

**INTERNATIONAL CENTRE FOR SETTLEMENT
OF INVESTMENT DISPUTES**

Case No. ARB/16/42

**OMEGA ENGINEERING LLC
and
MR. OSCAR RIVERA**

Claimants

v.

THE REPUBLIC OF PANAMA

Respondent

SECOND EXPERT REPORT OF QUADRANT ECONOMICS

Prepared by

Daniel Flores and Ryan McCann

15 November 2019



QUADRANT
Economics

1445 New York Avenue NW, Floor 6
Washington, DC 20005

TABLE OF CONTENTS

- I. Introduction8**

- II. Summary and Conclusions10**
 - A. Potential New Contracts Claim..... 10
 - B. Existing Contracts Claim..... 12
 - C. Applicable Rate of Interest..... 13
 - D. Conclusions..... 13

- III. Potential New Contracts Claim14**
 - A. Compass Lexecon Conflates Omega Panama with Omega Consortium Because No Buyer Would Have Been Willing to Purchase Omega Panama 16
 - B. Omega Panama Had Limited Value to a Hypothetical Buyer Because It Did Not Possess the Intangible Assets Compass Lexecon Argues It Had 19
 - 1. A Hypothetical Willing Buyer Would Not Have Paid for Cash Flows from Potential New Contracts in Perpetuity 20
 - 2. Compass Lexecon’s Analysis Fails to Support the Existence of the Alleged Intangible Assets upon which It Bases its Valuation of Omega Panama 29
 - C. Appropriate Cost of Equity 42
 - D. The Assumptions Used by Compass Lexecon in the Quantification of the Potential New Contracts Claim Are Flawed 46
 - 1. Target Market 48
 - 2. Success Rate 58



3. Profitability	62
4. General Expenses	65
5. The Timing of Cash Flows Used in Compass Lexecon’s Model Is Inconsistent with the Historical Record and Inflates Damages	68
E. Potential New Contracts Claim – Conclusions	69
IV. Existing Contracts Claim	71
A. Overview of the Existing Contracts Claim	71
B. Appropriate Methodology for the Calculation of the Existing Contracts Claim	72
1. Compounding Unpaid Progress Billings to the Valuation Date	72
2. Discounting Expected Future Cash Flows to the Valuation Date	73
3. The Proper Treatment of Advance Payments	74
4. Summary of the Appropriate Methodology for Computing the Existing Contracts Claim	76
C. Amounts Related to Addenda Not Signed Off by Panama’s Comptroller .	78
D. Compass Lexecon Improperly Includes a Superseded Addendum of US\$ 9.7 Million in Relation to Kuna Yala	79
E. Existing Contracts Claim – Conclusions	81
V. Applicable Rate of Interest.....	82
A. Compass Lexecon’s “Invalid Round-Trip” Argument is Flawed	83
B. Theory and Practice Support the Use of the Risk-Free Rate	86
C. The Yield of the Six-Month or the one-year U.S. Treasury Bill is the Appropriate Rate of Interest	91



Annex A. Appropriate Cost of Equity93

1. The Country Equity Risk Premium..... 93

2. The Inclusion of an Additional Risk Premium Is Supported by
Empirical Research102

3. Compass Lexecon Errs in its Interpretation of Duff & Phelps’
Measurement of the Market Equity Risk Premium.....106

4. Cost of Equity – Conclusions.....109



INDEX OF FIGURES

Figure 1	Summary of Results	13
Figure 2	Nominal Value from Cash Flows in a DCF Analysis A Graphical Perspective	22
Figure 3	A Willing Buyer's View of Omega Panama's Value	25
Figure 4	A Willing Buyer's View Assuming No Cash Flows for Five Years.....	28
Figure 5	Second Compass Lexecon Report, Table III	35
Figure 6	Second Compass Lexecon Report, Table IV.....	38
Figure 7	CAPM CoE for Large General Contracting Company in the U.S.....	45
Figure 8	Cost of Equity Calculation as of the Valuation Date	46
Figure 9	Assumptions Underlying Compass Lexecon's Revenue Forecasts	47
Figure 10	Panama's Central Government Capital Expenditures as a Percentage of GDP 1995-2014	50
Figure 11	NFPS Capital Expenditures as Percentage of GDP by Administration 1995-2017	52
Figure 12	Omega Panama's Volatile Success Rate	59
Figure 13	Omega Panama's Public Works Bid History.....	62
Figure 14	Cumulative Impact of Corrections to Compass Lexecon's Valuation of Omega Panama's Potential New Contracts.....	71
Figure 15	Financing Costs for Past and Future Payments.....	77
Figure 16	Summary of Corrections to the Existing Contracts Claim	82
Figure 17	Fallacy of the Invalid Round-trip	84
Figure 18	CAPM CoE for Large General Contracting Company in the U.S.....	108



SELECTED DEFINED TERMS

BIT	Bilateral Investment Treaty
CAPM	Capital Asset Pricing Model
Claimants	Omega Engineering LLC and Mr. Oscar Rivera
Claimants' Memorial	Claimants' Memorial presented on 25 June 2018
Claimants' Reply	Claimants' Reply on the Merits and Counter-Memorial on Preliminary Objections presented on 30 May 2019
CoE	Cost of Equity
Comsa	Comsa EMTE S.L.
CRP	Country Risk Premium
DCF	Discounted Cash Flow
Elecnor	Elecnor S.A.
EMBI	Emerging Market Bond Index
ENR	Engineering News-Record
ERP	Equity Risk Premium
Existing Contracts	Eight ongoing contracts awarded to Omega Panama prior to the Valuation Date (excludes one completed project and one cancelled project)
First Compass Lexecon Report	Report prepared by Pablo López Zadicoff and Sebastian Zuccon of Compass Lexecon presented on 25 June 2018
GDP	Gross Domestic Product
ICSID	International Centre for Settlement of Investment Disputes
First McKinnon Report	Expert Witness Statement of Greg A. McKinnon presented on 25 June 2018
First Rivera Witness Statement	Witness Statement of Mr. Oscar I. Rivera presented on 25 June 2018
FMV	Fair Market Value
López Witness Statement	Witness Statement of Frankie J López presented 27 May 2019
Measures	Alleged acts taken against Claimants by Panama
NFPS	Non-financial Public Sector
Omega Panama	Omega Engineering Inc.
Omega U.S.	Omega Engineering LLC
Potential New Contracts	Future contracts assumed to be awarded to Omega Panama but for the Measures
PR Solutions	PR Solutions S.A.
Panama/Respondent	Republic of Panama
Second Compass Lexecon Report	Report prepared by Pablo López Zadicoff and Sebastian Zuccon of Compass Lexecon presented on 27 May 2019
Second McKinnon Report	Expert Witness Statement of Greg A. McKinnon presented on 27 May 2019



SEMI	Sociedad Española de Montajes Industriales, S.A.
TPA	Trade Promotion Agreement
Valuation Date	23 December 2014
WACC	Weighted Average Cost of Capital
2015-2019 Strategic Plan	Plan Estratégico de Gobierno 2015-2019 published by the Ministry of Economics and Finance in December 2014



I. Introduction

1. This Report has been prepared by Dr. Daniel Flores and Mr. Ryan McCann of Quadrant Economics LLC (“Quadrant”). Dr. Flores, the lead expert, authored the expert report on quantum dated 7 January 2019 at the request of the Republic of Panama (“Panama” or “Respondent”). Mr. McCann was among the staff who assisted Dr. Flores in preparing that report (the “First Quadrant Report”).¹ Dr. Flores’ and Mr. McCann’s updated biographical information is included as exhibit **QE-0121**. We declare that we have no past or present relationship with any of the parties to this Arbitration, their legal counsel or the members of the Tribunal that would impede our independence and duty to the Tribunal.
2. This matter involves the claims of Omega Engineering LLC (“Omega U.S.”) and Mr. Oscar Rivera (together, “Claimants”), the latter being the sole equity holder of Omega Engineering Inc. (“Omega Panama”), against the Panama. Claimants allege that Respondent took certain measures against Mr. Rivera and Omega Panama (the “Measures”) which have prevented Omega Panama from: (i) receiving payment for amounts billed to entities of the Respondent, (ii) completing existing contracts it had with Respondent, and (iii) ever doing business in Panama in the future. The alleged Measures include: (i) failure to make payments to Omega Panama, (ii) failure to provide construction permits and change orders, (iii) early unlawful termination and abandonment of contracts, and (iv) initiation of criminal investigations against Mr. Rivera and Omega Panama.
3. On 25 June 2018, Claimants submitted their Memorial (the “Claimants’ Memorial”), which relied on the reports prepared by Pablo López Zadicoff and Sebastian Zuccon of Compass Lexecon (the “First Compass Lexecon Report”) and Greg A. McKinnon of Hemming Morse, LLP (the “First McKinnon Report”). Using a valuation date of 23 December 2014 (the “Valuation Date”), the Claimants requested total damages of US\$ 81.6 million as of 25 June 2018.
4. At the request of Respondent, Quadrant prepared a first expert report on quantum dated 7 January 2019 (the “First Quadrant Report”) analyzing, from an economic point of view, the Claimants’ claim and Compass Lexecon’s calculation of damages.

¹ First Quadrant Report, ¶ 7.



5. On 30 May 2019, Claimants submitted their Reply on the Merits and Counter-Memorial on Preliminary Objections (the “Claimants’ Reply”), in which they rely on the Supplemental Report of Messrs. López Zadicoff and Zuccon of 27 May 2019 (the “Second Compass Lexecon Report” and, jointly with the First Compass Lexecon Report, the “Compass Lexecon Reports”). Compass Lexecon responds to the First Quadrant Report and increases its overall damages calculations by US\$ 1.5 million to US\$ 83.1 million, based on the following calculations.²

- (i) US\$ [REDACTED] million relating to earnings from new contracts that supposedly would have been won and successfully completed by Omega Panama in perpetuity, absent the Measures (the “Potential New Contracts”). Compass Lexecon’s calculation of damages related to the Potential New Contracts decreased by US\$ [REDACTED] million between the First and Second Compass Lexecon Reports as a result of a correction made to its analysis in the First Quadrant Report.³
- (ii) US\$ [REDACTED] million relating to eight public works contracts that were awarded to Omega Panama between 2011 and 2013 (the “Existing Contracts”), including (i) balances on billings not yet paid by Panama for work allegedly completed by Omega Panama as of the Valuation Date (the “Unpaid Progress Billings”), and (ii) earnings expected to have been realized from the completion of the Existing Contracts after the Valuation Date (the “Expected Future Cash Flows”).⁴ This claim is unchanged from the First Compass Lexecon Report.
- (iii) US\$ [REDACTED] million in interest, calculated through 15 May 2019.⁵ This claim represents a US\$ [REDACTED] million increase over the original interest calculation of US\$ [REDACTED] million, calculated through 25 June 2018.⁶

² That is, US\$ 83.1 million – US\$ 81.6 million = US\$ 1.5 million. First Compass Lexecon Report, Table II; Second Compass Lexecon Report, Table I.

³ That is, US\$ [REDACTED] million – US\$ [REDACTED] million = US\$ [REDACTED] million. First Compass Lexecon Report, Table I; Second Compass Lexecon Report, Table I.

⁴ This head of damages also includes the net advances balance, which is comprised of advances made to Omega Panama at the beginning of the Existing Projects as well as retentions that Omega Panama would have received after having successfully completed each project.

⁵ That is, US\$ [REDACTED] million – US\$ [REDACTED] million = US\$ [REDACTED] million. **C-0439 [CLEX-33]**, Figures and Tables, tab “Table I & VII.”

⁶ That is, US\$ [REDACTED] million - US\$ [REDACTED] million = US\$ [REDACTED] million, and US\$ [REDACTED] million - US\$ [REDACTED] million =



6. In this second report, we have been asked by Counsel for Respondent to carry out the following tasks:
- Analyze and comment on the economic rationale and the methodology employed by Compass Lexecon to value Claimants’ interest in Omega Panama in relation to the Potential New Contracts, including the specific assumptions Compass Lexecon makes regarding the Discounted Cash Flow (“DCF”) analysis it uses to arrive at such value.
 - Analyze and comment on the methodology employed by Compass Lexecon to calculate the alleged damages associated with the Existing Contracts, including Unpaid Progress Billings and Expected Future Cash Flows.
 - Comment on the appropriate rate of interest on compensation, should the Tribunal decide to award compensation and interest on that compensation.
7. For the preparation of this second report, in addition to the filings described above, we have reviewed the witness statements of Mr. Oscar Rivera and Mr. Frankie López dated 27 May 2019 (the “Second Rivera Witness Statement” and “López Witness Statement,” respectively), and several additional documents that were not yet in the record of this Arbitration, which are attached to this Report as appendices QE-0052 to QE-0120.

II. Summary and Conclusions

A. Potential New Contracts Claim

8. **Section III** below explains that from an economic perspective, the Potential New Contracts claim should be dismissed. No hypothetical willing buyer would have paid to acquire Omega Panama because it did not possess any valuable tangible or intangible assets. Compass Lexecon values the Claimants’ Potential New Contracts claim by calculating the Fair Market Value (“FMV”) of Omega Panama. This value measures the price a hypothetical willing buyer would pay a hypothetical willing seller for Omega Panama in an arm’s-length transaction as of the Valuation Date. To carry out this valuation, Compass Lexecon conducts a DCF analysis of Omega Panama even though Omega Panama does not have a history of operations or profitability as a stand-alone

US\$ [REDACTED] million. C-0240 [CLEX-02], CL Valuation Model, tab “Summary,” cells P15-Q15, M15-N15.



entity and, therefore, does not have sufficient data to support reliable forecasts. A fundamental conceptual flaw in Compass Lexecon's valuation exercise is its conflation of Omega Panama with Omega Consortium. Indeed, all of the successful bids, financial capacity, and experience on which Compass Lexecon relies to establish the value of Omega Panama actually pertain to Omega U.S. and, in some cases, other third-party companies. However, even Omega U.S. failed to deliver the intangible assets that according to Compass Lexecon, gave Omega Panama its value. No hypothetical willing buyer looking to start an operation in the Panamanian public works sector would have found compelling reasons to pay anything to acquire Omega Panama.

9. Beyond this, Compass Lexecon's DCF analysis suffers from a second fundamental conceptual flaw. Even if a hypothetical willing buyer were to find value in Omega Panama, such value would not extend beyond an initial ramp-up period during which such buyer might project that Omega Panama would generate higher cash flows than a new operation. Thus, Compass Lexecon's inclusion of cash flows in perpetuity in its DCF model fails to reflect how a hypothetical willing buyer would value Omega Panama.
10. After removing cash flows in perpetuity, it is necessary to make several corrections to the assumptions upon which Compass Lexecon relies to calculate the cash flows in its model. Indeed, its projections:
 - Ignore contemporaneous expectations for expected public spending in Panama;
 - Rely on a short erratic operating history which does not support confident estimates for modeling a DCF; and
 - Are inflated by the Claimants' aspirations for future profitability instead of grounded in Omega Panama's actual performance.
11. The final correction to Compass Lexecon's DCF valuation of the Potential New Contracts claim – if one were to accept that such a valuation is conceptually justified and was based on a sufficient operating history to lead to reliable results – is the application of a discount rate that adequately reflects the risks that a small privately-held general contractor in Panama faces. Compass Lexecon's discount rate fails to



adequately reflect the risk of investing in Panama and does not adjust for the fact that Omega Panama is a small privately held company, and not a large publicly traded one.⁷

12. Correcting Compass Lexecon's DCF leads to a decrease of US\$ [REDACTED] million, to US\$ [REDACTED] million.⁸ Still, that amount does not reflect the amount that a hypothetical buyer would be willing to pay for Omega Panama, since that amount is zero, as indicated above and explained in detail below.⁹

B. Existing Contracts Claim

13. **Section IV** below explains that the Existing Contracts claim incorrectly reflects the economic value of the various amounts which make up this head of damages. The Existing Contracts Claim is based on Unpaid Progress Billings and Expected Future Cash Flows for work related to eight projects won by Omega Consortium prior to the Valuation Date. Compass Lexecon quantifies this claim by: (i) applying prejudgment interest to Unpaid Progress Billings, (ii) computing the present value of Expected Future Cash Flows on uncompleted projects, and (iii) computing the present value of net advances to Omega Panama.¹⁰
14. However, Compass Lexecon's analysis is flawed in that it (i) applies an update factor to Unpaid Progress Billings that compensates Claimants for risks to which those amounts were no subject, (ii) discounts Expected Future Cash Flows using a cost of equity ("CoE") that does not adequately measure the risks to which those amounts were subject, and (iii) discounts the value of advances as though they were received in the future when in fact they were received prior to the Valuation Date.
15. In addition to these conceptual flaws, Compass Lexecon also includes amounts for concepts that were not signed off by the Panamanian comptroller and fails to reflect a reduction in the scope of future work related to MINSAP Kuna Yala.

⁷ See ¶¶ 193-228 below.

⁸ That is, US\$ 42.5 million – US\$ 1.1 million = US\$ 41.4 million. See **Figure 14** below.

⁹ See **Section III** below.

¹⁰ First Compass Lexecon Report, ¶ 74.



16. Implementing all of the required corrections reduces the Existing Contracts claim by US\$ [REDACTED] million, to US\$ [REDACTED] million.¹¹

C. Applicable Rate of Interest

17. **Section V** below addresses Compass Lexecon’s use of the CoE to calculate interest and explains that the use of a risk-free rate is appropriate from an economic perspective. Compass Lexecon calculates US\$ 31.9 million in interest through 15 May 2019, based on a total claim as of the Valuation Date of US\$ 51.2 million – or approximately 62.3% of the claim as of the Valuation Date.¹² We explain that: (i) Compass Lexecon’s “invalid round-trip” argument is a fallacy that is inconsistent with the basic premise that compensation should be commensurate with the risk incurred, (ii) the application of a risk-free rate is widely supported by theory and practice, and (iii) the yield of the six-month or the one year U.S. Treasury bill is an appropriate rate for the calculation of interest on an award of damages.¹³

D. Conclusions

18. **Figure 1** below summarizes the results of Compass Lexecon’s valuation exercise after making the required corrections set out in this Report.

**Figure 1
Summary of Results¹⁴**

	Compass Lexecon	Quadrant Economics
	(US\$ Millions)	
	(1)	(2)
1. Existing Contracts	[REDACTED]	[REDACTED]
2. New Contracts	[REDACTED]	[REDACTED]
3. Damages as of 23 December 2014	51.2	3.8

¹¹ See **Figure 16** below.

¹² That is, US\$ 83.1 million – US\$ 51.2 million = US\$ 31.9 million, and US\$ 31.9 million / US\$ 51.2 million = 62.3%. **C-0439 [CLEX-33]**, Figures and Tables, tab “Table I & VII.”

¹³ See also First Quadrant Report, ¶¶ 102-112.

¹⁴ Compass Lexecon Report, Table I; **QE-0052**, Updated Valuation Model, tab “Summary” (select the “Run



III. Potential New Contracts Claim

19. Claimants' largest head of damages stems from earnings from the Potential New Contracts that Compass Lexecon assumes would have been won and successfully completed by Omega Panama in perpetuity. The Second Compass Lexecon Report reasserts that the foundation for the Potential New Contracts claim is the FMV standard. It relies on The World Bank definition, which states that the FMV is:

[A]n amount that a willing buyer would normally pay to a willing seller after taking into account the nature of the investment, the circumstances in which it would operate in the future and its specific characteristics, including the period in which it has been in existence, the proportion of tangible assets in the total investment and other relevant factors pertinent to the specific circumstances of each case.¹⁵

20. Compass Lexecon cites Lieblich to expound upon this definition:

[T]he buyer must believe that he is paying no more than the asset is worth to him, while the seller must believe that he is receiving no less than the asset is worth to him. This means that the buyer must place either the same or a higher value on the asset than does the seller.¹⁶

21. Lieblich further states that:

[T]he value of income-producing capital assets or enterprise to its present owner or to a potential private purchaser is a function of the cash that the asset or enterprise is expected to generate in the future. This is because investors purchase and own capital assets in order to increase their wealth, and the only way to

scenario QE” macro and view result in cell M12-N12).

¹⁵ Second Compass Lexecon Report, ¶ 47, *citing* C-0442 [CLEX-36], World Bank. 1992. “Guidelines on the Treatment of Foreign Direct Investment.” Foreign Investment Law Journal, Chapter IV: Expropriation and Unilateral Alterations or Termination of Contracts, Section IV, ¶ 5.

¹⁶ First Compass Lexecon Report, ¶ 62.



achieve that goal is to own assets that will generate cash or that will entitle their owner to receive more cash in the future.¹⁷

22. As explained in the First Quadrant Report, a fundamental concept underlying the application of the FMV standard using a DCF approach, as Compass Lexecon does, is that the willing buyer is purchasing an asset that it expects will generate income in the future.¹⁸ The assets can be tangible – such as large construction equipment used to build a building, a manufacturing plant that makes computer chips, concessions guaranteeing a right to exploit a natural resource – or intangible – such as a patent or a well-established brand (like Nike or BMW). However, Omega Panama did not possess any capital assets or valuable contractual rights to future revenues. Instead, as Compass Lexecon states, “business relationships and track records are, like in any services industry, the core asset[s]” of a general construction company such as Omega Panama.¹⁹
23. To support its valuation of Omega Panama, Compass Lexecon attempts to establish that Omega Panama had a valuable reputation, business contacts, advantages over its competitors (such as superior financial capacity), and experience based on a “proven track record.”²⁰ Therefore, these are the assets that a hypothetical buyer would be valuing in its purchase of Omega Panama, according to Compass Lexecon.
24. As explained in the following sections, Compass Lexecon’s valuation of Omega Panama diverges from the FMV standard because it:
 - (i) Attributes intangible assets to Omega Panama that it did not possess. In particular, to support its valuation, Compass Lexecon relies on assets that according to Claimants themselves belong to Omega U.S., not Omega Panama;
 - (ii) Ignores the value a willing buyer would attribute to Omega Panama by (a) assuming that such buyer would pay for potential new contracts in perpetuity, (b) overstating the competitive position of Omega Panama in the Panamanian public works sector, (c) relying on flawed analysis of Omega Panama’s

¹⁷ First Compass Lexecon Report, ¶ 63.

¹⁸ First Quadrant Report, ¶ 12.

¹⁹ First Compass Lexecon Report, ¶ 65.

²⁰ First Compass Lexecon Report, ¶¶ 64-65.



performance, (d) assuming the Omega brand was itself valuable, and conflating the hypothetical willing seller with a specific seller, the Claimants, whose expectations for the value of Omega Panama are not reasonable;

- (iii) Underestimates the risks faced by Omega Panama; and
- (iv) Ignores relevant historical information and derives forecasts for its models based on scant volatile data.

A. Compass Lexecon Conflates Omega Panama with Omega Consortium Because No Buyer Would Have Been Willing to Purchase Omega Panama

25. Compass Lexecon states that the appropriate standard for evaluating the alleged damages related to Potential New Contracts is FMV.²¹ It cites the American Society of Appraisers' definition of FMV as the "cash equivalents, at which property would change hands between a hypothetical willing and able buyer and a hypothetical and able seller."²²
26. Omega Panama did not possess the assets, neither tangible nor intangible, upon which Compass Lexecon claims to have based its valuation. Omega Panama's audited financial statements show that the company had little more than US\$ [REDACTED] in income-generating assets²³ and did not pay enough in salaries to employ more than [REDACTED] full-time minimum wage employees – if Omega Panama was employing trained professionals, that number would certainly be less.²⁴ The claim that Omega Panama also had built brand value and experience worth more than US\$ [REDACTED] million as of 23 December 2014 is also belied by the facts.²⁵ Omega Panama had only successfully

²¹ See ¶ 19 above.

²² First Compass Lexecon Report, ¶ 61, *citing* **C-0392 [CLEX-12]**, American Society of Appraisers. 2001. International Glossary of Business Valuation Terms, p. 4.

²³ **C-0136**, Omega Engineering, Inc. Financial Statements and Supplementary Information as of 31 December 2013 and 2012 and Independent Auditor's Report, n. 6, p. 11 of PDF. *See* First Quadrant Report, ¶ 43.

²⁴ That is, minimum wage per month of US\$ 461 × 12 months = US\$ 5,532 per year. US\$ 107,694 / US\$ 5,532 per year = [REDACTED] employees in 2013. In 2013 Omega Panama registered wages of US\$ [REDACTED]. **C-0136**, Omega Engineering, Inc. Financial Statements and Supplementary Information as of 31 December 2013 and 2012 and Independent Auditor's Report, p. 16 of PDF. The minimum monthly wage is calculated as, (US\$ 490 + US\$ 432) / 2 = US\$ 461. **QE-0018**, Priscilla Pérez, "Esta ha sido la evolución del salario mínimo en Panamá en los últimos seis años," *El Capital Financiero*, 14 December 2017, p. 2. *See* First Quadrant Report, ¶ 44.

²⁵ Compass Lexecon's nominal value for the Potential New Contracts claim of US\$ 42.53 million. Second



completed one project during its five-year existence leading up to the Valuation Date. The remaining eight projects were on average less than half complete, and there is no evidence or indication that the Omega Panama name was arising from the large pool of public general contractors as a standard bearer for quality and competency.²⁶ In fact, Compass Lexecon concedes that the “proven track record” in Panama upon which its valuation relies, is itself speculation. While hypothesizing about Omega Panama’s future access to the private market in Panama, Compass Lexecon states:

Although the Omega Consortium was not successful in any of the eight private sector bids it participated in, we should expect that once the consortium would have been established and with a portfolio of 10 projects for the public sector, it would have substantial local experience to allow for private sector contracting.²⁷

27. This passage highlights a significant flaw in Compass Lexecon’s analysis. Because Omega Panama lacks tangible assets and has no proven track record or other valuable intangible assets, Compass Lexecon conflates Omega Panama with Omega Consortium in order to substantiate its valuation. That is, Compass Lexecon states that it values Omega Panama, but throughout its analysis it is actually valuing assets contributed by Omega U.S. and other companies Omega Panama partnered with.
28. Of the 41 bids in which Omega Panama participated, in only ten did it bid without a partner.²⁸ Omega Panama won none of those bids. Of the remaining 31 bids, 22 included third-party partners different from Omega U.S., while this latter company was involved in 28 of the 31 bids.²⁹ Despite Compass Lexecon’s allusions to Omega

Compass Lexecon Report, Table I.

²⁶ First Quadrant Report, Figure 2.

²⁷ First Compass Lexecon Report, ¶ 39 (emphasis added).

²⁸ We note that despite the declaration in the bid documents that Omega Panama was not making its bid as part of a consortium, the financial data it provided was for that of Omega Engineering SE, the Puerto Rican based precursor to Omega U.S. **QE-0054**, Credenciales del Oferente “Estudio, Desarrollo de Planos, Construcción, Equipamiento y Financiamiento Diez Centros de Salud Innovadores MINSA CAPSI”, pp. Q7-9, Q60, Q65, Q69-72 and Q131.

²⁹ **QE-0053**, Supporting Figures, tab “5 – Consortium Partners;” **QE-0113**, PanamaCompra, Bid Consortium Data.



Panama's great financial capacity,³⁰ in none of the bids that Omega Panama won was its balance sheet the basis for the financial capacity scores obtained.³¹ Compass Lexecon has provided no evidence indicating that Omega Panama provided the bonding capacity for any of its projects. In sum, Omega Panama was not the basis for the experience or financial capacity that Compass Lexecon alleges gave it so much value, nor did it have the "proven track record"³² to which Compass Lexecon alludes. In fact, Claimants themselves describe Omega Panama as simply a tool to satisfy local company requirements and to provide legal and economic structure in Panama, with Omega U.S. contributing its "vast experience in the construction sector and excellent goodwill built up over decades of successful operations in Puerto Rico and the Caribbean."³³

29. Claimants then confirm that the alleged financial capacity and track record upon which Compass Lexecon relies is that of Omega U.S., not Omega Panama:

Thanks to Omega U.S.'s bonding capacity, solid financials, track record, project portfolio, and other specifications customarily used by project owners to evaluate bid proposals, this arrangement allowed Mr. Rivera to bid for larger Panamanian projects. Mr. Rivera's ultimate objective was to replicate this strategy in other jurisdictions by expanding Omega U.S.'s

³⁰ Second Compass Lexecon Report, ¶¶ 69-71.

³¹ See **C-0348**, Omega's proposal for Bid No. 2010-0-12-0-99-AV-003042, pp. 182-185, 190-191, 212-213; compare **QE-0115**, Results and Financial Ratios for Bid No. 2011-1-10-0-03-LV-041105, pp. 4-5 with **QE-0088**, Omega Engineering LLC, Financial Statements, February 28, 2010, pp. 4-5; compare **QE-0116**, Results and Financial Ratios for Bid No. 2011-0-03-0-03-AV-006870, pp. 7-10 with **QE-0088**, Omega Engineering LLC, Financial Statements, February 28, 2010, pp. 4-5; compare **QE-0117**, Results and Financial Ratios for Bid No. 2011-2-02-0-08-AV-001610, pp. 4-7 with **QE-0088**, Omega Engineering LLC, Financial Statements, February 28, 2010, pp. 4-5; compare **QE-0118**, Results and Financial Ratios for Bid No. 2012-1-30-0-08-LV-002784, pp. 6-9 with **QE-0102**, Omega Engineering, LLC, Financial Statements and Independent Auditors' Report, February 28, 2011, pp. 4-5; compare **QE-0119**, Results and Financial Ratios for Bid No. 2012-0-30-0-08-AV-004833, pp. 5-8 with **QE-0102**, Omega Engineering, LLC, Financial Statements and Independent Auditors' Report, February 28, 2011, pp. 4-5; compare **QE-0120**, Results and Financial Ratios for Bid No. 2012-5-16-516-03-AV-000218, pp. 3-6 with **QE-0102**, Omega Engineering, LLC, Financial Statements and Independent Auditors' Report, February 28, 2011, pp. 4-5; compare **QE-0114**, Results and Financial Ratios for Bid No. 2013-5-76-0-08-AV-004644, pp. 6-9 with **QE-0102**, Omega Engineering, LLC, Financial Statements and Independent Auditors' Report, February 28, 2011, pp. 4-5.

³² Second Compass Lexecon Report, ¶ 94; First Compass Lexecon Report, ¶ 64.

