

DRAFT: Comments Appreciated

**“Sophistical and Abstruse Formulas” Made Simple, or:
Advances in Measurement of *Penn Central’s* Economic Prongs
and Estimation of Economic Damages
in Federal Claims and Circuit Courts**

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**“Sophistical and Abstruse Formulas”¹ Made Simple, or:
Advances in Measurement of *Penn Central*’s Economic Prongs and
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1 A test without measurable benchmarks is vexing to more than Supreme Court Justices.

1.1 Jurists, litigators and educators seek guideposts to a Polestar

The U. S. Supreme Court reaffirmed this year the *Penn Central* 3-prong test as its “polestar” – the principal guidelines – for resolving regulatory takings claims that do not fall within the physical takings or *Lucas* rules.³ At least two Justices, O’Connor and Stevens, have bemoaned the lack of clear mile markers to reach that polestar.⁴ Regulatory takings litigators and educators on both sides of the issue have criticized the Court’s “vague *ad hocery*” in approaching the “famously muddy language of the *Penn Central* decision.”⁵ My own writings have objected

¹ Thanks to Justice Frankfurter, *Kimball Laundry v. U. S.*, 338 U.S. 1, 20, (1949).

² The author supported counsel for plaintiff as expert financial economist in *Chancellor Manor v. U.S.*, No. 98-39C, trial in Federal Claims Court, December 2004.

³ *Lingle v. Chevron USA*, 544 U. S. ___ (2005); *Palazzolo v. Rhode Island*, 533 U.S. 606, 631-636 *passim* (2001), O’Connor, J., concurring.

⁴ *Tahoe-Sierra Preservation Council v. Tahoe Regional Planning*, 535 U.S. 302, n.17 (2002), (“When, however, the owner contends a taking has occurred because a law or regulation imposes restrictions so severe that they are tantamount to a condemnation or appropriation, the predicate of a taking is not self-evident, and the analysis is more complex.”).

⁵ Gideon Kanner, “Making Laws and Sausages: A Quarter Century Retrospective on *Penn Central Transportation Co v. City of New York*,” 13 W & M Bill of Rights Journal 653, 653-770, (2005).

_____, “Hunting the Snark, Not the Quark: Has the U.S. Supreme Court Been Competent in Its Effort to Formulate Coherent Regulatory Takings Law?,” 30 Urb. Law. 307 (1998).

to the failure of courts to understand the rigorous *empirical* analysis invoked in an *ad hoc* fashion in *Penn Central*.⁶

Damages are due for a non-*Lucas* regulatory taking if the *Penn Central* test shows that a compensable taking has occurred. “Under *Penn Central*, courts use a three-factor analysis to assess claimed regulatory takings: (1) character of the governmental action, (2) economic impact of the regulation on the claimant, and (3) extent to which the regulation interfered with distinct investment-backed expectations.”⁷

Two of *Penn Central*'s⁸ three “particularly significant factors” of the balancing test entail economic analysis:

- Economic effect of the regulation;
- Interference with distinct investment-backed expectations (DIBE).

The desire for a clear standard to know a regulatory taking when you see it needs to be promoted from footnote status in *Tahoe-Sierra* to the heart of takings law. Vexed or not, the inability to evaluate the empirical economic underpinnings of two prongs of the *Penn Central* test may place blinders on the Supreme Justices.⁹

Michael M. Berger, “*Tahoe Sierra*: Much Ado About What,” 25 Hawaii Law Review 295. (Summer 2003).

John D. Echeverria, “A Turning of the Tide: The *Tahoe-Sierra* Regulatory Takings Decision,” 32 ELR 11235, (October 2002).

⁶ William W. Wade, *Penn Central's Economic Failings Confounded Taking Jurisprudence*, 31 Urb. Law. 277, 282, 307 (Aug. 1999).

⁷ *Cienega Gardens v. United States*, 331 F.3d 1319, 1337 (Fed. Cir. 2003) (“*Cienega VIII*”) (citing *Penn Central Transportation Co. v. New York City*, 438 U. S. 104, 124 (1978)).

⁸ *Penn Central* at 124.

⁹ Chief Justice Rehnquist is not included in this shortcoming. Justice Rehnquist's dissent in *Penn Central* (*Penn Central* at 141 (Rehnquist, J., dissenting).) called attention to the majority's lack of definition for “reasonable return” or “economically viable” language and concluded that a rule without definitions poses “difficult conceptual and legal problems.” Note 13 at 149 appears to point out politely that the majority was not schooled in the

