Penn Central's Economic Failings Confounded Takings Jurisprudence

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Penn Central's Economic Failings Confounded Takings Jurisprudence

By
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1. Introduction: 20th Anniversary of *Penn Central*

Twenty years after Justice Brennan's decision in *Penn Central*[2], what constitutes a compensable taking remains "a problem of considerable difficulty."[3] He asserted that "this Court . . . has been unable to develop any 'set formula' for determining when 'justice and fairness' require that economic injuries caused by public action be compensated by the government. . . . It depends largely 'upon the particular circumstances [in each] case.'"[4] He identified "several factors that have particular significance" to the decision to pay compensation:

- "the economic impact of the regulation on the claimant;"
- "particularly, the extent to which the regulation has interfered with distinct investment-backed expectations."[5]
- "the character of the government regulation."[6]

Two of the Court's particularly significant factors hinge on economic theory, not legal doctrine. Neither factor appeared in state or federal land use cases before this ruling.[7]

First year economic students learn that economic activity is best analyzed in terms of incremental units, elements and decisions. First year law students learn that real property is characterized as a bundle of sticks, the sticks representing various rights that accompany ownership, such as the

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[2]Penn Central Transportation Co. v. New York City, 438 U.S. 104 (1978).

[3] *Id.*at 104.

[4]*Id.* at 124 (quoting United States v. Central Eureka Mining Co., 357 U.S. 155, 168 (1958)).

[5]*Id.* (citing Goldblatt v. Hempstead, 369 U.S. 590, 594 (1962)).

[6]*Id.*

[7]Michael M. Berger, *Happy Birthday, Constitution: The Supreme Court Establishes New Ground Rules for Land-Use Planning,* 20 URB. LAW. 735, 759 n.118 (1988).

right to sell the property, use it or exclude others from it.[8] So far, so good. When the Brennan majority decided that *Penn Central's* sticks must be viewed as a monolithic "bundle" for the evaluation of takings claims, the law parted company with incremental economic theory.[9]

> "Taking jurisprudence does not divide a single parcel into discrete segments and attempt to determine whether rights in a particular segment have been entirely abrogated. . . . [T]his Court focuses rather . . . [on] the parcel as a whole — here, the city tax block designated as the 'landmark site.'"[10]

No theoretical economic foundation supports the parcel-as-a-whole rule. Neither is any support provided for this reasonably cavalier assertion within *Penn Central* or subsequent decisions citing back to *Penn Central*.[11] The parcel-as-a-whole notion became a bedrock takings precedent with no precedent, justification, or empirical underpinnings.[12]

Legal scholars and litigators have been struggling for the last twenty years in search of a reason behind the economic premise for the decision in *Penn Central*; i.e., that allowing the terminal to be used "as it [had] been used for the past 65 years"[13] did not impose compensable economic loss because adequate value remained in the ongoing terminal business. In view of the new standing accorded economic impacts by the *Bennett* decision,[14] the twentieth anniversary of *Penn Central* is a good occasion: (i) to examine the way economics was mis-introduced into takings law via *Penn Central*; (ii) to trace the evolution of economic doctrine and practice through takings cases; and (iii) to fuse economic theory with legal precedent in the evaluation of takings claims.

Accordingly, this paper is divided into three sections comprised of eleven subsections.

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[8]Christopher J. Duerksen & Richard J. Roddewig, *Takings Law in Plain English* < http://www.igc.apc.org/arin /tipe.html> .

[9]*Penn Central*, 438 U.S. at 130.

[10]438 U.S. at 130-31.

[11]*See, e.g.*, Concrete Pipe and Prod. v. Construction Laborers Pension Trust, 508 U.S. 602 (1993).

[12]Michelman's article, discussed *infra* Section 3.1, is the only support offered by Justice Brennan. *See also* John E. Fee, *Unearthing the Denominator in Regulatory Takings Claims*, 61 U. CHI. L. REV. 1535 (1994). "[T]he Court . . . has failed to define 'parcel as a whole.'" *Id.* at 1545. *See also* Gideon Kanner, *Hunting the Snark, not the Quark: Has the Supreme Court Been Competent in its Effort to Formulate Coherent Regulatory Takings Law?* 30 URB. LAW. 307 n.8 (1998).

[13]438 U. S. at 136.

[14]Bennett v. Spear, 520 U.S. 154 (1997). *See also* William Wade, *Economic Impacts, The Bennett Decision, and Investment-Backed Expectations*, 6 CAL. LAND USE L. & POL'Y REP. 11 (1997).

2. Tangible v. Intangible Assets

Penn Central's two economic concepts, "economic impact"[15] and "investment-backed expectations,"[16] are measurable with established benchmarks by which to gauge the severity of an economic injury. While the Brennan majority never defined the terms, their meaning is no mystery to financial and economic theorists and practitioners. Only the third factor contains reasonably vague language: "character of government regulation."[17]

In regulatory takings cases, economic losses arise from diminution of value of the tangible assets (real property) or from the proscribed economic use of the property (intangible assets) including, where allowed in state courts, and if appropriate, loss of business goodwill. Total economic value, thus, is the sum of tangible asset value plus intangible asset value.

$$\text{Total Value} = \text{Tangible Asset Value} + \text{Intangible Asset Value} \quad \textbf{(1)}$$

An unforeseen regulatory prohibition of a planned business use of property could change its economic value due to a change in the value of the tangible assets and/or due to a change in the value of the intangible assets. If the tangible assets are not affected by the regulation, then the effect of the regulation would be ascribed to the foregone uses of the property, the intangible assets. In *Nollan*[18] and *Dolan*,[19] the tangible assets were devalued by the governments' land dedication requirements. In *Whitney Benefits*,[20] the mining opportunity, an intangible asset, was

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[15] *Penn Central*, 438 U.S. at 124.

