UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CAMBRIDGE ASSOCIATES, LLC
Petitioner

v.

CAPITAL DYNAMICS
Patent Owner

Case CBM2014-00079
Patent 7,698,196

PATENT OWNER'S RESPONSE

TABLE OF CONTENTS

I. INTRODUCTION 1

II. STATEMENT OF RELIEF REQUESTED 2

III. BACKGROUND 2

IV. THE '196 PATENT CLAIMS STATUTORY SUBJECT MATTER UNDER 35 U.S.C. § 101 6

A. Legal Framework 6

B. The Claims Of The '196 Patent Are Not Directed To An Abstract Idea 11

1. The Petitioner's Characterization Of The Claims Of The '196 Patent Is Contrary To The Supreme Court's Framework 11

2. The Claims Of The '196 Patent Are, At A Minimum, Patentable Business Methods Under Section 101 19

3. The Claims Of The '196 Patent Do Satisfy The Machine-Or-Transformation Test 21

C. The Claims Of The '196 Patent Do Not Preempt The Use Of An Abstract Idea 22

D. Even If The Claims Of The '196 Patent Were Directed To An Abstract Idea, They Are Patent Eligible Because They Contain Inventive Concepts 24

E. The Claimed Computer Is Integral To The Methods Of The '196 Patent 26

V. CONCLUSION 28

LIST OF EXHIBITS

Exhibit No.	Description
2001	Jesse Reyes, *PME-A History*, http://www.j-curve.com/2013/11/04/pme-a-history/.
2002	Cambridge Associates' Identification of Claim Terms, March 24, 2014, served in *Capital Dynamics AG et al. v. Cambridge Associates, LLC*, Case No. 13-cv-07766-KBF (S.D.N.Y.).
2003	Declaration Of Edmond R. Bannon dated June 12, 2014.
2004	Declaration of Jesse Reyes dated November 25, 2014.
2005	Press Release Announcing "New Method for Comparing Performance of Private Investments With Public Investments Introduced by Cambridge Associates" dated October 29, 2013 (Robinson Dep. Ex. 4).
2006	Deposition Transcript of David T. Robinson, Ph.D. dated October 21, 2014.
2007	Article titled "Cyclicality, Performance Measurement, and Cash Flow Liquidity in Private Equity" by David T. Robinson and Berk A. Sensoy dated September 20, 2013 (Robinson Dep. Ex. 1).
2008	Cashflow Data for Fund XYZ (Robinson Dep. Ex. 2).
2009	Handwritten Notes by David T. Robinson (Robinson Dep. Ex. 3).
2010	Cambridge Associates LLC U.S. Private Equity Index and Selected Benchmark Statistics dated June 30, 2013 (Robinson Dep. Ex. 5).
2011	Handwritten Notes by David T. Robinson (Robinson Dep. Ex. 6).
2012	"Private Equity Performance: Returns, Persistence & Capital Flows" by Kaplan & Schoar (2005).
2013	Excerpts from The Handbook of Investment Performance: A User's Guide, by Spaulding (2011).
2014	"Benchmarking Private Equity, The Direct Alpha Method," by Gredil, Griffiths and Stucke (2014).
2015	Supplemental Declaration of Edmond R. Bannon dated November 25, 2014.

TABLE OF AUTHORITIES

Page(s)

Cases

Alice Corp. v. CLS Bank Int'l.,
573 U.S. __, 134 S. Ct. 2347 (2014).....*passim*

Bilski v. Kappos,
561 U.S. 609, 130 S.Ct. 3218 (2010).....*passim*

Diamond v. Chakrabarty,
447 U.S. 303 (1980).....7

Diamond v. Diehr,
450 U.S. 175 (1981).....*passim*

Mayo Collaborative Services v. Prometheus Lab., Inc.,
566 U.S. __, 132 S.Ct. 1289 (2012).....*passim*

PNC Bank et al v. Secure Axcess, LLC,
CBM 2014-00100 (P.T.A.B. September 9, 2014).....21

SiRF Tech., Inc. v. Int'l Trade Comm'n,
601 F.3d 1319 (Fed. Cir. 2010).....26

U.S. Bancorp v. Solutran, Inc.,
CBM 2014-00076 (P.T.A.B. Aug. 7, 2014).....15

Statutes

35 U.S.C. § 101.....*passim*

35 U.S.C. § 103.....*passim*

35 U.S.C. §273(b)(1).....20

Other Authorities

37 C.F.R. § 42.220(a).....1

Pursuant to 37 C.F.R. § 42.220(a) and the Decision on Institution of Covered Business Method Patent Review, entered September 8, 2014 (Paper No. 9) ("Decision"), patent owner, Capital Dynamics ("Patent Owner"), hereby submits this Response to the Corrected Petition for Covered Business Method Review of U.S. Patent No. 7,698,196 ("the Petition") filed by Cambridge Associates, LLC ("Petitioner" or "Cambridge") on March 12, 2014.