1.2 Twenty-five years since last clarification of economic prongs of *Penn Central* test in Supreme Court

The Supreme Court has reiterated in virtually all of its takings decisions that “the issue of whether a landowner has been deprived of all economically viable use of his property is a predominantly factual question.”¹⁰ Beyond the original direction in the *Penn Central* decision requiring “*ad hoc*, factual inquiries [into] . . . several factors that have particular significance,”¹¹ concrete guidelines to evaluate the particular economic factors have been slim at the Supreme Court.¹² The Court typically does not deal with quantitative measurement issues, which is, perhaps, why Justices Stevens and O’Connor remain vexed in their search for clear predicates to measure and evaluate *Penn Central*’s three prongs.¹³ Professor Kanner’s recent seminal article rails that this shortcoming at the Supreme Court is more than a mere vexation. “The major problem that bedevils this field of law is that . . . [the] Supreme Court has refrained from articulating usable rules that

meanings of the economic terms used in their language. Chief Justice Rehnquist’s later decision in *Duquesne Light Co. v. Barasch*, 488 U.S. 299, 309 (1989) emphasized that physical assets are not simply balance sheet items, but “assets . . . to be valued . . . [as] devoted to the public utility enterprise.” This grasp of property as an earning asset is exactly akin to his earlier dissent in *Penn Central*, which recognized the property taken as the foregone earnings from the leased air space. His *Duquesne* decision, which ruled against the utility, is numerically erudite and aligned with economic theory and practice. Given the risks of the business, the equity owners’ loss was small and “[resultant] rates [of return were not demonstrated to be] inadequate to compensate current equity holders for the risk associated with their investments.” (488 U.S. 299 at 312.)

¹⁰ *City of Monterey v. Del Monte Dunes*, 526 U.S. 687 (1999). Section IV.B.3 contains a good summary of the Court’s reliance on “factual inquiries” beginning with *Pennsylvania Coal Co. v. Mahon*, 260 U.S. 393, 413 (1922).

¹¹ *Penn Central* at 124.

¹² Wade cited at fn 6 discussed in Section 7 the court’s clarifications of “legitimate state interests” in the *Nollan* and *Dolan* decisions, making the point at that time, “Unless the Court’s intention is to allow regulatory takings claims only in the unusual situation where economic use is totally eliminated by a regulation, the second prong of the *Agins* test must be clarified to match economic practice.” *Nollan v. California Coastal Commission*, 483 U.S. 825, (1987) and *Dolan v. City of Tigard*, 512 U.S. 374 (1994) are hailed as advancing the understanding of what, beyond assuring health and safety, constitutes legitimate state interests.

¹³ *Tahoe-Sierra* at n.17; *Lingle* at section 7.

might enable lower court judges and lawyers to make reasoned, analytical judgments about the merits of their cases in a consistent fashion.”¹⁴

Lewis S. Wiener counts 33 Supreme Court takings decisions since 1979. Scanning the list, few can be said to have shed any light on the economic prongs of the *Penn Central* test.¹⁵ No language in any of the decisions matches the clarity of economic insight in *Nectow v. City of Cambridge*, 1928: “[T]he master finds that *no practical use* can be made of the land in question because . . . there would not be adequate *return on the amount of any investment* for the development of the property.”¹⁶

Agins II, 25 years ago, was the last clarification in the Supreme Court of when the economic prongs of the *Penn Central* test might show that compensation is due for a non-categorical taking.¹⁷ *Agins II* clarified the *Penn Central* 3-prong balance test to require compensation, where legitimate state interests are advanced, if the regulation denies the owner “economically viable use” of the property.¹⁸ The decision added the word “viable” to the lexicon; but no threshold for denial of economically viable use was defined or relied upon in *Agins II*.

¹⁴ Kanner, 2005, at 657.

¹⁵ Lewis S. Wiener, “Has the High Court Taken Away Private Property Rights?,” 20 Legal Backgrounder 39, n.3, Washington Legal Foundation, (August 12, 2005).

¹⁶ 277 U.S. 183, 185 (1928).

¹⁷ *Lucas* at 1019 confirmed a polar economic case: if the property owner has been denied “all economically beneficial use,” this is a categorical taking and compensable without case-specific factual inquiry into the public interest balance. If some value remains, however small, *Lucas* provides no new guidance. *Lucas* did not clarify the *Penn Central* test unless one wants to consider “the relatively rare situations where the government has deprived a landowner of all economically beneficial uses” a special case of the *Penn Central*’s factors requiring no further balancing. *Lucas v. South Carolina Coastal Commission*, 505 U.S. 1003 (1992) (emphasis added). While *Lucas* applied the second *Agins* prong, the decision focused on the value of the property remaining, accepted as zero, and did not advance consideration of when lesser economic losses become compensable.

¹⁸ *Agins v. City of Tiburon*, 447 U.S. 255, 260 (1980).

The *Penn Central* decision itself did include some insightful language about what might constitute economic viability: “More importantly, on this record, we must regard the New York City law as permitting Penn Central not only to profit from the Terminal but also to obtain a ‘reasonable return’ on its investment.”¹⁹ *Tahoe-Sierra*, however, reveals that the Supreme Justices do not grasp the effect of time values of money on “economically viable use,” profitability or reasonable returns.²⁰

The recent *Lingle* decision eviscerated the “substantially advances” element of *Agins*, but left intact “economically viable use.” A regulatory taking may still be found if the result of the unanticipated change in regulations is to deny plaintiff economically viable use of his property. This, of course, begs the point of this article; i. e., in the absence of instruction from the Supreme Court, what can be learned by recent decisions in the Federal Claims and Circuit Courts about the economic prongs of the *Penn Central* test.