[16] *Id.* at 105.

[17] *Penn Central* defined this as "reasonably necessary to…[achieve] a substantial public purpose…" 438 U.S. at 127 (citing Nectow v. Cambridge, 277 U.S. 183 (1928); Moore v. East Cleveland, 431 U.S. 494, 513-14 (1977)). Since then, *Agins v. City of Tiburon*, 447 U.S. 255 (1980), decided that the government action must "substantially advance legitimate state interests." *Nollan v. California Coastal Comm'n*, 483 U.S. 825, 838 (1987), decided that an exaction must be "reasonably related to the public need or burden." *Dolan v. City of Tigard*, 512 U.S. 374, 403 (1994), added that the action must pass a "rough proportionality" test in nature and extent. These cases are hailed as advancing the understanding of what, beyond assuring health and safety, constitutes legitimate state interests.

[18] 483 U.S. 825 (1987).

[19] 512 U.S. 374 (1994).

[20] Whitney Benefits, Inc. v. United States, 926 F.2d 1169 (1985). This was a coal case. Plaintiff purchased the property before the 1977 passage of the SMCRA, which prohibited mining the coal. *Id.* Claimants demonstrated a competent mining plan, market demand, and reasonable investor expectations. *Id.* The United States finally paid $60 million in damages in 1995, plus interest. *Id.*

foreclosed.

Penn Central deals with intangible assets. Specifically, the foreclosed lease income from the new office building over the existing terminal. Like Old Marley being dead for seven years, dead as a door-nail, you must understand this, or the rest of the story makes no sense.[21]

3. Off on the Wrong Foot: *Penn Central*

The heart of the *Penn Central* controversy stems from the conflict between Justice Rehnquist speaking for three dissenters and Justice Brennan speaking for the majority of five:

- Should compensation be awarded based on the property's foreclosed capacity to earn higher future returns, but for the Landmarks Law, from a new permitted, investment in the "multistory office building cantilevered above the Terminal?"[22]

Or,

- Should compensation be denied because the existing property is earning a reasonable return to its past investments, even after the regulation?[23]

Penn Central introduced the parcel-as-a-whole ruling as the basis (denominator) for evaluating the severity of diminution of value.[24] The lack of distinction between tangible and intangible asset values is one source of the confusion that arises in the *Penn Central* property ruling. This ruling produced a core legal precedent that dictates the evaluation of the effect of the regulation on the remaining value of the entire property, and ignores the specific loss of the element of the owner's property right that brought the action. *Penn Central* started off on the wrong foot by focusing on value remaining in the tangible assets — "the city tax block" — rather than the lost lease income from the building opportunity.[25] So long as the property owner retains some economically viable

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[21]CHARLES DICKENS, A CHRISTMAS CAROL (N.Y. DK Pub. 1997). Besides, the Attorney General's Guidelines for the Evaluation of Risk and Avoidance of Unanticipated Takings explicitly stated that "The Fifth Amendment's protection extends to all forms of property -- real and personal, tangible and intangible." Exec. Order No. 12,630, 53 Fed. Reg. 8859 (1988).

[22]*Penn Central*, 438 U.S. at 141 (Rehnquist, J., dissenting).

[23]*Id.* at 136.

[24]*Id.* at 131.

[25]*Id.* at 104. Seemingly, the decision treated air rights as a step-child to a more visible tangible asset, the city block. Arguably, Penn Central's air right was no less tangible than the city block in question that housed the terminal. Penn Central certainly retained the right to exclude aircraft from its air space. Aside from the uncertain TDR, no other use of value to Penn Central existed for the air right. Consequently, its required use under the Landmarks Law as a buffer for the historic terminal could be seen as a physical seizure.

use of the entire property, there is no taking and compensation is not awarded.[26] "Set formula" aside, the misfocus on value remaining rather than value taken impeded the search for guidelines to determine whether a regulation effects a taking.

3.1 Decision Misapplied `Speculator Exception'

Professor Mandelker showed in 1987 that Justice Brennan's logic was based on a misreading or misapplication of a theory that sought to prohibit ill-gotten gains from land speculation.[27] Mandelker argues that Justice Brennan relied on Michelman's 1967 Harvard Law Review article,[28] which he cites in his opinion,[29] as a basis for categorizing property into protected and unprotected expectations.[30] Mandelker shows that these distinctions are a misread of Michelman's original intent.[31] Mandelker interprets the original article to mean that "[b]ecause the speculator has 'what he had before,' a land use regulation that lessens the value of his [vacant] land [with no specific plans] is not a taking."[32] Overlooking the nuance in Michelman's original text that land speculators are some sort of moral plague on society with no need of protections against changing regulations, Justice Brennan broadly misapplied the "speculator exception" to Penn Central's business plan.

