI'S COST OF EQUITY AND WACC WITH THE UNLEVERING AND LEVERING OF RAI'S BETA;
- ANNEX C, EXCERPTS FROM SELECTED SECTIONS FROM APPENDIX 1E TO THE BOOK, RE VALUATION RELATED DOCUMENTS IN AOL, A 2015 CASE; AND
- ANNEX D, DISCOUNT FACTOR TABLE, FOR USE IN DETERMINING THE APPROPRIATE DISCOUNT RATE FOR BRINGING TO PRESENT VALUE THE TARGET's FREE CASH FLOWs (FCFs) AND TERMINAL VALUE (TV).

E. Purpose of the Model, Valuation of Public Targets and Beyond

As indicated in Appendix 14B, this *Model* is designed for the valuation of a domestic publicly

held Target of an M&A transaction. However, with appropriate adjustments, if required, this

Model could be utilized in the valuation of a firm that is not a public Target, including:

(1) a closely held Target,

(2) a free-standing publicly held corporation,

(3) a free standing privately held corporation,

(4) a foreign corporation, both publicly held and closely held, and

(5) a non-corporate business, such as a partnership or limited liability company (LLC),

whether or not, engaged in an M&A transaction.

However, it must be reiterated that the *Model* is designed for the explicit purpose of valuing a

publicly held domestic Target.

F. How this Appendix 14C Model Is Implemented

This Appendix 14C *Model* is implemented by employing Excel spreadsheets addressing each of

the *Seven-Steps*, and, if any, each of the *Sub-Steps*. The Excel spreadsheets are (1) attached to

Appendix 14C; (2) illustrated in the applicable section in Appendix 14B; (3) implemented by the

"INSTRUCTIONS" at the top of the cover page for each spreadsheet; and (4) used in the

valuation of Dell in Appendix 14A, as of February __, 2024.

G. The Basic Model Does Not Compute the Equity Discount Rate

The purpose of this *Generic Form CVM&A- Seven-Step DCF Model* is to provide in one place a

"basic *Model*" that can be used in a DCF valuation of a publicly held Target. The term "basic

Model" must be emphasized, because this *Model* does not have many of the "Bells and Whistles"

found in other *Models*, such as the Bloomberg DCF Model, which is discussed at various places

throughout the book.

For example, the *Model* here sets out in summary form the Steps and Sub-Steps used in

determining the Target's cost of equity through the CAPM, including the determination of a

Target's Beta. Although chapters 7, 8, and 9 contain significant discussions of these concepts,

this Appendix 14C does not apply them in determining the Target's equity discount rate. As

indicated, this *Model* employs a freely available professional source in determining the Target's

equity discount rate.

All of the *Seven-Steps* for doing a DCF valuation of a Target are discussed in detail in chapters

4–13, which are in the DCF part of the book.

All of the data that goes into the Model in this Appendix 14C is taken by hand from specified

sources, so there is no need for the user to collect any data by computer program. Thus, the user

of the *Model* inputs by hand the relevant data from designated sources.

That said, in many places in the Excel sheets implementing the *Model*, the user will have to

employ certain Excel formulas in making the computations. Thus, the *Model*, like any valuation

Model, in places requires an exercise of judgment and is not just: "Plug and Play."

In virtually all the circumstances the relevant information for doing a valuation of a publicly held

Target for which the analyst does not have access to proprietary information can be obtained

from the Target's SEC disclosures, which are available without charge on the SEC's website.

Thus, as seen in the application of Appendix 14A, *the Spreadsheet Only Form of Corporate*

Valuation of Dell, the *Model* can be implemented by collecting by hand certain basic data

regarding a publicly held Target from the SEC website. For example, as discussed in Appendix

14A, the DCF valuation of Dell, the principal financial statements used in valuing Dell are in

Dell's relevant annual report on SEC Form 10K. Thus, the *Spreadsheet Only CVM&A Seven-*

Step DCF Model of Dell uses this publicly available data in computing, inter alia, the Dell's:

(1) Free Cash Flows (FCFs);

(2) Terminal Value (TV); and

(3) the Weighted Average Cost of Capital (WACC).

As indicated previously, in this Model, it is not necessary to compute Beta or the Cost of Equity Capital, because the discount rate is ascertained from a public source.

> J. Potential (1) Inapplicability of a Step or Sub-Step; (2) Applicability of a Short-Cut, or (3) Required Adjustments

Although this *Model* specifically sets out each of the Steps and Sub-Steps, in many situations, the analyst might decide to collapse certain Steps or Sub-Steps. However, in doing any valuation, the analyst should make sure that each of these Steps and Sub-Steps (1) has been complied with or otherwise addressed, or (2) is inapplicable in the circumstance.

> K.   Limitations of the Generic Form CVM&A- Seven-Step DCF Model

It must be emphasized that both (1) this *Spreadsheet Only CVM&A Seven-Step DCF Model*, and the *Generic Form CVM&A- Seven-Step DCF Model* are based on certain assumptions. If the assumptions in this *Model* are not appropriate, adjustments would have to be made to the *Model*.