2 Federal Claims and Circuit Courts -- guided by economic testimony -- have advanced economic predicates for the *Penn Central* test.

Federal Circuit court recognized 15 years ago that even though “the property is returned to the owner when the taking ends, the just compensation . . . is the value of the use of the property . . . which the owner lost as a result of the

¹⁹ *Penn Central* at 136.

²⁰ In spite of abundant discussion of “value” in *Tahoe-Sierra*, the failure to construe value simply as the present value of future benefits of use led to the Court’s erroneous adoption of temporal dimension as a characteristic of the denominator. One would have thought by now that more than economists understand that “in the long run, we’ll all be dead.” What matters to property value at a unique point in time are the uses that can be made of the property in the vicinity of that time. The longer the imposed delay from that time to the future uses, the lower the present value of the property’s use to the owner.

taking.”²¹ The United States Court of Federal Claims and Federal Circuit Court, which frequently deal with the factual inquiries within regulatory takings cases, have advanced substantially the economic predicates for evaluating the *Penn Central* factors in the last six years.

These courts had competent empirical economic testimony to rely on.²² And, heaven forbid, these experts relied on standard financial theories and practices with established formulas by which to evaluate frustration of distinct investment-backed expectations.²³ “Too far,” harkening back to Justice Oliver Wendell Holmes’ vague guidance,²⁴ is no mystery to these experts – or to the judges who relied on their testimony.

This paper reviews recent cases in Federal Claims and Circuit Courts to show how these courts have reduced the confusion about economic underpinnings of the *Penn Central* test in recent years. In a limited way, the paper extends the 1999 article by David F. Coursen, which reviewed cases in these same two courts thru the time of his drafting.²⁵

²¹ *Yuba Natural Resources, Inc. v. United States*, 904 F.2d 1577,1580-81 (Fed. Cir. 1990) (“*Yuba V*”).

²² For examples, see *Cienega VIII*, n. 38 - 40 and related text.

²³ Perhaps the *Kimball Laundry* decision has acted as a curse on the Supreme Court. “Particularly is this true where these issues are to be left for jury determination, for juries should not be given **sophistical and abstruse formulas** as the basis for their findings nor be left to apply even sensible formulas to factors that are too elusive.” (*Kimball Laundry v. U. S.*, 338 U.S. 1, 20, 1949)

²⁴ *Pennsylvania Coal Co. v. Mahon*, 260 U.S. 393, 415 (1922).

²⁵ “The Takings Jurisprudence of the Court of Federal Claims and the Federal Circuit,” 29 *Environmental Law* 821 (1999). Mr. Coursen likewise commented on the Supreme Courts “vague and uncertain” takings jurisprudence at 821.

2.1 *Florida Rock V* established the correct economic basis for the denominator of the Takings Fraction.

The 1999 *Florida Rock V* Opinion²⁶ clarified conditions when a partial reduction in value (“partial taking” of plaintiff’s property) would justify payment of damages and established “a logical framework [to evaluate a partial taking] based upon well-established rules and principles, . . . a stable framework,” to undertake the balancing called for in the *Penn Central* three factor balancing test.

Elements of proof of the *Penn Central* test are examined in the *Florida Rock V* Opinion. The format of the *Florida Rock V* analysis provides quantitative answers to two straightforward questions related to a change in regulatory regime.

1. Has the value of the property been significantly diminished?
2. Do revenues after regulatory change recoup investment in the property?

The *Rock V* decision examined the before and after values of the property based on the expert testimonies in the record, and adopted a 73.1% diminution in value of the property. “The court [did] not rely on the magnitude of this diminution in value alone, however, to determine the severity of the economic impact to plaintiff resulting from permit denial.”²⁷

Rock V established the investment basis in the property as the denominator of the takings fraction and compared returns before and after the change in regulation to that investment basis to determine that no “reasonable return” was possible.²⁸ This ruling clarified the all important takings fraction to require a measurement of the investment in the property as the “value . . . to furnish the

²⁶ *Florida Rock Industries, Inc. v. U. S.*, 45 Fed. Cl. 21 (1999) (“*Rock V*”).

²⁷ *Id.* at 37.

²⁸ See particularly note 12 of the *Florida Rock V* opinion dealing with plaintiff economist’s estimate of economic basis in the property. (*Id.* at 38, n.12.)

denominator of the fraction,”²⁹ correcting *Keystone*’s misfocus on comparing after values to “before” values, a ratio that reveals nothing about the affect of regulatory change on economic viability of the investment. Only by comparing returns before and after to the investment basis in the property can courts evaluate frustration of DIBE with standard financial performance benchmarks – net present value of cash flows and internal rate of return.