Justice Brennan also misconstrued or ignored Michelman's partitioning of the fee simple bundle into twigs. Michelman sought to clarify "the 'fraction of value destroyed' test, [which] . . . appears to proceed by first trying to isolate some 'thing' owned by the person complaining which is affected by the imposition. . . . Once having thus found the denominator of the fraction, the test proceeds to ask what proportion of the value . . . formerly attributed by the claimant to that

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[26]*Florida Rock Indus. v. United States*, 18 F.3d 1560 (1994), is not an exception to this assertion; while some residual value remained, no economically viable use was discovered. *Florida Rock* entered the court system fifteen years ago over denial of a permit by the Corps of Engineers to mine ninety-eight acres of aggregate limestone purchased in 1972, before the regulatory prohibition subsequently imposed by federal law. The case was tried by U.S. Court of Claims, reversed by the Federal Circuit court in 1986, *Florida Rock II*, 791 F.2d 893 (1986); retried by Claims court in 1990, *Florida Rock III*, 21 Cl. Ct. 161 (1990); and, reversed again in 1994 by the federal circuit, *Florida Rock IV*, 18 F.3d. 1560, 38 ERC 1297 (1994). Valuation testimony on remand was heard in April 1996, in *Florida Rock V*. After three years, the case is still pending before Chief Judge Loren A. Smith in the Court of Federal Claims and no damages have been paid so far.

[27]Daniel R. Mandelker, *Investment-Backed Expectations: Is there a Taking?*, 31 WASH. U.J. URB. & CONTEMP. L. 3 (1987).

[28]Frank L. Michelman, *Property, Utility and Fairness: Comments on the Ethical Foundations of Just Compensation Law*, 80 HARV. L. REV. 1165 (1967).

[29]438 U.S. at 103.

[30]Mandelker, *supra* note 27, at 10.

[31]*Id.*

[32]*Id.* at 12 n.38.

`thing' has been destroyed by the measure. If practically all, compensation is to be paid."[33] To tighten this standard, Michelman argued that the test should ask not "how much value has been destroyed, but whether or not . . . the measure in question can easily be seen to have practically deprived the claimant of some distinctly perceived, sharply crystallized, investment-backed expectation."[34] Thereby, Michelman created the language adopted in *Penn Central* and specifically applied the standard to discrete twigs of the fee simple bundle, including potential uses where supported by distinctly crystallized expectation.[35] Justice Brennan, without doubt, misread Michelman on his application of the investment expectations to the bundle in lieu of twigs or "isolate[d] things."[36] This was no small error because it led to the denominator being the value of the city tax block instead of the value of the air rights. This initiated the confusion over the "takings fraction."[37]

3.2 New York Decisions as the Source of Confusion

Perhaps, Chief Judge Breitel's economic lunacy in his decision in the New York Court of Appeals[38] confused the Brennan majority. The Court of Appeals ignored Penn Central's air space building opportunity foreclosed by the Landmarks Law, and instead imputed to Penn Central's owners and investors "air" dollars associated with Penn Central's "heavy real estate holdings in the Grand Central area, including hotels and office buildings."[39] Judge Breitel failed to recognize that the existing hotels and office buildings already laid claim to the flow of income that he arbitrarily and without legal or economic foundation chose to share with Grand Central in lieu of the income from the 55-story building. He contributed the Breitel Doctrine of legal-economic nonsense: "[P]roperty may be capable of producing a reasonable return for its owners even if it can never operate at a profit,"[40] as a social justification for requiring Penn Central to maintain the facade of the Grand Central Terminal.

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[33]Michelman, *supra* note 28, at 1190-93.

[34]*Id.* at 1190-96.

[35]*Penn Central*, 438 U.S. at 124.

[36]Justice Brennan's favorite citation from Michelman, *supra* note 28, at 1229-34, for the basis of his misconstruction of takings decision criteria can be found in *Penn Central*, 438 U.S. at 124.

[37]*See* Steven J. Eagle, *Regulatory Takings*, MICHIE 324, § 8-2(h)(1996) (providing extensive and illuminating discussion of the problem of the takings fraction.) Of the cases discussed by Eagle, Loveladies Harbor v. United States, 28 F.3d 1171 (Fed. Cir. 1994) evidences some advance in judicial insight.

[38]Penn Cent.Transp. Co. v. City of New York, 397 N.Y.S.2d 914 (N.Y. 1977).

[39]*Id.* at 920.

[40]*Id.*

While Judge Breitel's "judicial ad hocery"[41] arbitrarily agglomerated income from the whole neighborhood surrounding Grand Central to substitute for the foreclosed opportunity, Justice Brennan, at least, narrowed the income stream to only the whole city tax block.[42] Both decisions failed to acknowledge as a starting point that Penn Central was financially injured regardless of any remaining income streams associated with existing fixed investments. Neither decision provides any legal or economic support for invoking broader aspects of the owner's property into the analysis. The merits, social or otherwise, of a new investment cannot be evaluated by distracting the analysis with financially irrelevant income streams. The "identifiable segment of property"[43] is the planned use of the property, as Justice Rehnquist alone recognized.

Professor Richard Epstein recognized the *Penn Central* agglomeration errors in both his 1993 and 1998 articles:

> "Only one thing is relevant: . . . what is taken is what counts; what is retained or the ratio between retained and taken property is irrelevant . . . ."[44]

> "The only test for takings that matters is one that looks at the rights that were lost, and not their relationship, be it large or small, to the property that was retained."[45]

"Judicial ad hocery" notwithstanding, economics dictates that the analysis begin with and focus upon "distinctly perceived, sharply crystallized, investment-backed expectations [related to] that 'thing,' [which] has been destroyed by the measure"[46] -- just as Professor Michelman had in mind.

3.3 Decision Ignored Investor Expectations

The foreclosed Penn Central opportunity was not speculative. It was described as a renewable 50-year lease with UGP Properties, which proposed to build a 55-story office building above the Terminal and pay Penn Central $1 million per year during construction and at least $3 million annually thereafter, offset in part by Penn Central's loss of $700,000 - $1,000,000 in existing

[41]Eagle, *supra* note 37, at 327.