³³ Claimant's Memorial, ¶ 33.



presence until it became a regional, and ultimately a global, competitor.³⁴

30. Compass Lexecon describes the assets that Omega U.S. allegedly brought to Omega Consortium, “the bidding processes require years of experience and certain level of construction projects in the past. In the case of Omega Panama, this was achieved through the Omega Consortium, through the participation of Omega U.S., a company that put its reputation and industry standing at risk in Panama.”³⁵ A hypothetical buyer of Omega Panama would also need to bring these assets to Omega Panama. In other words, a hypothetical buyer would not pay Claimants for assets that Omega Panama did not possess and which the buyer would have to provide.
31. As explained below, even if Compass Lexecon includes the value of other companies in its valuation of Omega Panama, its results are still highly inflated.³⁶

B. Omega Panama Had Limited Value to a Hypothetical Buyer Because It Did Not Possess the Intangible Assets Compass Lexecon Argues It Had

32. Setting aside the fact that Compass Lexecon attributes to Omega Panama the alleged experience, track record, financial capacity and brand of another company (Omega U.S), its valuation of Omega Panama has several flaws. In the sections that follow we:
 - (i) Review the concept of using a DCF to calculate the FMV of a company, and explain that the fact that Omega Panama had no capital assets, no rights to future contracts, and no valuable intangible assets, such as a recognized brand name, limits the value of the company to a potential buyer, and that such value should not include cash flows beyond an initial ramp-up period; and
 - (ii) Show that Compass Lexecon fails to support its claim that Omega Panama had the intangible assets upon which it bases its valuation, and thus its valuation is highly inflated.

³⁴ Claimant’s Memorial, ¶ 34.

³⁵ Second Compass Lexecon Report, n. 54.

³⁶ See ¶¶ 39-174 below.



1. A Hypothetical Willing Buyer Would Not Have Paid for Cash Flows from Potential New Contracts in Perpetuity

a. Calculating Fair Market Value Using a DCF Analysis

33. There are three generally accepted approaches or methodologies to determine the FMV of a company:
- The Income-Based Approach, using methods that convert anticipated economic benefits into a single present value amount.
 - The Market-Based Approach, using methods that compare the business or business interest to similar businesses or business interests.
 - The Asset-Based Approach, using methods based on the current market value of assets net of liabilities.³⁷
34. As was explained in the First Quadrant Report, Omega Panama had no significant tangible assets and thus an Asset-Based Approach would yield no value for Omega Panama.³⁸ A Market-Based Approach is not applicable here because we have no information of sales of comparable small public works contracting outfits with only a few years of operation and limited, volatile historical cash flows. Thus, Compass Lexecon has only valued the Potential New Contracts claim using an Income Based Approach.
35. The DCF method is a widely accepted income-based approach to determine FMV. As the International Valuation Standards Council explains:

Discounted cash flow (DCF) analysis is a financial modelling technique based on explicit assumptions regarding the prospective income and expenses of a property or business. Such assumptions pertain to the quantity, quality, variability, timing, and duration of inflows and outflows that are discounted to present value. DCF analysis, with appropriate and supportable

³⁷ **QE-0032**, Mark Kantor, “Valuation for Arbitration: Compensation Standards, Valuation Methods and Expert Evidence” (Kluwer Law International, 2008), p. 9.

³⁸ See ¶¶ 26 above, 39 below; First Quadrant Report, ¶¶ 42-45.



data and discount rates, is one of the accepted methodologies within the *income capitalization approach* to valuation.³⁹

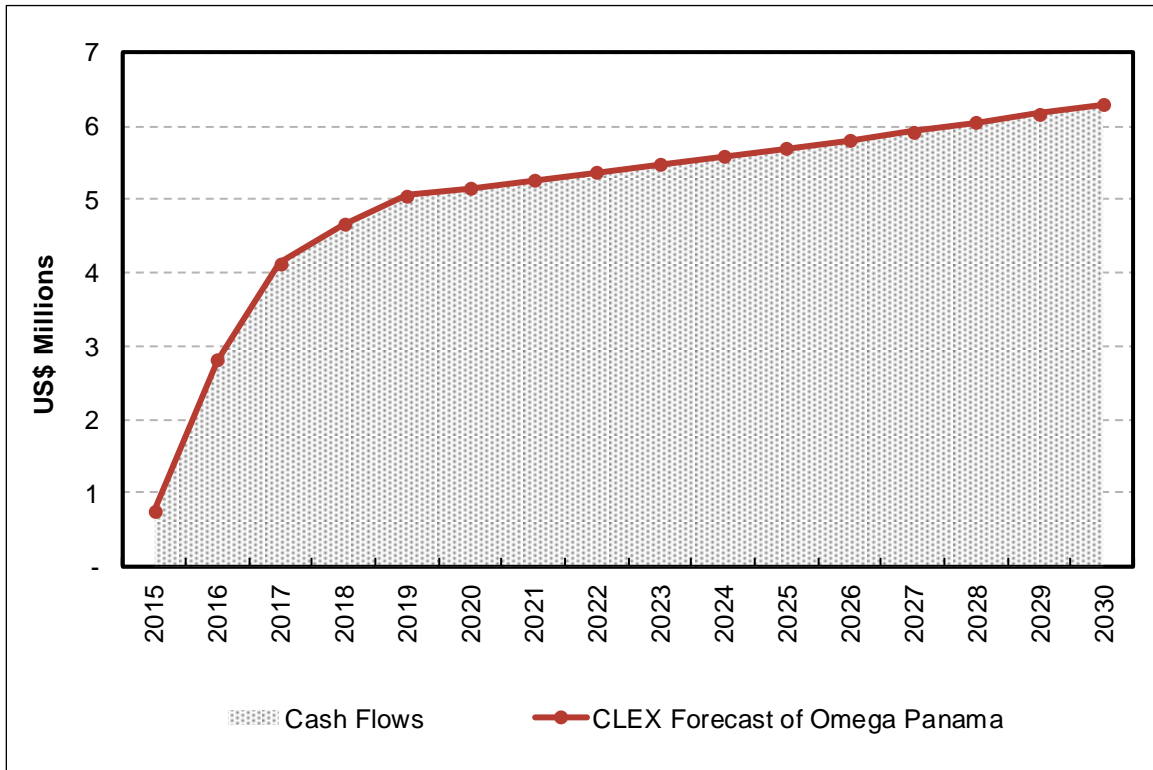
36. The World Bank Guidelines on the Treatment of Foreign Direct Investment explain that a DCF analysis may be appropriate to value a going concern, defined as a business that has been “in operation for a sufficient period of time to generate the data required for the calculation of future income.”⁴⁰ Despite Omega Panama’s limited record of volatile historical cash flows, Compass Lexecon uses the DCF approach for valuing the Potential New Contracts claim. Ignoring the lack of a sufficiently long stable operating history is a weakness that pervades Compass Lexecon’s valuation exercise.
37. The DCF approach relies on the assumption that a willing buyer is purchasing an asset that it expects will generate income in the future. This future income stream is then discounted back to the present, adjusting for the time value of money and the risks inherent in those future cash flows. **Figure 2** below illustrates that the nominal future cash flows can be visualized as the sum of all the cash flows defined by the curve that plots the cash flows over time.

³⁹ **QE-0055**, International Valuation Standards Council, “International Valuation Standards, Eighth Edition,” “International Valuation Guidance Note No. 9: Discounted Cash Flow Analysis for Market and Non-Market Based Valuations” (International Valuation Standards Council, 2007), ¶ 1.1 (emphasis in original).

⁴⁰ **QE-0019**, General Counsel of the World Bank et al., “Legal Framework for the Treatment of Foreign Investment,” “Report to the Development Committee and Guidelines on the Treatment of Foreign Direct Investment,” (The World Bank, 1992), p. 42.



Figure 2
Nominal Value from Cash Flows in a DCF Analysis
A Graphical Perspective⁴¹



38. The area of the shaded region is the sum of cash flows modeled by Compass Lexecon from 2015 to 2030. Not only does Compass Lexecon assert that a willing buyer would pay for all of those cash flows, but also all of the cash flows below that line as it extends out into the future in perpetuity. As we will discuss next, this is a significant conceptual flaw in its analysis.

b. Valuing Businesses that Have No Capital Assets, No Rights to Future Contracts, and No Valuable Intangible Assets

1) A Hypothetical Buyer’s View of Omega Panama’s Limited Value

39. Compass Lexecon agrees that Omega Panama had limited fixed assets.⁴² It also asserts that it was Omega Panama’s intangible assets – experience, reputation, financial

⁴¹ **QE-0053**, Supporting Figures, tab “1 - Willing Buyer's View.”

⁴² Second Compass Lexecon Report, ¶ 59. Tangible and fixed assets may in certain circumstances be used interchangeably. Technically, fixed assets are long-term tangible assets such as property, plant, and equipment. Tangible assets can include current assets such as cash. In the current context, since the value of Omega



capacity and relationships – that are the foundation for Omega Panama’s value.⁴³ But, as explained above, those intangible assets did not belong to Omega Panama, but to Omega US. Claimants themselves recognize that Omega Panama lacked those intangible assets.⁴⁴ Omega Panama did not possess any special competitive advantage, rights to projects, or valuable capital assets – it did not stand out amongst its competitors and its reputation was not the valuable asset that Compass Lexecon argues it was. A hypothetical buyer wanting to bid for new public works contracts in Panama in perpetuity would not have needed to acquire Omega Panama, because it could have done so by itself, gaining any necessary knowledge or local standing during an initial ramp-up period.

40. For the hypothetical buyer, the question then becomes, how much value do Omega Panama’s alleged intangible assets add compared to the alternative of starting one’s own operation, such that an entrant to the Panamanian public works sector would want to purchase those assets. As discussed below, the value of Omega Panama’s limited intangible assets diminishes over time, until there is no additional benefit to having purchased them versus having obtained those same intangible assets via the alternative investment.⁴⁵ Thus, Omega Panama’s value is limited to that value-added portion of its intangible assets.
41. Compass Lexecon asserts that “[t]here is a costly ramp-up period needed to acquire this experience and to forge relationships,” that “acquiring the necessary experience and reputation is a process that takes time,” and that, consequently, “to avoid this time expense, a new investor in the industry might consider buying into a company that has already generated these assets successfully.”⁴⁶ But the hypothetical buyer of Omega Panama need not be someone completely lacking in experience and reputation.

Panama being evaluated is not dependent on current assets, the terms fixed and tangible assets may be used interchangeably without loss of meaning.

⁴³ Second Compass Lexecon Report, ¶¶ 78-82.

⁴⁴ See ¶¶ 26-27 above; Claimants’ Memorial, ¶ 32 (“While it carried the Omega name, Omega Panama was a newly registered company without its own track record. This created an issue for Omega Panama when bidding, and ultimately from mid-2010, all bids for large public projects in Panama were made through a consortium.”).

⁴⁵ See ¶¶ 41-43 below; First Quadrant Report, ¶¶ 46-52.

⁴⁶ Second Compass Lexecon Report, ¶¶ 80-81.



Instead, it would be an entity that would contribute its own experience and reputation to Omega Panama – just in the same way that Omega U.S. contributed its alleged experience and reputation to Omega Panama. In fact, many of the players in this sector are large-scale, international contractors who entered the Panamanian market with ample prior global experience.⁴⁷

42. As explained in the First Quadrant Report and discussed further below, Omega Panama’s competitors and new entrants to the Panamanian public works market would have been able to compete for the same contracts as Omega Panama, either right from the start or within a short ramp-up period.⁴⁸ Once that access had been established, the generation of returns is based on the labor required to complete the projects – no one would have paid Omega Panama for that. Omega Panama did not possess some specific rights, tangible assets, or other unique intangible assets that had value to a potential buyer into perpetuity.⁴⁹
43. **Figure 3** below replicates Figure 3 of the First Quadrant Report and presents a graphical depiction of how a potential willing buyer would view the possible value of purchasing Omega Panama. In this illustrative example, the blue-dotted line assumes that the new entrant would generate some cash flows during the ramp-up period and so the value of purchasing Omega Panama is the additional value represented as the area between the two lines.⁵⁰ In contrast to **Figure 2** above, which depicts the value of all cash flows in perpetuity, the reality of Omega Panama is that the cash flows after the initial ramp-up period would reasonably flow to any operation that replicated Omega Panama’s limited track record.

⁴⁷ We discuss several of these competitors in Section III.B.2.a below.

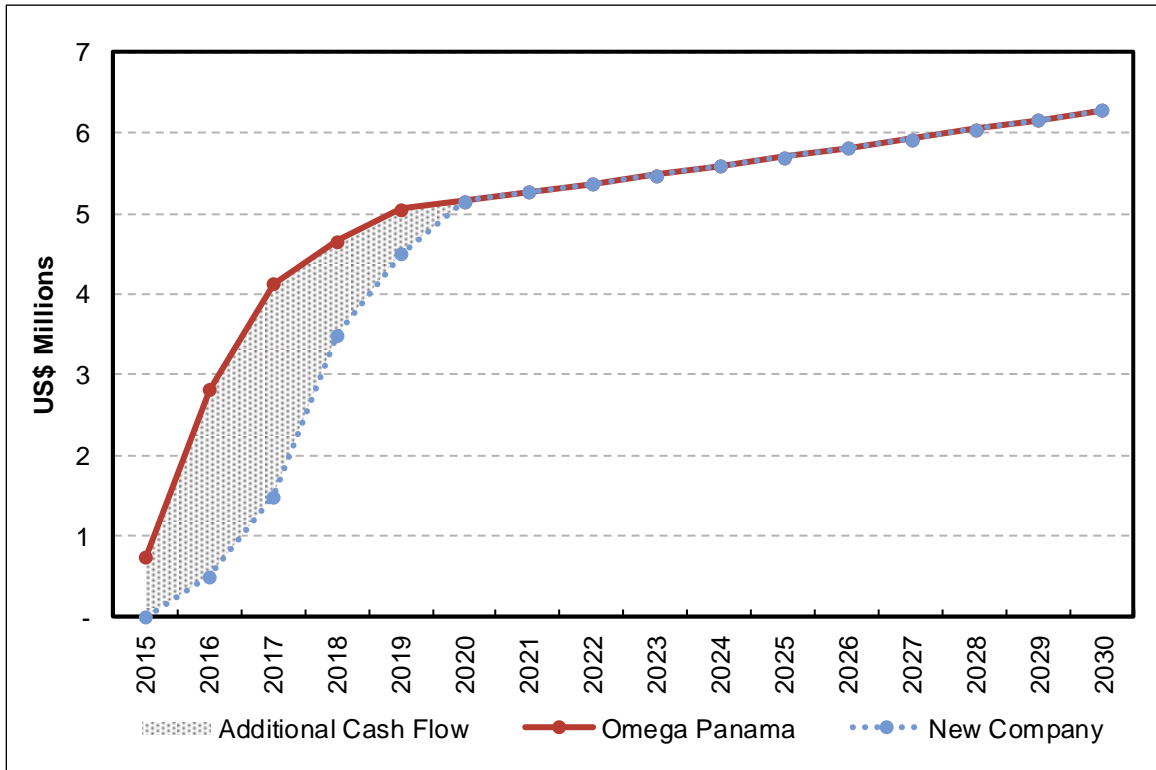
⁴⁸ See ¶ 45 below; First Quadrant Report, ¶¶ 46-52.

⁴⁹ The First Quadrant Report introduced the analogy of an Uber driver to illustrate the idea that an operation that has little or no fixed assets, no rights to future revenues, and no special brand value, will not have value to a hypothetical entrant to a market. First Quadrant Report, ¶¶ 24-25, 51. Compass Lexecon states that Omega Panama is analogous to Uber and not an Uber driver. That statement is absurd. Uber has extraordinary brand value, ubiquitous presence, a larger first mover advantage, and an established market share. Omega Panama had none of these.

⁵⁰ Note that the line representing Omega Panama’s cash flows is illustrative and takes into account the particulars of Compass Lexecon’s valuation exercise, which includes the fact that some cash flows to Omega Panama in 2015 and 2016 will come from the Existing Contracts.



Figure 3
A Willing Buyer's View of Omega Panama's Value⁵¹



2) Compass Lexecon Misses the Point When It Argues that Omega Panama's Value Depends on Whether It Might Have Won Bids in the Future

44. Compass Lexecon mischaracterizes our position when it argues that we opined that “there is no basis for assuming that Omega Panama would have obtained new contracts into the future and that, as a consequence, damages to Claimants should be limited to the short-term, if at all.”⁵² What we said, and maintain, is that even if Omega Panama could, with reasonable certainty, win future contracts, no one would have purchased it for that possibility, when such opportunity could be created without having to purchase it. In any case, as discussed above, Omega Panama's ability to win new contracts on

⁵¹ First Quadrant Report, Figure 3.

⁵² Second Compass Lexecon Report, ¶ 55.



its own is undermined by its track record – it won zero contracts when bidding by itself, and instead had to rely on partners to win contracts.⁵³

45. The value of a company like Omega Panama is limited to the value added in the initial ramp-up period during which a company establishes itself. There is no enduring intangible asset that adds value in perpetuity. The following sections illustrate the quantification of this concept using an extreme scenario in which a hypothetical buyer believes that the alternative to purchasing Omega Panama is to face a ramp-up period in which it would make no profit at all.

- c. Correcting Compass Lexecon’s Valuation to Exclude Perpetuity Cash Flows

46. As has been explained above, a hypothetical buyer would at most only be willing to pay for the additional value of Omega Panama’s operations during a ramp-up period in which a new entrant would be establishing its business in the Panamanian public works sector, and not the cash flows from potential new contracts forever into the future.⁵⁴ Compass Lexecon states that a new firm attempting to replicate Omega Panama would face “a costly ramp-up period needed to acquire this experience and to forge relationships.”⁵⁵ It goes on to say that this ramp-up period would consist of “several years of poor performance in the bidding process in order to build the financial and technical backing required to win competitive bids.”⁵⁶ However, Compass Lexecon also argues that after only four years of accumulated operating data it is able to reliably model Omega Panama’s value using a DCF analysis based on “robust assumptions.”
47. Omega Consortium won 9 out of its 10 contracts within the first three years of Omega Panama’s operations, equal to 98.6% of the total contract value it won.⁵⁷ Compass Lexecon also argues that establishing an operation in the Panamanian public works

⁵³ See ¶ 28 above.

⁵⁴ See ¶¶ 39-45 above.

⁵⁵ Second Compass Lexecon report, ¶ 80.

⁵⁶ Second Compass Lexecon report, ¶ 88.

⁵⁷ That is, US\$ 52.5 million + US\$ 87.1 million = US\$ 139.6 million for 2011 and 2012, respectively, and US\$ 139.6 million / US\$ 141.6 million = 98.6%; **C-0438[CLEX-32]**, CL Revised Valuation Model, tab, “V. Historical Information,” First Compass Lexecon Report, Table VI, “Projects won by the Omega Consortium per Year.”



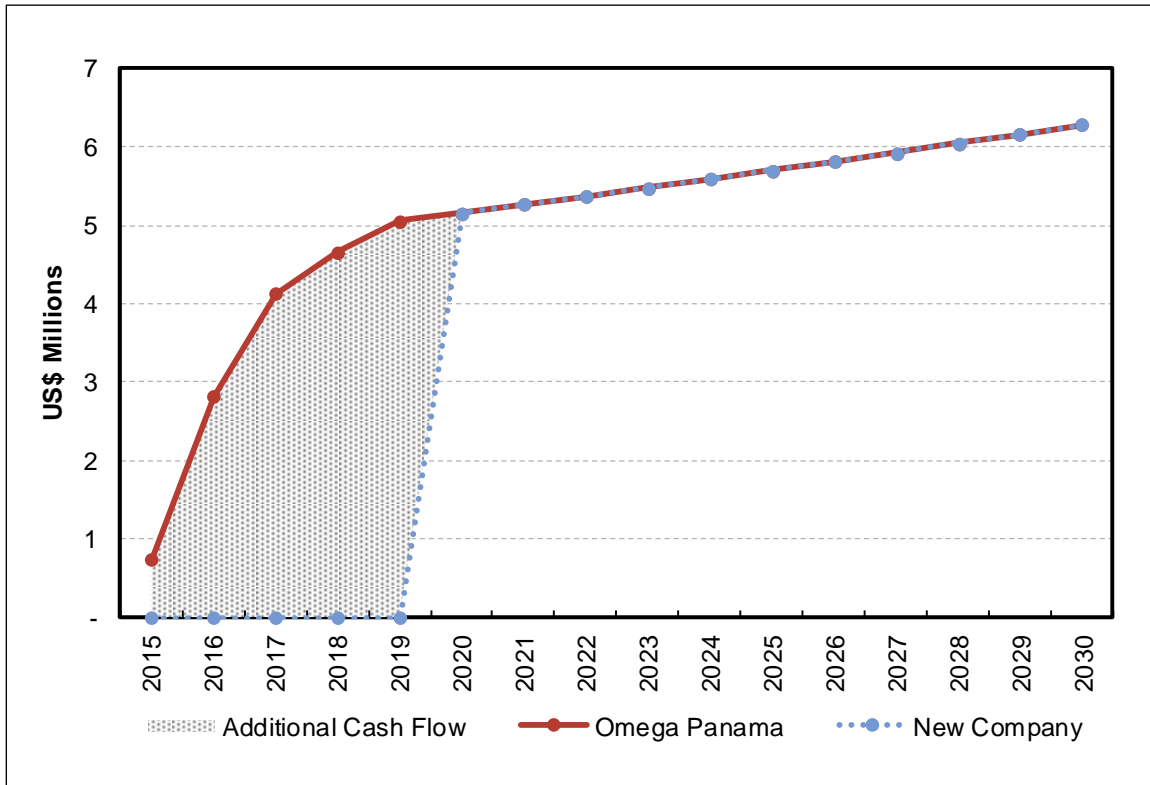
sector is a costly endeavor. However, in 2010 Omega Panama incurred US\$ [REDACTED] in operating expenses. In 2011, it incurred US\$ [REDACTED] in operating expenses. Of this amount, some US\$ [REDACTED] are clearly not costs specific to the ramp-up of a company (as opposed to operating expenses a company at any stage might face).⁵⁸ In these two years, Omega Panama incurred net losses of US\$ [REDACTED] and US\$ [REDACTED]. In 2012 and 2013 Omega Panama was already profitable. Thus, Compass Lexecon's assumption of a "costly ramp-up period" is exaggerated.

48. As explained in the First Quadrant Report, one extreme case for valuing the Potential New Contracts claim would be to assume that a new entrant would have zero cash flows during the ramp-up period, and thus it would be willing to acquire Omega Panama for the cash flows that it could generate during that ramp-up period. This scenario is depicted graphically in **Figure 4** below, assuming for illustrative purposes a five-year ramp-up period.

⁵⁸ That is, US\$ [REDACTED] (Wages) + US\$ [REDACTED] (Depreciation) + US\$ [REDACTED] (Other Opex) + US\$ [REDACTED] (Rentals) = US\$ [REDACTED]. **C-0137**, Omega Engineering, Inc. Financial Statements and Supplementary Information as of 31 December 2012 and Independent Auditors' Report, p. 14 of PDF. The remaining US\$ [REDACTED] in costs come from Representation Expenses and Professional Fees of which, it is unclear how much could be attributed to ramp-up-specific costs. **C-0311**, Audited Financial Statements of Omega Engineering Inc. as of December 31, 2011, p. 8.



Figure 4
A Willing Buyer's View Assuming No Cash Flows for Five Years⁵⁹



49. Assuming the extreme scenario in which a new company were not expected to have any earnings in the first five years of operations, the value of the Potential New Contracts to a hypothetical buyer of Omega Panama as of the Valuation Date, accepting all of Compass Lexecon's other assumptions (which, as explained below cannot be accepted), would be US\$ [REDACTED] million, a US\$ [REDACTED] million decrease from Compass Lexecon's calculation.⁶⁰ But, this US\$ [REDACTED] million overstates the value of Omega Panama for two reasons. First, a new entrant would generate at least some cash flows during its first five years of operations, as evidenced by Omega Panama's historical results.⁶¹ Second, as discussed above, the cash flows for Omega Panama

⁵⁹ **QE-0053**, Supporting Figures, tab "1 – Willing Buyer's View."

⁶⁰ **QE-0052**, Updated Valuation Model, tab "Summary" (click "Run scenario CLEX" macro in columns O-P and select "QE (2019)" in cell G33 and view result of calculation in cells M13-N13). That is, US\$ [REDACTED] million – US\$ [REDACTED] million = US\$ [REDACTED] million. See ¶¶ 86-143 below.

⁶¹ Applying a more appropriate discount rate of 20.84% to the additional nominal cash flows in the scenario depicted in Figure 4 reduces the present value of the Potential New Contracts claim to US\$ 9.0 million. **QE-0052**, Updated Valuation Model, tab "Summary" (click "Run scenario CLEX" macro in columns O-P



assumed by Compass Lexecon (the red line in **Figure 4**) reflect the backing of Omega U.S., and not the value of Omega Panama on its own.⁶² A hypothetical buyer of Omega Panama would not be willing to pay for something which was not part of Omega Panama.

d. **Compass Lexecon’s Argument Regarding the Lack of a Willing Seller in Our Analysis Is Flawed**

50. Compass Lexecon argues that our analysis regarding the FMV of the Potential New Contracts claim is flawed because it “dismisses the relevance of a willing seller which [is] central to an FMV standard for a hypothetical transaction.”⁶³ Compass Lexecon is in effect arguing that if a specific seller would like to be paid more for its business than buyers are willing to pay, then the desires of the seller, no matter how outlandish, should dictate the FMV. That is certainly not what the FMV standard is about.
51. Our analysis does not ignore the willing seller, as Compass Lexecon alleges, but seeks to value precisely what a willing buyer and a willing seller would be trading. The object of the trade in this case would not be a company with a good international reputation and many years of experience which had an exclusive right to a certain volume of public works contracts in Panama in perpetuity, but simply a company with a very limited track record which at best had a small head start over an entrant. One cannot force a willing buyer to pay for something it is not acquiring.

2. Compass Lexecon’s Analysis Fails to Support the Existence of the Alleged Intangible Assets upon which It Bases its Valuation of Omega Panama

52. Omega Panama did not possess any assets that would provide value to a prospective buyer beyond an initial ramp-up period. Compass Lexecon affirms that the FMV “represent[s] the cash flow generating capabilities of the assets associated with Claimant’s investment.”⁶⁴ It asserts that “business relationships and track records are,

and select “QE (2019)” in cell G33, and select “Cost of Equity QE (Midpoint 20.8%)” in cell G21, and view result of calculation in cells M13-N13).

⁶² See ¶¶ 25-31 above.

⁶³ Second Compass Lexecon Report, ¶ 46.

⁶⁴ First Compass Lexecon Report, ¶ 63.



like in any services industry, the core asset[s]” of a general construction company such as Omega Panama.⁶⁵ It argues that “Omega Panama had a track record, as well as competitive advantages [financial capacity, bonding capacity, and experience in construction works], that would have allowed it to continue to win public sector contracts in Panama beyond 2014 in the absence of the Measures.”⁶⁶ Even if one ignores the fact that the “financial capacity, bonding capacity, and experience” are those of Omega U.S., not Omega Panama, Compass Lexecon’s assertions are incorrect.

53. Compass Lexecon claims that Omega Panama had unique and valuable intangible assets that justify its US\$ [REDACTED] million valuation. We disagree with that claim because, as shown in the following subsections: (i) Compass Lexecon overstates Omega Panama’s competitive advantage as is evidenced by a review of its competitors who include large-scale, international contractors with substantial global experience and financial backing; (ii) Compass Lexecon’s analysis of Omega Panama’s financial capacity and experience using data from bid histories is biased and ignores the relevant details underlying the data; (iii) Claimants’ statements relative to PR Solutions as a test vehicle to protect the Omega brand are incorrect; and (iv) the evidence shows that the Omega brand was not valuable anyway.

a. Despite Compass Lexecon’s Assertions, Omega Panama Did Not Stand Out Amongst Competitors

54. Despite Compass Lexecon’s assertions regarding Omega Panama’s advantageous position in the Panamanian public works sector, the reality is that Omega Panama was one of many contractors bidding on PanamaCompra, many of whom counted on resources and experience that far outpaced those of Omega Panama. Before delving into the flaws of Compass Lexecon’s analysis of Omega Panama’s alleged competitive advantage, it is important to put Omega Panama’s position in the market into context by contrasting it with some of its competitors, companies with ample experience and substantial financial backing.
55. As of the Valuation Date, Omega Panama had been in operation for about five years, had US\$ [REDACTED] million in annual revenues and had at most 19 full-time employees

⁶⁵ First Compass Lexecon Report, ¶ 65.

⁶⁶ Second Compass Lexecon Report, ¶ 44.



(assuming they all were being paid the minimum wage, or fewer if they were paid higher wages).⁶⁷ It had won 10 contracts but had only finished one.⁶⁸

56. The following are some of the companies which bid for projects in competition with Omega Panama.⁶⁹

- **IBT Group.** A multinational company with headquarters in Madrid and subsidiaries in Miami, Paris, and London as well as presence in more than 30 different countries, bid through its subsidiary IBT Group, LLC. which had around US\$ 205 million in revenues in 2014, that is, ten times Omega Panama's revenues.⁷⁰ The IBT Group also had financing from multilateral organizations such as the United Nations and the World Bank, and financing from international banks such as Deutsche Bank, Bank of America - Merrill Lynch, BBVA, Banco Sabadell, Caixa Bank, and BNP Paribas, among others.⁷¹
- **Grupo San José.** A multinational company which has been in operation for more than 40 years with presence in over 20 countries in Europe, America, Asia, and Africa, bid through its subsidiary Constructora San José, S.A., which had around US\$ 206 million in revenues in 2014, that is, almost 11 times Omega Panama's revenues.⁷² San José Constructora currently stands at position 140 in

⁶⁷ Omega Panama was established in Panama on 26 October 2009. **C-0017**, Public Registry of Omega Engineering Inc, p. 5; **C-0138**, Omega Engineering, Inc. Interim Balance Sheets for the Year Ended 31 December 2014, tab "Earnings"; First Quadrant Report, ¶ 44.

⁶⁸ First Quadrant Report, n. 23.

⁶⁹ The comparisons that follow utilize Omega Panama's revenues. According to Mr. Rivera, by 2013, 94% of the Omega group's revenues and new businesses were derived from Omega Panama's operations. First Rivera Witness Statement, n. 55.

⁷⁰ That is, US\$ [REDACTED] = [REDACTED]. **QE-0056**, IBT Group LLC, "Consolidated Annual Accounts 2015", p. 11 of PDF; **C-0138**, Omega Engineering, Inc. Interim Balance Sheets for the Year Ended 31 December 2014, tab "Earnings"; **QE-0057**, PanamaCompra, Acta de Apertura 2011-0-03-0-08-AV-007202, p. 2; **QE-0058**, IBT Group, Company Information, p. 3.