However, in order to keep things relatively "simple," both (1) this *Spreadsheet Only CVM&A Seven-Step DCF Model*, and (2) the *Generic Form CVM&A- Seven-Step DCF Model* proceed on the basis of the stated assumptions, and in any valuation of a Target, if any of these basic assumptions, such as the assumption of using the Target's performance in two of the Target's past five years to predict the Target's performance in the next five years, is inappropriate, then the analyst would have to make appropriate adjustments to the *Model* . For example, while the five past years are utilized in the *Model*, adjustments may have to be made to properly adjust for the COVID-19 years. These types of adjustments are not made in the valuation of Dell in Appendix 14A.

L. Use of Fiscal Year Rather Than Twelve-Month Periods in Computing Historic and Projected FCFs

In computing the Target's Free Cash Flows (FCFs), unless indicated otherwise

this *Spreadsheet Only CVM&A Seven-Step DCF Model*, like the *Generic Form CVM&A- Seven-Step DCF Model*, use the Target's fiscal year (or calendar year if applicable) and not the most recent trailing 12-month period.   Thus, the *Model* uses (1) the Target's FCFs as reported in the Target's most recent annual SEC Form 10-K as the last year of the five-year projection period, and (2) the Target's FCFs as reported in one of the Target's annual SEC Form 10-K that covers the first year of the five-year projection period.

Thus, as will be seen, in this *Model*, the FCF calculations are done as of the last day of the Target's most recently completed fiscal year, which in the case of Dell will be as of February __, 2024. Note that in using the annual Form 10-K for this purpose, the only financial documents used are those found in the Target's (1) annual report on Form 10-K for the Target's most recently completed fiscal year, and (2) annual report on Form 10-K for the Target's fifth previously completed fiscal year.

Thus, for example, in the case of the valuation of Dell as of February ___, 2024 in Appendix 14A, the relevant Dell financial information is included as Annexes to Appendix 14A.

A.   In General

The following *Seven-Steps* in sections III through X, which include in certain cases Sub-Steps, are used in determining the value of a Target through the implementation of this *Spreadsheet Only CVM&A Seven-Step DCF Model*. All of the Steps and Sub-Steps are implemented through separate Excel spreadsheets. For example, as will be seen, Sub-Step1A (i.e., determining the Target's past FCFs) is implemented by three "Excel spreadsheets."

B.   Application of the *Seven-Step* Process When the Target Has Multiple Lines of Business

As discussed in the book, if the Target has multiple lines of business, the first *Six Steps* should be followed in valuing each line separately on the basis of, inter alia, the line's (1) FCFs, (2) TV, (3) assumed liabilities, and (4) WACC.   This is referred to here as "valuation on a business-by-business basis."   The value for each line of business is then added to reach the full value of Target.

The determination of whether a DCF analysis should be done on a business-by-business basis will be determined by the facts surrounding the Target's business. For example, in the valuation of Twitter by J.P. Morgan in connection with the acquisition by Elon Musk, Morgan assumed that Twitter is engaged in only one line of business.

C.   Introduction to the Balance of this Appendix 14C

The balance of this Appendix 14C addresses the Seven Steps and Sub-Steps as follows:

- SECTION III, FIRST STEP AND SUB-STEPS 1A (PAST FCFS), 1B (FUTURE FCFS) AND 1C TERMINAL VALUE (TV), CHAPTERS 5 AND 6;

- SECTION IV, SECOND STEP AND SUB-STEPS 2A THROUGH 2E (FROM BETA TO CAPM, TO COST OF EQUITY, AND TO WACC, THE DISCOUNT RATE), CHAPTERS 7 TO 12;
- SECTION V, THIRD STEP: DISCOUNTING TO PRESENT VALUE THE FCFS AND TV AT THE WACC, CHAPTERS 11 AND 12;
- SECTION VI, FOURTH STEP: SUMMING THE PRESENT VALUES OF THE FCFs AND TV, ATTRIBUTABLE TO THE TARGET'S OPERATIONAL ASSETS AS DETERMINED IN SECTION III, CHAPTER 12;
- SECTION VII, FIFTH STEP: COMPUTING THE NPV OF THE OPERATING ASSETS BY, INTER ALIA, SUBTRACTING THE TARGET'S LIABILITIES, CHAPTER 12;
- SECTION VIII, THIRD, FOURTH, AND FIFTH OPTIONAL COMBINED STEPS IN COMPUTING THE NET FMV OF THE TARGET's OPERATING ASSETS;
- SECTION IX, SIXTH STEP: ADJUSTING THE NPV FOR NON-OPERATING ASSETS, CHAPTER 13; AND
- SECTION X, SEVENTH STEP: DETERMINE A PER SHARE PRICE AND CONDUCT A SENSITIVITY ANALYSIS, CHAPTER 13.

The titles of these Seven Steps and Sub-Steps are (1) set out below, and (2) implemented by the

23 Excel sheets attached to this document.

B.   DETERMINING THE TARGET'S BETA

1.   The Actual Step 2, Sub-Step 2B, Excel Sheet 1 of 1: Determining the Target's Beta for Use in CAPM. For an Estimate of a Target's Beta, See, inter alia, the Following Yahoo! Finance Website for the Particular Target, in Place of IBM:

https://finance.yahoo.com/quote/IBM/

C.   DETERMINING THE TARGET'S EQUITY DISCOUNT RATE (EDR)

1.   The Actual Step 2, Sub-Step 2C, Excel Sheet 1 of 1: The End Result of CAPM: Determining the Target's Equity Discount Rate (EDR), For Use in Computing the WACC Below