[42]438 U.S. at 136-37. Justice Brennan's implicit delimitation of the denominator didn't go far enough.

[43]Keystone Bituminous Coal Ass'n. v. DeBenedictis, 480 U.S. 470, 517 (1986) (Rehnquist, J., dissenting).

[44]Richard A. Epstein, *Lucas v. South Carolina Coastal Council: A Tangled Web of Expectations*, 45 STAN. L. REV. 1369, 1376 (1993).

[45]Richard A. Epstein, *Pennsylvania Coal v. Mahon, The Erratic Takings Jurisprudence of Justice Holmes*, 86 GEO. L.J. 875, 899 (1998).

[46]Professor Epstein, like Professor Mandelker, recognized the Court's misperception of the meaning of the Michelman article in 1987. *See* Richard A. Epstein, *Takings: Descent and Resurrection*, 1987 SUP. CT. REV. 1, 1-45.

rentals presently received from displaced concessionaires.[47]

The majority decision affirmed that "New York City law does not interfere in any way with the present uses of the Terminal. . . . Appellants may continue . . . not only to profit from the Terminal but also to obtain a 'reasonable return' on its investment."[48] Thus, *Penn Central* focused on the tangible assets of the ongoing rail business, which were not diminished by the prohibition on building above the rail yard. The intangible asset value at issue, the prospective income from the use of the air rights above the Terminal, however, was 100 percent lost. The Court ruled that the foreclosed opportunity of the single stick of property rights, the space above the Terminal slated for development, did not diminish the income from the whole property sufficiently to justify a finding that the "[investment-backed] primary expectations concerning the use of the parcel as a railroad terminal were frustrated."[49] This ruling appears to ignore changes in the world that may either dictate or present new investment opportunities. Obviously, the existing and insufficient revenues from Grand Central Terminal did not substitute for the foreclosed 55-story office building opportunity.

The decision overlooks diminished investors' expectations about the growth of the whole business in relation to expectations about the income from the 55-story building development above the terminal. The relative importance of this new income compared to the declining income of the rails business was the single-most salient stick to evaluate. This stick, doubtless, would have become the tree trunk for the future Penn Central enterprise, the "essential stick" of the future "bundle."[50] Penn Central rail stock was taken over by the federal government in 1975-76 to operate as Conrail. The terminal operation was taken over by New York City's Metropolitan Transit Authority in 1983 in a state of disarray.[51] The historic facts demonstrate that the plaintiffs faced a fatal hardship that was unrecognized by the New York Appellate and Supreme Courts,

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[47]*Penn Central*, 438 U.S. at 117.

[48]*Id.* at 136. Given that the Penn Central ceased to exist as a railroad in 1976 and was being operated as Conrail under federal bankruptcy protection, Justice Brennan's "reasonable return" conclusion is difficult to understand. A "reasonable return" for a company operating in bankruptcy is self-canceling. *Id.*

[49]*Id.*

[50]Right to exclude was determined to be an essential stick of the property rights bundle in *Kaiser Aetna v. United States*, 444 U.S. 164 (1979). Right to exclude appears to be a "more equal" Orwellian stick than the right to transfer property among alternative uses. Seemingly with no regard to this economic attribute of property, the *Penn Central* decision attenuated Penn Central's use of its property.

[51]In 1970, Penn Central became the largest bankruptcy in U. S. history. Metro North, a subsidiary of New York's MTA, took over operation of Grand Central Terminal in 1983 under a lease from Penn Central. Metro North described their takeover of Grand Central in 1983 as salvaging it from "the wreckage of Penn Central." Telephone conversation with Marge Anders, Public Information, Metro North (Sept. 22, 1998). Grand Central Terminal was eventually restored at public expense by the MTA.

which ultimately resulted in slow decay and confiscation that can be dated back *ab initio.*[52]

3.4 Rehnquist Dissent

Justice Rehnquist's dissent accepts Penn Central's contention that it was in a financially precarious position and needed the increased source of revenues from the UGP lease to survive.[53] He argues that the landmark designation had the effect of destroying "substantial property rights of Penn Central," the air space over the terminal.[54] Consistent with economic theory, he defines the loss in terms of the foreclosed opportunity to earn increased returns attributable to the air rights.[55] Disputing the majority's ruling that a compensable taking only occurs where a property owner is denied all reasonable value of his property, Justice Rehnquist emphasized the lost stream of income from the new UGP lease income suffered by the owners and shareholders of Penn Central, irrespective of the reasonable returns to the terminal business.[56] Justice Rehnquist 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."[57]

Justice Rehnquist's later decision in *Duquesne Light Co. v. Barasch*[58] emphasized that physical assets are not simply balance sheet items, but "assets . . . to be valued . . . [as] devoted to the . . . enterprise."[59] This grasp of property as earning assets is exactly akin to his earlier position in *Penn Central*, which recognized the property taken as the foregone earnings from the leased air space. His position is aligned with economic theory and practice. Value remaining in either Justice Breitel's assessment of other "holdings in the Grand Central area," or Justice Brennan's assessment of the "city tax block," are not relevant to the question of the degree of economic impairment to the "distinct, investment-backed expectation." The financial analyst has no

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[52]Penn Central Trans. Co. v. City of New York, 377 N.Y.S.2d 20 (N.Y. App. Dir. 1975). The court ruled that "plaintiffs have shown hardship but not confiscation." *Id.* at 29.