I. INTRODUCTION

United States Patent No. 7,698,196 ("the '196 Patent"), entitled "Method And System For Modeling And Benchmarking Private Equity And Applications Of Same," contains 17 claims, of which claims 1, 12 and 17 are independent. The Petition challenges the validity of all seventeen claims. The Petition argues that none of the claims are patentable subject matter under 35 U.S.C. § 101. The Petition further relied on three references in proposing that all of the claims are unpatentable under 35 U.S.C. § 103. In its Decision, the Patent Trial and Appeal Board ("the Board"), rejected Petitioner's arguments under 35 U.S.C. § 103, but instituted review under 35 U.S.C. § 101.

Patent Owner respectfully requests that the Board reject Petitioner's challenges to claims 1 through 17 under § 101 because the claims (i) are directed to specific, concrete and tangible patent-eligible applications of concepts under *Alice*

Corp. v. CLS Bank Int'l., 573 U.S. __, 134 S. Ct. 2347 (2014), and are not directed to an abstract idea; (ii) do not preempt the alleged abstract idea identified by the Board of "benchmarking the performance of private equity assets relative to a public index" (Decision at 17); (iii) are patent-eligible because they contain inventive concepts, and (iv) are not directed to performing known processes on a computer, but rather, perform new and specific programmed functions that transform and improve a computer modeled system for analyzing the performance of private equity against a public index.

II. STATEMENT OF RELIEF REQUESTED

Patent Owner respectfully requests that the Board issue judgment that claims 1-17 of the '196 Patent are patent-eligible under 35 U.S.C. § 101.

III. BACKGROUND

The '196 Patent generally discloses computer implemented methods and systems of modeling and benchmarking the performance of assets that have an irregular cash flow, such as private equity assets, against a public market index. *See generally*, Exhibit 1001, '196 Patent at Col. 1:15-18. The Patent Owner's invention, which was developed by Thomas Kubr and Christophe Rouvinez beginning in 2002, is commercially called Public Market Equivalent Plus ("PME+"). *See* Declaration of Jesse Reyes (Exhibit 2004) at ¶¶ 62-65.

As explained by the inventors of the '196 Patent, "[t]here is a need to benchmark the performance of private equities and other assets and liabilities that have irregular cash flows and also to determine how such an asset or liability would perform under various market scenarios. . . ." Exhibit 1001, '196 Patent at Col. 1:22-25. *See also*, Reyes Decl., (Ex. 2004) at ¶ 51. It is important for investors to know whether the decision to allocate capital to private investments, thereby taking on the illiquidity that comes with such investments, was a good one. The basic problem is that "a direct comparison between a private equity and other types of asset classes is difficult . . . because private equity performance is best measured in terms of internal rate of return ("IRR") . . . whereas traditional asset classes, such as exchange rated securities, are characterized by time-weighted returns ("TWR")." *Id*. at Col. 1:27-43; *see also*, Reyes Decl., (Ex. 2004) at ¶¶ 51-53.

IRR uses present-value evaluations. "[T]he value of the IRR is effected by the amount and timing of the irregular cash flow." *Id*. at Col. 1:49-51. In contrast, TWR "provides a measure of the compounded rate of growth of a portfolio's market value during the evaluation period." *Id*. at Col. 1:44-46. "TWR does not yield useful results for situations with multiple and varying cash in - and outflows." *Id*. at Col. 1:54-55.

One of the earliest solutions to the problem of comparing public and private equity data was developed by Austin M. Long, III and Craig J. Nickels and is known as Public Market Equivalent ("PME"). *See generally*, *Id*. at Col. 1:66 to Col. 2:44. However, PME had several drawbacks which included the fact that it did not always accurately reflect real-world results. *See* Reyes Decl., (Ex. 2004) at ¶¶ 59-61. These drawbacks are explained in the Background section of the '196 Patent. *See* Ex. 1001 at Col. 2:45 – Col. 3:40. Notably, the primary reference relied on in the Cambridge Petition, United States Patent No. 7,421,407 issued to Austin Long and Craig Nickels ("the Long '407 Patent"), used and disclosed PME. *See* Exhibit 1003. This reference was discussed at length and cited as Published U.S. Patent Application 2003/0028463A1 in the Background section of the '196 Patent. Exhibit 1001 at Col. 4:31 – Col. 5:7. The Board rejected *all* of Cambridge's obviousness arguments under 35 U.S.C. § 103 based on the Long '407 Patent. *See* Decision at pages 21-27.

Jesse Reyes, one of the leading experts in private equity and venture capital research, published "PME-A History" on J-Curve Advisors' website. *See* Bannon Decl. and Exhibit 2001.[1] Mr. Reyes also describes in his Declaration the problems

[1] The Declaration of Edmond R. Bannon ("Bannon Decl.") was filed on June 12, 2014 as Exhibit 2003.

and the early efforts by Austin Long and others to compare private equity returns to public market returns. *See* Exhibit 2004 at ¶¶ 54-61. Mr. Reyes also discusses the changes in the market which exposed some of the drawbacks of using PME, including the "negative NAV problem," which caused the Net Asset Value ("NAV") of the public market equivalent investment to go negative leading "to unstable and unintuitive results." *See* Ex. 2001at 3; Reyes Decl. (Ex. 2004) at ¶¶ 59-61; *see also* Exhibit 1001, '196 Patent at Col. 3:16-40. These drawbacks with PME led Mr. Kubr and Mr. Rouvinez to develop a new system and model of benchmarking that would resolve the negative NAV problem. Reyes Decl. (Ex. 2004) at ¶¶ 62-65. Their solution was disclosed and claimed in the '196 Patent. Ex. 1001. Notably, in his history of PME, which was published long before the Petition in this proceeding was filed, Mr. Reyes had referred to Mr. Kubr and Mr. Rouvinez as the "rocket scientists" from Zug based on their contributions to solving the problems discussed in the '196 Patent. *See* Exhibit 2001 at 4. Zug, Switzerland is the world-wide corporate headquarters of Capital Dynamics.