⁷¹ **QE-0058**, IBT Group, Company Information, p. 11.

⁷² That is, € [REDACTED] / € per US\$ [REDACTED] = US\$ [REDACTED] and US\$ [REDACTED] / US\$ [REDACTED] = [REDACTED]. **QE-0059**, Constructora San José S.A., "Financial Statements" 2015, pp. 6, 9 of PDF; **C-0138**, Omega Engineering, Inc. Interim Balance Sheets for the Year Ended 31 December 2014, tab "Earnings"; **QE-0060**, PanamaCompra, Bid 2010-1-38-0-03-AV-000506, Acta de Apertura, p. 1; **QE-0061**, Grupo San Jose, History, pp. 1-5.



the global “Top International Contractors” ranking published by Engineering News-Record (“ENR”).⁷³

- **FCC Construcción, S.A.** The engineering and construction area of FCC Group has been in operation for 115 years with offices currently located in 21 countries, and € 2.08 billion in revenues in 2014, that is, almost 85 times Omega Panama’s revenues.⁷⁴ FCC Construcción S.A. was ranked 38th in ENR’s Top International Contractors for 2019.⁷⁵ The company participated in the Panama City Metro Line 2 project in 2019, a US\$ 1.86 billion contract.⁷⁶ FCC Construcción has continued to bid for projects on PanamaCompra.⁷⁷
- **Acciona S.A.** A multinational construction and infrastructure corporation which has been in operation for over 80 years, with presence in more than 40 countries, and € 2.63 billion in construction revenues in 2014, that is, almost 107 times Omega Panama’s revenues, bid through its subsidiary Acciona Construcción, S.A.⁷⁸ Acciona S.A. was ranked 60th in ENR’s Top 250 International Contractors for 2014.⁷⁹ The company is currently working on a

⁷³ ENR is a publication that traces its roots back to 1874 and is considered authoritative source for construction industry information. **QE-0062**, Barge Solutions, “Barge Design Solutions Moves up ENR Top 500 List”, 6 May 2019, p 1; **QE-0063**, Engineering News-Record, “About Us”, p. 1; **QE-0064**, San Jose Constructora, Company Information, p. 2.

⁷⁴ That is, € [REDACTED] / € per US\$ [REDACTED] = US\$ [REDACTED] and US\$ [REDACTED] / US\$ [REDACTED] = [REDACTED]. **QE-0065**, FCC Construcción S.A., 2015 Financial Statements, p. 9; **C-0138**, Omega Engineering, Inc. Interim Balance Sheets for the Year Ended 31 December 2014, tab “Earnings”; **QE-0066**, FCC Construcción S.A., About, p. 1; **QE-0067**, PanamaCompra, Acta de Apertura 2013-0-03-0-06-AV-012268, p. 1.

⁷⁵ **QE-0068**, ENR 2019 Top 250 International Contractors 1-100, p. 3.

⁷⁶ **QE-0069**, International Railway Journal, Panama City metro Line 2 inaugurated, 2019, p. 1.

⁷⁷ **QE-0070**, PanamaCompra, Acta de Apertura 2016-0-12-0-02-LV-020565, p. 1.

⁷⁸ That is, € [REDACTED] / € per US\$ [REDACTED] = US\$ [REDACTED] and US\$ [REDACTED] / US\$ [REDACTED] = [REDACTED]. **QE-0071**, Acciona S.A., Financial Statements 2014, pp. 9, 105; **C-0138**, Omega Engineering, Inc. Interim Balance Sheets for the Year Ended 31 December 2014, tab “Earnings”; **QE-0072**, Acciona History, p. 1; **QE-0073**, Acciona About Us, p. 1; **QE-0057**, PanamaCompra, Acta de Apertura 2011-0-03-0-08-AV-007202, p. 1.

⁷⁹ **QE-0074**, ENR 2015 Top 250 International Contractors 1-100, p. 4.



section of the Pan-American highway in Arraiján, Panama, a contract worth € 310 million.⁸⁰

- **SACYR Group.** A multinational construction firm with ongoing projects in 11 countries and construction revenues of € 1.14 billion in 2014, that is, almost 47 times Omega Panama’s revenues, bid through its subsidiary SACYR S.A.⁸¹ SACYR Group was ranked 61st in ENR’s Top 250 International Contractors for 2014.⁸²
- **Constructura Meco, S.A.** The largest construction company in Central America has been in operation since 1978, with offices in five countries and construction revenues of US\$ 341 million in 2014, that is, 17 times Omega Panama’s revenues.⁸³ The company has more than 20 years of experience providing construction services on the Panama Canal.⁸⁴

b. Compass Lexecon’s Analysis of Omega Panama’s Bid Data Is Flawed

57. Compass Lexecon argued in its first report that Omega Consortium’s “international experience and superior financial capacity would make it stand out from its competitors.”⁸⁵ As explained above, Compass Lexecon is conflating Omega Panama with Omega Consortium.⁸⁶ Omega Panama had no relevant financial capacity to

⁸⁰ **QE-0075**, Acciona Pan-American Highway, p. 1; **QE-0076**, PanamaCompra, Acta de Apertura 2019-0-12-0-08-LV-025921, p. 1.

⁸¹ That is, € [REDACTED] / € per US\$ [REDACTED] = US\$ [REDACTED] and US\$ [REDACTED] / US\$ [REDACTED] = 46.5. **QE-0077**, SACYR Group 2014 Financial Statements, p. 142; **C-0138**, Omega Engineering, Inc. Interim Balance Sheets for the Year Ended 31 December 2014, tab “Earnings”; **QE-0078**, PanamaCompra, Acta de Apertura 2011-0-03-0-08-LV-005179, p. 1.

⁸² **QE-0074**, ENR 2015 Top 250 International Contractors 1-100, p. 4.

⁸³ That is, US\$ [REDACTED] / US\$ [REDACTED] = 17.4. **QE-0079**, Constructora Meco, S.A., 2015 Financial Statements, pp. Q10, Q16; **C-0138**, Omega Engineering, Inc. Interim Balance Sheets for the Year Ended 31 December 2014, tab “Earnings”; **QE-0080**, Constructora Meco Description; **QE-0060**, PanamaCompra, Bid 2010-1-38-0-03-AV-000506, Acta de Apertura, p. 1.

⁸⁴ **QE-0081**, Constructora Meco, Panama Canal, p. 2; **QE-0082**, PanamaCompra, Acta de Apertura 2018-0-09-0-04-LV-005781, p. 1.

⁸⁵ First Compass Lexecon Report, ¶ 41.

⁸⁶ See ¶¶ 25-31 above.



operate as a general contractor in the Panamanian public works sector. Even if one were to accept that Omega U.S.’s financial capacity should be considered in the valuation of Omega Panama (it should not, since we are valuing the latter, not the former), in the First Quadrant Report we used a sample of companies to explain that Compass Lexecon was overstating Omega Panama’s alleged “international experience and superior financial capacity,” and “burgeoning reputation.”⁸⁷

58. The Second Compass Lexecon Report continues to argue that in comparison to its competitors, Omega Panama “had a competitive advantage based on their financial standing, experience and track record.”⁸⁸ To support its argument, Compass Lexecon compares bid data for Omega Panama, with Elecnor S.A. (“Elecnor”), Sociedad Española de Montajes Industriales, S.A. (“SEMI”), and Comsa EMTE S.L. (“Comsa”), which are the competitors mentioned in our First Report.⁸⁹ Compass Lexecon’s analysis consists of assigning and tabulating a binary pass or fail rating based on whether a company received a full score for each of the “Financial Capacity” and “Relevant Experience” categories in the same bids where Omega Panama participated.⁹⁰ A binary pass or fail rating means that if a company gets 100 out of 100 possible points, it gets full score. If another company gets 99 out of 100 points, it gets zero score (as discussed below, this rating produces highly misleading results).⁹¹
59. Based on this, Compass Lexecon concludes that “Omega Panama had a clear competitive advantage due to its solid financial standing” and that “Omega Panama’s track record demonstrates its valuable experience in construction works which resulted in a remarkable and improving performance over time in that regard.”⁹² As noted above, the scores for financial capacity on which Compass Lexecon relies are based on Omega U.S.’s balance sheet, not Omega Panama’s.⁹³

⁸⁷ First Quadrant Report, ¶¶ 36-41; First Compass Lexecon Report, ¶¶ 41, 64.

⁸⁸ Second Compass Lexecon Report, ¶ 63.

⁸⁹ First Quadrant Report, ¶ 38.

⁹⁰ Second Compass Lexecon Report, ¶¶ 66-77.

⁹¹ See ¶¶ 61-70 below.

⁹² Second Compass Lexecon Report, ¶¶ 71, 77.

⁹³ See ¶¶ 26-30 above.



60. In the following sections we show that Compass Lexecon’s analysis is not supported by reality. Compass Lexecon ignores relevant details relating to the factors affecting the score results, uses an inadequate sample, ignores the performance of the competitors outside Omega Panama’s bids, and also ignores Omega Panama’s experience and financial situation outside PanamaCompra.

1) Omega Panama’s Competitors Actual Financial Standing

61. The Second Compass Lexecon Report states that a “company’s Financial Capacity is one of the relevant evaluation criteria that are taken into consideration within the bidding processes in the public contracting market in Panama.”⁹⁴ It concludes that “Omega Panama had an overwhelmingly better performance than the competitors mentioned by Dr. Flores.”⁹⁵

62. To support its conclusion, Compass Lexecon tallies the number of bids in which each of the companies achieved a perfect financial score as defined in the relevant bid. **Figure 5** below reproduces Table III of the Second Compass Lexecon Report, which presents Compass Lexecon’s findings.

Figure 5
Second Compass Lexecon Report, Table III

Table III. Omega Panama’s financial capacity score relative to Dr. Flores’ selected companies

Contender	# Bids Evaluated [a]	Number of wins	Max. Score in Fin. Capacity [b]	Ratio [b] / [a]
OMEGA CONS.	35	10	32	91%
COMSA	3	2	2	67%
SEMI	16	2	10	63%
ELECNOR	7	0	3	43%

Source: Compass Lexecon based on PanamaCompra. See Omega Panama's Historical Bids Evaluation Reports (CLEX-38). See also, Figures and Tables (CLEX-33).

⁹⁴ Second Compass Lexecon Report, ¶ 66.

⁹⁵ Second Compass Lexecon Report, ¶ 70 (emphasis added).



63. First, it is important to note that the metrics used by Compass Lexecon fail to capture the financial capacity of the relevant companies. The number of times a company received the “Max. Score in Fin. Capacity” takes into account only when a company gets perfect marks. For example, SEMI received 27 out of 30 points, a 90% score, in all 6 of the bids in which it did not receive a perfect score, but Compass Lexecon’s analysis treats those six instances as a complete failure. This methodology fails to properly assess the actual financial capacity of a company and its financial capacity relevant to that of other bidding companies. Even within the bidding process through PanamaCompra, a company need not achieve a perfect Financial Capacity scores to win a bid, as the scores for each category are added to calculate a total score that is used for awarding the bid.
64. Furthermore, Compass Lexecon states that an analysis “of the 40 projects under the Tender for Best Value process shows that for 97.5% of them it would have been impossible to win without obtaining any points in Financial Capacity, even if the company had obtained the maximum score in the remaining categories.”⁹⁶ This statement followed by Table III, which gives credit to a company only for achieving a perfect score, is highly misleading. In none of the bids represented in Compass Lexecon’s analysis did any of the competitors receive no points for financial capacity.
65. Second, Compass Lexecon ignores details underlying the scoring for the bids which reveal that the financial capacity results fail to capture the real financial capacity of the bidder.
- Comsa received a perfect financial solvency score in two out of the three bids analyzed by Compass Lexecon (67%).⁹⁷ For the one bid in which it did not achieve the maximum score, the only points that were deducted were a result of a clerical error in which the bank reference submitted by Comsa was not addressed explicitly to the entity soliciting the bid, the Caja de Seguro Social.⁹⁸ Absent this clerical error, according to Compass Lexecon’s analysis for Comsa, which includes three data points, the company would have achieved perfect scores in 100% of its bids.

⁹⁶ Second Compass Lexecon Report, ¶ 67.

⁹⁷ **C-0439 [CLEX-33]**, Figures and Tables, tab “Table III.”

⁹⁸ **C-0444 [CLEX-38]**, Omega Panama’s Historical Bids Evaluation Reports, pp. 235-236.



- In the 6 bids in which SEMI did not receive a perfect score, points were deducted because certain reference letters were not accepted.⁹⁹ The bid required the presentation of three commercial reference letters “issued by companies with which they maintain credit facilities, original, with a date that does not exceed three (3) months and addressed to the Ministry of Health.”¹⁰⁰ MINSA CAPSI only accepted two of SEMI’s letters.¹⁰¹ SEMI is a subsidiary of Actividades de Construcción y Servicios, S.A., a multinational company in operation since 1997 with presence in more than 50 different countries and € 34.9 billion in revenues in 2014. SEMI itself had € 200 million in revenues in 2014 and current businesses in France, Italy, USA, Panama, Dominican Republic, Mexico, Chile, Peru, and Uruguay, among others.¹⁰²
- Elecnor received a perfect financial capacity score in three out of the seven bids analyzed by Compass Lexecon (43%).¹⁰³ In one of the four bids in which Elecnor did not receive the maximum possible points for financial capacity, the bank reference was not presented as established in the required “Formulario #10,” indicating a clerical error, not a lack of financial capacity.¹⁰⁴

66. Compass Lexecon’s analysis based on a binary tabulation of bid scoring ignores the facts underlying those scores, failing to reflect the true financial capacity of the companies, and thus invalidating its conclusions.¹⁰⁵

⁹⁹ The six bids where SEMI did not get the maximum amount of points was a tender offered by the MINSA CAPSI, which offered ten different projects together in one single tender, so all documentation was the same for all the projects for which SEMI applied for. **C-0439 [CLEX-33]**, Figures and Tables, tab “Table III.”

¹⁰⁰ **QE-0083**, Informe Comisión Evaluadora, Bid No. 2010-0-12-0-99-LV-000823, p. Q20.

¹⁰¹ **QE-0083**, Informe Comisión Evaluadora, Bid No. 2010-0-12-0-99-LV-000823, p. Q21.

¹⁰² **QE-0084**, Sociedad Española de Montajes Industriales, Company Information, pp. 2-3.

¹⁰³ **C-0439 [CLEX-33]**, Figures and Tables, tab “Table III.”

¹⁰⁴ **QE-0085**, Informe Comisión Evaluadora, Bid No. 2011-1-10-0-04-LV-048339, p. 3. Compare **QE-0086**, Elecnor Bank Reference for the Policlínica Boquete Project, November 8, 2011, p. 1 with **QE-0087**, Formulario #10 for the Policlínica Boquete Project, p. 1.

¹⁰⁵ In this regard, we note that Claimants assert that Omega U.S. lost the confidence of its surety, Travelers, following the cancellation of the Ciudad de las Artes project. Claimants’ Reply, ¶ 233. A bonding agent relies on a company’s solid financial standing to make decisions about issuing insurance. It is reasonable to expect that a global company with superior financial standing would not lose its entire bonding capacity due to the cancelation of just one project, particularly given that defaults are common in this industry. One study found that construction contractors to have a 26% default rate. **QE-0089**, How Surety Bonds Work in Case of



2) Omega Panama’s Competitors’ Actual Experience

67. Compass Lexecon also argues that Omega Panama’s experience granted it a competitive advantage that supports its valuation. Similar to the tabulation of financial capacity scoring, Compass Lexecon’s tabulation of experience is done on an all or nothing basis, and thus fails in a similar way. Again, the scores are based on Omega Consortium’s performance, not that of Omega Panama. **Figure 6** below reproduces Table IV of the Second Compass Lexecon Report.

Figure 6
Second Compass Lexecon Report, Table IV

Table IV. Omega Panama’s Experience scores relative to Dr. Flores selected companies

Contender	# Bids Evaluated [a]	Number of wins	Max score in Experience [b]	Ratio [b] / [a]
COMSA	3	2	3	100%
ELECNOR	7	0	7	100%
OMEGA PANAMA	35	10	26	74%
SEMI	16	2	6	38%

Source: Compass Lexecon based on PanamaCompra. See Omega Panama's Historical Bids Evaluation Reports (CLEX-38). See also, Figures and Tables (CLEX-33).

68. Assuming Compass Lexecon’s analysis were valid, Comsa and Elecnor scored perfectly in 100% of the bids analyzed. Compass Lexecon argues that “although Elecnor and Comsa obtained a perfect score in the Experience category, these companies only participated in a few of the analyzed bids (and Elecnor did not win any of them). Omega Panama, on the other hand, obtained a perfect Experience score in more than twice as many instances than the competitors analyzed combined.”¹⁰⁶ That argument is fallacious – Compass Lexecon analyzed only bids in which Omega Panama participated, but did not analyze other bids where Comsa and Elecnor participated but Omega Panama did not.

Construction Contractor Default, 2015, p. 2.

¹⁰⁶ Second Compass Lexecon Report, ¶ 75.



69. SEMI is the only company to score more poorly on experience than Omega Consortium according to Compass Lexecon’s analysis. Again, the details underlying the bid results reveal the flaws of its analysis. Nine of the ten bids for which SEMI did not receive a perfect experience score were made to MINSA CAPSI, which offered 10 different projects together in one single tender. Therefore, all of documentation was the same for those projects.¹⁰⁷ SEMI did not receive a perfect experience score because it only submitted one example of projects related to the provision of medical equipment and supplies over the preceding 10 years – the bid required two examples.¹⁰⁸ Omega Panama did not meet this requirement either, but Compass Lexecon credits it with perfect scores based on the experience of its consortium partner Ciracet.
70. In short, Compass Lexecon’s analysis of experience scores, like its analysis of financial capability scores, is flawed and fails to support its inflated valuation of Omega Panama.

c. Claimants' Statements Relative to PR Solutions as a Test Vehicle for Omega Panama Contradict its Assertion that It Was Protecting the Omega Brand Value

71. Claimants’ Memorial and Mr. Rivera’s first witness statement asserted that Mr. Rivera chose to create a new company (PR Solutions) that would test the waters in Panama while protecting the Omega name.¹⁰⁹ In the First Quadrant Report we noted that Claimants’ assertion was belied by the fact that Omega Panama was created and had bid on at least two projects before PR Solutions was even created.¹¹⁰ In their Reply, Claimants retort as follows:

Respondent’s expert, Mr. Flores, makes much ado as to whether Omega Panama had started bidding on work before PR Solutions did so. This is nothing more than a distraction. Whether Claimants bid through Omega Panama or PR Solutions first is

¹⁰⁷ **QE-0090**, Informe Comisión Evaluadora, Bid No. 2010-0-12-0-99-AV-003042, p. Q1. SEMI obtained a score of 0 points in one of the bids. We note that this was because “the proposal was presented in the wrong parcel (adjacent parcel) and does not correspond to the parcel assigned for this Project.” **C-0439 [CLEX-33]**, Figures and Tables, tab “Table III.” **QE-0091**, Informe Comisión Evaluadora, Bid No 2011-1-10-0-07-LV-041596, p. 12.

¹⁰⁸ **QE-0090**, Informe Comisión Evaluadora, Bid No. 2010-0-12-0-99-AV-003042, pp. Q23, Q25.

¹⁰⁹ Claimants’ Memorial, ¶ 29; First Rivera Witness Statement, ¶ 22.

¹¹⁰ First Quadrant Report, ¶¶ 32-34.



irrelevant to the key issue in this arbitration: that President Varela sought to destroy Claimants' investment in Panama through a concerted multi-flanked attack against Claimants and their investment. In any event, whether PR Solutions or the Omega Consortium were bidding, it was the same key team executing the contract.¹¹¹

72. We disagree that the observation made in the First Quadrant Report is a “distraction” and “irrelevant.” Compass Lexecon has asserted that the intangible assets, including the reputation, of Omega Panama are the “core assets” that allow services companies “to provide value to its customers and, indirectly, to its shareholders.”¹¹² Thus, the valuation of Omega Panama relies heavily on the support provided to establish Omega Panama’s reputation. It is fully relevant to a valuation analysis to check whether it is true that the Omega brand was so valuable that careful steps had to be taken to protect it. The facts disprove Claimants’ story that the Omega brand and reputation was something valuable that needed careful protection.
73. The value of the Omega brand also has to be assessed in view of the significant legal problems Omega U.S. had in Puerto Rico well before the Measures occurred, as we discuss next.

d. Despite Compass Lexecon’s Assertions, the Omega Name Was Not a Valuable Intangible Asset

74. Compass Lexecon asserts that the Omega brand is a fundamental component of its valuation of Omega Panama in relation to the Potential New Contracts Claim.¹¹³ In fact, the reputation of the Omega brand was in trouble long before the Measures, due to the problems encountered by Omega U.S. in Puerto Rico.
75. In 2010 a report by the Office of the Comptroller of Puerto Rico was released in relation to structural deficiencies of the Coliseo de Puerto Rico, one “of the large-scale, complex Puerto Rican construction projects [Mr. Rivera] led on behalf of Omega

¹¹¹ Claimants’ Reply, n. 71.

¹¹² First Compass Lexecon Report, ¶ 65.

¹¹³ First Compass Lexecon Report, ¶ 52; Second Compass Lexecon Report, nn. 44, 54.



U.S.”¹¹⁴ The report detailed cracks and exposed reinforcement steel, as well as a host of other issues relating to the construction of the building.¹¹⁵ This report and subsequent news stories about such deficiencies in the construction of a large project would be damaging to a contractor’s reputation.¹¹⁶

76. On 4 April 2013, Oriental Bank filed a demand for the collection of money Omega U.S. owed in relation to a line of credit.¹¹⁷ Without any collateral to collect, Oriental Bank insisted that Omega U.S. assets be seized. On 9 October 2013, a Seizure Order was issued by the Court of First Instance, part of the Superior Chamber in San Juan, as Oriental Bank looked to force Omega U.S. to settle.
77. On 21 July 2014, the president of the Infrastructure Financing Authority of Puerto Rico sent Omega U.S. a letter asking it to clarify a discrepancy between its financial statements and its proposal for the Puerta de Tierra Linear Walk Project, a US\$ 11 million contract that Omega U.S. had obtained.¹¹⁸ According to the email, the financial statements for Omega U.S. specify that its banks had cancelled all of its lines of credit.
78. Omega U.S. later abandoned the US\$ 11 million contract. Local media reported that Omega U.S. had obtained the contract despite the fact that “economic instability is reflected in documents that the company submitted to [the Infrastructure Financing Authority] to complete the auction,” referencing net losses of US\$ 1.3 million and US\$ 3.5 million in 2012 and 2013, respectively.¹¹⁹
79. Omega U.S. has a long history in Puerto Rican civil courts. There are currently 54 cases on the Puerto Rican judicial database where Omega U.S. is listed as a

¹¹⁴ First Rivera Witness Statement, ¶ 10.

¹¹⁵ **QE-0092**, Government of Puerto Rico, Informe de Auditoría CP-10-26, 8 April 2010, p. 14.

¹¹⁶ **QE-0093**, CyberNews, “Coliseo presenta problemas de construcción,” 13 April 2010, pp. 2-4; **QE-0094**, PrimeraHORA, “Vicios de construcción en el Coliseo Jose Miguel Agrelot,” 13 April 2010, pp. 1-3.

¹¹⁷ **QE-0095**, vLex, “Sentencia de Tribunal Apelativo of February 06, 2014, número de resolución KLCE201400128,” p. 2.

¹¹⁸ **QE-0096**, Government of Puerto Rico, Estado Libre Asociado de Puerto Rico Email to Omega, 21 July 2014, pp. Q1-2.

¹¹⁹ **QE-0097**, Joel Cintrón Arbasetti, “Omega abandona proyecto Paseo Puerta de Tierra y entra compañía con pobres credenciales,” 8 March 2016, p. 2.



defendant.¹²⁰ Cases against Omega U.S. include several construction firms and contractors, suppliers, and the Salvation Army, a client whose project Claimant counts among its list of accomplishments.¹²¹ Omega U.S. was taken to court in 19 cases from 2010-2014.¹²²

80. The foregoing examples help establish that, even if it were methodologically correct to include the value of the Omega brand in the valuation of Omega Panama (it is not, for the reasons set forth above),¹²³ Compass Lexecon’s argument that the Omega brand is one of the intangible assets that supports a US\$ [REDACTED] million dollar valuation of Omega Panama is unfounded and contrary to the facts.

C. Appropriate Cost of Equity

81. The discount rate represents the minimum rate of return that investors require to invest in a company instead of other assets. Compass Lexecon uses the CoE of a company in the engineering and construction industry in Panama to discount the cash flows it forecasts for Omega Panama.¹²⁴ It relies on the Capital Asset Pricing Model (“CAPM”) to calculate Omega Panama’s CoE.¹²⁵ We agree with Compass Lexecon that the CoE may be calculated based on the CAPM and that certain adjustments to the CAPM are required to apply it to an analysis of Omega Panama. For example, Compass Lexecon agrees that a country risk premium (“CRP”) is required to reflect the additional return required by an investor to invest in a company in Panama, as opposed to the U.S.¹²⁶ Furthermore, there is significant agreement on many of the fundamental components of the CoE calculation.¹²⁷ However, Compass Lexecon fails to adequately account for the fact that its calculation is based on theory and data that seek to measure the risks

¹²⁰ **QE-0053**, Supporting Figures, tab “4 – Omega U.S. Lawsuits”; **QE-0098**, Government of Puerto Rico, La Rama Judicial de Puerto Rico, Case Consultation.

¹²¹ First Rivera Witness Statement, ¶ 10.

¹²² **QE-0053**, Supporting Figures, tab “4 – Omega U.S. Lawsuits.”

¹²³ See ¶¶ 25-31 above.

¹²⁴ First Compass Lexecon Report, ¶ 115.

¹²⁵ First Compass Lexecon Report, ¶¶ 116-118.

¹²⁶ First Compass Lexecon Report, ¶ 134.

¹²⁷ Second Compass Lexecon Report, ¶ 19.



affecting publicly-traded shares of large, liquid, U.S.-based engineering and construction companies. Such companies would have a CoE in the range of 9.8% to 11.3% – Compass Lexecon estimates the CoE for Omega Panama to be 11.65%.¹²⁸

82. Compass Lexecon’s calculation of the CoE is flawed for two important reasons. First, its CRP reflects the risk of investing in debt, when the CoE should reflect the risk of investing equities. The First Quadrant Report explained that Compass Lexecon’s methodology does not capture the risk of an equity investment in Panama but that of Panama’s sovereign debt default. Prof. Damodaran, Compass Lexecon’s source for its CRP, cautions that “the country default risk spreads provide an important first step in measuring country equity risk, but still only measure the premium for default risk. Intuitively we would expect the country equity risk premium to be larger than the country default risk spread.”¹²⁹ As explained in the First Quadrant Report, in order to convert the measure of risk on sovereign debt to that of equities, Prof. Damodaran proposes using a global average multiplier of 1.5 on his country equity risk calculations.¹³⁰ Compass Lexecon fails to implement this step in its calculation of the CRP.
83. Second, Compass Lexecon fails to fully recognize the shortcomings of the CAPM, which leads it to underestimate the return required by investors for the risks associated with investing in a small privately held company such as Omega Panama. An adjustment to reflect the characteristics of a company like Omega Panama is necessary when calculating the CoE using CAPM, because the beta coefficient, which is at the heart of the CAPM, is primarily based on large, publicly-traded companies.¹³¹ This adjustment would be applicable to small privately held companies in the U.S. Furthermore, despite Compass Lexecon’s assertions, the inclusion of the CRP takes into account only the marginal increase in risk that is incurred by considering a company in Panama, as opposed to the U.S. and in no way includes the company-

¹²⁸ First Quadrant Report, Figure 11; First Compass Lexecon Report, ¶¶ 105-106.

¹²⁹ First Quadrant Report, ¶¶ 132-134; **QE-0049**, Aswath Damodaran, “Equity Risk Premiums (ERP): Determinants, Estimation and Implications – The 2014 Edition,” March 2014, p. 60 (emphasis added).

¹³⁰ See First Quadrant Report, ¶ 135 referring to **QE-0049**, Aswath Damodaran, “Equity Risk Premiums (ERP): Determinants, Estimation and Implications – The 2014 Edition,” March 2014, p. 61, n. 91.

¹³¹ First Quadrant Report, ¶ 124.



specific characteristics of Omega Panama that make it different from the large publicly-traded companies to which the CAPM applies.

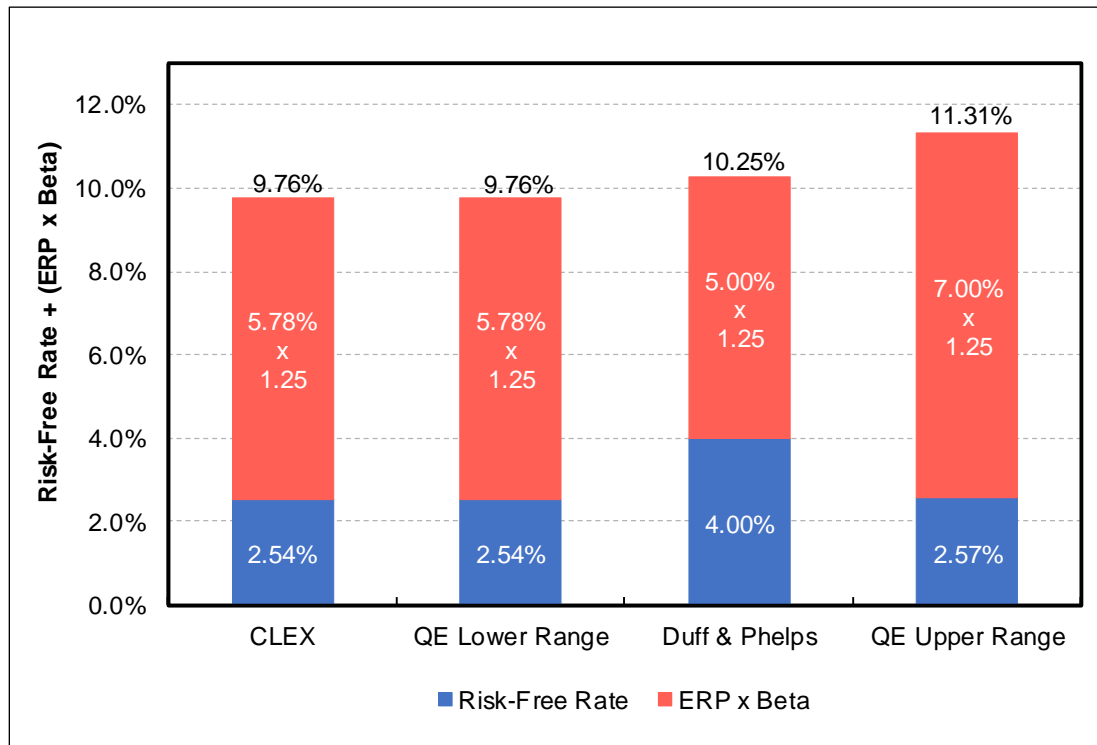
84. Finally, Compass Lexecon asserts that we have misinterpreted the source that we use for the equity risk premium (“ERP”). The First Quadrant Report explained that the use of the long-term arithmetic average of realized risk premiums as reported by Duff & Phelps (7%) is appropriate.¹³² Compass Lexecon argues that properly interpreting Duff & Phelps leads to an unlevered ERP of 5% – two percentage points lower than the upper estimate presented in the First Quadrant Report.¹³³ Compass Lexecon is incorrect. Using the 5% ERP it cites also requires using Duff & Phelps’ assumption of a 4.0% risk-free rate, since according to Duff & Phelps those two rates are meant to be taken as a unit. **Figure 7** below compares the CoE for a large publicly traded construction company in the U.S. as calculated by Compass Lexecon and Duff & Phelps, and the range of CoE’s according to the First Quadrant Report. When implemented properly, the Duff & Phelps result falls in the middle of the range of estimates provided in the First Quadrant Report.