Chief Judge Loren Smith, who wrote the opinion, adopted the plaintiff economist’s estimate of the inflation adjusted economic basis in the property as of the taking date. The court found “that plaintiff could have recovered barely half of its inflation adjusted investment in the subject property through the only remaining means, resale as a speculative investment.”³⁰ *Rock V* relied on language from *Penn Central*, which “emphasized the importance of obtaining a “reasonable return” on the property owner’s investment in determining the presence of a taking. “More importantly, on this record, we must regard the New York City law as permitting Penn Central not only to profit from the Terminal but also to obtain a ‘reasonable return’ on its investment.”³¹

The decision ruled that plaintiff’s distinct investment-backed expectations were frustrated because returns after permit denial barely recovered half of the plaintiff’s investment basis in the property. “In sum, the court finds that Florida Rock’s reasonable investment-backed expectations were frustrated. Florida Rock had no reason when it purchased its property to expect that its rights to mine or develop the land were open to question.”³² The calculation as undertaken by Judge Smith did not include consideration of reasonable return on the

²⁹ *Keystone Bituminous Coal Ass’n v. DeBenedictis*, 480 U.S. 470, 497 (1987).

³⁰ *Rock V* at 38.

³¹ *Id.* at 39 citing to *Penn Central* at 149, (Rehnquist, J., dissenting).

³² *Id.* at 39.

investment; it was a moot point because the returns did not even pay back the inflation adjusted out of pocket investment costs.³³

2.2 Cienega Gardens extended Florida Rock V by establishing a benchmark rate of return as the threshold of “serious financial loss.”

2.2.1 Ongoing temporary takings cases in Federal Claims Court

In 1988, Congress passed the Emergency Low-Income Housing Preservation Act (ELIHPA) to prevent owners of low-income housing projects from converting their properties to market rents as allowed under the owners’ original government insured mortgage contracts. Two years later, the Low-Income Housing Preservation and Resident Homeownership Act (LIHPRHA) replaced ELIHPA. This imposed permanent restrictions on property owners’ rights to prepay their mortgages and convert to market rents. Restricted rents under ELIHPA and LIHPRHA caused owners to earn substantially less than they anticipated in their original contract with HUD and led to an ongoing series of lawsuits alleging both contract and takings claims. Three related cases have been decided in favor of the plaintiffs: *Franconia Associates*,³⁴ involving USDA §515 program, on the

³³ *Walcek v. U.S.* 49 Fed Cl 248 (2001) reveals that inconsistency bedevils the Claims Court as well. Judge Francis M. Allegra’s Opinion ruling against the plaintiff decided that “plaintiffs’ use of inflation adjustments in their computations suffer from what Justice Holmes, in another context, called ‘[t]he dangers of a delusive exactness.’” This is a clear example of inability to discern the apples from the oranges. In the changing epochs of high and low inflation that encompass Mrs. Walcek’s investments in property between 1957-1976, when money was worth something, and returns received later after the Vietnam War ran up inflation, you have to adjust all dollars to a common metric that fairly measures the returns foreclosed by the regulation against investments. Otherwise, the comparison is the proverbial gobbety-gook. Judge Allegra’s delusive inexactness cited but excluded the readily available government inflation indices used everyday in all sorts of applications to adjust dollars of different years to a common metric. His fatal error was misapplying tax law experience to investment analysis. Mr. Walcek, who represented his wife, did not engage an economist.

³⁴ *Franconia Associates v. United States.*, Nos. 97-381C & 97-3812C through 97-38129C, Fed. Cl. (August 30 2004).

basis of contract law; *Cienega Gardens* and *Independence Park Apartments*³⁵ on the basis of takings law. The takings decisions entail a temporary taking analysis in that the Housing Opportunity Program Extension (“HOPE”) Act, which passed March 28, 1996, reversed LIHPRHA and allowed (certain) owners to convert their buildings to market rents.

Cienega Gardens owners hold a number of buildings, which remain in litigation. The Circuit Court decision governed only four of the properties and remanded the rest for trial to evaluate the *Penn Central* test and determine damages. The Federal Claims Court consolidated³⁶ Cienega Gardens with Chancellor Manor, another owner of properties, and trial testimony was taken in November-December 2004.

2.2.2 Cienega Gardens established economic basis for frustration of DIBE.

The *Cienega Gardens* 2003 Federal Circuit decision (*Cienega VIII*) clarified the analytic basis to evaluate frustration of DIBE to establish a temporary taking and conformed measurement of damages for a temporary taking to economic doctrine.

Cienega Gardens treated the “diminution in value” prong of the *Penn Central* test as a threshold requirement and concluded that plaintiff must “show ‘serious financial loss’ from the regulatory imposition to merit compensation.”³⁷ *Cienega VIII* relied on plaintiff economist’s estimate of annual earnings after the regulatory imposition from *Cienega III*, \$45,741, benchmarked this amount to plaintiff’s equity, \$17,452,045, and computed plaintiff’s yield on investment, 0.3 percent, to

³⁵ *Independence Park Apartments v. United States.*, No. 94-1A-C, Fed. Cl., (August 27, 2004).

³⁶ *Cienega Gardens v. United States.*, No. 94-1C and No. 98-39C, Fed. Cl., (August 31, 2004).