[53]*Penn Central*, 438 U.S. at 143.

[54]*Id.*

[55]*Id.*

[56]*Id.*

[57]*Id.* at 149 n.13. The footnote appears to point out politely that the majority was not schooled in the meanings of the economic terms used in their language.

[58]488 U.S. 299 (1989).

[59]The full citation concerning the prudent investment rule is: “What was ‘taken’ by public utility regulation is not specific physical assets that are to be individually valued, but the capital prudently devoted to the public utility enterprise by utilities’ owners." *Id.* at 309.

difficulty defining the "takings fraction" to consist of the "sticks" at issue, not the "bundle,"[60] and not the comparison of values for the stick to that of the bundle. Justice Holmes never articulated a comparison in Pennsylvania Coal. He was only concerned with understanding the extent of the loss--whether the regulation went "too far," as Professor Epstein pointed out in his 1998 article.[61]

4. Evidentiary Failures by Penn Central Supported Flawed Decision

Penn Central's expert case got off on the wrong foot as well. Economic testimony in the legal case was managed no better than Penn Central's rail business, which was operating under bankruptcy protection in the mid-1970s. The underlying New York decisions do not report the effect of foreclosed future payments from the lease on Penn Central's return on investment. Neither is any evidence discussed that relates to investors'/owners' investment-backed expectations with and without the new building. Are they made worse by the decision? To be sure, yes; how much worse is not in evidence. No evidence is reported to refute Justice Brennan's opinion that Penn Central was earning a "reasonable return."[62]

An important fact not emphasized in legal discourse of this core precedent case is that the New York Appellate Division rejected the only empirical evidence, the accounting testimony, "Statements of Revenues and Costs," presented by Penn Central in trial![63] The Brennan majority echoed this ruling: "[I]n the court's view, appellants had improperly attributed some railroad operating expenses and taxes to their real estate operations, and . . . fail[ed] to impute any rental value to the vast space in the Terminal."[64] So the Brennan majority relied on no economic testimony to evaluate its two economic factors listed on page one of this article.

Penn Central's claim of an operating loss for the existing terminal was not only disregarded, but the evidence was focused backward to show that Penn Central could not afford the upkeep on the historic landmark, rather than forward to emphasize the lost rental income. No competent showing of Penn Central's "reasonable return" with and without the building project was proffered. The Court's conclusion that Penn Central "not only . . . [profited] from the Terminal

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[60]Hopefully, this responds to Professor Epstein's demand that "Any theory of regulatory takings [that fails] . . . to come to grips with [the denominator, or the property interest against which the loss of value is to be measured] is dead before it is born." *Epstein, supra* note 44, at 1375.

[61]Epstein, *supra* note 45, at 892.

[62]*Penn Central*, 438 U.S. at 106. At 438 U. S. 129, fn 26, Justice Brennan rejected the Penn Central Reply Brief claim that Penn Central was not earning a reasonable return on the Terminal. Dealing with this issue in a footnote and reply brief relegates a central economic point to a virtual side bar.

[63]*Penn Central*, 377 N.Y.S.2d at 28.

[64]438 U.S. at 120.

but also obtain[ed] a 'reasonable return' on its investment"[65] was an unrebutted assumption by the court. The Court's economic failings began with Penn Central's submitted evidence; Penn Central submitted accounting data rather than standard (in 1978) financial analysis to show the importance of the intangible asset values to the future of the company.

Evidence of the foreclosed economic value of the lease income defined in terms of the present worth of the flow of future returns discounted at the Penn Central's opportunity cost of capital was not submitted. The loss of the intangible asset value of the UGP lease opportunity had an effect on stockholders' equity that is not in evidence. The business enterprise's inherent tangible and intangible asset characteristics were not presented by Penn Central's lawyers and not recognized by the Court. Economic theory treats the earnings on the tangible assets of the Terminal as unrelated to the foreclosed air rights development plan; the opportunity was lost, regardless of the viability of the underlying terminal. Distinct investment-backed expectations related to the planned development above the Terminal were 100 percent frustrated by the Court's assertion that the owners would continue to earn a reasonable return on the Terminal business.

5. *Keystone* Extended the Error

The Court's ruling in *Keystone Bituminous Coal Ass'n. v. DeBenedictis*[66] is seen as confirming the whole parcel property interpretation and excluding consideration of intangible asset values. But no intangible asset values were at issue in *Keystone* The Court's denial of the takings claim was right for the wrong reason.

5.1 Claimants Demonstrated No Economic Loss

Keystone confirms the Court's confusion with economic common sense. Yet, the decision is consistent with economic practice. It recognized that the economic viability of the thirteen mines would not change because the total coal in place was so large, compared to the support coal, that the foreclosed support reserves did not reduce current "investment-backed expectations."[67] Keystone's lawyers submitted no evidence of economic impact to investment-backed expectations because not one of the thirteen mines that were part of the Association claimed any economic loss related to Section 4 of Pennsylvania's Subsidence Act.[68]

The evidence within the decision shows that the Subsidence Act required twenty-seven million tons to be left in place to support the Section 4 areas. The total coal in place in the mines surveyed at

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[65] *Id.* at 136.

[66] 480 U.S. 470 (1987).

[67] *Id.*

[68] *Id.* "[P]etitioners have never claimed that their mining operations, or even any specific mines, have been unprofitable since the Subsidence Act was passed." *Id.* at 471.