¹³² First Quadrant Report, ¶¶ 118-119; Second Compass Lexecon Report, ¶ 22.

¹³³ Second Compass Lexecon Report, ¶¶ 21-24.



Figure 7
CAPM CoE for Large General Contracting Company in the U.S.¹³⁴



85. The issues introduced above are taken up in greater detail in **Annex A** of this Report. **Figure 8** below summarizes the CoE calculations and results presented in this Arbitration.

¹³⁴ QE-0053, Supporting Figures, tab “3 - RiskF. Rate +ERPxBeta.”



Figure 8
Cost of Equity Calculation as of the Valuation Date¹³⁵

	Calculation	Compass Lexecon	Quadrant Economics
		(Percent, Unless Otherwise Stated)	
		(1)	(2)
1. Risk-Free Rate		2.54%	2.54% - 2.57%
2. Equity Risk Premium		5.78%	5.78% - 7.00%
3. Re-levered Adjusted Beta		1.25	1.25
4. Additional Risk Premium		-	5.78%
5. Country Equity Risk Premium		1.89%	2.84% - 6.20%
6. Cost of Equity	$R1 + (R2 \times R3) + R4 + R5$	11.65%	18.38% - 23.29%

D. The Assumptions Used by Compass Lexecon in the Quantification of the Potential New Contracts Claim Are Flawed

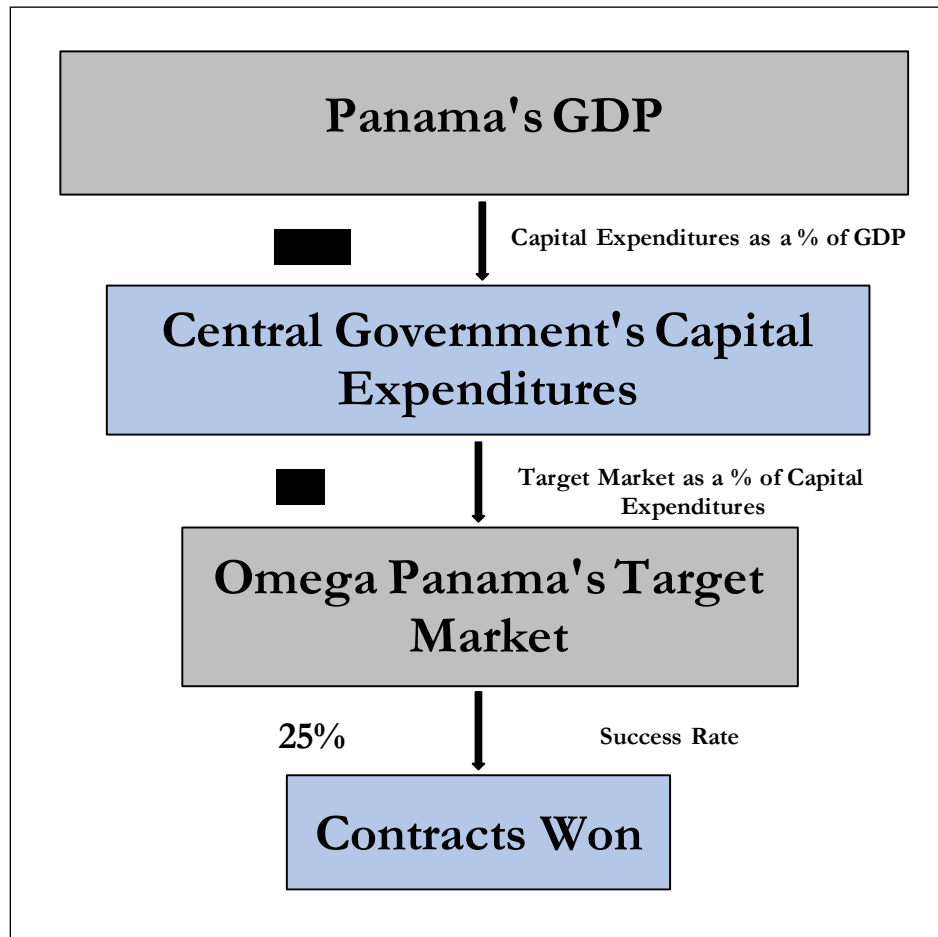
86. Compass Lexecon calculates the cash flows for its Potential New Contracts analysis by estimating (i) revenues from a series of top-down assumptions, and (ii) costs by choosing a profit margin that it argues comes from a mixture of financial statements, Omega Panama project estimates, and analysis from Mr. McKinnon.¹³⁶ **Figure 9** below reproduces Figure 4 of the First Quadrant Report and illustrates the multiple assumptions that Compass Lexecon makes to derive its forecast of Omega Panama’s revenues.

¹³⁵ First Quadrant Report, Figure 14.

¹³⁶ See ¶¶ 89-141, n. 189 below.



Figure 9
Assumptions Underlying Compass Lexecon's Revenue Forecasts¹³⁷



87. The speculative nature of this exercise is clear when considering that, despite the short erratic history of performance for Omega Consortium from 2010 to 2014, Compass Lexecon projects that from 2015 to 2019 Omega Panama will consistently win projects year-over-year, almost doubling the total project value that Omega Consortium won in the proceeding five years.¹³⁸
88. **Section III.D.1** below explains that Compass Lexecon's assumptions about Omega Panama's target market ignore the contemporaneous evidence about expected public spending that a hypothetical buyer of Omega Panama would have considered, and

¹³⁷ First Quadrant Report, Figure 4.

¹³⁸ That is, US\$ 268.2 million / US\$ 141.6 million = 189.4%. **QE-0052**, Updated Valuation Model, tab "1 – Omega's Awarded Amounts."



instead relies on a historically extreme period of high public spending. Furthermore, its projections rely on a limited set of data that, like the estimates for its other parameters, reveal that there is insufficient operating history for Omega Panama to make confident forecasts for use in a DCF analysis. **Section III.D.2** below explains that given lack of data no willing buyer would have assumed Compass Lexecon’s assumption of a 25% bid success rate for Omega Panama. **Section III.D.3** below explains that Compass Lexecon’s self-described “Ad Hoc” profitability estimate departs from Omega Panama’s historically observed profitability, and instead assumes higher profitability, based on Claimants’ profitability aspirations that are not corroborated by actual performance. **Section III.D.4** below explains that while Compass Lexecon accepts the largest portion of the correction made to its first calculation of general expenses, it fails to fully implement the needed corrections. Finally, **Section III.D.5** below notes that Compass Lexecon makes yet another aggressive forecast of Omega Panama’s future performance by assuming that it will complete projects in 18 months, when the historical record indicates about 30 months.

1. Target Market

89. Compass Lexecon determines Omega Panama’s future revenues by first estimating the government funding available to support the projects that Omega Panama would bid for in each year (the “target market”).¹³⁹ The parameters that determine this target market in Compass Lexecon’s analysis are forecasts for GDP, public spending on construction as a percentage of GDP, and the portion of public spending that would be available to the types of projects Omega Panama would have bid on. We discuss the first two parameters in sub-section (a) below and take up the last in sub-section (b). Finally, in sub-section (c) we address Compass Lexecon’s speculative and unsubstantiated assumption that Omega Panama would have easily accessed private construction projects to make up for shortages of opportunities in the public sector.

¹³⁹ First Quadrant Report, ¶ 58.



a. Expectations for Public Capital Expenditures

1) Compass Lexecon's Analysis Is Based on an Abnormally High Period of Spending, and Ignores Relevant Information a Willing Buyer and Seller Would Have Taken Into Account

90. Using forecasts of Panama's GDP and an average of construction spending as a proportion of GDP, Compass Lexecon calculates a forecast of Panama's public capital expenditures. The First Quadrant Report explained that Compass Lexecon's forecast is unfounded because it relies on a period of abnormally high capital expenditures, and ignores that, as of the Valuation Date, leaders and commentators were calling for fiscal restraint and a return to responsible budgeting.¹⁴⁰

91. The substance of Compass Lexecon's response to this critique is limited to one paragraph:

Dr. Flores also questions our reliance on historical data by arguing that it is based on an "abnormally high" period of RoP investment. A willing buyer/seller would have used all the available information for the time in which Omega Panama had been operating. Therefore, the 2009-2014 historical information represents the most recent historical information to be considered in forecasting Panama's Government future investment.¹⁴¹

92. The rest of its discussion on forecasting public capital spending is focused on our position that the government's forward-looking budget planning documents for the five years following the Valuation Date (the 2015-2019 Strategic Plan) provide a far better basis for forecasting than the limited, upward biased historical period that Compass Lexecon uses.¹⁴² Before responding to Compass Lexecon's comments with

¹⁴⁰ First Quadrant Report, ¶¶ 57-58, 62-64.

¹⁴¹ Second Compass Lexecon Report, ¶ 107.

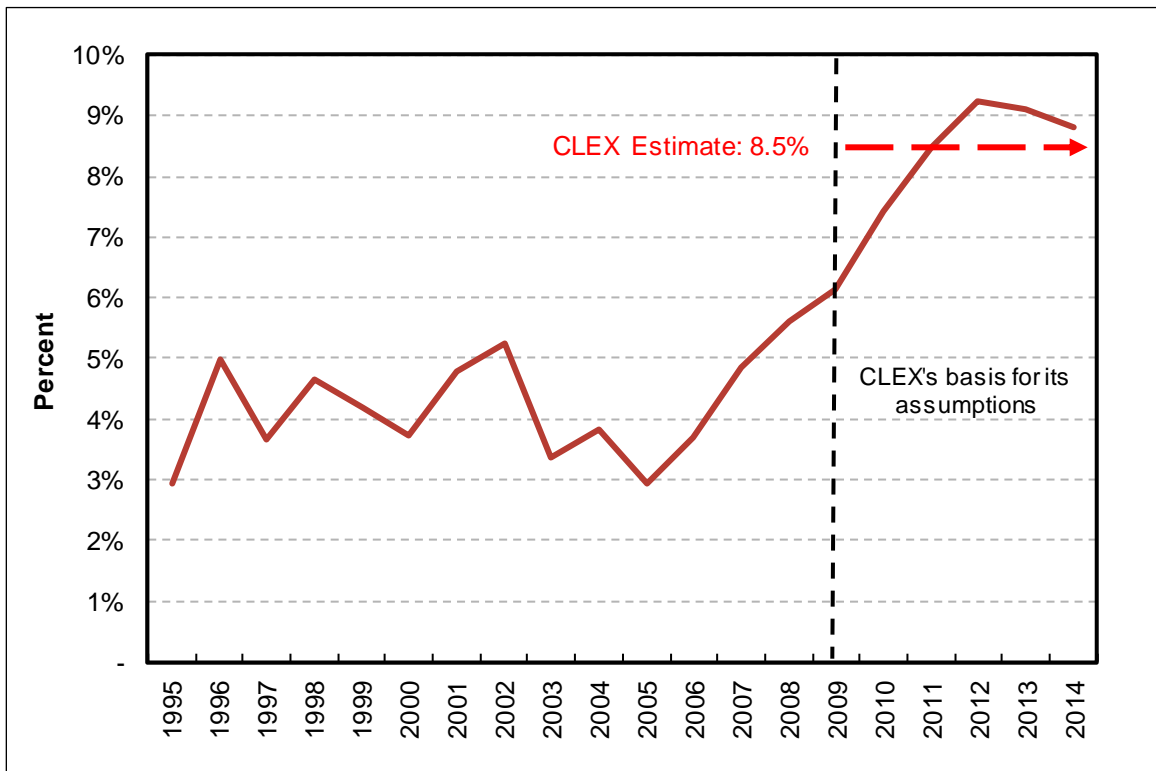
¹⁴² According to Article 16 of Law 34 of 2008, after government elections are held, the incoming administration is required to present a strategic five-year fiscal plan that includes the government's projected capital expenditures. In December 2014, the Ministry of Economics and Finance published the Plan Estratégico de Gobierno Panamá 2015-2019 (the "2015-2019 Strategic Plan") containing the Quinquennial Investment Plan. QE-0027, Plan Estratégico de Gobierno (PEG) 2015-2019, December 2014, pp. 3, 9, 127, 131-138. *See also* QE-0028, Ley 34 De Responsabilidad Social Fiscal, Official Digital Gazette No. 26056, 6 June 2008, p. 9. QE-0003, Supporting Figures, tab "2 - Historical CAPEX."



regard to the use of the 2015-2019 Strategic Plan, it is necessary to review and expand on the comments made in the First Quadrant Report in relation to Compass Lexecon’s methodology.

93. **Figure 10** below, which reproduces Figure 6 of the First Quadrant Report, shows the historical ratio of public capital expenditures to GDP along with the limited period of data that Compass Lexecon uses in its calculations. The estimate it uses in its valuation is clearly biased by the limited sample of data that it uses. It ignores relevant historical data and publicly available, official, forward-looking projections.

Figure 10
Panama’s Central Government Capital Expenditures as a Percentage of GDP 1995-2014¹⁴³



94. Compass Lexecon’s response to our critique is unavailing. It states that “a willing buyer/seller would have used all the available information for the time in which Omega

¹⁴³ **QE-0003**, Supporting Figures, tab “3 - CAPEX 1995-2014.” See also **QE-0023**, Resumen del Presupuesto General del Estado, República de Panamá, 1995-2017, pp. 3, 5, 7, 9, 11, 13, 16, 18, 20, 23, 26, 28, 30, 32, 35, 37, 39, 41, 43, 45, 47, 49, 51 of PDF.



Panama had been operating.”¹⁴⁴ Compass Lexecon does not explain why data from the years prior to Omega Panama’s operations are not relevant, nor why the 2015-2019 Strategic Plan should not be considered as part of “all the available information.” In fact, the data show that the normally observed levels of spending were disrupted during the period Compass Lexecon chose for its analysis, and that the contemporaneous evidence of future budgeting around the Valuation Date was confirming that such abnormal spending had to be reined in. The idea that a willing buyer would restrict itself to analyzing only the period 2009 to 2014, while ignoring all previous data and the relevant evidence as of the end of 2014 is simply unbelievable.

95. The fact that there was an abnormal uptick in public capital spending was apparently not lost on Omega Panama’s General Manager, who explains in his witness statement that “[i]t was a very good time for the construction sector in [Panama], which was experiencing a construction ‘boom’.”¹⁴⁵ In fact, Panama did not invest more than 6% of GDP on central government capital expenditures in the 14 years preceding the period chosen by Compass Lexecon.¹⁴⁶ Mr. Rivera explained that he chose to invest in Panama because the Panamanian government had signaled an intention to “initiate a significant public works program.”¹⁴⁷ Compass Lexecon’s forecast assumes that “construction boom” would continue in perpetuity.
96. As of the Valuation Date, it was clear that the historical jump in capital expenditures witnessed during the Martinelli administration (2010-2014) would need to revert to a more stable level.¹⁴⁸ Leading up to the 2014 presidential election, the president of the National Association of Economists of Panama, Raul Moreira, and then-candidate Juan Carlos Varela, both stated that Panama needed fiscal discipline in the face of a mounting public debt.¹⁴⁹ As noted in the First Quadrant Report, a source on which Compass Lexecon relies observed that:

¹⁴⁴ Second Compass Lexecon Report, ¶ 107.

¹⁴⁵ López Witness Statement, ¶ 17; First Rivera Witness Statement, n. 33.

¹⁴⁶ First Quadrant Report, ¶ 61.

¹⁴⁷ First Rivera Witness Statement, ¶ 15.

¹⁴⁸ First Quadrant Report, ¶¶ 62-64.

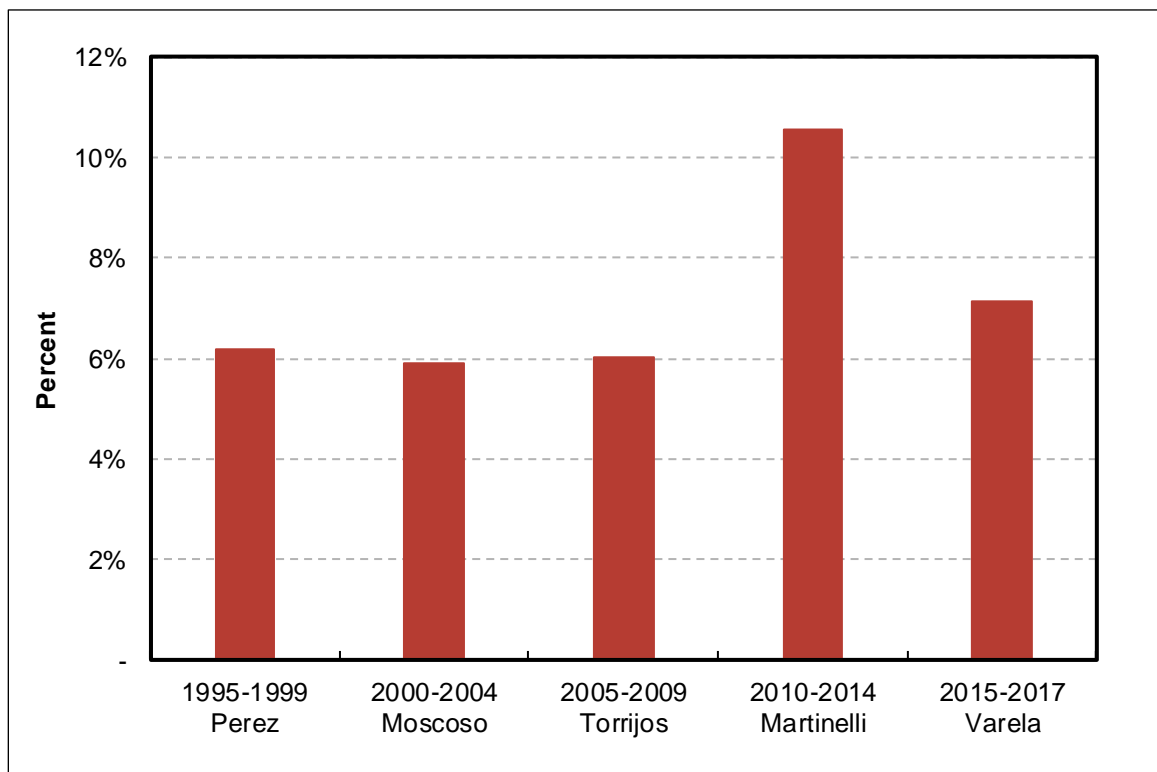
¹⁴⁹ First Quadrant Report, ¶¶ 62-63.



Construction, the spearhead of the large economic expansion, has been growing at a compounded annual rate of more than 18% for ten years, tripling its share within GDP over that period. Non-residential construction, the main driver of demand in construction in Panama, cannot grow indefinitely at a higher pace than the rest of the economy.¹⁵⁰

97. **Figure 11** below, which reproduces Figure 7 of the First Quadrant Report, shows that spending during the Martinelli administration cannot be considered normal, and would not, as Compass Lexecon asserts, be the basis for a willing buyer’s determination of Omega Panama’s future business performance.

Figure 11
NFPS Capital Expenditures as Percentage of GDP by Administration
1995-2017¹⁵¹



¹⁵⁰ **C-0390 [CLEX-08]**, Ricardo Hausmann, Luis Espinoza & Miguel Angel Santos, Shifting Gears: A Growth Diagnostic in Panama, p. 3 of PDF; First Quadrant Report, ¶ 64.

¹⁵¹ **QE-0021**, República de Panamá, Ministerio de Economía y Finanzas, Dirección De Programación de Inversiones, Informe de Ejecución del Programa de Inversiones Públicas no Financieras, 2017, pp. 19-20. See also **QE-0022**, IMF World Economic Outlook, October 2015, p. 1; **QE-0003**, Supporting Figures, tab “2 -



98. Consistent with both the historical data and the calls leading up to elections in 2014 for restraint in future spending, Panama's 2015-2019 Strategic Plan prescribed a clear slowdown in public capital expenditures.¹⁵²
99. Compass Lexecon's estimate of Omega Panama's Potential New Contracts incorrectly disregards all this clear evidence, thus overstating the potential for new contracts.

2) Compass Lexecon's Critiques Relative to the Use of the 2015-2019 Strategic Plan Are Misguided

100. The First Quadrant Report explained that the 2015-2019 Strategic Plan offers the best contemporaneous forecast of central government capital expenditures.¹⁵³ We showed that the 2015-2019 Strategic Plan is consistent with Mr. Varela's statements from earlier in 2014 as well as the subsequent capital expenditure reversion that began during the first three years of the Varela administration.¹⁵⁴ Compass Lexecon makes the following comments in regard to the use of the 2015-2019 Strategic Plan for the valuation of the Potential New Contracts claim:
 - If the ratio of public capital expenditures to GDP are derived from the 2015-2019 Strategic Plan, then other parameters such as the GDP and inflation from the plan must also be implemented in Compass Lexecon's model.¹⁵⁵
 - The ratio of public capital expenditures to GDP derived from the 2015-2019 Strategic Plan should be increased by a factor reflecting how much the Martinelli administration spent in excess of the strategic plan issued for the 2010 to 2014 period.¹⁵⁶
101. First, in relation to the consistent use of parameters between the 2015-2019 Strategic Plan and Compass Lexecon's model, there is no inconsistency. The sensitivity we applied to that model was to the ratio of public capital expenditures to GDP. If

Historical CAPEX.”

¹⁵² First Quadrant Report, ¶ 66.

¹⁵³ First Quadrant Report, ¶ 68.

¹⁵⁴ First Quadrant Report, ¶¶ 65-66.

¹⁵⁵ Second Compass Lexecon Report, ¶ 102(a).

¹⁵⁶ Second Compass Lexecon Report, ¶ 102(b).



Compass Lexecon adopts a different GDP forecast than that used in the 2015-2019 Strategic Plan it simply means that the base for its modeling is different. This does not alter the relative relationship between the public capital expenditures and GDP observed in the 2015-2019 Strategic Plan, and it is conceptually appropriate to apply that relationship to Compass Lexecon's GDP assumptions to derive an internally consistent public capital expenditures forecast for its model.¹⁵⁷

102. Second, Compass Lexecon's argument that the public capital expenditure forecast from the 2015-2019 Strategic Plan must be increased by 14.1% is unsubstantiated. Compass Lexecon states:

Dr. Flores' use of the Strategic Plan also ignores that the previous version of this Plan (for the period 2010-2014), underestimated the actual central Government's capital expenditure of that period by 14.1%. This should not be surprising as Governments must show balanced budgets in their planning documents, but then have incentives to extend the budget to maximize social welfare as much as possible.¹⁵⁸

103. Compass Lexecon again points to a period of abnormally high capital expenditures that occurred during the Martinelli administration.¹⁵⁹ It provides no support for its assumption that governments simply make up budgets only to later disregard them. Compass Lexecon's unsupported statement ignores that a hypothetical buyer valuing Omega Panama would have relied on the clear indications from Panamanian leaders who were publicly recognizing the need for fiscal responsibility.¹⁶⁰
104. Compass Lexecon makes an additional critique of our analysis:

¹⁵⁷ Compass Lexecon fails to note that its own analysis uses actual GDP data from the IMF mixed with beginning of the year budgets for public capital expenditures, and it makes no analysis to determine whether the GDP assumptions underlying those budgets are consistent with the IMF GDP data; First Compass Lexecon Report, ¶ 89(b.); **C-0438 [CLEX-32]**, CL Revised Valuation Model, tab, "V. Historical Information," cells D7-H7, D9-H9; **C-0409**, IMF, World Economic Outlook Database, October, 2014; **C-0391**, Republic of Panama's Fiscal Budgets for the period 2009-2014.

¹⁵⁸ Second Compass Lexecon Report, ¶ 102(b).

¹⁵⁹ See ¶ 97 above; First Quadrant Report, Figure 7.

¹⁶⁰ See ¶ 96 above.



Dr. Flores ignores that general budget trends do not necessarily reflect the investment in small-medium size infrastructure (which is Omega Panama's market). In fact, the reduction in investment budgets is most likely to come out of big projects than from a multiplicity of smaller social services projects like schools, hospitals, libraries and public markets which are at the core of Omega Panama's business. In fact, the evidence from the small-medium infrastructure bids in the website PanamaCompra presented in our CL First Report confirms this presumption: in the period under consideration the number and value of calls for tenders that were a part of Omega Panama's target market did not exhibit a diminution.¹⁶¹

105. Compass Lexecon provides no citation that supports its speculation that smaller social service projects would not be affected by a slowdown in public capital expenditures. In fact, the opposite could be true, if high capital expenditures during the Martinelli administration had already increased the stock of schools, health centers and libraries to levels considered sufficient for the following years, and the goal of the incoming Varela administration was to focus the limited capital expenditures on improving Panama's roads and highways.
106. In any case, Compass Lexecon is critiquing its own methodology. It chose to use a ratio of public capital expenditures to GDP (and a fixed ratio of capital public expenditures, as described below) to determine Omega Panama's target market. Its own target market estimates will rise and fall with the tide of the overall Panamanian economy.
107. Finally, as explained above, the limited period of data on which Compass Lexecon relies cannot be used to make robust conclusions.¹⁶²

b. The Target Market's Share of Public Capital Expenditures

108. After forecasting the amount of public capital spending by the Panamanian government, Compass Lexecon calculates the share of that total spending that Omega

¹⁶¹ Second Compass Lexecon Report, ¶ 104.

¹⁶² See ¶¶ 92-96 above.



Panama would bid for (the “Bid-to-Expenditures Ratio”).¹⁶³ Based on ratios of ██████████ ██████████ in 2010 through 2013, respectively, Compass Lexecon chooses to set the ratio for its forecast at 5.0%.¹⁶⁴ The Second Compass Lexecon states that “Dr. Flores does not dispute Omega Panama’s share of ██████████”¹⁶⁵ To the contrary, the First Quadrant Report stated that Compass Lexecon’s estimates are speculative and that it provided no explanation for why it is reasonable that a prospective buyer would assume that a 5.0% ratio should hold in perpetuity.¹⁶⁶

109. Compass Lexecon relies on a sample of four data points that are highly dispersed. From a statistical perspective, it simply cannot draw any confident conclusions from its calculations based on such a data set. In its first valuation model it describes its estimate as “Ad Hoc.”¹⁶⁷ Compass Lexecon first calculates the average Bid-to-Expenditures Ratio from 2010 to 2013 as ██████████¹⁶⁸ It then removes the oldest year keeping the most recent three year (2011 to 2013), calculating an average of 5.03%.¹⁶⁹ Continuing this exercise, removing one year and using the most recent two years leads to an average of ██████████¹⁷⁰ Compass Lexecon claims that its “DCF valuations is based on robust assumptions.”¹⁷¹ However, if one uses the Bid-to-Expenditures Ratio from the most recent two years, that is, removing one data point from Compass Lexecon’s data set, the Potential New Contracts damages result drops by ██████████ (US\$ ██████████ million), from US\$ ██████████ million to US\$ ██████████ million.¹⁷²

¹⁶³ First Compass Lexecon Report, ¶ 90.

¹⁶⁴ First Quadrant Report, n. 90.

¹⁶⁵ Second Compass Lexecon Report, ¶ 100.

¹⁶⁶ First Quadrant Report, n. 90.

¹⁶⁷ **C-0240 [CLEX-02]**, CL Valuation Model, tab “Summary,” cells C27-H27.

¹⁶⁸ Second Compass Lexecon Report, ¶ 98(c).

¹⁶⁹ Second Compass Lexecon Report, ¶ 98(c).

¹⁷⁰ That is, US\$ 148 million / US\$ 6,991 million = 2.12%. **C-0438 [CLEX-32]**, CL Revised Valuation Model, tab “V. Historical Information.”

¹⁷¹ Second Compass Lexecon Report, Section IV.