³⁷ *Cienega VIII* at 1340.

determine that plaintiff's loss of return was sufficient to be a "serious financial loss."³⁸ Cienega Gardens' yield on its "model properties" under evaluation was compared to a conservative benchmark for opportunity cost of capital in the trial record, yield on Fannie Mae long bonds, 8.5 percent, to ascertain that returns after regulatory change were inadequate to recoup investment plus earn a reasonable return.³⁹ The Fannie Mae benchmark, 8.5 percent, was adopted as a conservative value based on testimony in the case.⁴⁰

Cienega VIII followed *Rock V* in deciding that diminution in value of the property is not dispositive of the magnitude of the economic impact; i.e., diminution alone is not enough to reveal whether economic viability has been destroyed in a partial taking. The decision established that economic viability has to be measured with reference to both recoupment of investment and return on investment in order to evaluate a standard financial performance measure. This established opportunity cost of investment as an attribute of the investment in the property, consistent with economic theory.⁴¹ *Cienega VIII* determined a taking

³⁸ *Cienega VIII* citing *Cienega Gardens v. U.S. (Cienega III)*, 38 Fed. Cl. 64, 75. (1997).

³⁹ *Cienega VIII* at 1340: "By comparing this rate of return to low-risk Fannie Mae bonds, which, according to Dr. Peiser, would have generated an 8.5% rate of return, we can make a rough estimate of the Model Plaintiffs' percentage loss of return. Indeed, doing so, we calculate that the Model Plaintiffs would have received, by exiting the programs and reinvesting their money, on average, *at least*, 28 times greater return than they did have by being forced to stay in the programs. (An 8.5% rate of return is about 28 times more than a 0.3% rate of return.)" Exactly how to perform the financial calculation undertaken by Circuit Judge Michel in *Cienega VIII* became a question of the experts in the follow-on December 2004 Cienega Gardens and Chancellor Manor trial.

⁴⁰ *Cienega VIII* at n. 39: "Thus, although our calculation is only a rough one, because we are using the most conservative basis for comparison offered to us--in their brief, the plaintiffs suggest that we could also compare their rate of return with a 20% rate of return that they maintain corresponds to real estate investment. . . ."

⁴¹ Economists and financial practitioners speak of the opportunity cost of capital, meaning the return from the next best opportunity foreclosed by the investor's decision. Cost of capital is the required return by investors; it is the basis for the discount rate, and is based on the risk of the cash flows and underlying financial market conditions. John Maynard Keynes defined investment (1936) as the right to obtain a series of prospective returns during the life of the asset. (*General Theory of Employment, Interest and Money*.) Keynes emphasized the expected profitability of investments as the key motivating determinant for investment.

and awarded damages. No reasonable investor/owner would tie up her money in the risky apartments if she could not earn at least her next best opportunity.

A competitive market rate of return is a better benchmark than Fannie Mae bond yield because Fannie Mae, an agency of the government, provides securities with lower risk than private parties face in their investment alternatives. Investors typically would not think of a Fannie Mae security as their opportunity cost of money. In the subsequent trial of other Cienega Gardens and Chancellor Manor properties in the same line of cases, plaintiff experts testified to 11 -14 percent as more appropriate benchmarks for apartment buildings during the period of the taking.⁴²

2.2.3 Economics treats reasonable expectations the same as *Loveladies* and applies decision rules to evaluate reasonableness of returns.

Cienega Gardens included both of the *Penn Central* economic calculations – diminution in value and frustration of DIBE -- within the economic impact prong of the *Penn Central* test. The investment-backed expectations prong of the test was evaluated for reasonableness following *Loveladies Harbor*. “The purpose of consideration of plaintiffs' investment-backed expectations is to limit recoveries to property owners who can demonstrate that ‘they bought their property in reliance on a state of affairs that did not include the challenged regulatory regime.’”⁴³ Substantial discussion deals with whether owners' expectation of converting the properties to market rents was “reasonable.” The decision concludes, “We, therefore, hold that ELIHPA and LIHPRHA frustrated the Model Plaintiffs'

⁴² See, for example, William W. Wade, “*Penn Central* Tests for Chancellor Manor Properties,” Exhibit PCM 469, *Chancellor Manor v. U.S.*, November 15, 2005. This testimony showed that 14% was the appropriate discount rate and adopted 14% as the owner's opportunity cost. Government economist argued for differential rates with the effect of reducing his damage estimate.

⁴³ *Cienega VIII* at 1342 (citing *Loveladies Harbor v. United States*, 28 F.3d 1171, 1177 (Fed. Cir. 1994)).

reasonable investment-backed expectations that they would be entitled to [convert to market rents.]”⁴⁴

Economics treats knowledge of regulatory impairment consistent with language in *Loveladies Harbor*. “[T]he owner who bought with knowledge of [a particular] restraint could be said . . . to have assumed the risk of any economic loss. In economic terms, . . . the market had already discounted for the restraint, so that a purchaser could not show a loss in his investment attribu[table] to [the regulatory action].”⁴⁵

Investment-backed expectations, whether distinct in the original *Penn Central* decision or reasonable in *Cienega VIII*, must be shown to be frustrated to establish a regulatory takings; i. e., returns after imposition of the unanticipated change in regulations must be demonstrated to erode economic viability of the investment in the whole property.⁴⁶ Economic decision rules play an obvious role in determining when a regulation undermines investment-backed expectations sufficiently to award compensation; i.e., when the regulation “goes [so] far” that it crosses a relevant threshold.⁴⁷

Cienega VIII defines that threshold akin to the way that economists and financial practitioners define it -- in terms of the relation between the expected returns from the investment and the opportunity cost of the investment. A relevant threshold is not a bright line. Different circumstances move the line. Empirical details and assumptions must be sorted out. *Cienega VIII* conformed the

⁴⁴ *Cienega VIII* at 1345.