1.46 billion tons; thus, the Act only affected two percent of the coal in place — not fifty percent as claimed to obfuscate the economic facts. The petitioner's lawyers brought this takings case with no discernable economic damages, and with only a gobbelty-gook response to the question about the effects of the Act on their clients: "An assessment of the actual impact that the Act has on petitioners' operations 'will involve complex and voluminous proofs,' which neither party [is] currently in a position to present."[69] Failure to provide evidence of economic impact on their clients offended the first particularly significant *Penn Central* factor. The Boyd Mining Plan placed in evidence in the *Whitney Benefits* case reveals the nature of the evidence needed to substantiate economic losses in a mining case and reveals by comparison the deficiency of the Keystone lawyers' response.[70]

Keystone was decided on the first prong of the *Agins* test.[71] Preventing a harm, subsidence, was judged to have sufficient weight as a legitimate state interest to avoid payment of compensation.[72] The Court should have stopped after its discussion of the *Pennsylvania Coal* subsidence issues within the case.[73]

5.2 Court Imposed Senseless Economic Balancing Test

Justice Stevens expanded *Penn Central's* confusion with what to measure and balance in a takings claim within the *Keystone* decision. Courts have adopted the comparison in the decision as if it reveals some theoretical insights.[74]

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[69]*Id.* at 493.

[70]*Whitney Benefits*, 926 F.2d at 1172 n5 (describing the Boyd Plan, part of which is in the writer's files). See *infra* Section 9.2 for a discussion of the lessons learned from *Whitney Benefits* about evidence.

[71]*Agins*, 447 U.S. 255. The *Agins test* is discussed *infra* in Section 7.

[72]*Keystone* added an implicit rank ordering of government actions, 480 U.S. at 470, sufficient to support an uncompensated takings—and sufficient to overcome the *Pennsylvania Coal Co. v. Mahon*, 260 U.S. 393 (1922), precedent on similar facts. The critical economic difference was that the support coal in *Keystone* was worth a great deal to the surface land owners, while the support coal had virtually no value to the miners, and no demonstrated value within the case. Moreover, surface property owners in the 1922 case explicitly did not purchase in 1878 the right to expect the coal company to support buildings and roads built above the mine. Passage of the Kohler Act 43 years later in 1921, required protection of surface rights, but abrogated the original agreement between surface and mining rights owners. Justice Holmes agreed with the coal company's assertion that it could not profitably operate the mine because of the Kohler Act and concluded that the mining company's losses went "too far." *Id.* at 415.

[73]These are described as "issues of paramount constitutional law with which the courts, regulators, and property owners had been wrestling for years." Berger, *supra* note 7, at 737.

[74]Justice Rehnquist remained consistent with his dissent in *Penn Central*, writing in the dissent to *Keystone* that a taking occurs whenever "the government by regulation extinguishes the whole bundle of rights in an identifiable segment of property..." 480 U.S. at 517. Rehnquist understood Michelman's argument about sticks.

> Because our test for regulatory taking requires us to *compare the value that has been taken from the property with the value that remains* in the property, one of the critical questions is determining how to define the unit of property 'whose value is to furnish the denominator of the fraction.'"[75] (emphasis added).

The decision cites Justice Brennan's favorite article by Michelman to reaffirm the mistaken belief that some plausible theory dictates that the denominator should be measured by the entire bundle of property sticks: The "argument [that the twenty-seven million tons are a separable stick] fails for the reason explained in *Penn Central* and *Andrus.*"[76] In fact, the argument fails based on the economic finding that no foregone economic value associated with the twenty-seven million tons of coal is demonstrable because the support coal could only become minable coal, if at all, so far in the future that its present value is virtually nil.[77]

The Court and subsequent legal decisions failed to recognize the empirical fact of *Keystone* that no economic loss was associated with the stick in question, the support coal. The owners were not shown to have been deprived of any economically viable use. The tangible and intangible asset paradigm reveals no intangible asset values at issue in *Keystone*. So, *Keystone* cannot be deemed to have ruled them out. If the coal had no demonstrable economic use prior to the regulation, then the regulation cannot be said to have deprived the mine of any economic use. "[T]he destruction of one [stick] of the bundle is not a taking..."[78] only if the stick has no demonstrated economic value. This corrects *Keystone*'s misapplication of *Andrus.*[79] Unfortunately, the Court's language emphasized a balance of the value taken compared to the value remaining to reinforce its erroneous misapplication of Michelman's "speculator exception."[80]

Unlike the *Keystone Coal* record, which reveals the salient fact of no demonstrable economic loss, the *Penn Central* record does not reveal the importance of the lost building income of the foreclosed building development. The building income was a current loss. The *relative*

See Michelman, *supra* note 28, at 1165. Hard to imagine, however, what damages Rehnquist might have awarded because no economic loss was in evidence for the identified segment of coal.

[75]480 U.S. at 497 (quoting Michelman, *supra* note 28, at 1192).

[76]*Id.* at 498. Makes you wonder if anyone actually read the article in the intervening nine years.

[77]*Id.*

[78]*Id.* at 480.

[79]*Andrus v. Allard*, 444 U.S. 51 (1979). "[W]here an owner possesses a full 'bundle' of property rights, the destruction of one 'strand' of the bundle is not a taking, because the aggregate must be viewed in its entirety." *Id.* "Sticks" or "strands" -- this language misdirects attention from the loss; the initial failing perpetrated by the "bundle" language is to frustrate the importance of the loss.