¹⁷² That is, US\$ 24.07 million / US\$ 42.53 million = 57%, and US\$ 42.53 million – US\$ 24.07 million = US\$ 18.46 million. **QE-0052**, Updated Valuation Model, tab “Summary,” click “Run scenario CLEX” macro in rows 2-3, column O-P, select “Average 2012-2013 (2.15%)” in cell G58, and view results in cell M13-N13.



c. Compass Lexecon's Suggestion that Omega Panama Would Have Expanded into the Private Sector is Unsubstantiated

110. In its first report, Compass Lexecon explained that although Omega Panama was not successful in any of the eight private sector bids it participated in it would have substantial local experience to allow for private sector contracting.¹⁷³ The First Quadrant Report explained that Omega Panama's operating record prior to the Measures does not show it had any success in private sector contracting.¹⁷⁴

111. The Second Compass Lexecon Report again speculates about Omega Panama's success in the private market:

[E]ven if it were true that public sector demand is overstated in our analysis, which it is not, there is no reason why Omega Panama could not fill up its 'spare capacity' with private sector projects. Once Omega Panama would have completed the 8 ongoing contracts in Panama as scheduled, and would have consolidated its relationships with local contractors, there is no reason why it would have been excluded from the private market. In the long-run we can expect that Omega Panama would have

In its first report, Compass Lexecon states that it identified 96 contracts on PanamaCompra that Omega Panama could have bid for (First Compass Lexecon Report, ¶ 94). The data presented by Compass Lexecon indicate that 71% of these contracts were for low-income housing projects sponsored by the Ministry of Housing (Ministerio de Vivienda). That is, 60 low income housing awarded bids (2015-2016) / 84 total awarded bids (2015-2016) = 71%. **QE-0053**, Support Figures, tab "2 – PanamaCompra 2015-2016"; **C-0398 [CLEX-19]**, Omega Potential Bids, pp. 1-3 of PDF. Omega Panama did not bid for any low-income housing construction project between 2010 and the first half of 2014 (**C-0388 [CLEX-06]**, Omega Historical Bids. We note that during this time period the Ministry of Housing had a budget of roughly US\$ 260 million for the construction of dwellings. That is, US\$ 37.1 million (2010) + US\$ 61.8 million (2011) + US\$ 69.9 million (2012) + US\$ 26.7 million (2013) + US\$ 65.8 million (2014) = US\$ 261.4 million; **C-0391 [CLEX-09]**, Republic of Panama's Fiscal Budgets for the period 2009-2014, p. 25, 38, 52, 66, 80 of PDF. During this same period Omega U.S. had one active low income housing construction project, Jardines del Paraiso; **QE-0102**, Omega Engineering, LLC, Financial Statements and Independent Auditors' Report, February 28, 2011, p. 27 of PDF; **QE-0103**, Omega Engineering, LLC, Financial Statements and Independent Auditors' Report, February 29, 2012 and February 28, 2011, p. 28 of PDF; **QE-0104**, Omega Engineering, LLC and its Subsidiary, Financial Statements and Independent Auditors' Report, February 28, 2013 and February 29, 2012, p. 28 of PDF; **C-0386**, Consolidated Financial Statements with Supplementary Information Independent Auditors' Report of Omega Engineering, LLC and Its Subsidiary for 28 February 2014 and 2013, p. 29 of PDF; **C-0388 [CLEX-06]**, Omega Historical Bids; **C-0012**, Omega U.S.'s Corporate Profile, p. 32.

¹⁷³ First Compass Lexecon Report, ¶ 39.

¹⁷⁴ First Quadrant Report, ¶ 31.



been able to break into the private market if the public sector did not offer enough opportunities for the company.¹⁷⁵

112. Aside from failing to show that Omega Panama would have been competitive in the private market, Compass Lexecon does not provide any analysis of the size of the private market, the portion of that market that Omega Panama would have been competitive in, or a reasonable estimate of a success rate.
113. Beyond failing to win any of the eight private sector bids it participated in, Omega Panama's most senior personnel explain that private contracting was not Omega Panama's focus. Both Mr. Rivera and Mr. López, Omega Panama's General Manager, explain that public works projects were Omega U.S. and Omega Panama's main focus and goal.¹⁷⁶
114. Compass Lexecon's expectations about Omega Panama's reliance on and success in the private market are speculative and unsubstantiated.

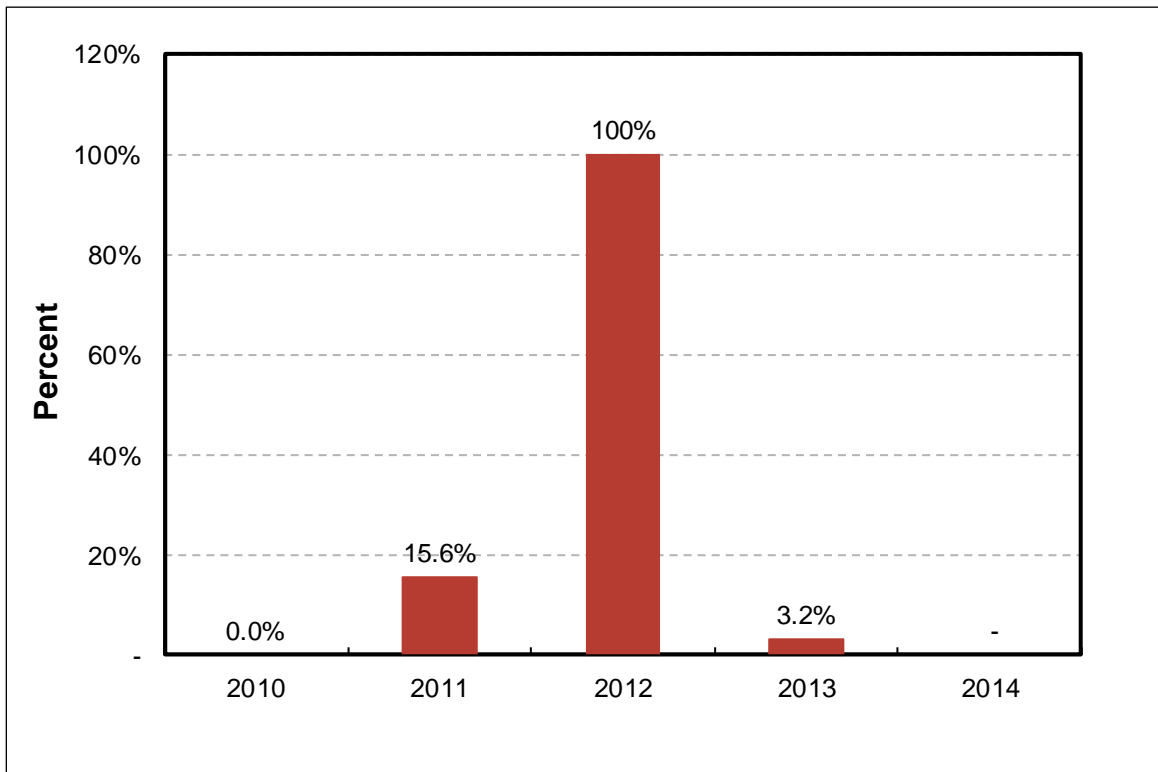
2. Success Rate

115. To calculate the value of contracts that Omega Panama would win, Compass Lexecon multiplies its ■% success rate estimate by the dollar value of contracts on which Omega Panama would supposedly bid (taken from the calculations described in the preceding section on the Target Market). The lack of a sufficient operating history to perform a DCF analysis is glaring when it comes to the issue of Compass Lexecon's estimate of success rate.
116. **Figure 12** below, which reproduces Figure 10 from the First Quadrant Report, illustrates the volatile nature of the few data points on which Compass Lexecon has to rely.

¹⁷⁵ Second Compass Lexecon Report, ¶ 106.

¹⁷⁶ First Rivera Witness Statement, ¶ 19; López Witness Statement (English Translation), ¶ 19; Claimants' Reply Memorial, ¶ 30.





117. As explained in the First Quadrant Report, in the valuation of a going concern, the company should be “in operation for a sufficient period of time to generate the data required for the calculation of future income.”¹⁷⁸ Compass Lexecon ignores the volatility of Omega Panama’s bid results and the lack of substantial operating history, both of which hinder the derivation of income projections with reasonable certainty. Compass Lexecon makes no comment in its second report in relation to the central issue of Omega Panama’s lack of operating history.
118. The First Compass Lexecon Report calculated Omega Consortium’s success rate using the ratio of the U.S. dollar value of public works bids it won to the U.S. dollar value of public works bids it submitted.¹⁷⁹ The First Quadrant Report explained that removing

¹⁷⁷ **C-0240 [CLEX-02]**, CL Valuation Model, tab “V. Historical Information,” cells E17-H17.

¹⁷⁸ See ¶ 36 above; First Quadrant Report, ¶¶ 53,70; **QE-0019**, General Counsel of the World Bank et al., “Legal Framework for the Treatment of Foreign Investment,” “Report to the Development Committee and Guidelines on the Treatment of Foreign Direct Investment,” (The World Bank, 1992), p. 42.

¹⁷⁹ First Compass Lexecon Report, ¶ 91, nn. 63-64.



two outlier years from the data (in which Omega Consortium had success rates of █████ and █████ yielded a success rate of █████).¹⁸⁰ The Second Compass Lexecon Report explains that applying a new definition (the ratio of the number of bids won to the number of bids submitted) to 2011 and 2013, results in a “Flores” success rate of █████.¹⁸¹ No matter how Compass Lexecon changes its definition of the metric to use or the time period of analysis, the fact still remains that there is simply not enough operating history to make projections with any reasonable certainty.

119. Compass Lexecon states that “Dr. Flores contradicts his own logic when he asserts that our expected success rate is not robust because it is based on a small sample. However, he then proposes a method that consists of using an even smaller sample.”¹⁸² What Compass Lexecon is describing is not a contradiction of logic but a recognition that when one starts with a volatile sample set of only four data points, whether one uses four data points or two does not matter in statistical terms, and that more reasonable results will follow from using reasoned judgment to consider the data.
120. Compass Lexecon’s attempt to explain away the variability of the success rate data is unavailing. It states that “Omega Panama’s performance observed in 2010 is explained by it being a new entrant in the Panamanian market; while its 2012 outstanding performance is a result of Omega Panama’s learning and adaptation to the new market environment.”¹⁸³ Again, these metrics relate to Omega Consortium, not Omega Panama.
121. In relation to 2010 results, Claimants appear to want to have it both ways. When it comes to expounding the alleged value of the Omega brand, Claimants and Compass Lexecon assert that:

¹⁸⁰ First Quadrant Report, ¶ 76.

¹⁸¹ Second Compass Lexecon Report, Table V.

¹⁸² Second Compass Lexecon Report, n. 118.

¹⁸³ Second Compass Lexecon Report, ¶ 113.



- Omega U.S. had “eminent standing” in the region, with “over 35 years of experience” being “one of the largest construction companies in Puerto Rico and fastest-growing Puerto Rican construction company in Latin America.”¹⁸⁴
- “The bidding processes require years of experience and certain level of construction projects in the past. In the case of Omega Panama, this was achieved through the Omega Consortium, through the participation of Omega U.S., a company that put its reputation and industry standing at risk in Panama.”¹⁸⁵

122. However, when Compass Lexecon needs to explain the failings of the Omega Panama in 2010, it is because it was inexperienced.
123. In relation to 2012, the explanation that “Omega Panama’s learning and adaptation to the new market environment” led to a [REDACTED] success rate is clearly dubious, given a [REDACTED] success rate in the following year, and the submission of 0 bids in 2014.¹⁸⁶
124. **Figure 13** below, which reproduces Figure 9 of the First Quadrant Report, summarizes Omega Panama’s bidding success.

¹⁸⁴ Claimants’ Memorial, ¶¶ 1, 17.

¹⁸⁵ Second Compass Lexecon Report, n. 54.

¹⁸⁶ The First Quadrant Report also explained that Compass Lexecon’s success rate estimate does not take into account Omega Panama’s 2014 operating year. The Second Compass Lexecon Report does not address or explain why it omits the most recent operating history preceding the Valuation Date. **C-0240 [CLEX-02]**, CL Valuation Model, tab “V. Historical Information;” **C-0438 [CLEX-32]**, CL Revised Valuation Model, tab, “V. Historical Information;” First Quadrant Report, ¶¶ 70,73,75.



Figure 13
Omega Panama's Public Works Bid History¹⁸⁷

	2009	2010	2011	2012	2013	2014
	(US\$ Millions, Unless Otherwise Stated)					
	(1)	(2)	(3)	(4)	(5)	(6)
1. Tendered Bids	-	176.4	336.8	87.1	61.4	-
2. % of Gov. Expense	-	8.8%	12.7%	2.6%	1.7%	-
3. Bids Won	-	-	52.5	87.1	2.0	-
4. Success Rate	-	0.0%	15.6%	100%	3.2%	-
5. Total Bids Submitted (Qty)	-	■	■	■	■	-

125. Given the available data and the volatility of these results, it is unreasonable that a hypothetical buyer of Omega Panama would expect a ■ year-over-year rate of bidding success into perpetuity. The lack of success of Omega Consortium in its first two years, the large uptick in proportional success it had in 2012, the drop off in 2013, and no bids in 2014 constitute a highly erratic, limited and uncertain history. It is unreasonable to believe that any hypothetical buyer would project a ■ success rate in perpetuity based on such a volatile record.
126. Compass Lexecon ignores the fundamental problem of performing a DCF analysis with such limited data. Accepting for the moment that the valuation exercise that Compass Lexecon is attempting were reasonable, a more reasonable assumption is that a willing buyer would remove from consideration the extreme data points from 2010 and 2012 and form an estimate on the data available from 2011 and 2013. The average success rate based on this data is 9.4%.¹⁸⁸

3. Profitability

127. Compass Lexecon accounts for Omega Panama's operating costs by applying a gross profit margin to its forecast of revenues.¹⁸⁹ Compass Lexecon and we agree that

¹⁸⁷ **C-0240 [CLEX-02]**, CL Valuation Model, tab "V. Historical Information," cells D14-H17; **C-0388 [CLEX-06]**, Omega Historical Bids.

¹⁸⁸ **C-0438 [CLEX-32]**, CL Revised Valuation Model, tab, "V. Historical Information," average of cells F18, H18, tab, "Summary," cell E112.

¹⁸⁹ First Quadrant Report, ¶ 77. The First Quadrant Report explained that the gross profit is estimated by



Omega Panama's financial statements contain actual historical data about Omega Panama's performance that is relevant to estimating Omega Panama's gross profit margin for Potential New Contracts.¹⁹⁰ However, Compass Lexecon also relies on Omega Panama's Project Job Costs and the First McKinnon Report to support the "ad hoc" 13.0% estimate of gross profit margin that it uses in its model.¹⁹¹

128. The estimate is truly "ad hoc," as Compass Lexecon provides no calculation for this figure and simply states that it "analyz[ed]" two sources, the 2011 to 2013 Omega Panama audited financial statements (providing a [REDACTED] gross profit margin), and Project Job Cost estimates (yielding a [REDACTED] gross profit margin), from which it chose to use [REDACTED], which happened to be consistent with Mr. McKinnon's result of [REDACTED].¹⁹²
129. The [REDACTED] margin on contracts Compass Lexecon estimates from the Project Job Costs is based on estimates made prior to the commencement of the projects.¹⁹³ The figures from the Project Job Costs are simply aspirations set by Omega Panama. At the bottom of the tables there is a line titled "MARK-UP TOTAL" which is simply a profit margin that Omega Panama hoped to be able to charge a customer on top of its estimated costs.¹⁹⁴ Compass Lexecon creates an elaborate summary table including all eight projects with all of the various cost estimates, but at the end of the day all it is doing is taking the aspirational margin created by Omega Panama, without any reference to what the company was actually able to achieve.¹⁹⁵

subtracting the cost of goods and services sold from revenues. The cost of goods sold excludes general and administrative expenses ("G&A"). A gross profit margin is calculated by dividing gross profit by revenues First Quadrant Report, n. 135.

¹⁹⁰ First Quadrant Report, ¶¶ 80-81; First Compass Lexecon Report, ¶ 98; Second Compass Lexecon Report, ¶ 117.

¹⁹¹ First Compass Lexecon Report, ¶ 99.

¹⁹² First Compass Lexecon Report, ¶ 98.

¹⁹³ First Quadrant Report, ¶ 79.

¹⁹⁴ Although this line is titled "MARK-UP," it appears to be the margin. For example, for MINSA CAPSI Rio Sereno, $\text{US\$ [REDACTED]} (\text{"MARK-UP TOTAL"}) / \text{US\$ [REDACTED]} (\text{"TOTAL PRICE"}) = \text{[REDACTED]} (\text{"\%PROFIT MARGIN"})$.

¹⁹⁵ C-0399 [CLEX-20], Omega Job Costs Reports, p. 1.



130. Compass Lexecon supports its “ad hoc” gross profit margin of [REDACTED] by referencing Mr. McKinnon’s results, stating that its figure “is consistent with the profit margin assumed by Mr. McKinnon.”¹⁹⁶ However, Mr. McKinnon relies in large part on Omega Panama’s audited financial statements. In relation to the estimation of costs to complete for the Existing Contracts, Mr. McKinnon states that the “Estimated Cost at Completion is based on the reasonably expected margin for the project based on the best information available.”¹⁹⁷ For five of the eight projects analyzed, Mr. McKinnon states that he relies on a profit margin he derived from the 2011 to 2013 audited financial statements.¹⁹⁸
131. For the three remaining projects, Mr. McKinnon estimates a profit margin of [REDACTED].¹⁹⁹ As explained in the First Quadrant Report, Mr. McKinnon derives the [REDACTED] margin from one project (MINSA CAPSI Puerto Caimito) that was allegedly 84% complete, and applies such margin to two other projects that were roughly half completed.²⁰⁰
132. Omega Panama’s audited financial statements state that the company recognizes costs and revenues using what it felt was the “best available measure” of project progress:

The company recognizes revenues on long-term construction contracts on the percentage of completion method, measured by the percentage of costs incurred to date to the estimate[']s total costs for each contract. It is not related to the progress billings to customers. The method is used because management considers total costs to be the best available measure of progress on the contracts. Because of inherent uncertainties in estimating costs, it is at least reasonably possible that the estimates used will change within the near term.²⁰¹

¹⁹⁶ First Compass Lexecon Report, n. 68.

¹⁹⁷ First McKinnon Report, Annex 2, p. 1, Note 2.

¹⁹⁸ First McKinnon Report, Annex 2, p. 1, Note 2.

¹⁹⁹ First McKinnon Report, Annex 2, p. 1, Note 2.

²⁰⁰ First Quadrant Report, ¶ 79.

²⁰¹ **C-0137**, Omega Engineering, Inc. Financial Statements and Supplementary Information as of 31 December 2012 and Independent Auditors’ Report. p. 7 of PDF. According to the CFI Institute cost-to-cost approach is commonly used to calculate the percentage of completion for the recognition of revenues. **QE-0105**,



133. Compass Lexecon also claims that “Dr. Flores’ projection is biased because it does not take into consideration that Omega Panama’s average gross profit margin is affected by its start-up year, which was lower than the average for the 2011-2013 period.”²⁰² If one removes the first year from the series, the average margin increases from [REDACTED] to [REDACTED].²⁰³
134. Compass Lexecon also claims that its [REDACTED] gross margin projection is “consistent with the evidence in the construction sector.”²⁰⁴ It refers to a gross margin from Prof. Damodaran of 16% to 20% for “global construction companies”²⁰⁵ This estimate, which is broadly based on a “global” sample of “Construction Supply” and “Engineering/Construction” companies, continues to ignore the evidence of actual performance achieved by Omega Panama according to the metrics that the company’s own management deemed to be the best available measure of its performance.
135. Based on the foregoing, we maintain that the profit margin derived from Omega Panama’s audited financial statements of [REDACTED] is the most appropriate estimate for Compass Lexecon’s valuation exercise. Applying this gross profit margin, maintaining all of Compass Lexecon’s other assumptions, reduces its valuation of the Potential New Contracts claim by US\$ [REDACTED] million to US\$ [REDACTED] million.²⁰⁶

4. General Expenses

136. The First Quadrant Report explained that while Compass Lexecon recognized that Omega Panama would incur general expenses as part of its operation, it did not include

Corporate Finance Institute, Percentage of Completion Method - Definition and Examples, p. 1.

²⁰² Second Compass Lexecon Report, ¶ 121.

²⁰³ First Quadrant Report, ¶¶ 69-76. That is, $11.26\% (2012) + 10.85\% (2013) / 2 = 11.05\%$; **QE-0002**, Valuation Model, tab, “1 – Omega P&L.”

²⁰⁴ Second Compass Lexecon Report, ¶ 122.

²⁰⁵ Second Compass Lexecon Report, ¶ 122, n. 126.

²⁰⁶ That is, US\$ [REDACTED] million – US\$ [REDACTED] million = US\$ [REDACTED] million. **C-0438 [CLEX-32]**, CL Revised Valuation Model, tab “Summary,” click “Run scenario CLEX” macro in rows 2-3, column O-P, select “QE [REDACTED]” in cell G45, and view results in cell M13-N13.



them in the calculation of its cash flows from 2015 to 2019, even though it calculated them in its model for all years and applied them after 2019.²⁰⁷

137. Compass Lexecon accepts our critique and now includes general expenses in its calculation of cash flows from 2015-2019, reducing its original damages calculation by US\$ 4.2 million.²⁰⁸ However, it does not implement the necessary correction, arguing that our proposed correction failed to “deduct the proportion of general expenses attributable to the Existing Contracts for years 2015 and 2016.”²⁰⁹ That objection is founded on a misuse of Mr. McKinnon’s calculations and an inconsistent implementation of General Expenses in its model.
138. Mr. McKinnon explains that the alleged amounts owed to Claimants for future payments on Existing Contracts should be reduced to account for the fact that Omega Panama will not incur the general expenses (overhead) associated with the administration of the projects in the future.²¹⁰ Essentially, he is reducing expected future revenues by the costs that would have been incurred to help generate those revenues. For 2015 and 2016, Compass Lexecon projects that Existing Contracts will be carried on alongside potential new contracts. Compass Lexecon is objecting that our correction includes an overhead associated with the new contracts, when it has already reduced Omega Panama’s revenues by the general expenses associated with the Existing Contracts, as estimated by Mr. McKinnon.²¹¹
139. For example, Compass Lexecon projects that in 2015 Omega Panama would incur US\$ 2.2 million in general expenses associated with Existing Contracts.²¹² It also projects that Omega Panama would obtain US\$ 11.4 million in new contracts, but it

²⁰⁷ First Quadrant Report, ¶ 82. The overhead applicable to Existing Contracts is based on the First McKinnon Report, which relies on the average overhead expense for 2013 and 2014. However, the overhead expense used by Mr. McKinnon for 2014 is unsupported. First McKinnon Report, ¶ 101(b), n. 27. For 2015 and 2016, Compass Lexecon reduces the amount of overhead attributable to Potential New Contracts by subtracting out the overhead applicable to the Existing Contracts that still would be ongoing in those years.

²⁰⁸ Second Compass Lexecon Report., ¶ 95(e), n. 98.

²⁰⁹ Second Compass Lexecon Report, n. 98.

²¹⁰ First McKinnon Report, ¶¶ 95-102.

²¹¹ Second Compass Lexecon Report, n. 98.

²¹² **C-0438 [CLEX-32]**, CL Revised Valuation Model, tab, “IV. New Contracts,” cell E75.



fails to include any additional general expenses to pay for the administration of these new contracts.²¹³ This is inconsistent with the methodology it employs for the years 2017 onward, in which it charges 3.5% for the value of new contracts in each year.²¹⁴ Compass Lexecon provides no justification why it should include general expenses proportional to new contracts in each year of its Potential New Contracts valuation from 2017 onwards, but fail to do so, on a pro-rata basis, for the first two years of its model.

140. In his first report, Mr. McKinnon claimed to be “conservative” because he did not take into account “Omega Panama obtaining new work that would absorb some of these costs.”²¹⁵ This argument, however, does not justify Compass Lexecon’s position. First, Mr. McKinnon applied the full amount of his estimated general expenses against the existing contracts.²¹⁶ Second, Compass Lexecon used Mr. McKinnon’s estimate and applied it in its entirety against the existing contracts.²¹⁷ Third, as explained above, Compass Lexecon’s model is built on the assumption that general expenses should be determined in proportion to the value of contracts in each year – assuming that millions of dollars in new contracts in 2015 and 2016 would be covered by the resources already assigned to existing contracts is inconsistent with Compass Lexecon’s basic modeling assumptions.²¹⁸
141. Properly implementing the required correction to general expenses would reduce Compass Lexecon’s original damages result as of the Valuation Date by US\$ 4.8 million. In other words, Compass Lexecon’s needs to reduce its updated damages result by an additional US\$ 0.6 million.²¹⁹

²¹³ **C-0438 [CLEX-32]**, CL Revised Valuation Model, tab, “IV. New Contracts,” cell E43.

²¹⁴ **C-0438 [CLEX-32]**, CL Revised Valuation Model, tab, “IV. New Contracts,” cell G76-I76.

²¹⁵ First McKinnon Report, ¶ 102(a).

²¹⁶ First McKinnon Report, ¶ 101 and Annex 2, p. 1.

²¹⁷ See **C-0438 [CLEX-32]**, CL Revised Valuation Model, tab “II. Losses on Future Cashflows” cell E21.

²¹⁸ See ¶ 139 above.

²¹⁹ That is US\$ 42.53 million – US\$ 41.94 million = US\$ 0.59 million; **C-0438 [CLEX-32]**, CL Revised Valuation Model, tab “Summary,” select “QE (Ignores Existing Contracts G&A),” cell G51 and view result in cell M13-N13; First Quadrant Report, ¶ 82.



5. The Timing of Cash Flows Used in Compass Lexecon's Model Is Inconsistent with the Historical Record and Inflates Damages

142. The First Quadrant Report stated that Compass Lexecon assumes that cash flows from potential new projects would be received more quickly and over a shorter period of time than is supported by Omega Panama's actual performance.²²⁰ In particular:

Compass Lexecon assumes that, on average, Omega Panama's future contracts would be 18 months in length and that "an average of 67% of cash flows from each contract would be generated in the year the contract is awarded." In reality, Omega Panama's historical operating data indicate that, on average, the cash flows received during a project's first year were closer to 32% of the original contract price. Furthermore, while Compass Lexecon assumes that future contracts would last 18 months, it notes that Omega Panama's historical data indicate the actual average length of contracts awarded was 30.4 months. Accelerating the assumed timing of cash flows and underestimating the time to complete contracts has the effect of overestimating damages.²²¹

143. Compass Lexecon does not respond to our comments nor has it made any adjustments to its model. Its assumption of an 18-month project length significantly underestimates the time to complete and inflates its damages calculation. Using the revised average contract length of 30 months, while maintaining all of Compass Lexecon's other assumptions, decreases damages by US\$ 3.9 million.²²²

²²⁰ Of the eight projects still under construction as of 23 December 2014, five had been granted extensions that more than doubled the length of time required to complete each project. **QE-0003**, Supporting Figures, tab "6 – Historical Project Length." Of the three projects that had not yet been granted extensions, Ciudad de las Artes was "being significantly delayed" and was only 37% complete according to McKinnon, despite a scheduled completion date of 28 January 2015, and the Palacio Municipal was yet to begin construction due to a change in project site. First Quadrant Report, Figure 2; **R-0042**, Letter from Sosa to INAC, p. 1; **C-0150**; Notice to Proceed for Contract No. 093-12; **C-0178**, Letter from the Omega Consortium to the Mayor of the Municipality of Colón, p. 1.

²²¹ First Quadrant Report, n. 161.

²²² That is, US\$ [redacted] million – US\$ [redacted] million = US\$ [redacted] million. **QE-0052**, Updated Valuation Model, tab "Summary," click "Run scenario CLEX" macro, column O-P, and select option "30 Months" in cell G57 and view results in cell M13-N13).



E. Potential New Contracts Claim – Conclusions

144. From an economic perspective, the Potential New Contracts claim should be dismissed. No hypothetical willing buyer would have paid to acquire Omega Panama and instead would have chosen to start its own operation. Compass Lexecon establishes that the appropriate methodology for valuing the Potential New Contracts claim is the application of the FMV standard. In particular, it chooses to conduct a DCF analysis of Omega Panama, despite the lack of historical data covering a sufficient period of time and exhibits a reasonable level of stability to support confident forecasts. A major conceptual flaw in Compass Lexecon's valuation exercise is its continued conflation of Omega Panama with Omega Consortium. Indeed, all of the successful bids, financial capacity, and experience on which Compass Lexecon relies to establish the value of Omega Panama actually pertain to Omega U.S. and, in some cases, other third-parties. Compass Lexecon recognizes that Omega Panama had no tangible assets, and that its only value could come through experience, reputation, and financial capacity. However, it had none of those, and thus it was forced to rely on the alleged intangible assets of Omega U.S. However, as discussed, even Omega U.S. failed to deliver a competitive advantage in the Panamanian public works sector, or to carry with it a valuable brand name. No potential willing buyer looking to start an operation in the Panamanian public works sector would have found compelling reasons to pay anything for Omega Panama.
145. Beyond this, Compass Lexecon's DCF analysis suffers a fundamental conceptual flaw. Even if a hypothetical willing buyer were to find value in Omega Panama, such value would not extend beyond an initial ramp-up period during which the buyer might project that Omega Panama would generate higher cash flows than a new operation. However, given that Omega Panama did not possess any unique intangible assets, a new operation could reasonably attain the same steady state cash flows as Omega Panama after an initial ramp-up period. Therefore, no willing hypothetical buyer would pay for the value of cash flows projected to accrue from Omega Panama's operations after the initial ramp-up period of a new operation, and certainly would not pay for such cash flows in perpetuity.
146. After correcting Compass Lexecon's model to remove the inclusion of cash flows in perpetuity, it is necessary to make several corrections to the assumptions upon which it relies to calculate the cash flows in its model.



- First, the target market size that Compass Lexecon calculates is inflated because it ignores the reasonable projections for expected public spending in Panama. In addition, this parameter, like the others Calculated by Compass Lexecon, is spurious because it is based on a small highly erratic data set that cannot provide statistically reliable support for the conclusions that Compass Lexecon draws from it.
- Second, the success rate that Compass Lexecon assumes relies on four data points, two of which are 0% and 100%. Including these extreme data points in such a small data set leads to obvious estimation problems. The lack of operating history and variability of the data simply do not allow for confident forecasts – a reason why the World Bank Guidelines on the Treatment of Foreign Direct Investment require such operational history for conducting DCF analysis.²²³ Ignoring that Compass Lexecon’s DCF exercise is highly speculative, a more reasonable alternative is to use the success rate of 9.8%, which is the average of the only non-extreme data points available.
- Third, the profitability measure that Compass Lexecon uses is “Ad Hoc” and takes into account the Claimants’ aspirations for its success, while ignoring the only actual operating performance data available – data that the Claimants’ other expert, Mr. McKinnon considered to be the best available source for his estimation of performance for five out of the eight projects that he reviewed.
- Fourth, while Compass Lexecon accepts our correction to its general expenses, it objects to including general expenses for potential new contracts in 2015 and 2016, which would be consistent with the manner in which is models general expenses from 2017 onward.

147. The final correction to Compass Lexecon’s DCF valuation of the Potential New Contracts, if such a valuation were conceptually justified and based on a sufficient operating history to lead to reliable results, would be the application of a discount rate that adequately reflects the risks that a small privately-held general contractor in Panama faces. As of the Valuation Date, such a rate would be between 18.38% and 23.29%.²²⁴

²²³ See ¶¶ 36 above.

²²⁴ See ¶¶ 209-221 below.



148. **Figure 14** below shows the cumulative impact of the necessary corrections to Compass Lexecon’s valuation of the Potential New Contracts claim.