⁴⁵ *Loveladies Harbor* at 1177.

⁴⁶ This article adopts the parcel as a whole standard as settled law and does not discuss issues related to it. Kanner 2005 provides a refreshing look into the development of the parcel as a whole ruling in *Penn Central*.

⁴⁷ *Pennsylvania Coal Co. v. Mahon*, 260 U.S. 393, 415 (1922). See Wade, “Economic Backbone of the *Penn Central* test post *Florida Rock V*, *K&K* and *Palazzolo*,” 32 [Environmental Law Reporter](#) 11,221 (October 2002), for a discussion of financial decision rules and relevant thresholds.

decision rule to match economic practice: when the return on investment is less than the opportunity cost of the owners' investment, economic viability is frustrated.⁴⁸

2.3 *Independence Park and Tulare Lake Basin* eliminated bias of court sanctioned interest rates

2.3.1 *Independence Park* corrected the notion of FRV as a basis for damages for a temporary taking

Independence Park Apartments 2004 Federal Claims Court decision confirmed damages as the present value of lost profits in the same way as *Cienega VIII*.⁴⁹ This approach measures accurately the value of the lost use of the property due to the temporary taking and corrects a whole line of temporary takings cases that mistakenly calculate damages in many ways as a notion of fair rental value for a temporary taking.⁵⁰ Judge Charles F. Lettow disabused “the government’s proposed [approach to damages that sought] to compensate plaintiffs only for the *interest* on the foregone net rents and exclude any compensation for the

⁴⁸ Former Deputy City Attorney for San Francisco, Andrew W. Schwartz, who argued *San Remo v. San Francisco*, believes, to the contrary, “The only workable system of land use regulation is to limit compensation to those categorical, bright line cases of a complete economic wipeout or a physical occupation. The Supreme Court’s efforts to find a middle ground have resulted in confusion and inconsistent decisions. . . .” “Reciprocity of Advantage: The Antidote to the Antidemocratic Trend in Regulatory Takings.” Draft, no date, p. 90. Federal Cl. and Cir. Court cases cited in my article clarify part of the Supreme Court’s confusion and suggest that more expertise rather than more draconian legal standards will lead to a more democratic outcome.

⁴⁹ *Independence Park Apartments v. U. S.*, No. 94-1A-C, Fed. Cl., (August 27, 2004), discussion at pp. 17 - 23. This case is an offshoot of *Cienega VIII*, which decided that plaintiff suffered a temporary taking. Damages were the only issue.

⁵⁰ See *Kimball Laundry* at 9 -11 for a discussion of deficiencies of Fair Rental Value for measuring intangible values of a going concern. In view of this 56 year old S. Ct. decision, I do not know why FRV continued to be applied in place of lost profits in notable cases such as *Bass Enterprises v. United States*, No. 95-52L, Fed. Cl. (February 2001) (*Bass IV*); *Miller Brothers v. MI DNR*, 4 Mich. Cl. Ct., 1995; *SDDS Inc. v. State*, 2002 SD 90. At best, FRV can only provide a floor to plaintiff’s damages, ignoring as it does return to plaintiff’s management skills and value of the ongoing business, or in the language of *Kimball Laundry*, “trade routes.”

foregone net rental income itself”⁵¹ – risk-free interest rates at that. The failing of this approach to fair rental value exactly mirrors the deficiency seen in the *SDDS* South Dakota decision.⁵²

Independence Park Apartments, a temporary taking case like *Cienega Gardens*, sets the valuation date as the end of the taking period for calculation of damages.⁵³ Typically, damages are benchmarked to the taking date; i. e., for a temporary take, the starting point of the delay. In most courts, damages are calculated for a benchmark date far removed from time of trial, or even further removed from date of payment. Lost profits as the basis of damages for a taking are therefore discounted back to the starting point with a discount rate appropriately including a risk premium and then, typically, compounded forward to payment date with a court-sanctioned “risk-free” (lower) interest rate. This results in a payment to plaintiff biased lower than an amount that would restore the “full and perfect equivalent in money of the property taken.”⁵⁴

In a perfect world, the temporal perspective has no effect on the value of the damages paid to plaintiff – assuming that the discount rate is identical to the interest rate.⁵⁵ An unbiased estimate of just compensation can be determined benchmarking at either the start point or end point of the taking. The problem is that courts mistakenly have treated interest on damages at a lower rate than the discount rate used to determine damages. The notion supporting this has been that payment of prejudgment and post judgment interest is virtually assured and therefore should carry a lower interest rate to reflect lower risk. The correct

⁵¹ *Independence Park* at 17.

⁵² See *SDDS*, n. 15 for the most egregious approach to calculating FRV that the author has discovered.

⁵³ See discussion at *Independence Park* Section D.3.a.