Notably, Mr. Reyes also includes a discussion of the Petitioner's benchmarking technology in his history of PME. *Id*. at 5-6. The Petitioner, Cambridge, publicly introduced its "new" benchmarking technology in 2013 and called it Modified Public Market Equivalent ("mPME"). *See* Ex. 2001 at 5; Ex. 2005. As Mr. Reyes reported at that time, based on "discussions with the principal

researchers at Cambridge Associates," mPME provides "another way of dealing with the negative NAV/mathematical dominance issue." Ex. 2001 at 5. Cambridge solves this problem by combining "attributes of the various traditional methods plus adds attributes of the conceptual scaling method that PME+ uses." *Id*. at 5-6. It is ironic that, despite the fact that Cambridge, in its Petition, now contends that the '196 Patent does not claim patentable subject matter, Mr. Reyes states, based on discussions with Cambridge, that "[l]ike Capital Dynamics, Cambridge Associates has a patent pending. . . ." *Id*. (Emphasis added). *See also*, Exhibit 2005, where Cambridge announces that it has a "Patent pending" on its new method for comparing performance of private investments with public investments called Modified Public Market Equivalent (mPME). Clearly, Cambridge would have never even considered making its patent eligibility (Section 101) arguments had it not been sued for patent infringement.

IV. THE '196 PATENT CLAIMS STATUTORY SUBJECT MATTER UNDER 35 U.S.C. § 101

A. Legal Framework

The United States Supreme Court has recognized that the test for patent eligibility under Section 101 is not amenable to bright-line categorical rules. *Bilski v. Kappos*, 561 U.S. 609, 130 S.Ct. 3218, 3229-30 (2010). The Statute specifically states that "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement

thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." 35 U.S.C. § 101.

The Supreme Court notes that "[i]n choosing such expansive terms . . . modified by the comprehensive 'any,' Congress plainly contemplated that the patent laws would be given wide scope." *Bilski, supra*, 561 U.S. at 601, 130 S.Ct. at 3225 (quoting *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980)). The judicially created exceptions to the broad categories of patent-eligible subject matter (laws of nature, natural phenomena and abstract ideas) are limited. *Alice Corp., supra,* 134 S. Ct. at 2354; *Mayo Collaborative Services v. Prometheus Lab., Inc.,* 566 U.S. __, 132 S.Ct. 1289, 1293 (2012).

The Supreme Court describes the exclusion of these exceptions "as one of preemption." *Alice Corp., supra,* 134 S. Ct. at 2354. For example, if the Court had upheld the patent in *Bilski,* it "would preempt use of this approach in all fields, and would effectively grant a monopoly over an abstract idea." *Id., Bilski*, *supra*, at 611-612. That is clearly not the case in connection with the '196 Patent in this proceeding.

The *Alice* Court further recognized the need to "tread carefully in construing this exclusionary principle lest it swallow all of patent law." *Alice Corp.*, *supra*, 134 S. Ct. at 2354. Citing to *Mayo Collaborative Services v. Prometheus, supra,*

132 S. Ct. at 1289, 1293, the *Alice* Court observed that "[a]t some level, 'all inventions . . . embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas." *Alice Corp.*, *supra*, 134 S. Ct. at 2354. The Court further affirmatively stated that "an invention is not rendered ineligible for patent simply because it involves an abstract idea." *Id*. Thus, the Court concluded that "in applying the § 101 exception, we must distinguish between patents that claim the 'buildin[g] block[s]' of human ingenuity and those that integrate the building blocks into something more . . . thereby 'transform[ing]' them into a patent-eligible invention." *Alice Corp.*, *supra*, 134 S. Ct. at 2354 (citation to *Mayo* omitted). The latter pose no "risk of pre-emption, and therefore remain eligible for the monopoly granted under our patent laws." *Id*. at 2355.

While an abstract idea by itself may not be patentable, a practical application of an abstract idea may be deserving of a patent. *Id*. at 1293-94; *Bilski, supra,* 561 U.S. at 611, 130 S.Ct. at 3230; *Diamond v. Diehr*, 450 U.S. 175, 187 (1981). The patent claim must incorporate enough meaningful limitations to ensure that it claims more than just an abstract idea and is not merely a "drafting effort designed to monopolize the [abstract idea] itself." *See Mayo*, 132 S.Ct. 1289 at 1297.

Therefore, the relevant inquiry is whether a claim, **as a whole**,[2] includes meaningful limitations restricting it to an application, rather than merely an abstract idea. *See Diamond v. Diehr supra*, 450 U.S. at 188-89.