Figure 14
Cumulative Impact of Corrections to Compass Lexecon’s Valuation of
Omega Panama’s Potential New Contracts²²⁵

	Impact of Correction	Cumulative Damages
	(US\$ Millions)	
	(1)	(2)
1. Compass Lexecon		██████████
Corrections to CLEX's DCF		
2. Remove Perpetuity Cash Flows	██████████	██████████
3. Capital Expenditures per Govt. Forecast	██████████	██████████
4. Success Rate (██████████)	██████████	██████████
5. Gross Margin (██████████)	██████████	██████████
6. Correction to G&A Expenses	██████████	██████████
7. Timing of Cash Flows (30 Months)	██████████	██████████
8. Discount Rate (18%-23%)		
<i>Lower Range</i>	██████████	██████████
<i>Midpoint</i>	██████████	██████████
<i>Upper Range</i>	██████████	██████████

IV. Existing Contracts Claim

A. Overview of the Existing Contracts Claim

149. The Existing Contracts Claim is based on Unpaid Progress Billings and Expected Future Cash Flows for work related to eight projects won by Omega Consortium prior to the Valuation Date.²²⁶ Compass Lexecon quantifies this claim by: (i) applying prejudgment interest to Unpaid Progress Billings; (ii) computing the present value of

²²⁵ QE-0052, Updated Valuation Model, tab “Summary.”

²²⁶ First Quadrant Report, ¶ 97.



Expected Future Cash Flows on uncompleted projects; and (iii) computing the present value of net advances to Omega Panama.²²⁷ The sections that follow explain that:

- (i) The appropriate methodology for computing the Existing Contracts claim requires that (a) Unpaid Progress Billings be updated using a risk-free rate to account for the time-value of money, (b) Expected Future Cash Flows be discounted back to the Valuation Date using the appropriate CoE for Omega Panama, and (c) the value of net advances take into account that advances occurring before the projects even began should not be discounted, while the payment to Omega Panama of retentions that would allegedly occur in the future, conditional on successful project completion, must be discounted back to the Valuation Date, just like the Expected Future Cash Flows mentioned in point (b);
- (ii) Certain amounts claimed as part of the Expected Future Cash Flows were not signed off by Panama's Comptroller; and
- (iii) Compass Lexecon inflates the Expected Future Cash Flows by including amounts for work that was removed from the scope of Omega Consortium's contract for Kuna Yala.

B. Appropriate Methodology for the Calculation of the Existing Contracts Claim

1. Compounding Unpaid Progress Billings to the Valuation Date

150. The First Quadrant Report explained that Compass Lexecon inappropriately applied its CoE to the Unpaid Progress Billings, thus compensating Claimants for risks to which they were not exposed.²²⁸ As explained in **Section V** below, the CoE measures the risks of future, uncertain cash flows. The Unpaid Progress Billings are not exposed to those same risks, and so they should not be compensated as if they were.²²⁹
151. Compass Lexecon states that the First Quadrant Report “[c]onsiders the past due invoices payable to Omega Panama at their nominal value, without applying any type of update factor that recognizes the time value of money.”²³⁰ That is not correct. We

²²⁷ First Compass Lexecon Report, ¶ 74.

²²⁸ First Quadrant Report, ¶ 101.

²²⁹ First Quadrant Report, ¶ 101.

²³⁰ Second Compass Lexecon Report, ¶ 15c.



explained why the application of the CoE to update the Unpaid Progress Billings to the Valuation Date was inappropriate.²³¹

152. As we mentioned, interest was not calculated, as it is a computation that is more properly done once the date of the award is known.²³²
153. If the Tribunal decides to award compensation to the Claimants and interest on that compensation, then interest should be calculated by applying a risk-free rate on the amount of the award, which would include interest on the Unpaid Progress Billings.

2. Discounting Expected Future Cash Flows to the Valuation Date

154. Compass Lexecon and we agree that Expected Future Cash Flows should be discounted back to the Valuation Date. This is accomplished by applying the appropriate CoE, which was established in **Section III.C** above.²³³ As discussed, the CoE applied by Compass Lexecon does not adequately measure the risks inherent to the cash flows of a company like Omega Panama.
155. The calculated range between ██████% and ██████%, with a midpoint of ██████%, is an accurate reflection of the minimum rate of return that an investor would require on this type of investment.²³⁴ Applying an appropriate discount within the range stated above to Compass Lexecon’s calculation of the Expected Future Cash Flows reduces its result by US\$ ██████ to US\$ ██████

²³¹ First Quadrant Report, ¶ 101.

²³² First Quadrant Report, ¶ 102.

²³³ See ¶¶ 81-85 above.

²³⁴ See Figure 8 above.

²³⁵ That is, US\$ ██████ – US\$ ██████ = US\$ ██████. **QE-0052**, Valuation Model, tab “Summary” click “Run scenario CLEX” macro, column O-P, select option “No Interest (QE)” in cell G23, select option “Lump Sum at DOV (QE)” in cell G25 and “Cost of Equity QE (Lower Range ██████” in cell G21 and view the result of calculation in cell M12-N12. That is, US\$ ██████ – US\$ ██████ = US\$ ██████ **QE-0052**, Valuation Model, tab “Summary” click “Run scenario CLEX” macro, column O-P, select option “No Interest (QE)” in cell G23, select option “Lump Sum at DOV (QE)” in cell G25 and “Cost of Equity QE (Upper Range ██████” in cell G21 and view the result of calculation in cell M12-N12; First Quadrant Report, ¶ 100.



3. The Proper Treatment of Advance Payments

156. In relation to the treatment of advances, Compass Lexecon makes two critiques in its second report. First, it claims that the advance payments should not be taken at their nominal value, but instead discounted along with the future invoices they were meant to offset.²³⁶ Second, Compass Lexecon alleges that the methodology presented in the First Quadrant Report is not consistently applied because the portion of the net advances that were retained by the contracting entities were discounted.²³⁷ As explained in the following sections, Compass Lexecon's objections are incorrect.

a. It Is Inappropriate to Discount the Value of the Advances to Omega Panama

157. According to the various contracts governing the Existing Projects, amounts were advanced to Omega Panama at an earlier time, X, prior to work to be completed.²³⁸ As Omega Panama completed this future work its invoices, issued at time Y, would be reduced by offsetting a certain amount against the nominal balance of the advances. Compass Lexecon argues that the "advance payments should be treated in the same fashion as payments due, given that the former are meant to be credited towards the latter."²³⁹ Thus, Compass Lexecon argues that the advances should be discounted in the same manner as the future payments they were meant to offset. Regardless of the intention to use the advances to offset future billings, it is a fact that the advances, having occurred at time X, were more valuable than had they been received at time Y. This is the well understood concept of the time-value of money – a dollar today is worth more than a dollar tomorrow.²⁴⁰ Compass Lexecon is asserting that the intended artificial accounting that was to be done at some point in the future somehow renders the concept of the time-value of money moot. This is not correct. Regardless of the

²³⁶ Second Compass Lexecon Report, ¶¶ 32-33.

²³⁷ Second Compass Lexecon Report, ¶ 34.

²³⁸ For example, Omega Panama received an advance for the Palacio Municipal, Ciudad de Colón representing 30% of the total amount of the contract. **C-0051**, Contract No. 01-13, pp. 4-5 of PDF; **C-0256**, Checks for Contract No. 01-13, p. 4 of PDF.

²³⁹ Second Compass Lexecon Report, ¶ 33.

²⁴⁰ As mentioned in the First Quadrant Report, not only were the Advance Payments not subject to loss of value due to the passage of time, they were also not subject to the operational risks that are also included in the CoE. See First Quadrant Report, ¶¶ 98-99.



intended future use of the advances, the fact is that Omega Panama obtained the advances prior to the invoices they would offset. Thus, those advances had greater economic value than the same nominal future billings that they would eventually be credited to.

158. This concept is reinforced when considering Compass Lexecon’s subsidiary argument that “according to the advance payment mechanism, the balances advanced were to be used to finance the work completion and were therefore not due for repayment as of the Date of Valuation.”²⁴¹ Despite its assertion, Compass Lexecon provides no reference to specific costs Omega Panama financed that are directly linked to the yet to be invoiced work that are the foundation for the Existing Contracts claim. If Claimants’ utilized the advances to finance work already billed but not yet offset, then they have derived an economic benefit from the advances, whose value cannot be, as Compass Lexecon suggests, compared *pari passu* with future unbilled work.²⁴²

b. Compass Lexecon’s Critique Regarding the Impact of Retained Amounts on the Advances Is Incorrect

159. A portion of the net advances in Compass Lexecon’s model comes from amounts retained from project billings by each contracting entity, which would then be held until the end of each contract.²⁴³ Compass Lexecon objects that we inconsistently maintain the nominal value of the net advances when they subtract from the amount owed by the Claimants and discount it when they add to the amount owed to the Claimants. That objection is mistaken.

²⁴¹ Second Compass Lexecon Report, ¶ 15(b).

²⁴² For example, according to Compass Lexecon, by the end of 2013 Omega Panama had a net advance balance in its favor (it had received more in advances than it had offset in its billings) of US\$ [REDACTED] million, yet it had only US\$ [REDACTED] million in cash, or a total of US\$ [REDACTED] million in liquid assets. **QE-0052**; Updated Valuation Model, tab “I. Unpaid Progress Billings” (based on **C-0438 [CLEX-32]**, CL Revised Valuation Model, tab, “I. Unpaid Progress Billings”). That is US\$ [REDACTED] (Cash and cash equivalents) + US\$ [REDACTED] (Negotiable securities) + US\$ [REDACTED] (Investment in securities available for sale) = US\$ [REDACTED]. **C-0135**, Omega Engineering, Inc. Financial Statements as of 31 December 2013, p. 6. In the case of the Ciudad de las Artes project, according to Mr. McKinnon, Omega Panama had incurred US\$ [REDACTED] million in costs related to the project, but only executed US\$ [REDACTED] million of billable work, while having received an advance of US\$ [REDACTED] million. First McKinnon Report, Annex 2- Calculation of Expected Cash Flows on Uncompleted Work (column “Cost to Date”); Annex 1-Table 9.

²⁴³ Second Compass Lexecon Report, ¶¶ 30, 34. See **C-0438 [CLEX-32]**, CL Revised Valuation Model, tab, “III Advance Balance,” cells G18-G20.



160. Compass Lexecon agrees that future amounts owed by the contracting entities to the Claimants should be discounted to account for the time value of money (and the business risks inherent in Omega Panama's operations).²⁴⁴ It also explains that the retained amounts would be held until the completion of the projects.²⁴⁵ Those retained amounts are to be received at a point in the future and depend on the completion of the projects, so they are subject to business risk. The advances that occurred at the beginning of the Existing Contract projects are conceptually different from retentions that will be paid at some point in the future dependent on Omega Panama successfully completing a project. Therefore, the two amounts are properly treated differently as relates to determining their economic value as of the Valuation Date. The former should be taken at their nominal value, while the latter discounted at the appropriate CoE.

4. Summary of the Appropriate Methodology for Computing the Existing Contracts Claim

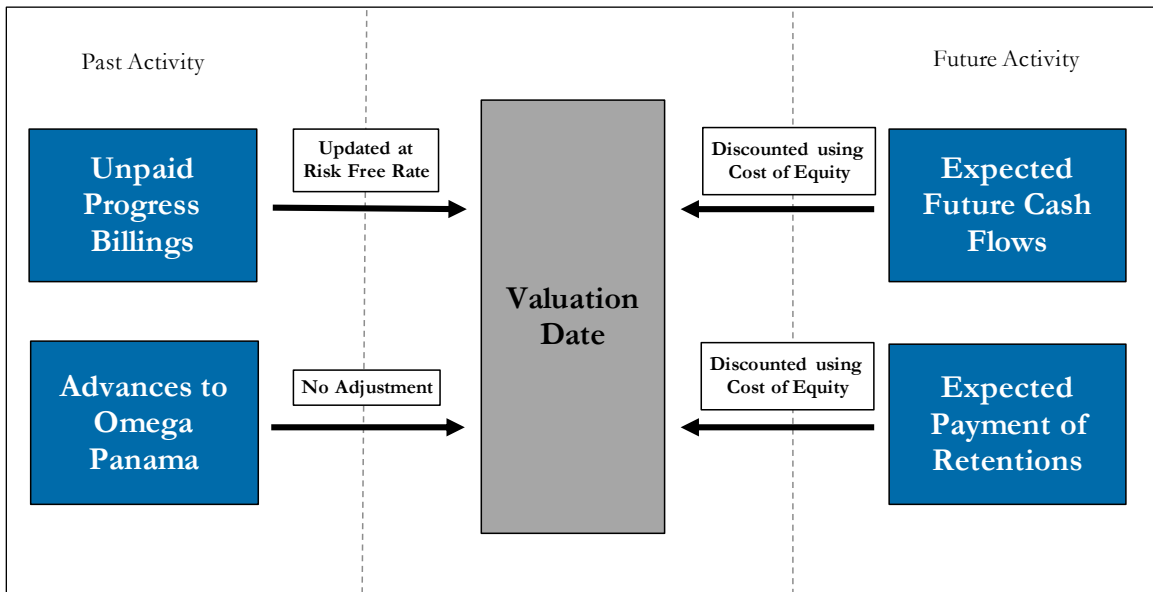
161. **Figure 15** below details the different cash flow transactions that need to be updated or discounted to the Valuation Date, as well as the appropriate rate at which to do so.

²⁴⁴ Second Compass Lexecon Report, ¶¶ 15(b), 35.

²⁴⁵ Second Compass Lexecon Report, ¶ 30.



Figure 15
Financing Costs for Past and Future Payments²⁴⁶



162. The calculation of the Existing Contracts Claim requires: (i) assessing the amount of Unpaid Progress Billings and compounding those to the Valuation Date at the risk-free rate, (ii) assessing the amount of Expected Future Cash Flows and discounting those to the Valuation Date using the appropriate CoE, and (iii) accounting for the offsetting effect of advances to Omega Panama for yet unbilled future work. The following sections address each of these items.
163. Compass Lexecon asserts that “Dr. Flores accepts that Claimants have suffered losses on existing contracts, which he valued at US\$ [REDACTED] million as of December 2014.”²⁴⁷ However, the First Quadrant Report noted that the “assessment assume[d] that the losses suffered by Omega Panama were caused by the Measures, not by other causes not attributable to the Respondent, such as Omega Panama’s default on its contractual obligations.”²⁴⁸ Furthermore, we indicated that additional corrections to the

²⁴⁶ First Compass Lexecon Report, ¶¶ 57-58, 105-107.

²⁴⁷ Second Compass Lexecon Report, ¶ 3.

²⁴⁸ First Quadrant Report, ¶ 97.



calculations carried out by Mr. McKinnon and Compass Lexecon may be required.²⁴⁹ We discuss those further below.

C. Amounts Related to Addenda Not Signed Off by Panama's Comptroller

164. The First Quadrant Report noted that several addenda related to the MINSA CAPSI projects were not fully supported because they lacked the Comptroller's endorsement.²⁵⁰ These documents are: addendum No. 4 for Rio Sereno, addenda No. 3 and No. 4 for Kuna Yala, and addendum No. 4 for Puerto Caimito.²⁵¹ The total value related to these documents is US\$ [REDACTED] million.²⁵²

165. The First McKinnon report acknowledged that the MINSA CAPSI projects lacked the comptroller's endorsement.²⁵³ The Second McKinnon report states that:

The matter of whether the change orders should have been signed by the Controller (as well as the reasons why it was not so signed), as it pertains to my calculation of Omega's claim for Expected Future Cash flows for these projects, is ultimately a legal matter to be decided by the Tribunal.²⁵⁴

166. Claimants' witness Mr. López also mentions that the addenda listed above for the MINSA CAPSI projects lacked the Comptroller's endorsement.²⁵⁵ Moreover, Mr.

²⁴⁹ First Quadrant Report, ¶ 97.

²⁵⁰ First Quadrant Report, ¶¶ 144, 143 (vi).

²⁵¹ First Quadrant Report, ¶ 144. **C-0106**, Addendum No. 4 to Contract No. 077 (2011) dated 7 May 2014, p. 14 of PDF; **C-0107**, Addendum No. 3 to Contract No. 083 (2011), p. 10 of PDF; **C-0266**, Addendum No. 4 to Contract No. 083 (2011), p. 17 of PDF; **C-0171**, Addendum No. 4 to Contract No. 085 (2011) dated 7 May 2014, p. 17 of PDF.

²⁵² There are two alternative addenda amounts for Kuna Yala, the US\$ 17.3 million figure stated above considers the value of only Addendum No. 3 of Kuna Yala which is the value used by Mr. McKinnon. That is, US\$ [REDACTED] (Rio Sereno) + US\$ [REDACTED] (Kuna Yala, Addendum No. 3) + US\$ [REDACTED] (Puerto Caimito) = US\$ [REDACTED]. **C-0106**, Addendum No. 4 to Contract No. 077 (2011), p. 8 of PDF; **C-0107**, Addendum No. 3 to Contract No. 083 (2011), p. 4 of PDF; **C-0171**, Addendum No. 4 to Contract No. 085 (2011) dated 7 May 2014, p. 14 of PDF.

²⁵³ First McKinnon Report, Annex 2, n. 1.

²⁵⁴ Second McKinnon Report, ¶ 37.

²⁵⁵ Note that Mr. López mistakenly states that the total unapproved amount for the Kuna Yala project is US\$ 2.4



López states that “without the endorsement of the Comptroller General, a public contract signed between the parties is not valid. Practically, it is as if the obligation never existed.”²⁵⁶ Mr. López states that “the endorsement process before the Comptroller General’s Office was the same for any payment application, change order request, and/or changes to the contract.”²⁵⁷

167. Consistent with the Claimants’ description of the approval process for project payments, we have been instructed by Counsel for Respondent to consider the above-mentioned contract addenda as not valid for inclusion in the calculation of alleged damages in this Arbitration.
168. Removing the expected revenues associated with these unendorsed addenda, while also accounting for offsetting effects of decreased expected costs and taxes, and maintaining all of Compass Lexecon’s other assumptions, reduces the existing contract claims by US\$ [REDACTED] million, to US\$ [REDACTED] million.²⁵⁸

D. Compass Lexecon Improperly Includes a Superseded Addendum of US\$ [REDACTED] Million in Relation to Kuna Yala

169. As explained above, addenda No. 3 and No. 4 for the Kuna Yala project lack the comptroller’s endorsement.²⁵⁹ Addendum No. 3 added an additional amount of

million. The US\$ 2.4 million figure refers to the Puerto Caimito project. López Witness Statement, ¶¶ 43-45.

²⁵⁶ López Witness Statement, ¶ 39 (emphasis added).

²⁵⁷ López Witness Statement, ¶ 39.

²⁵⁸ That is, US\$ [REDACTED] million – US\$ [REDACTED] million = US\$ [REDACTED] million (difference due to rounding). **QE-0052**, Updated Valuation Model, tab “Summary,” click “Run scenario CLEX” macro, column O-P, and select “QE” in cell G56, view result in cells M12-N12. The amounts of the unendorsed addenda that are included in the unpaid billings are deducted from that calculation. Those amounts consequently reduce the amounts considered billed for the projects, which increases the remaining billings in favor of Omega Panama. The total contract balances are also reduced by the total amounts of the unendorsed addenda. The calculation of profits remaining after eliminating the unendorsed addenda are based on McKinnon’s methodology, which is adopted by Compass Lexecon. Overhead is reduced by the proportion of the unendorsed addenda to total pending revenues (as calculated by Compass Lexecon), and taxes are calculated based on Compass Lexecon’s model. Because the cost to date for MINSAs CAPSI Puerto Caimito exceeded the updated total cost to complete, the calculation assumes that the project would incur no additional costs, and all remaining revenues are treated as profit. This amount is considered as the taxable base for the project. **QE-0052**, Updated Valuation Model, tabs “Summary,” “Unpaid Progress Billings,” “Losses on Future Cashflows,” “McKinnon Exp. CashFlows,” “McKinnon Termination Value.”

²⁵⁹ See ¶ 164 above.



US\$ [REDACTED] million.²⁶⁰ From this US\$ [REDACTED] million, a total of US\$ [REDACTED] million was related to the inclusion of a “Línea Trifásica Media Tensión,” which was not included in the original contract.²⁶¹

170. Subsequently, addendum No. 4 was issued and it included the same activities as addendum No. 3, except for the inclusion of the “Línea Trifásica Media Tensión.”²⁶² The total amount for addendum No. 4 was US\$ [REDACTED] million, approximately US\$ [REDACTED] million less than addendum No. 3.²⁶³ Communications between MINSA representatives show that the value of the “Línea Trifásica Media Tensión” was not to be included in Addendum No. 4.²⁶⁴ Both Addenda No. 3 and No. 4 are not endorsed by the Comptroller.²⁶⁵
171. The First McKinnon Report includes US\$ [REDACTED] million from addendum No. 3 in its calculations for expected cash flows on uncompleted work.²⁶⁶ Strangely, the First McKinnon Report cites addendum No. 4, valued in US\$ [REDACTED] million, as one of the reviewed documents for its calculations.²⁶⁷ Furthermore, it incorrectly refers to the amount of US\$ [REDACTED] million from addendum No. 4 as though it were the total for addendum No. 3 in one of his summary tables.²⁶⁸ Nevertheless, the First McKinnon Report does not state why it used the US\$ [REDACTED] million from addendum No. 3 instead of the US\$ [REDACTED] million from addendum No. 4.
172. We understand from Counsel for Respondent that Addendum No. 4 was meant to replace Addendum No. 3. Thus, even if the lack of the Comptroller’s endorsement is

²⁶⁰ **C-0107**, Addendum No.3 to Contract No. 083 (2011), pp. 2, 4 of PDF.

²⁶¹ **C-0107**, Addendum No.3 to Contract No. 083 (2011), pp. 2, 4 of PDF.

²⁶² Compare **C-0107**, Addendum No. 3 to Contract No. 083 (2011), pp. 2, 4 of PDF with **C-0266**, Addendum No. 4 to Contract No. 083 (2011), pp. 11-12 of PDF.

²⁶³ That is, US\$ 9,705,735 – US\$ 4,352,064 = US\$ 5,353,671. **C-0107**, Addendum No. 3 to Contract No. 083 (2011), p 4 of PDF; **C-0266**, Addendum No. 4 to Contract No. 083 (2011), p. 12 of PDF.

²⁶⁴ **QE-0106**, Communication “560-DI-D15-2014” of MINSA, pp. Q1-2.

²⁶⁵ See ¶ 164 above.

²⁶⁶ First McKinnon Report, Annex 2, p. 1 (Column B, referring to US\$ 9.7 million).

²⁶⁷ First McKinnon Report, Annex 1, ¶ 5.b.vi.

²⁶⁸ First McKinnon Report, Annex 1, pp. 7, 8, Tables 4, 5, Annex 2, p. 1.



not considered reason to invalidate those addenda, Mr. McKinnon’s calculations should still be corrected to rely on the expected revenues associated with addendum No. 4 instead of the ones associated with addendum No. 3. Applying this correction, using all of Compass Lexecon’s other assumptions, reduces the Existing Contracts claim by US\$ [REDACTED] million, to US\$ [REDACTED] million.²⁶⁹

E. Existing Contracts Claim – Conclusions

173. Compass Lexecon’s calculation of the Existing Contracts claim suffers from methodological flaws and fails to accurately reflect the evidence. The amount of Unpaid Progress billings should be updated to the Valuation Date using a risk-free rate and not the CoE, which measures risks to which the Unpaid Progress Billings were not subject. Future cash flows should be discounted using the appropriate CoE. This includes both Future Expected Cash Flows as well as the retentions included in the net advances balance. The advances which occurred at the beginnings of the contracts should be taken at their nominal value as they were available before the Valuation Date and not at some point in the future, as Compass Lexecon treats them. In addition, the scope of work applicable to Omega Panama’s contract for Kuna Yala was reduced and therefore, the superseded Addendum No. 3 should not be used. Furthermore, several of the addenda were not endorsed by Panama’s Comptroller. Implementing all of these corrections reduces the Existing Contracts claim by US\$ [REDACTED] million, to US\$ [REDACTED] million.²⁷⁰
174. **Figure 16** below summarizes the corrections to the Existing Contracts claim presented in this section and their cumulative impact, taking into account the interaction of each correction.²⁷¹

²⁶⁹ That is, US\$ [REDACTED] million – US\$ [REDACTED] million = US\$ [REDACTED] million. **QE-0052**, Updated Model Calculation, tab “Summary,” click “Run scenario CLEX” macro, column O-P, and select “QEKuna” in cell G56, view result in cells M12-N12.

²⁷⁰ That is, US\$ [REDACTED] million – US\$ [REDACTED] million = US\$ [REDACTED] million. See **Figure 16** below.

²⁷¹ The impact of the corrections would change if one or more of the corrections were not implemented, due to interaction effects.



Figure 16
Summary of Corrections to the Existing Contracts Claim²⁷²

	Impact of Correction	Cumulative Damages
	(US\$ Millions)	
	(1)	(2)
1. Compass Lexecon		■
Corrections to CLEX's Existing Contracts Claim		
2. Nominal Value of Advances	■	■
3. Kuna Yala Addendum No. 4 Supersedes Addendum No. 3	■	■
4. Unendorsed Addenda	■	■
5. Remove CoE Update to Unpaid Progress Billings	■	■
6. Discount Rate (18%-23%)		
<i>Lower Range</i>	■	■
<i>Midpoint</i>	■	■
<i>Upper Range</i>	■	■

V. Applicable Rate of Interest

175. If the Tribunal were to award damages with interest, the interest applied to such award should compensate the Claimants for the time value of money and not for risks which the Claimants did not bear. In its first report, Compass Lexecon proposed that the CoE should be used to calculate interest.²⁷³ We criticized that proposal in our First Report.²⁷⁴ In its second report, Compass Lexecon does not present any meaningful response to our critique.²⁷⁵ This is surprising, given that Compass Lexecon is calculating interest equal to ■ of the underlying damages claim – that is, US\$ ■ million in interest on an underlying claim of US\$ ■ million.²⁷⁶

²⁷² When the “Unendorsed Addenda” correction is applied it supersedes the correction “Kuna Yala Addendum No. 4 Supersedes Addendum No. 3.” The figure shows the marginal impact of each correction; **QE-0052**, Updated Valuation Model, tab “Summary.”

²⁷³ First Compass Lexecon Report, ¶¶ 109-113.

²⁷⁴ First Quadrant Report, ¶¶ 102-112.

²⁷⁵ Second Compass Lexecon Report, ¶¶ 126-129.

²⁷⁶ That is, US\$ ■ million – US\$ ■ million = US\$ ■ million. Second Compass Lexecon Report,



176. The following sections explain that: (i) Compass Lexecon’s “invalid round-trip” argument is a fallacy that is inconsistent with the basic premise that compensation should be commensurate with the risk incurred, (ii) the application of a risk-free rate is widely supported by theory and practice, and (iii) the yield of the six-month or the one year U.S. Treasury bill is an appropriate rate for the calculation of interest on an award of damages.

A. Compass Lexecon’s “Invalid Round-Trip” Argument is Flawed

177. The First Compass Lexecon Report argued that:

...the CoE is the same rate we use to discount expected cash flows as of December 23, 2014, which allows us to avoid incurring in an invalid round-trip that would artificially reduce the compensation by discounting cash flows at a higher rate than the rate used to update those same cash flows to a future date.²⁷⁷

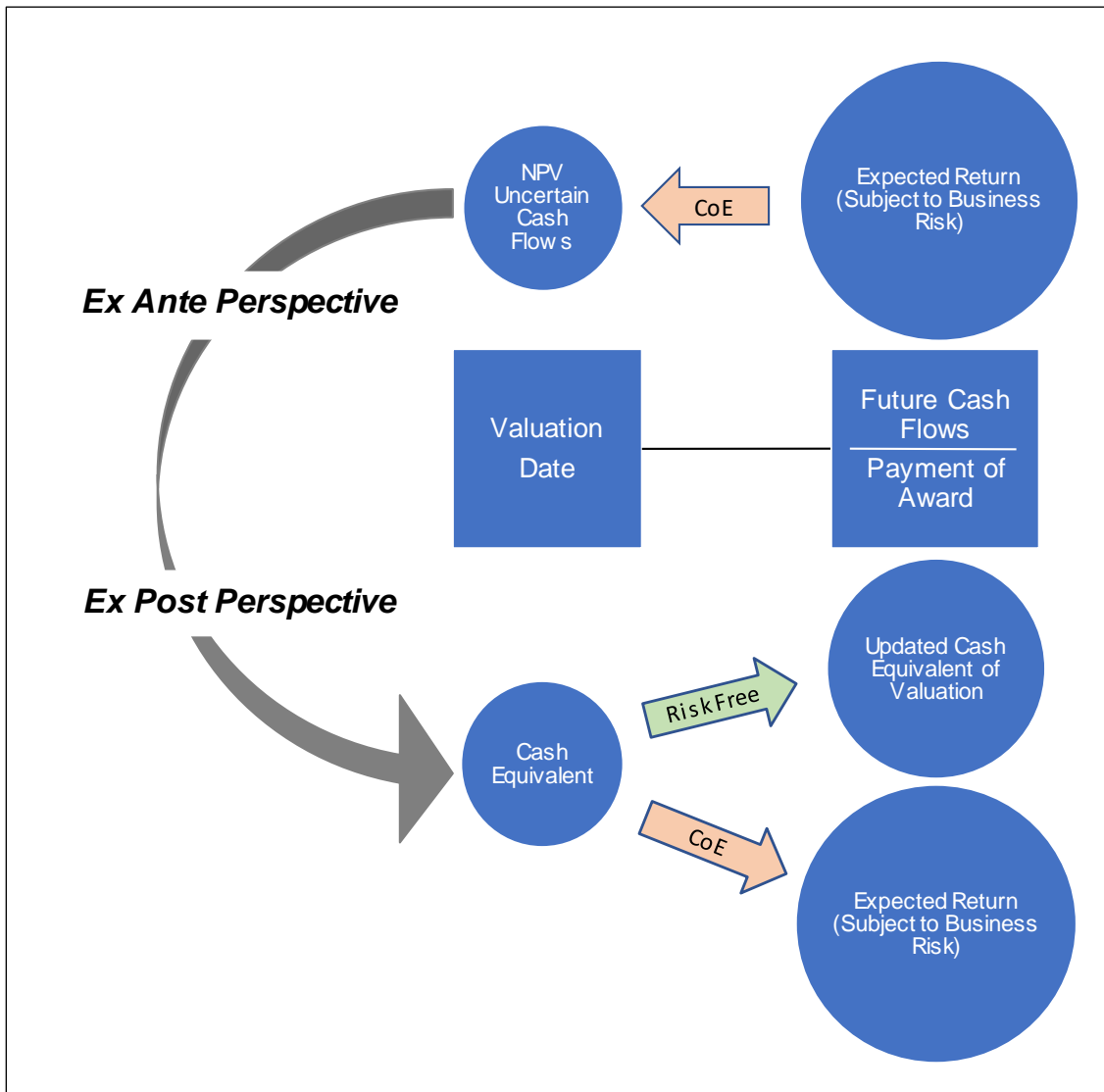
178. The idea of the alleged “invalid round-trip” is that the *ex ante* value of future (uncertain) cash flows as of the date of payment of an award should be the same as the value of the damages as of the Valuation Date updated to the date of payment of an award. However, this assumption ignores that the updating of the value of damages to the date of payment is done on an *ex post* basis and that the award amount does not face the same business risks as the forecasted cash flows discounted to the Valuation Date. **Figure 17** below illustrates this concept graphically.