⁵⁴ *Seaboard Air Line Railway v. United States*, 261 U.S. 299, 304 (1923).

⁵⁵ For proof, see William W. Wade, “Rebuttal Exhibit PCM 475,” December 9, 2004, in *Chancellor Manor v. U. S.*, No. 98-39C.

theory should reflect plaintiff's opportunity loss by not having the damage award, not the government's interest rate. Benchmarking the damages to the end point reduces the bias against plaintiff if the court only awards interest at some lower court-sanctioned rate.

2.3.2 Risk free interest rates do not provide *just compensation* – and *Tulare Lake* conformed law to economics.

Independence Park adopted the finding in a related Federal Claims Court case, *Tulare Lake Basin*, that the interest rate on damages awarded should be based on what a reasonably prudent plaintiff would have done with the cash flows had they not been disrupted by the taking.⁵⁶ This ruling eliminates the downward bias in the amount of damages actually paid to plaintiff.

Tulare Lake confirmed that the purpose of interest rates or discount rates is to assure that just compensation remunerates the owner of the property not only for the value of the property on the date of the taking, but also for any delay in payment of that amount.⁵⁷ Courts have tended to set interest rates on awarded damages based on a risk free rate of return. Indeed, Federal Claims Court entered a judgment of damages for Tulare Lake Basin December 31, 2003 and set the interest rate based on the low yield one-year Treasurer Bill. Plaintiffs filed a Motion for Reconsideration February 26, 2004 to ask the Court to reconsider its December 31, 2003, determination that “the statutory [one-year Treasury Bill] rate specified in 40 U.S.C. § 258e-1 (2000) is the appropriate interest rate required to provide full just compensation in this case. Plaintiffs submit that this determination is based upon an error of law and fact so manifestly erroneous that, if unexamined, will work a grave injustice to plaintiffs.”⁵⁸

⁵⁶ *Tulare Lake Basin v. U.S.*, No. 98-101L, Fed. Cl. (August 11, 2004).

⁵⁷ *Tulare Lake Basin* cited and relied upon *NRG Co. v. United States*, 31 Fed. Cl. 659, 664 (1994) & *Seaboard*.

⁵⁸ *Tulare Lake Basin*, “Memorandum in Support of Plaintiff's Motions for Reconsideration,” February 24, 2004.

The economic standard is not and never has been that risk free interest rates apply because government payment is virtually assured, as argued typically by defendant counsel. As a matter of economics, just compensation should keep plaintiff whole, which means that the plaintiff's demonstrable opportunity cost of capital is the correct basis for interest payments on damages – which is exactly what *Tulare Lake* 2004 decided.

3 Conclusion: Fed. Cl. And Cir. Courts applied, measured and evaluated *Penn Central* test and estimate damages consistent with standard economic practice.

Although clarifications of the economic determinants of the *Penn Central* test and related damages have been slim at the Supreme Court, Federal Claims and Circuit Courts have clarified the economic underpinnings of partial takings and temporary takings in recent years. Decisions discussed in this paper applied the framework of the *Penn Central* test and clarified how to measure and evaluate the decision variables, notably return on investment and frustration of DIBE. In doing so, these two courts have conformed legal practice to standard economics and finance.

The Coursen article cited above reveals that before the case decisions cited in this article, these two courts were still wondering how much diminution in value constituted a compensable taking,⁵⁹ a standard eliminated by *Rock V* as not dispositive of the degree of interference with DIBE. By its repeated reliance on the *Penn Central* test, the Supreme Court clearly implies that regulatory takings do not require that all value be eliminated before a citizen is entitled to compensation. The Court need only adopt the lessons learned in the Federal

⁵⁹ Coursen at 48 – 52.

Claims and Circuit Courts since 1999 to achieve “a predictable legal standard [from] the famously muddy language of the *Penn Central* decision.”⁶⁰

Three poor economic applications are sidelined by recent decisions discussed in this paper.

- Value of lost profits replaced Fair Rental Value to measure damages from lost use;
- Percent diminution in value is replaced as the guiding *Penn Central* prong by economic returns benchmarked to owner’s investment basis and his opportunity cost of capital;
- Court-sanctioned low interest rates are replaced by owner’s demonstrably prudent lost opportunity value of invested capital.

The following table summarizes the case decisions and economic methods affected by those decisions. Cited cases in the Federal Claims and Circuit Courts, guided by economic practitioners, applied economic evaluation methods and formulas to elucidate the language and format of the *Penn Central* test.

Now, if we can only infuse some economic rigor into “average reciprocity of advantage,” a term of legal art that promises to be even more vexing than the *Penn Central* test.⁶¹ An economist can interpret reciprocity under takings case

⁶⁰ The full quote from John Echeverria’s article at 11,235 cited in fn 4 is worth repeating. “But the [*Tahoe-Sierra*] decision provides little guidance on what the *Penn Central* test actually is or how it should be applied. A future challenge for courts and litigants will be to create a predictable legal standard out of the famously muddy language of the *Penn Central* decision. Despite the Supreme Court’s recent, intense focus on the regulatory takings issue, regulatory takings doctrine is in some ways as tentative and uncertain as it was after *Penn Central* was decided nearly 25 years ago.”