When the Supreme Court accepted cert. in *Alice Corp. v. CLS Bank Int'l,* the question was whether computer-implemented inventions are directed to patent-eligible subject matter within the meaning of 35 U.S.C. § 101. In the resulting decision, the Supreme Court declined to find computer-implemented inventions unpantentable *per se*, and instead adopted a two-pronged framework first set forth in *Mayo Collaborative Servs. v. Prometheus supra,* 132 S. Ct. 1289, for determining patentability questions under § 101. Patent Owner submits, as discussed herein, that the claims of the '196 Patent satisfy both of these prongs.

When considering § 101 eligibility, one must "first determine whether the claims at issue are directed to a patent-ineligible concept." *Alice Corp.*, *supra*, 134 S. Ct. at 2355. If the claims are directed to a "patent-ineligible concept," one must then determine "whether [the claim] contains an 'inventive concept' sufficient to

[2] In much of its Petition, Cambridge refuses to look at the claims of the '196 Patent "as a whole"; instead, Petitioner repeatedly tries to reduce the claims to one or two elements in its discussion.

'transform' the claimed abstract idea into a patent-eligible application." *Id*. at 2357 (citing *Mayo Collaborative Servs.*, 132 S. Ct. at 1294, 1298).

The claims of the '196 Patent are patentable under Step 1 because they are not, considered as a whole, directed to an abstract idea. Even if the Board finds that claims 1-17 are directed to an abstract idea, they are still patentable under Step 2 because the claims of the '196 Patent cover inventive concepts and clearly do not preempt the alleged abstract idea identified by the Board: benchmarking the performance of private equity assets relative to a public index. *See* Decision at 17.

As discussed in the Background section above, the '196 Patent is an improvement patent which provides an alternative to the traditional PME methods disclosed by, among others, Austin Long and Craig Nickels in the '407 Patent. See Ex. 1001, '196 Patent, Col. 4:31 – Col. 5:7. Indeed, this very Board found in its Decision that Petitioner had not satisfied its burden of demonstrating that it was more likely than not that the claims of the '196 Patent were obvious in view of the Long '407 Patent. Decision at 21-27. Furthermore, as discussed in Mr. Reyes' Declaration, submitted concurrently herewith, there are many other alternative benchmarking methods available to the public, including the Kaplan-Schoar PME method, which are currently being used in the industry and do not use the methods claimed in the '196 Patent. *See* Declaration of Jesse Reyes (Exhibit 2004) at ¶¶ 54-61; 66-76 and Ex. 2001 at 2-5.

B. The Claims Of The '196 Patent Are Not Directed To An Abstract Idea

1. The Petitioner's Characterization Of The Claims Of The '196 Patent Is Contrary To The Supreme Court's Framework

The Petitioner incorrectly characterizes the claims of the '196 patent as being directed towards "an abstract idea – a mathematical computation" in arguing that the claims are not patent eligible. (*See* Petition at 18). Petitioner further argues that the claimed invention "can be performed in the mind." (See Petition at 26). Cambridge is wrong on both counts.

Petitioner's characterization ignores the specific methods claimed by the '196 Patent and is contrary to the Supreme Court's instruction to consider patent claims as a whole. *See Diamond v. Diehr*, 450 U.S. 175, 188-89 (1981) (In considering patentability under § 101, the "claims must be considered *as a whole*.") (emphasis added); *see also Alice Corp*., *supra*, 134 S. Ct. at 2355 n. 3. ("[T]he approach we made explicit in *Mayo* considers all claim elements, both individually and in combination . . ."). The Supreme Court explicitly warned that "[i]t is inappropriate to dissect the claims into old and new elements and then to ignore the presence of the old elements in the analysis." *Id*. And it is particularly true for process claims where "a new combination of steps in a process may be

patentable even though all the constituents of the combination were well known and in common use before the combination was made." *Id*.

Here, Petitioner effectively ignores the claim language of the '196 Patent in its arguments under Section 101 while simply giving certain terms lip service. For example, Petitioner argues that the '196 Patent claims a mathematical computation and a mental process. (*See* Petition at 18 and 26). However, as discussed more fully below, the claims are directed towards specific methods for modeling, transforming and analyzing data from a financial product in order to measure the performance of the financial product relative to a public index.

Each of the claims of the '196 Patent recite a method for benchmarking or a method for analyzing the performance of a financial product or asset having an irregular cash flow. See Ex. 1001, Col. 20:57 – Col. 24:5. As the Board correctly observed in its Section 103 analysis, in the system of the '196 Patent, the scaling function is applied to a portion of the cash flow of the financial product or asset, such as disbursements. *See* Decision at 23. "[T]his claim limitation is found in each of the independent claims as 'modified by the scaling function' in claim 1, 'the other of the first and second cash flows corresponding to an asymmetrically scaled version of the cash flow of the financial product in accordance with the scaling function' in claim 12, and 'the second cash flow corresponding to the first cash flow modified by the scaling function' in claim 17." *Id*.

Furthermore, in claim 1, the scaling function is used to create "a second cash flow" which is neither the actual real-life cash flow data nor the actual index data, but rather, is a synthetic cash flow used in the computer model to analyze the real-life data. Ex. 1001, Col. 21:9-10. Similar to claim 1, independent claim 12 uses an "asymmetrically scaled version of the cash flow of the financial product" in the model. Ex. 1001, Col. 22:7. Claim 17 uses "the scaled cash flow data as input to a financial analysis system" and creates a computer simulation of the "behavior of the at least one specific asset during the second time period." Ex. 1001, Col. 22:66 – Col. 23:3. Claim 17 further claims a computer system that generates "a plurality of simulated cash flows for a plurality of selected sets of assets and a plurality of second time periods and analyzing the simulated cash flows to determine at least one of: a future income stream or a probability that a specified asset will be able to meet its determined expected future payment obligations." *Id*. at Col. 23:5 – Col. 24:5 (emphasis added).