Table VII.

²⁷⁷ First Compass Lexecon Report, ¶ 112.



Figure 17
Fallacy of the Invalid Round-trip



179. The assumption underlying the “invalid round-trip” is a fallacy. The cost of capital used to define the discount rate applied in a DCF measures *ex ante* business risks to which projected future cash flows are exposed (this is represented in the top half of **Figure 17**). Once the amount of a damages award is established, the update of that award amount is performed on an *ex post* basis (this is represented in the bottom half of **Figure 17**). An award represents a cash-equivalent asset that has a value equal to the NPV of future cash flows as of the Valuation Date – it is a riskless asset subject only to the erosion of value caused by the passage of time – that is the time-value of money. Thus, the amount due to the claimant on the date of payment should compensate it only for the passage of time between the Valuation Date and the



payment of the award. This compensation is accomplished by applying interest at the risk-free rate. Applying interest at a rate equal to the CoE overcompensates the claimant by providing a return on a riskless asset for risks it does not bear.

180. To support its argument regarding the “invalid round-trip” Compass Lexecon cites a 2011 article by Manuel Abdala, Pablo López Zadicoff, and Pablo T. Spiller of Compass Lexecon.²⁷⁸ Aaron Dolgoff and Tiago Duarte Silva published a detailed response to that article in 2016, in which they explain that “using the claimant’s opportunity cost of capital to determine prejudgment interest lacks a basis in economic principles because it ignores the effect of uncertainty inherent in profit projections.”²⁷⁹ That is, the “roundtrip fallacy may also be understood as a false equivalence between actual and expected returns.”²⁸⁰ They go on to explain:

[T]he nature of risky investments [is that] sometimes they work out well, and sometimes they do not. Investors require compensation for risk, but actually delivering that compensation cannot be guaranteed. In other words, the *expected* value of the asset at the award date is not the *actual* value of that asset on that date.

It follows, then, that it is wrong to assume that no matter how risky the investment is, its value would always grow at the expected rate of return. However, if prejudgment interest were to be awarded at the claimant’s opportunity cost of capital, the value of the damage award would effectively grow over time at the claimant’s opportunity cost of capital ... Such an approach assumes a claimant is entitled to recover the *expected* rate of return on its risky investment, regardless of whether such a rate of return would actually have been realized.²⁸¹

²⁷⁸ First Compass Lexecon Report, ¶ 112, n. 77.

²⁷⁹ **QE-0107**, Aaron Dolgoff and Tiago Duarte-Silva, “Prejudgment Interest and the Fallacy of the Invalid Round Trip,” *World Arbitration & Mediation Review*, Vol. 10, No. 3 (2016), p. 439,

²⁸⁰ **QE-0107**, Aaron Dolgoff and Tiago Duarte-Silva, “Prejudgment Interest and the Fallacy of the Invalid Round Trip,” *World Arbitration & Mediation Review*, Vol. 10, No. 3 (2016), p. 442.

²⁸¹ **QE-0107**, Aaron Dolgoff and Tiago Duarte-Silva, “Prejudgment Interest and the Fallacy of the Invalid



B. Theory and Practice Support the Use of the Risk-Free Rate

181. The First Quadrant Report explained that, from an economic perspective the Claimants should not be compensated for risks they did not bear.²⁸² The First Quadrant Report referred to the works of Fisher and Romaine and Mark Kantor, which delineate the *ex ante* risks faced by an investor considering future (unknown and uncertain) cash flows, and the risks associated with interest to be applied *ex post*, at which time the cash flows are taken as certain and which are not exposed to the same potential losses inherent in a business activity.²⁸³ This concept is not only well reasoned and grounded in economic theory, it is also widely accepted in practice, as is confirmed by the following examples:
182. *Sistem v. Kyrgyz Republic, 2009*. The Tribunal highlights the idea that upon having possession of the award one cannot speculate what investment the Claimant would have made, nor what outcome would have been realized.

The proper role of the payment of interest is to fulfil [*sic*] the duty to compensate the Claimant for the whole of its loss. One cannot know what a Claimant would have done had it been paid USD8.5 million in June 2005. It might have made spectacularly good, or disastrously bad decisions on the investment of such a sum. The cautious approach is to assume, in the absence of evidence to the contrary, that its loss would have been at least that of the principal sum plus interest gained from risk-free investments.²⁸⁴

183. *Vestey v. Venezuela, 2016*. The Tribunal recognized the fundamental idea that interest should not serve to compensate a claimant for risks it did not bear.

The function of reparation is to compensate the victim for its actual losses. It is not to reward it for risks which it does not bear. As the Claimant itself argues, the award should reestablish the situation which would in all probability have existed but for the

Round Trip,” World Arbitration & Mediation Review, Vol. 10, No. 3 (2016), pp. 442-443 (emphasis in original).

²⁸² First Quadrant Report, ¶ 107.

²⁸³ First Quadrant Report, ¶¶ 103-105.

²⁸⁴ **QE-0108**, Sistem Mühendislik İnşaat Sanayi ve Ticaret A.Ş. v. Kyrgyz Republic, (ICSID Case No. ARB(AF)/06/1), Award dated 9 September 2009, ¶ 194.



wrongful measures. As the Parties agree on the Valuation Date, the “but for” scenario involves placing Vestey in the position in which it would have been if it had received compensation on that date. In that case, Vestey would have been able to make use of the funds received as compensation. At no point in that scenario would Vestey have borne the risk of Venezuela’s sovereign default.

...

Alternatively, the Claimant suggests Agroflora’s weighted average cost of capital or WACC as interest rate. In the Tribunal’s view, this is not an appropriate measure for interest here. Indeed, the WACC reflects a variety of risks associated with doing business.²⁸⁵

184. *Burlington v. Ecuador, 2017*. The tribunal based its decision on the economic principles expounded by Fisher and Romaine:

[T]he Tribunal agrees with Ecuador that the WACC is not necessarily the appropriate actualization rate for this purpose. The WACC contains an element of cost of capital that allows cash flows to reflect the time value of money, but it also includes a reward for all the risks involved in doing business. The WACC is thus appropriate to discount future cash flows, because these flows are adjusted to reflect the time value of money (i.e., that 100 dollars in the future are worth less today) and to reflect the risks of doing business due to the fact that the operator’s profit-making capacity is not certain.

By contrast, using the WACC as an actualization rate for past cash flows could overcompensate Burlington. While the WACC contains an element of cost of capital that would allow past cash flows to reflect the time value of money (i.e., that 100 dollars in the past are worth more today), it also contains an element of reward for risk that is inappropriate here because Burlington no longer bears the risk of operation. As Fisher and Romaine

²⁸⁵ **QE-0033**, Vestey Group Limited v. Bolivarian Republic of Venezuela, ICSID Case No ARB/06/4, Award, dated 15 April 2016, ¶¶ 440-441. Dr. Flores was respondent’s valuation expert in that arbitration.



conclude in the paper quoted below, a claimant is entitled to interest compensating for the time value of money, but not for risk.²⁸⁶

185. The Tribunal also based its decision on the testimony of Prof. Kalt, from Compass Lexecon, who, in another arbitration (*Perenco v. Ecuador*), stated that:

[W]hile Perenco is forgoing the time value of money on any damages award while waiting for such an award, the award amount is not being invested by Perenco in any risky endeavor that would require compensation for risk. Accordingly, the interest factor to be applied to the historical period up to the date of actual payment of damages to Perenco is a relatively low and risk-free rate of interest.²⁸⁷

186. *Cube Infrastructure Fund SICAV and Others v. Kingdom of Spain, 2019*. In its decision the Tribunal awarded interest based on the short-term risk-free rate.²⁸⁸

The Claimants’ experts Brattle say, and the Respondent’s experts Econ One agree, that “[w]hile investors can hope to earn high rates on risky investments, it is not reasonable to anticipate earning a higher rate unless the investor also incurs the associated risk.”

...

The Tribunal agrees with the *Vestey* tribunal, which said that “[t]he function of reparation is to compensate the victim for its actual losses. It is not to reward it for risks which it does not bear.” The Parties did not argue that different principles should govern the payment of pre- and post-award interest and the

²⁸⁶ **QE-0109**, *Burlington Resources Inc. v. República del Ecuador* (ICSID Case No ARB/08/5), Award, ¶¶ 532-533 (emphasis added).

²⁸⁷ **QE-0109**, *Burlington Resources Inc. v. República del Ecuador* (ICSID Case No ARB/08/5), Award, ¶ 534.

²⁸⁸ In that case, the claimants’ expert argued that interest should be based on the Respondent’s cost of debt. **QE-0110**, *Cube Infrastructure Fund SICAV et al., v. Kingdom of Spain*, Case No. ARB/15/20, “Decision on Jurisdiction, Liability and Partial Decision on Quantum”, ¶¶ 535, 537. Dr. Flores was respondent’s valuation expert in that arbitration. This decision is publicly available and was published on the website of Investment Arbitration Reporter on 22 July 2019.



Tribunal does not consider that its task of awarding reparation requires any such distinction to be drawn.

For these reasons, the Tribunal considers that the EURIBOR rate is the appropriate rate at which interest on the damages payable under this Decision and the Award that the Tribunal will render as explained in paragraph 533 above should be computed. Other tribunals have fixed interest rates to six-monthly bond rates, compounded semi-annually, and the Tribunal considers this to be the appropriate measure.²⁸⁹

187. *Carey et al., 2019*. In an article published in April 2019, Carey, Dippon and Taylor address the calculation of interest and conclude that the use of WACC is inappropriate. They cite Fisher and Romaine:

[T]he pre-judgment interest serves to compensate the claimant for the lost opportunity cost of money. A risk-adjusted WACC might be relied upon to quantify the pre-judgment interest component of economic harm to compensate for the lag between harm occurring and judgment awarded. This approach would reflect the opportunity cost of capital; that is, what the claimant might have done with that money, if it had it. With such funds, the claimant may have made a lucrative investment that earned a high return. However, all investments have downside risks, and the claimant may have chosen unwisely and lost its entire investment. Fisher and Romaine discuss the issues associated with only picking the winning side of an investment and the economic reality that although the claimant lost the upside of any potential investment, it was also relieved of the downside risk of any future investment it would have pursued. That is, not having the funds during the pre-judgement period, the claimant was deprived of the opportunity to invest, but it also was not exposed to the risk of those investments either. As a result, tribunals and judges in commercial arbitrations frequently may decide to achieve a risk-neutral payout to compensate claimants for the lost

²⁸⁹ **QE-0110**, *Cube Infrastructure Fund SICAV et al., v. Kingdom of Spain*, Case No. ARB/15/20, “Decision on Jurisdiction, Liability and Partial Decision on Quantum” ¶¶ 535, 537-538.



opportunity investment, such as a risk-free US Treasury bill interest rate.²⁹⁰

188. *Beharry, 2017*. In an article on interest rates in international arbitration published in 2017, Christina Beharry, uses the Fisher and Romaine’s article to explain that the amount of compensation to be awarded to a claimant is not subject to business risks:

[T]he argument that the risk-free rate undercompensates claimants because it deprives them of the upside of a risky investment is flawed on multiple levels. The fundamental problem with this argument is that because the claimant never undertook the investment, it never bore any of the associated risks. Moreover, while the investor may have been deprived of the chance to make financial gains, it was equally relieved of the risk of financial losses. That is because not all risky ventures will turn out positively. It is the presence of uncertainty and risk that make it necessary to compensate investors with a higher return. In the case of compensating an investor for a wrongful act, a tribunal is dealing with an environment of certainty. Once the wrongful act has been committed, the claimant faces no market or commercial risk.²⁹¹

189. Finally, Mark Kantor, cited in our First Report, explains that:

The interest rate used for bringing historical amounts forward will clearly not contain the same risk factors as the discount rate used to present value future amounts. As a practical matter, the interest rate used for the historical amount is often a “risk-free” rate (such as the rate for US Treasuries) or a statutory rate for pre-judgment interest.²⁹²

²⁹⁰ **QE-0111**, Julie Carey, Christian Dippon, Will Taylor, “Measuring Economic Damages with Maximum Certainty”, *Global Arbitration Review*, 30 April 2019, p. 4. The authors also observe that “debates exist and alternative approaches are proffered that consider country-specific factors, the cost of debt of the claimant (akin to a ‘coerced loan’) or other approaches”. *Id.*, p. 4.

²⁹¹ **QE-0112**, Christina L. Beharry, “Prejudgment Interest Rates in International Investment Arbitration”, *Journal of International Dispute Settlement*, May 2016, pp. 75-76, citing Fisher and Romaine at the end of the underlined phrase (emphasis added).

²⁹² **QE-0032**, Mark Kantor, “Valuation for Arbitration: Compensation Standards, Valuation Methods and



190. The fact that an award should be updated using a risk-free rate and not the Claimants' CoE is supported by economic theory and is widely accepted in practice. The following section sets out the applicability of the U.S. Treasury Bill for the calculation of interest in this Arbitration.

C. The Yield of the Six-Month or the one-year U.S. Treasury Bill is the Appropriate Rate of Interest

191. The First Quadrant Report explained that the interest rate must be a short-term rate that must be renewed at the end of each period because it is not possible to know the date of the award of this Arbitration.²⁹³ Compass Lexecon states that based on the BIT and TPA the interest rate should be a “commercially reasonable rate.”²⁹⁴
192. As explained in First Quadrant Report, from an economic point of view, a “commercially reasonable rate” can be defined as interest rates that are generally available to investors.²⁹⁵ The specific commercial interest rate will depend on the risk profile of the financial product generating the interest payments. For example, “junk” bonds typically offer a relatively high interest rate because of the perceived higher risks. Since the amount of an arbitral award is not exposed to business risk, the yield of the six-month or one-year U.S. Treasury bills constitutes a reasonable commercial rate in this case.

Expert Evidence”, (Kluwer Law International, 2008), p. 49.

²⁹³ First Quadrant Report, ¶¶ 102-112.

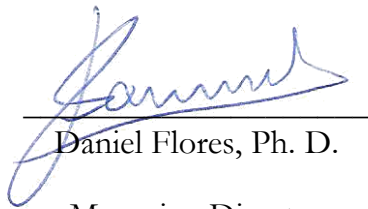
²⁹⁴ First Compass Lexecon Report, ¶ 109.

²⁹⁵ First Quadrant Report, ¶ 111.



We confirm that the contents of this Report are, to the best of our knowledge, true and correct and that the opinions set forth herein are considered and honestly held opinions on the issues we address. We confirm that our duty is to the Arbitral Tribunal and not to the Party that has appointed us.

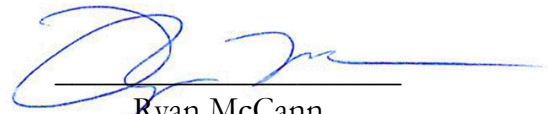
Signed in Washington DC, this 15th day of November, 2019.



Daniel Flores, Ph. D.

Managing Director

Quadrant Economics LLC



Ryan McCann

Director

Quadrant Economics LLC



Annex A. Appropriate Cost of Equity

193. As explained in **Section III.C** above, the primary areas of disagreement in relation to the calculation of the CoE applicable in this Arbitration are with respect to the CRP and the application of an additional risk premium to adjust for the shortcomings of the CAPM. We address these topics in detail in the sections that follow. In addition, we address Compass Lexecon’s claim that our use of data from Duff & Phelps is inconsistent with that source’s recommendations and show that our results are, in fact, in-line with it.

1. The Country Equity Risk Premium

194. Compass Lexecon agrees with us that the discount rate used in a DCF analysis of Omega Panama must include a CRP that reflects the extra return required by an investor in order to invest in a company not located in the U.S. The First Quadrant Report included a range for the CRP of 2.84% to 6.20%.²⁹⁶ This compares to the CRP suggested by Compass Lexecon of 1.89%.²⁹⁷ As explained in the First Quadrant Report, Compass Lexecon errs in its implementation of the CRP because it fails to use the required adjustment to the measure it uses that makes that measure applicable to equity risks.²⁹⁸ Compass Lexecon also makes several critiques to the source we use for the CRP.²⁹⁹ We address these issues in the sections that follow.

a. Compass Lexecon’s Measure of CRP Must be Adjusted for Application to Equity Risks

195. Compass Lexecon uses the sovereign debt approach to measure Panama’s country risk.³⁰⁰ This approach uses the “spread between the yields of the host state’s sovereign bonds and yield of a risk-free security with similar maturities, and corresponding to

²⁹⁶ First Quadrant Report, Figure 14.

²⁹⁷ First Compass Lexecon Report, ¶¶ 134-136.

²⁹⁸ First Quadrant Report, ¶¶ 132-141.

²⁹⁹ Second Compass Lexecon Report, ¶¶ 25-27.

³⁰⁰ First Compass Lexecon Report, ¶ 135.



debt in the same currency.”³⁰¹ Compass Lexecon uses the 2014 average of Panama’s Emerging Market Bond Index (“EMBI”) to arrive at a country risk of 1.89%.³⁰²

196. The First Quadrant Report explained that Compass Lexecon’s methodology does not capture the risk of an equity investment in Panama but that of a debt default.³⁰³ Prof. Damodaran cautions:

The country default spreads provide an important first step in measuring country equity risk, but still only measure the premium for default risk. Intuitively we would expect the country equity risk premium to be larger than the country default risk spread. To address the issue of how much higher, we look at the volatility of the equity market in a country relative to the volatility of the bond market used to estimate the spread.³⁰⁴

197. In order to convert the measure of risk on sovereign debt to that of equities, Prof. Damodaran proposes using a global average multiplier of 1.5 on his country equity risk calculations.³⁰⁵ Compass Lexecon raises three objections to this adjustment:

- First, it asserts that “the sovereign debt spread approach (without the use of any type of multiplier) is the most widely used measure of Country Risk Premium.”³⁰⁶ However, its assertion and the support it cites still refer to measuring risk on debt and ignore the issue at question, which is how such a measure should be applied to an analysis of equity.³⁰⁷

³⁰¹ First Compass Lexecon Report, ¶ 135. According to a source cited by Compass Lexecon, “The EMBI (Emerging Market Bond Index) is JP Morgan’s index of dollar-denominated sovereign bonds issued by a selection of emerging market countries.” **C-0408 [CLEX-30]**, Financial Times, Definition of EMBI, p. 1 of PDF.

³⁰² First Compass Lexecon Report, ¶ 136.

³⁰³ First Quadrant Report, ¶ 133.

³⁰⁴ First Quadrant Report, ¶ 133; **QE-0049**, Aswath Damodaran, “Equity Risk Premiums (ERP): Determinants, Estimation and Implications – The 2014 Edition,” March 2014, p. 60 (emphasis added).

³⁰⁵ **QE-0049**, Aswath Damodaran, “Equity Risk Premiums (ERP): Determinants, Estimation and Implications – The 2014 Edition,” March 2014, p. 61, n. 91.

³⁰⁶ Second Compass Lexecon Report, ¶ 26.

³⁰⁷ Second Compass Lexecon Report, ¶ 26 *referring to* **C-0408 [CLEX-30]**, Financial Times, Definition of



- Second, Compass Lexecon states that according to Prof. Damodaran “if a multiplier is used, it should be applied when measuring Country Risk Premium on short term investments, and not to long term instruments as those used to compute the sovereign debt spread.”³⁰⁸ This objection is both unsupported and ignores the actual question of applying EMBI to equities. First, Compass Lexecon provides a citation to Duff & Phelps which makes no reference to Prof. Damodaran’s position as to applying a multiplier.³⁰⁹ Second, Compass Lexecon’s statement is about “long term instruments [such] as those used to compute the sovereign debt spread,” and not about applications to equities.³¹⁰ Finally, Prof. Damodaran does use the multiplier when computing discount rates for long-term equity investments, as is evidenced by his presentations on the topic.³¹¹
- Third, Compass Lexecon objects that the use of 1.5 multiplier is “inconsistent with Prof Damodaran’s own assessment of Country Risk Premium for Panama in 2014... Prof. Damodaran finds that equity market volatility in Panama is quite low vis-à-vis sovereign debt volatility, which would imply negative measures of Country Risk Premium.”³¹² However, Prof. Damodaran explains that a potential measurement problem is that the “relative standard deviation of equity is a volatile number, both across countries... and across time.”³¹³ He then states that an alternative for dealing with this volatility is to use a cross sectional average, which in 2014 he computes as 1.79.³¹⁴ He notes that in his own calculations he continues to use a historical average multiplier of 1.5.³¹⁵

EMBI.

³⁰⁸ Second Compass Lexecon Report, ¶ 26.

³⁰⁹ Second Compass Lexecon Report, ¶ 26 *referring to* **QE-0050**, Duff & Phelps, “2015 International Valuation Handbook, Guide to Cost of Capital,” (John Wiley & Sons, Inc., 2015).

³¹⁰ Second Compass Lexecon Report, ¶ 26.

³¹¹ **QE-0099**, Aswath Damodaran, “Valuation,” 4 July 2004, pp. 1-11, 58-59.

³¹² Second Compass Lexecon Report, ¶ 26.

³¹³ First Quadrant Report, ¶ 135; **QE-0049**, Aswath Damodaran, “Equity Risk Premiums (ERP): Determinants, Estimation and Implications – The 2014 Edition,” March 2014, p. 61.

³¹⁴ **QE-0049**, Aswath Damodaran, “Equity Risk Premiums (ERP): Determinants, Estimation and Implications – The 2014 Edition,” March 2014, p. 61.

³¹⁵ **QE-0049**, Aswath Damodaran, “Equity Risk Premiums (ERP): Determinants, Estimation and Implications



198. The purpose of the 1.5 multiplier is to adjust the sovereign default spread so that it is applicable to the calculation of a discount rate on equity investments. Compass Lexecon’s objections are invalid because they (i) address the measurement of risks on debt investments, not equity investments, (ii) are unsupported, and (iii) draw conclusions about the reasonability of the multiplier assuming a value for the multiplier that is inconsistent with the methodology recommended by Prof. Damodaran. The use of the 1.5 multiplier is justified and is a minimum correction to Compass Lexecon’s CRP estimate.

b. The Country Risk Rating Model Provides a Valid Measure of the Country Risk Premium for Panama

199. Compass Lexecon criticizes the Country Risk Rating Model asserting that, “(i) there is no transparency in how the individual Institutional Investor survey participants arrive at their ratings; ii) this model lacks statistical or econometric explanatory value; iii) the method of statistical analysis utilized by Duff and Phelps is substandard; and iv) the stability of the method is not a desirable characteristic.”³¹⁶ We address each of these assertions in turn.

200. Compass Lexecon criticizes the Country Risk Rating Model because of an alleged lack of transparency in the method applied and an assumed subjectivity of the ratings and their weights.³¹⁷ However, in the article cited by Compass Lexecon, Haque *et al.* state:

The empirical results indicate that economic fundamentals have played a key role in determining a developing country’s credit rating [by *Institutional Investor*]. The combination of persistence in the ratings and economic fundamentals typically accounts for 80 to 97 percent of the variation in credit ratings.³¹⁸

– The 2014 Edition,” March 2014, p. 61, n. 91.

³¹⁶ Second Compass Lexecon Report, ¶ 27.

³¹⁷ Second Compass Lexecon Report, ¶¶ 27, 137(a).

³¹⁸ **C-0453 [CLEX-47]**, Haque, N., Kumar, M., Mark, N., and D. Mathieson. 1996. The Economic Content of Indicators of Developing Country Creditworthiness. IMF Working Paper, WP/96/9, p. 3 (emphasis added).



201. We fail to see in this source a critique to the *Institutional Investor's* approach, as Compass Lexecon alleges.
202. Furthermore, the qualifications of the survey participants are sufficient to resolve the criticism that the ratings relied upon are subjective and arbitrary. As explained by Erb, Harvey, and Viskanta:

The survey represents the responses of 75-100 bankers. Respondents rate each country on a scale of 0 to 100, with 100 representing the smallest risk of default. *Institutional Investor* weights these responses by its perception of each bank's level of global prominence and credit analysis sophistication (see Shapiro [1994] and Erb, Harvey, and Viskanta (1994, 1995)).

How do credit ratings translate into perceived risk, and where do country ratings come from? Most globally oriented banks have credit analysis staffs. Their charter is to estimate the probability of default on their bank's loans.³¹⁹

203. Compass Lexecon alleges that according to Haque et al. "*Institutional Investor* is more generous to Asian and European countries than to African countries."³²⁰ Compass Lexecon does not establish what impact such an alleged bias, if true, would have on the CRP for Panama.³²¹
204. Lastly, Compass Lexecon states that according to Haque *et al.*, "credit ratings decrease sizably following a worsening of the international scenario over and beyond the real impact on local fundamentals."³²² But this does not mean that domestic fundamentals were not the main source of variability in the credit ratings, as Compass Lexecon seems to imply. As Haque *et al.* indicate:

³¹⁹ **QE-0051**, Claude B. Erb, Campbell R. Harvey, and Tadas E. Viskanta, "Expected Returns and Volatility in 135 Countries," *The Journal of Portfolio Management*, (Spring 1996), pp. 47-48.

³²⁰ Second Compass Lexecon Report, ¶ 137(a), n. 134.

³²¹ Second Compass Lexecon Report, n. 134.

³²² Second Compass Lexecon Report, n. 132.



Although the ratings criteria utilized by [*Institutional Investor* and the two other rating services] focus primarily on domestic economic variables, our results indicate that external financial market conditions influence the ratings of all developing countries independently of the quality of their domestic policies and economic performance.³²³

That negative international financial events, particularly “increases in the level of international interest rates[,] adversely affect all developing country ratings,”³²⁴ more than they affect mature economies, should not come as a surprise. That the Institutional Investor ratings are sensitive to these factors should be seen as a plus, not as a minus.

205. The second category of criticism leveled against the Country Risk Rating Model by Compass Lexecon is that “these models lack statistical or econometric explanatory value.”³²⁵ Compass Lexecon states that the R-squared of the original model tested in 1996 was 1.76%, and concludes “the reason the models explain so little is that the sole explanatory variable, which is the Institutional Investor ratings survey, seems to be an unreliable and opaque source.”³²⁶ This characterization is flawed, as it ignores that fact that Erb, Harvey, and Viskanta showed in their study that the estimated parameter measuring the impact of the Institutional Investor ratings on returns was highly statistically significant.³²⁷ Furthermore, Compass Lexecon’s characterization of the model having a “sole” variable that comes from an “unreliable” and “opaque” source is misguided.³²⁸ As previously discussed, the underlying sources for the ratings include

³²³ **C-0453 [CLEX-47]**, Haque, N., Kumar, M., Mark, N., and D. Mathieson. 1996. The Economic Content of Indicators of Developing Country Creditworthiness. IMF Working Paper, WP/96/9, p. 38 (emphasis added).

³²⁴ **C-0453 [CLEX-47]**, Haque, N., Kumar, M., Mark, N., and D. Mathieson. 1996. The Economic Content of Indicators of Developing Country Creditworthiness. IMF Working Paper, WP/96/9, p. 3 (emphasis added).

³²⁵ Second Compass Lexecon Report, ¶¶ 27, 137(b).

³²⁶ Second Compass Lexecon Report, ¶ 137(b).

³²⁷ **QE-0051**, Claude B. Erb, Campbell R. Harvey, and Tadas E. Viskanta, “Expected Returns and Volatility in 135 Countries,” *The Journal of Portfolio Management*, (Spring 1996), pp. 46-58 (Spring 1996), Exhibit 4.

³²⁸ Second Compass Lexecon Report, ¶ 137(b).



global financial institutions with dedicated risk assessment staff.³²⁹ Additionally, the simplicity of the model and its reliance on survey data are among its strengths. Erb, Harvey, and Viskanta explain:

We start our exercise with the requirement that the candidate risk measure must be available for all 135 countries, and it must be available in a timely fashion. This eliminates risk measures based solely on the equity market. It also eliminates measures based on macroeconomic data that are subject to irregular releases and often dramatic revisions. We focus on country credit ratings.

...

There are many factors that simultaneously influence a country credit rating: political and other expropriation risk, inflation, exchange rate volatility and controls, the nation's industrial portfolio, its economic viability, and its sensitivity to global economic shocks, to name some of the most important. The credit rating, because it is survey-based, may proxy for many of these fundamental risks.

Through time, the importance of each of these fundamental components may vary. Most important, lenders are concerned with future risk. In contrast to traditional measurement methodologies, which look back in history, a credit rating is forward-looking.³³⁰

206. Compass Lexecon notes that according to Erb, Harvey and Viskanta “country ratings may be influenced by expropriation and currency risks.”³³¹ It takes the position that such risks should not be included in the cost of capital calculation for Omega Panama.³³² However, the expropriation and currency risks alluded to by Erb, Harvey,

³²⁹ See ¶ 202 above; **QE-0051**, Claude B Erb, Campbell R Harvey and Tadas E Viskanta - Expected Returns and Volatility in 135 Countries, pp. 47-48.

³³⁰ **QE-0051**, Claude B. Erb, Campbell R. Harvey, and Tadas E. Viskanta, “Expected Returns and Volatility in 135 Countries,” The Journal of Portfolio Management, (Spring 1996), pp. 47-48 (emphasis added).

³³¹ Second Compass Lexecon Report, n. 136.