[80]Michelman, *supra* note 28, at 1165.

importance of the building lease income compared to the terminal income is missing from Penn Central's submitted evidence.[81]

6. *Penn Central* Ruling Confounded Economic Efficiency

The error created by *Penn Central's* remaining value aspect of the "whole-property" legal theory was compounded by *Concrete Pipe and Products v. Construction Laborers Pension Trust*[82] decided in 1993. That decision cited *Penn Central* and reaffirmed that for purposes of analyzing whether a regulation has interfered with reasonable investment-backed expectations, the property must be viewed as a whole.[83] The *Concrete Pipe* Court wrote: "mere diminution in the value of property, however serious, is insufficient to demonstrate a taking."[84] While true, diminution, however small, is the essential element for one side of the balance scale; the public gain is the other side. Value remaining is on neither side of the balancing process envisioned by *Pennsylvania Coal*: "while property may be regulated to a certain extent, if the regulation goes too far it will be recognized as a taking."[85] Factors discussed in that case to consider in determining how far is "too far" are the extent to which the regulated property is diminished in value as a result of the regulation and the extent of benefit conferred on the claimant and similar regulated properties by the regulation.[86] While Justice Holmes only vaguely conceived the benefits side of the balance, his standard clearly had in mind value taken from the property as the other side.[87] Diminution that amounts to be a measurable economic impact remains the first step to estimate and document.

The *Penn Central* Court's mis-focus on the value remaining, rather than the extent of loss, eliminated the consideration of economic efficiency in its decision. Economic efficiency, also

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[81]438 U.S. at 104. If this sounds like the proverbial two-handed economist's second point of view, this is correct. On the one hand, the takings analysis should simply evaluate the effect of the regulatory imposition on the investment in the "stick." On the other hand, the forthcoming importance of the building lease income compared to the declining prospects of Penn Central's rails business would have been an interesting *ad hoc* comparison to reveal the effect of changing commuter patterns (via auto) on Penn Central's failing economic health. The facts of taking cases tend to be unique, and in this case the likely importance of the income from the office building compared to the declining rails income even might have passed the specious comparison test that emerged in *Keystone*. 480 U.S. at 470.

[82]113 S. Ct. 2264 (1993).

[83]*Id.* at 2290. "[W]e rejected this analysis years ago in *Penn Central* . . ., where we held that a claimant's parcel of property could not first be divided into what was taken and what was left…" *Id.*

[84]*Id.* at 2291.

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

[86]*Id.*

[87]*See* Epstein, *supra* note 45, at 877 (providing discussion on Holmes' and Brandeis' differing intuitions of "modern . . . social welfare theory").

labeled Pareto efficiency, implies nothing more complicated than that resources be used and traded so that all parties and society are made better off by the outcome. In a takings case, this implies that the decision must balance the loss in property value with the public's gain from the regulation to discover whether society would be better off with the foreclosed use of the property or with the intended regulatory purpose. Economists speak of the effects of policy changes on social welfare as being potential Pareto-improvements if those who gained could afford to compensate the losers. If not, the policy would cause a net loss of society's goods and services. This test is also cited as the Kaldor-Hicks criteria after their independent 1939 research reaching a similar finding.[88]

Justice Brennan's attention to the amount of value remaining, rather than the value lost,[89] abrogated the essential economic efficiency implicit in Justice Holmes' 1922 balancing decision.[90] Balancing the cost of regulation that "goes too far"[91] against the public gain cannot be achieved if the economic impact of the regulation is not central to the decision process. Only by weighing economic efficiency can we know whether the regulation advances legitimate state interests sufficiently to justify the regulatory imposition. Efficiency is served only if society's welfare is enhanced by the policy such that the winners could afford to pay for the taken opportunity.

Much economic literature on takings deals with equity and efficiency.[92] Efficiency deals with resource allocations in terms of over-/under-investment or over-/under-regulation depending on whether government pays for the impact of its regulation. Equity considers who should pay and tends to conclude that beneficiaries of regulation should bear the costs. Where owners are also beneficiaries, they end up paying the cost under the first prong of the *Agins test*. The economist's holy grail would be a takings bright line test that establishes optimal compensation criteria that induce efficient regulation and avoid distortions in land use decisions.[93] None of the efficiency issues and none of the equity issues in the literature hinge on the outcome of a test that compares the amount of value remaining in the property to the amount of value taken. No theoretical foundation supports the comparison as any sort of efficiency or compensation decision rule. Professor Epstein's views are correct for this reason.[94]

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[88]J. Hicks, *The Foundations of Welfare Economics*, 49(4) ECON. J. 696 (1939); N. Kaldor, *Welfare Propositions in Economics and Interpersonal Comparisons of Utility*, 49(4) ECON. J. 549 (1939).

[89]*Penn Central*, 438 U.S. at 104.

[90]*Pennsylvania Coal*, 260 U.S. at 415.

[91]*Id.*

[92]This literature is succinctly reviewed in Thomas J. Miceli and Kathleen Segerson, *Regulatory Takings: When Should Compensation Be Paid?*, 23 J. LEGAL STUD. 749 (1994).

[93]Thomas J. Brennan & James Boyd, Political Economy and the Efficiency of Compensation for Takings (1995) (RFF Discussion Paper 95-28) (extending the Miceli and Segerson model). No Holy Grail is in sight.

[94]*See supra* notes 44-46 and accompanying text.