These claimed methods are also, by definition, statutory subject matter under Section 101.[3] See *Bilski, supra*, 561 U.S. at 606-607. As discussed by Mr. Reyes

[3]Contrary to Cambridge's arguments in its Petition, the '196 Patent claims patent-eligible benchmarking methods, systems and models, not simply a mathematical formula or algorithm.

in his Declaration, there are many different ways of benchmarking and analyzing financial products having irregular cash flows. *See* Ex. 2004, ¶¶ 59-76. The fact that one of those ways – the PME method in the Long '407 Patent – was disclosed and discussed at length in the '196 Patent, clearly demonstrates that there are meaningful limitations in the claims which restrict the methods of the '196 Patent to an **application**, rather than attempting to completely preempt the alleged abstract idea identified by the Board. Moreover, the Board, in its Decision instituting this review, effectively found that the claims of the '196 Patent contained patentable distinctions over the Long '407 Patent (which again - discloses PME as admitted by Petitioner).

Additional limitations in the claims also support patentability. For example, with regard to Claim 1, the computer processors are further required to receive cash flow data for the financial product with an irregular cash flow as well as values for the public index over a period of time. *Id*., Col. 20:57-67. The computer processors then must determine "a performance characteristic of the financial product" and also the "value of a scaling function . . . ." *Id*., Col. 21:1-10. Claim 1 further requires that a performance characteristic of a second cash flow valued relative to the index during the period of time be determined. *Id*. This performance characteristic has a specified relationship to the performance characteristic of the original financial product and the second cash flow

corresponds to the first cash flow modified by the scaling function. *Id*. In addition, the determined value of the scaling function provides a measure of the performance of the financial product relative to the index. *Id*., Col. 21:11-13.

As can be seen, Claim 1 as a whole provides many meaningful limitations that relate to the application of the benchmarking computer system and methods discussed in the '196 Patent. Many of these same additional limitations also appear in independent Claims 12 and 17 as well as the dependent claims based, at a minimum, through their dependence on the independent claims. All of the claims of the '196 Patent contain patentable subject matter as contemplated by Section 101.

The Petitioner's selective mischaracterization of the '196 Patent invention impermissibly dissects the method claims for the purposes of the § 101 analysis and should be ignored by this Board. Petitioner's approach is similar to the kind of dissection rejected by the Board in *U.S. Bancorp v. Solutran, Inc.*, CBM 2014-00076 (P.T.A.B. Aug. 7, 2014) (Paper No. 16, pp. 9-15). In *Solutran*, the petitioner challenged the patentability of a method for processing paper checks and check transactions, including the steps of scanning checks and crediting merchant accounts. *Id*. at 3. In particular, the Petitioner argued that "shifting the step of scanning checks with a digital scanner from a merchant to another entity" and requiring scanning of checks "after the merchant's account is credited" were

abstract unpatentable ideas. *Id*. at 12. The Board, however, found the Petitioner's arguments unpersuasive "because they [were] directed to each method step individually without accounting sufficiently for the claims as a whole." *Id*. at 13.

Likewise, Petitioners here admittedly broadly mischaracterize the invention as unpatentable because claims 12 and 17 "at their core recite an unpatentable mathematical algorithm." Petition at 22. This type of analysis selectively focuses on aspects of the '196 Patent claims without accounting for the claims as a whole. Indeed, merely because the challenged claims comprise some calculations to transform the data or to create the computer model in connection with analyzing the data does not render the claims unpatentable. *See Alice Corp., supra,* 134 S. Ct. at 2354 ("[A]n invention is not rendered ineligible for patent simply because it involves an abstract concept."); *see also, Dier, supra*, 450 U.S. at 187 ("an application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.").

Petitioner also argues that the claimed invention "can be performed in the mind" based on the Declaration of Cambridge's expert, Dr. Robinson. (See Petition at 26). However, when given an opportunity at his deposition to prove this statement, Dr. Robinson failed miserably. Dr. Robinson spent almost an hour trying to figure out how to generate the benchmark claimed in the '196 Patent but never got close to succeeding. *See* Ex 2006 at pages 59, line 18 – 71, line 15.

After more than 15 minutes, Dr. Robinson began trying to find a way out of his predicament. *Id*., page 62, lines 4-9. More than 20 minutes later, at the point at which he was ready to give up, Dr. Robinson started to make excuses. *Id*., page 62, line 11 – page 66, line 2. For example, he complained that there were cash flows that occurred after the final NAV, yet when told to disregard those cash flows, he still was not able to come close to generating the PME+ benchmark. *Id.* at page 62, line 11 – page 64, line 18. Finally, Dr. Robinson had to admit that he could not calculate any IRRs as required; he instead simply provided an approximation and did not complete the method required by the '196 Patent. *Id*., pages 70, line 24 – 71, line 11. *See, also*, Reyes Decl. (Ex. 2004), ¶¶ 94-96.