⁶¹ Average reciprocity of advantage (ARA) arose in *Plymouth Coal v. Rosenbaum* 232 U.S. 531(1914) to require coal miners to leave huge blocks of coal in place between adjoining mines to prevent tunnels from collapsing and prevent underground water from flooding adjoining mine tunnels owned by others. Both sides of the “pillars” clearly benefited in a concretely demonstrable reciprocal manner; i. e., safety of miners working

law to discover if positive externalities of the regulation benefit the owner's remaining uses of the property sufficiently to offset instant losses. Economists, like the decision in *Florida Rock IV*, would measure reciprocity as a direct compensating benefit to the plaintiff of the regulation -- not general welfare enhancement to society.⁶² But, that's another paper.

in both mines was enhanced. Justice Holmes subsequently repeated the phrase in *Pennsylvania Coal v. Mahon* 260 U.S. 393, 415 (1922), but the phrase had nothing to do with the outcome of the case. ARA next appears in *Penn Central* at 147, but according to Prof. Eagle, "Justice Brennan did not explicitly rely on the presence of reciprocity." (Regulatory Takings, 3d ed., p. 799.). *Rock V* at 37 decided that "the surrounding community benefits from the wetland's filtering action, stabilizing effect, and provision of habitat for flora and fauna. Florida Rock benefits from being a member of a community which has the potential for a better environment. But there can be no question that Florida Rock has been singled out to bear a much heavier burden than its neighbors, without reciprocal advantages." I have found only one other case since *Plymouth Coal* where ARA has been as clearly evident as in *Plymouth Coal*, *Jackman v. Rosenbaum*, 260 U.S. 22, 30 (1922), where the parties equally benefited from a boundary wall. Thanks to Bill Fischel for sorting out the history of the phrase. Regulatory Takings: Law, Economics and Politics, Cambridge: Harvard University Press, 1995, p. 19-20.

⁶² "In addition, then, to a demonstration of loss of economic use to the property owner as a result of the regulatory imposition * * * the trial court must consider: are there direct compensating benefits accruing to the property, and others similarly situated, flowing from the regulatory environment? Or are benefits, if any, general and widely shared through the community and the society, while the costs are focused on a few?" (*Florida Rock Indus. v. United States*, 18 F.3d 1560, 1570-1571, (1994) cert. denied 513 U.S. 1109, 115 S.Ct. 898, 130 L.Ed.2d 783). (*Florida Rock IV*)

Economic Advances Governing Takings Evaluations and Damages			
Date	Case	Legal Decision	Economic Implication
Supreme Court Takings Decisions Advancing Economic Inquiry			
1949	<i>Kimball Laundry</i>	Compensate value of lost trade routes.	Estimate intangible lost use values of ongoing concern as part of damages. ¹
1978	<i>Penn Central</i>	Set 3-prong test including economic impacts and frustration of DIBE applied to property as a whole.	Economic impacts and frustration of DIBE measurable with standard financial tools to establish loss. ²
1980	<i>Agins</i>	Taking implies denial of “economically viable use.”	Returns sufficient to recoup investment and provide reasonable return. ³
Fed. Cl. and Cir. Court Decisions Advancing Economic Inquiry			
1999	<i>Florida Rock V</i>	Denominator = inflation adjusted Investment basis in the property and not before value.	Established evaluation of Recoupment of investment as the benchmark of the taking.
2003	<i>Cienega VIII</i>	Serious economic loss = return lower than external opportunity benchmark return.	Established evaluation of return on investment w/r to opportunity cost of capital; i.e., reasonable expectations imply return of investment and reasonable profit.
2004	<i>Independence Park</i>	Damages = lost profits and not fair rental value; damages measured at end date of temporary taking.	Set net present value of lost profits as value of lost use. End point benchmark reduces chance of bias against plaintiff.
2004	<i>Tulare Lake</i>	Interest on damages = prudent investor’s foregone opportunity.	Eliminates faulty legal theory that low risk or risk free interest rates apply to damages. Interest on damages due at owner’s lost alternative.

¹ But, as we saw, fair rental value did not disappear from court practice although *Independence Park* has now made a definitive ruling that lost profits best reflect the foregone value of a going concern.

² So I say; but few courts beyond the cases discussed in this paper have recognized the clarity that economic tools can provide. *Whitney Benefits* is another Fed. Cl. Ct. case that relied on standard economic methods. (*Whitney Benefits, Inc. v. U. S.*, 18 Cl. Ct. 394, (1989). *Whitney Benefits v. U. S*, 926 F.2d 1169, aff’d (Fed. Cir. 1991.)

³ More typically, cases decided for plaintiff have been decided on the % diminution prong of the test. However, another Federal Circuit case, *Palm Beach Isles*, followed *Florida Rock* and decided that the landowners had suffered a complete deprivation of economically viable use. (*Palm Beach Isles Associates v. United States*, 208 F.3d 1374, 1379 (Fed. Cir. 2000) affirmed on rehearing 231, F.3d 135 (Fed. Cir. 2000).)