³³² Second Compass Lexecon Report, n. 136.



and Viskanta are not specific to the asset being valued, but are of a general nature. Certainly, they represent risks that any hypothetical buyer of Omega Panama would have taken into consideration.³³³

207. Under its third category of criticism, Compass Lexecon claims that Duff & Phelps statistical analysis' is substandard for several reasons:³³⁴

- Compass Lexecon argues that the model fails to capture the non-linear variation between credit ratings and risk levels (measured by return) – for example a 10 point difference in credit rating between two low risk countries may be associated with a difference of X in risk, but a 10 point difference in credit rating between two very risky countries may be associated with a difference of 2X in risk. There are two comments in relation to this criticism. First, Erb, Harvey, and Viskanta explain that they analyzed both linear and log-linear models and determined to use the log-linear model, precisely because it better captured the non-linearity of the sample.³³⁵ Second, Compass Lexecon has not established that Panama's risk is far enough from the mean of the sample that results pertaining to it would be affected by errors introduced by non-linearity as one moves away from the mean. In fact, Duff & Phelps reports that the risk related to Panama was ranked at 49 out of 179 countries in its analysis – meaning it was neither at the extreme upper or lower ends of the risk spectrum.³³⁶ Compass Lexecon's non-linearity critique is unsubstantiated.
- Compass Lexecon argues that “one would expect all countries with data availability to run a regression, to be clustered around a ‘narrow’ range of ratings, hence minimizing variability.”³³⁷ There is no citation provided in

³³³ See, e.g., **QE-0100**, Tidewater Investment SRL et al., v. The Bolivarian Republic of Venezuela, Case No. ARB/10/5, Award, 13 March 2015, ¶ 186 (“The market valuation must be arrived at ‘immediately before the expropriation or before the impending expropriation became public knowledge, whichever is the earlier’. Rather the country risk premium quantifies the general risks, including political risks, of doing business in the particular country, as they applied on that date and as they might then reasonably have been expected to affect the prospects, and thus the value to be ascribed to the likely cash flow of the business going forward.”).

³³⁴ Second Compass Lexecon Report, ¶ 137(c).

³³⁵ **QE-0051**, Claude B. Erb, Campbell R. Harvey, and Tadas E. Viskanta, “Expected Returns and Volatility in 135 Countries,” *The Journal of Portfolio Management*, (Spring 1996), pp. 51-52.

³³⁶ **QE-0050**, Duff & Phelps, “2015 International Valuation Handbook, Guide to Cost of Capital,” (John Wiley & Sons, Inc., 2015), p. 21 of PDF.

³³⁷ Second Compass Lexecon Report, ¶ 137(c).



relation to this critique. Compass Lexecon is implying that the data set used to regress returns on credit ratings does not allow for drawing statistically significant conclusions. As was already noted above, the parameters of the model are statistically significant.³³⁸

- Compass Lexecon claims that the Country Risk Rating Model “fails to consider country-fixed effects (*i.e.*, making an accommodation for country-specific conditions unrelated to the ratings) and so its estimates are likely biased.”³³⁹ In other words, the criticism is that this is a single-variable model – only the ratings are the only independent variable – and other explanatory variables may be incorrectly excluded. However, in the paper relied upon by Compass Lexecon, Haque *et al.* explain that “economic fundamentals have played a key role in determining a developing country’s credit rating” by *Institutional Investor*.³⁴⁰ This means that many of the “fixed factors” are already implicit in the rating itself. Besides, Compass Lexecon does not provide any backup for this claim, and does not opine on whether it would mean that Panama’s CoE is biased upwards or downwards.

208. Compass Lexecon’s last criticism is that the “stability of the results obtained by [the Country Risk Rating Model] is not a desirable characteristic. As Duff and Phelps explain, ‘equity risks vary constantly’.”³⁴¹ Compass Lexecon’s claims that the stability of the results of the Country Risk Rating Model are “not desirable” but does not explain why, and instead makes a general statement that equity risk varies constantly. As noted by Ibbotson/Morningstar, “[t]he Country Risk Rating Model produces results that are relatively stable. CoE estimates should vary across time as conditions change, but they should not vary radically from one time period to the next unless country-specific conditions change dramatically from one period to the next.”³⁴² The robust nature of the model is a desirable characteristic.

³³⁸ See ¶ 205 above.

³³⁹ Second Compass Lexecon Report, ¶ 137(c).

³⁴⁰ **CLEX-47**, Haque, N., Kumar, M., Mark, N., and D. Mathieson. 1996. The Economic Content of Indicators of Developing Country Creditworthiness. IMF Working Paper, WP/96/9, p. 3.

³⁴¹ Second Compass Lexecon Report, ¶ 137(d). Compass Lexecon mentions Duff and Phelps, but does not cite a supporting document.

³⁴² **QE-0039**, Ibbotson/Morningstar, “2010 Valuation Yearbook, Market Results for Stocks, Bonds, Bills and Inflation 1926–2009,” (Morningstar, 2010), p. 120.



2. The Inclusion of an Additional Risk Premium Is Supported by Empirical Research

209. Our discount rate includes an additional risk premium that incorporates the risks of investing in a small, privately held company that are not adequately reflected in the CAPM. Compass Lexecon argues that the additional risk premium is not required.
210. It cites Brealey, Myers, and Allen, stating that “CAPM remains the most widely used methodology to estimate CoE.”³⁴³ However, it fails to acknowledge that the text of Brealey, Myers, and Allen more specifically states: “We present leading theories linking risk and return in a competitive economy, and we show how these theories can be used to estimate the returns required by investors in different stock-market investments. We start with the most widely used theory, the capital asset pricing model.”³⁴⁴ This is exactly the point that was made in the First Quadrant Report – the CAPM may be appropriate for calculating returns on publicly traded stocks, but it needs to be adjusted to incorporate the additional risks of investing in a small, privately held company in Panama. Even Compass Lexecon admits through its use of a CRP that the CAPM is inadequate for calculating the CoE for Omega Panama.³⁴⁵ Brealey, Myers, and Allen point out the limitations to the CAPM at the end of their chapter on the topic:

The capital asset pricing theory is the best-known model of risk and return. It is plausible and widely used but far from perfect. Actual returns are related to beta over the long run, but the relationship is not as strong as the CAPM predicts, and other factors seem to explain returns better since the mid-1960s. Stocks of small companies, and stocks with high book values relative to market prices, appear to have risks not captured by the CAPM.³⁴⁶

³⁴³ Second Compass Lexecon Report, ¶ 139.

³⁴⁴ **C-0441 [CLEX-35]**, Brealey, R., Myers, S. and Allen, F. 2014. Principles of Corporate Finance. 11th Ed. New York: McGraw-Hill, Ch. 8, p. 190 (emphasis added).

³⁴⁵ First Quadrant Report, ¶ 86.

³⁴⁶ **C-0441 [CLEX-35]**, Brealey, R., Myers, S. and Allen, F. 2014. Principles of Corporate Finance. 11th Ed. New York: McGraw-Hill, Ch. 8, p. 209.



211. Compass Lexecon also conflates the issues of the CRP and the additional risk premium by assuming that the premium is in reference to the relative size of the market in Panama. Country risk, as explained above, measures the additional return that is required by investors in order to invest in a company that is not in the U.S.³⁴⁷ This country level measure does not consider the individual characteristics of the company.
212. An adjustment to reflect the characteristics of a company like Omega Panama is necessary when calculating the CoE using CAPM, because the beta coefficient, which is at the heart of the CAPM, is primarily based on large, publicly-traded companies.³⁴⁸ This adjustment would be applicable to small privately held companies in the U.S. Furthermore, despite Compass Lexecon’s assertions, the inclusion of the CRP takes into account only the marginal increase in risk that is incurred by considering a company in Panama, as opposed to the U.S. and in no way includes the company-specific characteristics of Omega Panama that make it different from the large publicly-traded companies to which the CAPM applies.
213. Compass Lexecon also conflates the impact of illiquidity on value with that of a distressed sale. It states that “it is unquestionable that selling a share of a public company takes less time than divesting a private company, but it is improper to assume that Claimants should be compensated only at the value it could have realized when assuming a rushed sale.” Illiquidity is not tantamount to a “rushed sale.” As Compass Lexecon acknowledges, selling shares in a stock market allows for the efficient transaction of variable portions of ownership through a well-established and open market mechanism (e.g. the New York Stock Exchange). Anyone who has bought or sold a home knows that there are significant transactional costs in terms of fees, time, and effort to sell an illiquid asset – this is regardless of how quickly one needs to sell or buy.
214. Compass Lexecon argues that “when sales take place within the buyer and seller’s planning horizons, the price need not deviate from the fundamental value.”³⁴⁹ The liquidity of a small privately held company does not, in general, change from one owner

³⁴⁷ See ¶¶ 195-208 above.

³⁴⁸ First Quadrant Report, ¶ 124.

³⁴⁹ Second Compass Lexecon Report, ¶¶ 144-145.



to the next. The buyer of the company is purchasing an asset that will have the same inherent illiquidity when it tries to sell the company, as when it bought it. The discount resulting from the illiquidity is, in general, not dependent on buyers' and sellers' time horizons. It is first and foremost a condition of the marketability of the asset.

215. Compass Lexecon points to three opinions that argue against the need for an illiquidity discount. First, it quotes Mercer asking “how many investment bankers, when valuing a business for sale, take a ‘marketability discount’ from their concluded DCF or other valuation? Again, I have never seen such a discount taken or even discussed, in a transaction environment.”³⁵⁰ However, the author begins his article stating that it is his “third effort to address the “marketability” of controlling interests in business enterprises,” and that prior to the publication of Zukin’s text in 1990 the concept was “seldom, if ever, mentioned in the valuation literature. I am, however, aware that some appraisers have used a ‘marketability discount’ from controlling interest valuations from time to time.”³⁵¹ He then notes that the well-known author and practitioner, Shannon Pratt, believes that controlling shares in privately held companies are subject to at least some magnitude of an illiquidity discount.³⁵² As Mercer admits, practitioners do employ a discount for illiquidity and the literature has supported using it since at least 1990.
216. Compass Lexecon also cites an article by Phillips and Freeman which concludes that a dummy variable signaling whether a company was private or public was not statistically significant in explaining differences in enterprise value to revenue ratios.³⁵³ The authors state though that there is a large body of literature that disagrees with their position.³⁵⁴ The authors confirm that in their model firm size does explain differences

³⁵⁰ Second Compass Lexecon Report, ¶ 146(a), quoting **C-0458 [CLEX-52]**, Z. Christopher Mercer, *Should “Marketability Discounts” be Applied to Controlling Interests of Private Companies?*, BUSINESS VALUATION REVIEW, Vol. 13, No. 2, 1995, p. 57.

³⁵¹ **C-0458 [CLEX-52]**, Z. Christopher Mercer, *Should “Marketability Discounts” be Applied to Controlling Interests of Private Companies?*, BUSINESS VALUATION REVIEW, Vol. 13, No. 2, 1995, p. 55.

³⁵² **C-0458 [CLEX-52]**, Z. Christopher Mercer, *Should “Marketability Discounts” be Applied to Controlling Interests of Private Companies?*, BUSINESS VALUATION REVIEW, Vol. 13, No. 2, 1995, p. 55.

³⁵³ Second Compass Lexecon Report, ¶ 146(b); **C-0459 [CLEX-53]**, Phillips, J. y N. Freeman. 1995. *Do Privately-Held Controlling Interests Sell For Less?*, Business Valuation Review, Vol. 14, No. 3, pp. 102, 104-105.

³⁵⁴ **C-0459 [CLEX-53]**, Phillips, J. y N. Freeman. 1995. *Do Privately-Held Controlling Interests Sell For Less?*,



in the enterprise value to revenue ratios.³⁵⁵ Thus, even if one accepted the results from Compass Lexecon's source, it would still then be necessary to recognize that the value of a small company such as Omega Panama should be discounted relative to a similar company of larger size. Therefore, even in this case, the additional risk premium is justified.

217. Finally, Compass Lexecon quotes an article entitled "Should a Blockage Discount Apply? Perspectives of Both a Hypothetical Willing Buyer and a Hypothetical Willing Seller."³⁵⁶ Compass Lexecon states:

Becker and Gutzler (2000) state that an illiquidity premium should not be applied under the FMV principle. In particular, according to the authors: "[w]hen the valuation standard of an existing willing buyer and seller is invoked, the theoretical results suggest that no such discount (or premium) from the market price is required."³⁵⁷

218. The quote is taken out of context. The article is specifically addressing trading on stock exchanges in the narrowly defined case of large block transactions where an immediate sale is required. The question addressed by the authors is even more narrowly limited to comparing the case in which a willing seller with a large block offering is facing a market without a counterparty looking to acquire a similarly large block, versus the case in which such a buyer exists – hence the phrase in the title, "Perspectives of Both a Hypothetical Willing Buyer and Hypothetical Willing Seller."
219. Going beyond the fact that the article is irrelevant to the discussion of the applicability of an additional risk premium in calculating the CoE for Omega Panama, the authors even state in their article that publicly traded stocks are characterized by "[high] liquidity and relatively low transaction costs."³⁵⁸ In other words, stock markets are

Business Valuation Review, Vol. 14, No. 3, pp. 102.

³⁵⁵ **C-0459 [CLEX-53]**, Phillips, J. y N. Freeman. 1995. *Do Privately-Held Controlling Interests Sell For Less?*, Business Valuation Review, Vol. 14, No. 3, pp. 102, 106.

³⁵⁶ **C-0460 [CLEX-54]**, Brian Becker & Gary Gutzler, *Should a Blockage Discount Apply? Perspectives of Both a Hypothetical Willing Buyer and a Hypothetical Willing Seller*, BUSINESS VALUATION REVIEW, Vol. 19, No. 1, 2000.

³⁵⁷ Second Compass Lexecon Report, ¶ 146(c).

³⁵⁸ **C-0460 [CLEX-54]**, Brian Becker & Gary Gutzler, *Should a Blockage Discount Apply? Perspectives of Both a*



particularly efficient environments for transactions. It is exactly this characteristic that is missing from transactions of privately held companies, and which gives rise to the required additional risk premium in the calculation of the CoE for Omega Panama.

220. The simple fact remains that Omega Panama was an illiquid privately held company, and as such, the FMV must reflect the uncertainty that investors would price into any company in a similar situation, as the economic literature noted in the First Quadrant Report explains.³⁵⁹
221. In conclusion, Omega Panama is a small privately-held company. The inputs to the CAPM approach to calculating the CoE are based on relatively large, highly liquid, publicly-traded companies. Compass Lexecon's own sources confirm the impact of firm size on value and the literature and practice confirm the need to adjust CAPM to take into account the impact of the illiquidity of privately held companies. Considerations such as measurement limitations with the CAPM, illiquidity, diversification, and indirect costs lead to a higher required rate of return than the CAPM predicts.³⁶⁰ For these reasons the additional risk premium is required for the CoE calculation for Omega Panama.

3. Compass Lexecon Errs in its Interpretation of Duff & Phelps' Measurement of the Market Equity Risk Premium

222. As explained above there is relatively little disagreement with regard to the appropriate CoE for a large general contracting company in the U.S.³⁶¹ Despite this, Compass Lexecon asserts that we have misinterpreted the source that we use for the equity risk premium ("ERP") applied to the calculation of Omega Panama's CoE.³⁶² The First Quadrant Report explained that using the long-term arithmetic average of realized risk premiums as reported by Duff & Phelps (7%) is appropriate.³⁶³ Compass Lexecon

Hypothetical Willing Buyer and a Hypothetical Willing Seller, BUSINESS VALUATION REVIEW, Vol. 19, No. 1, 2000, p. 5.

³⁵⁹ First Quadrant Report, ¶ 125 and nn. 207-210.

³⁶⁰ First Quadrant Report, ¶¶ 124-128.

³⁶¹ See ¶ 81 above.

³⁶² Second Compass Lexecon Report, ¶¶ 22-24.

³⁶³ First Quadrant Report, ¶¶ 118-119.



argues that properly interpreting Duff & Phelps leads to an unlevered ERP of 5% - two percentage points lower than the upper estimate presented in the First Quadrant Report.³⁶⁴

223. However, Compass Lexecon's critique is flawed, because it ignores the fact that using that 5% ERP also requires using Duff & Phelps' assumption of a 4.0% risk-free rate. That is, according to the source the two rates are meant to be taken as a unit. Duff & Phelps clearly state:

For the conditional ERP as of December 31, 2014, we conclude 5.0% matched with a normalized yield on 20-year U.S. government bonds equal to 4.0%, implying a 9.0% base cost of equity capital in the United States.³⁶⁵

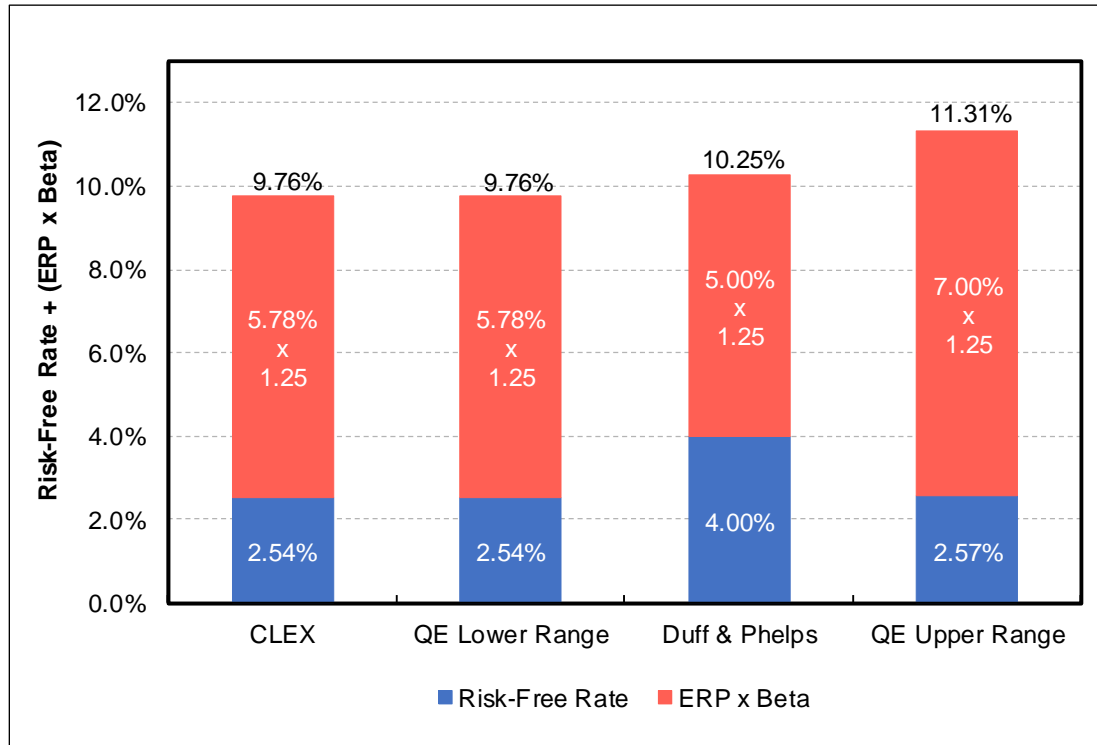
224. **Figure 18** below (which is the same as **Figure 7** above) compares the CoE for a large publicly-traded construction company in the U.S., as calculated by Compass Lexecon and Duff & Phelps, and the range of CoE's according to the First Quadrant Report. If Duff & Phelps' 5% ERP is to be used, it must be paired with a 4% risk-free rate. Compass Lexecon implies that because the Duff & Phelps ERP of 5% is less than Prof. Damodaran's measure of 5.78%, our results are invalidated. However, if Duff & Phelps ERP of 5% is used properly, the resulting total base CoE is 10.25%, squarely in the middle of the range of estimates provided in the First Quadrant Report. Thus, contrary to Compass Lexecon's assertions, our calculations are supported and consistent with Duff & Phelps analysis.

³⁶⁴ Second Compass Lexecon Report, ¶¶ 21-24.

³⁶⁵ **QE-0035**, Duff & Phelps, "2015 Valuation Handbook, Guide to Cost of Capital," (John Wiley & Sons, Inc., 2015), pp. 3-34.



Figure 18
CAPM CoE for Large General Contracting Company in the U.S.³⁶⁶



225. Compass Lexecon also states that the ERP of 7.00% from Duff & Phelps “is affected by data distortions due to WWII ... and, as an arithmetic average of historical data, it is not proper for the valuation of multi-period cash-flows like the ones we are dealing with as recommended by Prof. Damodaran.”³⁶⁷ However, Duff & Phelps state that the arithmetic average is the appropriate statistic for discounting expected cash flows:

If one is using historical risk premiums (sometimes called a “long-term historical ERP”) as an estimator of future risk premiums (an ex post approach), the geometric average of realized returns is the estimator one should use in compounding future returns to estimate future wealth. But if one is using historical risk premiums as the estimator of the ERP for use in cost of capital models intended for discounting

³⁶⁶ **QE-0053**, Supporting Figures, tab “3 - RiskF. Rate +ERPxBeta.”

³⁶⁷ Second Compass Lexecon Report, n. 14.



expected cash flows, the most widely used statistic is the arithmetic average of realized risk premiums.³⁶⁸

226. Furthermore, the Valuation Services Group at Morningstar explains that the historical ERP should not exclude WWII data.

Attempting to isolate and adjust one period with one of the many types of price controls, without considering the interrelated historical market dynamics as a whole, may undermine your valuation conclusion. Additionally, such adjustments only heighten other periods, which would create an imbalance and bias of historical data.³⁶⁹

227. The future will again include times of economic instability. As noted by Morningstar, the historical ERP captures “every acute domestic and international economic, political and monetary policy, as well as countless other events that have contributed toward the unpredictable ebbs and flows in the marketplace.”³⁷⁰ Thus, the use of the arithmetic average of returns, including the WWII period, is appropriate for deriving the ERP for the calculation of the CoE for Omega Panama.

4. Cost of Equity – Conclusions

228. There is little difference between us and Compass Lexecon regarding the risk-free rate, ERP, and beta, and thus we largely agree on the CoE calculation for a large, publicly-traded, general contracting company in the U.S. However, Compass Lexecon fails to fully account for the additional risk an investor would face making an equity investment in Panama, and ignores the shortcomings of the CAPM to reflect the risks of investing in small privately-held companies like Omega Panama. Properly taking into account

³⁶⁸ **QE-0035**, Duff & Phelps, “2015 Valuation Handbook, Guide to Cost of Capital,” (John Wiley & Sons, Inc., 2015), pp. 3-19.

³⁶⁹ **QE-0101**, Kevin Piccolo, “The Dangers of Normalization: An Interest Rate Perspective,” *The Value Examiner*, March/April 2012, p. 32.

³⁷⁰ **QE-0101**, Kevin Piccolo, “The Dangers of Normalization: An Interest Rate Perspective,” *The Value Examiner*, March/April 2012, p. 24.



these issues results in a CoE for Omega Panama as of the Valuation Date of between 18.38% and 23.29%.³⁷¹

³⁷¹ See ¶ 85 above and First Quadrant Report, Figure 14.



Quadrant Economics Report - List of Exhibits

	Description
<u>QE-0052</u>	Updated Valuation Model
<u>QE-0053</u>	Supporting Figures
<u>QE-0054</u>	Credenciales del Oferente “Estudio, Desarrollo de Planos, Construcción, Equipamiento y Financiamiento Diez Centros de Salud Inovadores MINSA CAPSI”
<u>QE-0055</u>	International Valuation Standards Council, “International Valuation Standards, Eighth Edition,” “International Valuation Guidance Note No. 9: Discounted Cash Flow Analysis for Market and Non-Market Based Valuations” (International Valuation Standards Council, 2007) (excerpt)
<u>QE-0056</u>	IBT Group LLC Consolidated Annual Accounts 2015 (excerpt)
<u>QE-0057</u>	PanamaCompra, Acta de Apertura 2011-0-03-0-08-AV-007202
<u>QE-0058</u>	IBT Group Company Information (excerpt)
<u>QE-0059</u>	Constructora San Jose S.A., Financial Statements 2015
<u>QE-0060</u>	PanamaCompra, Bid 2010-1-38-0-03-AV-000506, Acta de Apertura
<u>QE-0061</u>	Grupo San Jose History (excerpt)
<u>QE-0062</u>	Barge Solutions, “Barge Design Solutions Moves up ENR Top 500 List”, 6 May 2019
<u>QE-0063</u>	Engineering News-Record, About Us
<u>QE-0064</u>	San Jose Constructora, Company Information
<u>QE-0065</u>	FCC Construcción S.A., 2015 Financial Statements (excerpt)
<u>QE-0066</u>	FCC Construcción S.A. About



<u>QE-0067</u>	PanamaCompra, Acta de Apertura 2013-0-03-0-06-AV-012268
<u>QE-0068</u>	ENR 2019 Top 250 International Contractors 1-100
<u>QE-0069</u>	International Railway Journal, Panama City metro Line 2 inaugurated, 2019
<u>QE-0070</u>	PanamaCompra, Acta de Apertura 2016-0-12-0-02-LV-020565
<u>QE-0071</u>	Acciona S.A., Financial Statements 2014
<u>QE-0072</u>	Acciona History
<u>QE-0073</u>	Acciona, About Us
<u>QE-0074</u>	ENR 2015 Top 250 International Contractors 1-100
<u>QE-0075</u>	Acciona Pan-American Highway
<u>QE-0076</u>	PanamaCompra, Acta de Apertura 2019-0-12-0-08-LV-025921
<u>QE-0077</u>	SACYR Group 2014 Financial Statements (excerpt)
<u>QE-0078</u>	PanamaCompra, Acta de Apertura 2011-0-03-0-08-LV-005179
<u>QE-0079</u>	Constructora Meco, S.A., 2015 Financial Statements
<u>QE-0080</u>	Constructora Meco Description
<u>QE-0081</u>	Constructora Meco, Panama Canal
<u>QE-0082</u>	PanamaCompra, Acta de Apertura, 2018-0-09-0-04-LV-005781
<u>QE-0083</u>	Informe Comisión Evaluadora, Bid No. 2010-0-12-0-99-LV-000823



<u>QE-0084</u>	Sociedad Española de Montajes Industriales, Company Information
<u>QE-0085</u>	Informe Comisión Evaluadora, Bid No. 2011-1-10-0-04-LV-048339
<u>QE-0086</u>	Elecnor Bank Reference for the Policlínica Boquete Project, November 8, 2011
<u>QE-0087</u>	Formulario #10 for the Policlínica Boquete Project
<u>QE-0088</u>	Omega Engineering LLC, Financial Statements, February 28, 2010
<u>QE-0089</u>	How Surety Bonds Work in Case of Construction Contractor Default, 2015
<u>QE-0090</u>	Informe Comisión Evaluadora, Bid No. 2010-0-12-0-99-AV-003042
<u>QE-0091</u>	Informe Comisión Evaluadora, Bid No 2011-1-10-0-07-LV-041596
<u>QE-0092</u>	Government of Puerto Rico, Informe de Auditoría CP-10-26, 8 April 2010
<u>QE-0093</u>	CyberNews, “Coliseo presenta problemas de construcción,” 13 April 2010
<u>QE-0094</u>	PrimeraHORA, “Vicios de construcción en el Coliseo Jose Miguel Agrelot,” 13 April 2010
<u>QE-0095</u>	vLex, “Sentencia de Tribunal Apelativo of February 06, 2014, número de resolución KLCE201400128”
<u>QE-0096</u>	Government of Puerto Rico, Estado Libre Asociado de Puerto Rico Email to Omega, July 12, 2014
<u>QE-0097</u>	Centro de Periodismo Investigativo, Omega abandona proyecto Paseo Puerta de Tierra y entra compañía con pobres credenciales, 2016
<u>QE-0098</u>	Government of Puerto Rico, La Rama Judicial de Puerto Rico, Case Consultation
<u>QE-0099</u>	Aswath Damodaran, “Valuation,” July 4, 2004, pp. 1-11, 58-59 (excerpt)
<u>QE-0100</u>	Tidewater Investment SRL et al., v. The Bolivarian Republic of Venezuela, Case No. ARB/10/5, Award



<u>QE-0101</u>	Kevin Piccolo, “The Dangers of Normalization: An Interest Rate Perspective,” The Value Examiner, March/April 2012
<u>QE-0102</u>	Omega Engineering, LLC Financial Statements and Independent Auditors’ Report, February 28, 2011
<u>QE-0103</u>	Omega Engineering, LLC, Financial Statements and Independent Auditors’ Report, February 29, 2012 and February 28, 2011
<u>QE-0104</u>	Omega Engineering, LLC and its Subsidiary, Financial Statements and Independent Auditors’ Report, February 28, 2013 and February 29, 2012
<u>QE-0105</u>	Corporate Finance Institute, Percentage of Completion Method - Definition and Examples
<u>QE-0106</u>	Communication “560-DI-D15-2014” of MINSA
<u>QE-0107</u>	Aaron Dolgoff and Tiago Duarte Silva, “Prejudgment Interest and the Fallacy of the Invalid Round Trip,” World Arbitration & Mediation Review, Vol. 10, No. 3 (2016)
<u>QE-0108</u>	Sistem Mühendislik İnşaat Sanayi ve Ticaret A.Ş. v. Kyrgyz Republic, (ICSID Case No. ARB(AF)/06/1), Award dated 9 September 2009
<u>QE-0109</u>	Burlington Resources Inc. v. República del Ecuador (ICSID Case No ARB/08/5), Award
<u>QE-0110</u>	Cube Infrastructure Fund SICAV et al., v. Kingdom of Spain, Case No. ARB/15/20
<u>QE-0111</u>	Julie Carey, Christian Dippon, Will Taylor, “Measuring Economic Damages with Maximum Certainty”, Global Arbitration Review, 30 April 2019
<u>QE-0112</u>	Christina L. Beharry, “Prejudgment Interest Rates in International Investment Arbitration”, Journal of International Dispute Settlement, May 2016
<u>QE-0113</u>	Panamacompra, Bid Consortium Data
<u>QE-0114</u>	Results and Financial Ratios for Bid No. 2013-5-76-0-08-AV-004644
<u>QE-0115</u>	Results and Financial Ratios for Bid No. 2011-1-10-0-03-LV-041105
<u>QE-0116</u>	Results and Financial Ratios for Bid No. 2011-0-03-0-03-AV-006870



<u>QE-0117</u>	Results and Financial Ratios for Bid No. 2011-2-02-0-08-AV-001610
<u>QE-0118</u>	Results and Financial Ratios for Bid No. 2012-1-30-0-08-LV-002784
<u>QE-0119</u>	Results and Financial Ratios for Bid No. 2012-0-30-0-08-AV-004833
<u>QE-0120</u>	Results and Financial Ratios for Bid No. 2012-5-16-516-03-AV-000218
<u>QE-0121</u>	Biographical Information