In addition, as explained by Mr. Reyes in his Declaration, Dr. Robinson made numerous significant errors at his deposition by using approximations. *See* Reyes Decl. (Ex. 2004) at ¶¶ 87-96. For example, Dr. Robinson was presented with a problem similar to the one that he described in his Declaration at ¶ 25. *See* Ex. 1006, ¶ 25; Reyes Decl. (Ex. 2004), ¶ 87; Ex. 2006, page 109, line 16 to page 114, line 13; Ex. 2011. When Dr. Robinson was asked to determine the rate of return using just pencil and paper, he was forced to simplify the problem by using approximations. Reyes Decl. (Ex. 2004), ¶¶ 87-88. Dr. Robinson also demonstrated that human error is a significant problem by failing to use the correct number of days. *Id*., ¶ 89. Ultimately, his errors resulted in his "estimate" being

more than 2.6% off. *Id*. For a typical $1 billion private equity fund, Dr. Robinson's errors would result in a difference of $94 million over the life of the fund. *Id*. Dr. Robinson's cavalier approach resulted in significant error and also failed to satisfy industry standards. *Id*., ¶¶ 90-93.[4]

In summary, Petitioners' frequent paraphrasing of the claims of the '196 Patent and failure to consider these claims as a whole is improper. *See Diehr, supra*, 450 U.S. at 193 n.15 ("The fact that one or more of the steps in respondents' process may not, in isolation, be novel or independently eligible for patent protection is irrelevant to the question of whether the claims as a whole recite subject matter eligible for patent protection under § 101.") Furthermore, Petitioner's expert himself demonstrated that the computer benchmarking system and claimed computer models cannot (and should not) be attempted without a properly programmed computer system.

[4] As described above, Dr. Robinson's credibility is questionable. At his deposition, he even testified that he drafted every paragraph of his Declaration, including the legal sections. *See* Ex. 2006, pages 72, line 21 – 74, line 13. Yet when asked what the regulations and statutes said that he allegedly wrote about, he did not know. *Id*.

2. The Claims Of The '196 Patent Are, At A Minimum, Patentable Business Methods Under Section 101

The Board's analysis of the claims of the '196 Patent would effectively eviscerate the first prong of the *Mayo* framework because every business method patent claim could be considered an abstract idea.

The Board essentially recites the ultimate function of the challenged claims in its Decision to institute this proceeding. For example, the Board found that on the record before it, "the independent claims amount to 'a mere instruction to 'implement[t]' an abstract idea 'on . . . a computer,'" and "using at least one of said computer processors" in the independent claims "cannot import patent eligibility" to the claimed abstract idea." (See Decision at 17). These characterizations are merely recitations of the function of some of the patent steps. If the Board's analysis of the core idea of the '196 Patent in its Decision were correct, all business methods would fail the first prong of the Supreme Court's *Mayo* test as abstract ideas because all patented methods could be described as a function of their method steps.

The Supreme Court, however, has recognized the risk of overreaching by Section 101 and warned that: "[a]t some level, all inventions . . . embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas." *See Alice Corp.*, *supra*, 134 S. Ct. at 2354 (citing *Mayo supra*, 132 S. Ct. at 1289).

Indeed, if one were to reduce all inventions to an abstract idea, the exclusionary principle could "swallow all of patent law." *Id*.

The majority in *Alice* refused to strike down business methods as patentable subject matter under Section 101 despite requests to do so. Therefore, the analysis in *Bilski* still applies. Section 101 "precludes the broad contention that the term 'process' categorically excludes business methods." *Bilski, supra*, 561 U.S. at 606. Similarly, based on Congress passing 35 U.S.C. §273(b)(1), which authorizes certain defenses to claims of infringement of a business method patent, "[t]he argument that business methods are categorically outside of § 101's scope is further undermined by the fact that federal law explicitly contemplates the existence of at least some business method patents." *Id*. at 607. Since business methods are patentable, and it is beyond dispute on this record that the inventions claimed in the '196 patent are both novel under Section 102 and non-obvious under Section 103, what remains of Cambridge's Petition should be rejected.

Accordingly, Patent Owner respectfully submits that the Board should reconsider its characterization of the independent claims of the '196 Patent as directed to "abstract ideas" based upon their effective functions and find that the claims are directed to a patentable business method under Section 101.

3. The Claims Of The '196 Patent Do Satisfy The Machine-Or-Transformation Test

In Section IV. E. *infra*, Patent Owner discusses why Capital Dynamics believes the claimed computer technology is integral to and imposes meaningful limitations on the claims. Regardless, the claims of the '196 Patent still satisfy the transformation prong of the test. As discussed in Section IV. B. 1, *supra*, in claim 1, the real-life cash flows of the financial product or asset are transformed or "modified by the scaling function" to create "a second cash flow which is neither the actual real-life cash flow data nor the actual index data." Similar limitations are contained in independent claims 12 and 17.

The Board in *PNC Bank et al v. Secure Axcess, LLC*, CBM 2014-00100 (P.T.A.B. September 9, 2014) (Paper No. 10, pages 23-24) faced a virtually identical factual situation. The Board in *PNC Bank* held "[w]e are not persuaded that 'transferring … received data by inserting an authenticity key to create formatted data' fails to satisfy the transformation prong. The claim language recites 'transforming' one thing ('received data') 'to create' something else ('formatted data') and further recites a particular manner of transforming ('by inserting an authenticity key')." *Id*. In the same way, in the claims of the '196 Patent, received data is transformed or modified to create a second cash flow by use of the scaling function. The Board's holding in this case should be no different.

Petitioners have failed to carry their burden of proving by a preponderance of the evidence that the claims of the '196 Patent are unpatentable under the first prong of the *Alice Corp.* analysis and accordingly the Board should find claims 1-17 patentable under § 101.

C. The Claims Of The '196 Patent Do Not Preempt The Use Of An Abstract Idea

As discussed in the Legal Framework section above, the Supreme Court has described the exclusion of abstract ideas from patentability "as one of preemption." *Alice Corp.*, *supra*, 134 S. Ct. at 2354. In *Bilski*, the Court's concern was that allowing the patent would "preempt" use of the abstract idea in all fields and effectively grant a monopoly on the abstract idea. *Bilski*, *supra*, at 611-612. "The 'abstract ideas' category embodies 'the longstanding rule that 'an idea of itself is not patentable.'" *Alice Corp*., *supra*, 134 S. Ct. at 2355 (quoting *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)). One "must distinguish between patents that claim the building blocks of human ingenuity and those that integrate the building blocks into something more." *Id*. at 6. "The former would risk disproportionately tying up the use of the underlying ideas, and are therefore ineligible for patent protection. The latter pose no comparable risk of pre-emption, and therefore remain eligible" for protection. *Id*.

Unlike *Bilski*, the claims of the '196 Patent do not impermissibly preempt the use of an abstract idea. In *Bilski*, the claims were directed to the "fundamental

economic practice" of hedging risk. 130 S. Ct. at 3231. The Supreme Court found that "[a]llowing petitioners to patent risk hedging would pre-empt use of this approach in all fields, and would effectively grant a monopoly over an abstract idea." *Id.*

Here, the Board found that the alleged "abstract idea" is either "benchmarking the performance of private equity assets relative to a public index" or "benchmarking a financial product with irregular cashflow." Decision at 17. Either way, there are numerous examples in the record of different PME methods that do not use the scaling method covered by the '196 Patent. Upholding the claims of the '196 Patent would simply protect the specific method developed by and used by Patent Owner Capital Dynamics.

In his Declaration, Mr. Reyes discusses these prior art implementations of PME that perform the alleged abstract idea identified by the Board. Ex. 2004 at ¶¶ 54-61. Mr. Reyes also discusses the Kaplan-Schoar PME method and the Direct Alpha method, neither of which use the scaling function claimed in the '196 Patent. Ex. 2004 at ¶¶ 66-75. Clearly, the claims of the '196 Patent do not claim a "monopoly" over "benchmarking the performance of private equity assets relative to a public index."

Furthermore, even Petitioner's expert, Dr. Robinson testified that there are numerous methods of benchmarking the performance of private equity relative to a

public index. Ex. 2006 at pages 29, line 9 – 35, line 8. Dr. Robinson further testified that one of these benchmarking methods that he was very familiar with, the Kaplan-Schoar method, did not use a scaling factor as claimed in the '196 Patent. *Id.* at pages 31, line 12 – 32, line 8.

Thus, rather than patenting a fundamental pre-existing practice, Capital Dynamics improved on and provided a solution to problems (*e.g.*, the negative NAV problem) that faced the industry. *See* Reyes Decl. (Ex. 2004), ¶¶ 62-65. As mentioned in the Background section above, the inventors of the '196 Patent were lauded as the "rocket scientists" from Zug for their solution to the problems with traditional PME. The claims of the '196 Patent do not preempt the use of an abstract idea and accordingly, Petitioner's Section 101 challenge fails under the Supreme Court's framework.

D. Even If The Claims Of The '196 Patent Were Directed To An Abstract Idea, They Are Patent Eligible Because They Contain Inventive Concepts

The second step in the *Alice Corp*. framework also requires one to "determine whether [the claim] contains an 'inventive concept' sufficient to 'transform' the claimed abstract idea into a patent-eligible application." *Alice Corp., supra*, 134 S. Ct. at 2357. That is, the claims must have "an element or combination of elements that is sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the ineligible concept itself." *Id*.

(quotations omitted). Even if the '196 Patent claims are found to be directed to an abstract idea, claims 1-17 amount to more than merely reciting an alleged abstract idea and clearly contain inventive concepts based on the record before the Board.

As explained by Mr. Reyes in his Declaration, the Patent Owner, Capital Dynamics, set out to solve the negative NAV problem that was inherent in earlier versions of PME. Reyes Decl. (Ex. 2004) at ¶¶ 62-65 and 77-79. One of those early versions was disclosed by Messrs. Long and Nickels in the '407 Patent. *See* Exhibit 1003. Petitioner relied heavily on the '407 Patent in this very proceeding in attempting to argue that the claims of the '196 Patent were obvious under 35 U.S.C. § 103. Presumably, since the Petition was filed approximately five months after Cambridge was sued for infringement of the '196 Patent, the Long '407 Patent was the best prior art that Petitioner could locate after a long and expensive search. The Board rejected Petitioner's claims of obviousness and held that the claims of the '196 Patent were not obvious, effectively finding that the claims did contain inventive concepts over the best prior art that Cambridge could locate.

In fact, based on the Board's analysis and the patent itself, at a minimum, the '196 Patent improves on the original PME benchmarking methods by transforming the irregular cash flow data into a second cash flow which has been modified by a scaling function. *See* Decision at 21 – 27; *see also*, Ex. 1001, Col. 21, lines 5-10 (Claim 1), Col. 22, lines 1-9 (Claim 12) and Col. 22, lines 43-48 (Claim 17).

Claim 17 also contains further steps which include generating "scaled cash flow data," "simulating in said computer using at least one of said computer processors behavior of the at least one specific asset during the second time period" and "generating in said computer using at least one of said computer processors a plurality of simulated cash flows for a plurality of selected sets of assets and a plurality of second time periods and analyzing the simulated cash flows to determine at least one of a future income stream or a probability that a specified asset will be able to meet its determined expected future payment obligations." Ex. 1001, Col. 22, line 63 – Col. 24, line 5. These components and steps offer meaningful limitations to the scope of the claims that take it beyond the abstract concept purported by Petitioners.

E. The Claimed Computer Is Integral To The Methods Of The '196 Patent

As discussed in *Bilski*, meaningful limitations can be established by showing that a machine is part of the solution, despite the fact that it is not the sole test of determining whether an invention is a patent eligible process. *Bilski, supra*, 561 U.S. at 604-605. Nevertheless, if a machine plays a significant part in permitting the claimed method to be performed, it imposes a meaningful limitation on the scope of the claim. *See SiRF Tech., Inc. v. Int'l Trade Comm'n*, 601 F.3d 1319, 1333 (Fed. Cir. 2010).

In its Decision to institute this proceeding, the Board quoted the Robinson Declaration stating "that the recited steps 'can be performed by a human without a computer.'" Decision at 20. However, when Dr. Robinson was given the opportunity at his deposition to prove that this unsupported statement in his Declaration was true, he was unable to so so. In fact, he was not even able to complete all of the "recited steps." *See* Ex. 2006 at pages 59, line 18 – 71, line 15; *see also* Reyes Decl. (Ex. 2004), ¶¶ 94-95.

Mr. Reyes explains in his Declaration that investors require accuracy, precision and timeliness when evaluating and reporting their returns and performance. Reyes Decl. (Ex. 2004), ¶ 80. In the private equity world, accomplishing these tasks can be extremely difficult. *Id*., ¶¶ 86-95. The computer technology claimed in the '196 Patent is integral to meeting the requirements of accuracy, precision and timeliness. *Id*., ¶ 96. It is not a contrivance nor an artifice; it is integral to the ability to generate returns and performance, accurately, precisely and in a timely manner. *Id*. Petitioner's expert proved that at his deposition.

In this case, the programmed computer technology claimed in the '196 Patent enables private equity firms like the Petitioner and the Patent Owner to create computer models that transform performance information from their private equity cash flows and allows meaningful comparisons to a public index like the

S&P 500 or the Russell 2000. It would be impossible for one of the parties in this matter to generate useful benchmarks without specially programmed computers.

Manual steps alone would not be able to accurately capture and transform the requisite information needed to create a PME+ benchmark analysis, and at the same time allow a client to use that information for any present day, real-world application. *See* Ex. 2004, Reyes Decl. ¶ 96. Such a machine, then, is more than a mere abstraction and provides results that could not otherwise be accomplished manually.

V. CONCLUSION

For the foregoing reasons, Patent Owner submits that claims 1-17 of the '196 Patent are limited to patent-eligible subject matter under 35 U.S.C. § 101. Capital Dynamics respectfully requests that the Board issue judgment that claims 1-17 of the '196 Patent are patentable under 35 U.S.C. § 101.

Respectfully submitted,

Date: November 25, 2014

/s/ Edmond R. Bannon

Jonathan A. Marshall, Reg. No. 24,614
Edmond R. Bannon, Reg. No. 32,110
Fish & Richardson P.C.
3200 RBC Plaza
60 South Sixth Street
Minneapolis, MN 55402
Telephone: (212) 765-5070
Facsimile: 877-769-7945

Email: marshall@fr.com
Email: bannon@fr.com

Customer Number 26171
Fish & Richardson P.C.
Telephone: (612) 337-2508
Facsimile: (612) 288-9696

CERTIFICATE OF SERVICE

Pursuant to 37 CFR §§ 42.6(e)(4)(i) *et seq.* and 42.105(b), the undersigned certifies that on November 25, 2014, a complete and entire copy of this Patent Owner's Response and all supporting exhibits were provided via email and FedEx, to the Petitioner by serving the email and correspondence addresses of record as follows:

J. Steven Baughman
Dalila Wendlandt
Ropes & Gray LLP
IPRM-Floor 43, Prudential Tower
800 Boylston Street
Boston, MA 02199-3600

Email: steven.baughman@ropesgray.com
Email: dalila.wendlandt@ropesgray.com

/Susan Johnson/
Susan Johnson
Fish & Richardson P.C.
1717 Main Street
Dallas, Texas 75201
(214) 292-4086

30865537.doc