The decision to compensate Penn Central owners should have been based on the balancing test implicit—but not recognized—within *Penn Central.* If the foreclosed new office building was worth less to Penn Central than the benefits to society of preserving the Grand Central Terminal, then the regulatory decision can be said to efficient. If so, the benefits of preserving the historic Penn Central landmark might have been shown or argued to be so substantial and indivisible that "justice and fairness" required the preservation costs to be borne by the taxpayers of New York as Justice Rehnquist argued in his dissenting opinion.[95] The Appellate decision emphasized that "[t]he Terminal site is a valuable location for an office building. It is in the heart of a commercial area occupied mainly by high-rise commercial structures such as office buildings and hotels. . . If construction of [the new office building] had commenced. . .the City could have received substantially increased property taxes. . ."[96] These foregone taxes, Penn Central's profits, and benefits to employees might have been larger than the preservation benefits. The record of the case leaves unknown whether society and the City of New York would have been better off with or without the UGP office building. The court's distraction with values elsewhere in the vicinity and Judge Breitel's social theory of economics distracted it from consideration of legitimate economic theories dealing with efficiency and equity.

The Landmarks Law arguably imposed an externality on Penn Central to maintain the building facade and forego the development of its property right. Alternatively, the Landmarks Law saved NYC's residents from the externality of the presumed erosion of the facade of Grand Central Terminal. The property right, however, was Penn Central's; hence, it is difficult to conclude that the policy protected an existing legitimate societal right to expect maintenance of selected historical buildings without payment. The misplaced emphasis on value remaining in the Grand Central Terminal shifted attention away from these essential considerations of the economic cost-benefit analysis. The decision considered no economic decision criteria related to size of the loss versus magnitude of society's gain.

II. Evolution of Economic Doctrine and Practice in Takings Law

7. Advancement of First Prong of *Agins* Test Left Behind Economics

Penn Central's three factors were reformulated as two prongs two years later. *Agins II* applied a two-part legal test derivative of *Penn Central* to determine whether a regulatory taking had occurred.[97] Subsequently called the *Agins* test, the Court held that a taking occurs if the regulation either does not "substantially advance legitimate state interests," or denies the property owner

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[95] 438 U.S. at 138-151. Ironically, it turned out that the taxpayers paid for it anyway. The MTA paid for the cost of restoration and preservation of Grand Central Terminal.

[96] Penn Cent. Trans. Co. v. City of New York, 377 N.Y.S.2d 20 (N.Y. App. Div. 1975).

[97] Agins v. City of Tiburon, 447 U.S. 255 (1980).

"economically viable use" of the property.[98]

If either of these conditions apply, a compensatory regulatory taking has occurred.[99] Government can stop the property owner's activity, but it must compensate the owner for the loss in value of the property. Unfortunately, both for the Agins and property owners with subsequent takings claims, the decision went against the Agins on the first criterion of the *Agins* test: legitimate state interests were somehow advanced by Tiburon's zoning restrictions that foreclosed their plans to build a house on five acres in which to raise their children.[100] No ruling was made on the economic viable uses of the property because Mr. Agins had not applied for a building permit.[101] Hence, the *Agins II* decision did nothing to define or refine *Penn Central's* economic "factors that have particular significance" in the determination of compensated takings.[102] *Agins II* added the word "viable" to the lexicon; but no threshold for denial of economically viable use was defined.[103]

Nollan v. California Coastal Commission[104] clarified the condition to be met by the government to demonstrate "legitimate state interests": An essential nexus must exist between the governmental mandate to the property owner and the public interest.[105] The Court ruled for Mr. Nollan finding that lack of nexus between the burdens imposed by the Nollans' reconstruction of their beachfront home and the required dedication of public access failed the first prong of *Agins*

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[98]*Id.* at 260.

[99]California went its own way in *Del Oro Hills v. City of Oceanside*, 31 Cal. App. 4th 1060 (1995) in deciding that both prongs of the *Agins* test must be met for a compensable taking, thereby confusing the original *Pennsylvania Coal* and subsequent *Penn Central* balancing notions. The State of Ohio re-conformed its interpretation of *Agins II* from a conjunctive test ("and") to the disjunctive case ("or") in *Goldberg Co. v. Council of Richmond Heights*, 690 N.E.2d 510 (Ohio 1998). Another California Court of Appeals rejected *Dell Oro Hills* in *152 Valparaiso Assoc. v. City of Cotatai*, 56 Cal. App. 4th 278, 385 (1997). The California Supreme Court confirmed the disjunctive in *Santa Monica Beach Ltd. v. Superior Court of Los Angeles Cty.*, 968 P.2d 993 (Cal. 1999).

[100]After 30 years of tumultuous planning, Bonnie Agins 'dream house' is finally being built. But she won't be a part of it. Neither will Mr. Agins, who was divorced from Ms. Agins in the 1980s. Petr Kiritchenko bought the property and has built a three-building estate with a 10,000 sq. ft, three level main house on the site. Charles Gallrado, *Home OK'd but not for original family*, MARIN INDEP. J., Oct. 21, 1997, at B5. *See also Agins*, 447 U.S. 255, 261.

[101]*Agins*, 447 U.S. at 260.

[102]*Id.* at 255; *Penn Central*, 377 N.Y.S.2d 20 (1975).

[103]*Agins*, 447 U.S. at 255.

[104]483 U.S. 825.

[105]*Id.* at 834.

II; i.e., the dedication did not substantially advance legitimate state interest.[106] *Nollan* did not address economic issues of the second prong.

Five years later, the Court specifically addressed the second prong of the *Agins* test, the economically viable use issue, in *Lucas v. South Carolina Coastal Comm'n.*[107] The evidence accepted as fact in *Lucas* showed that Mr. Lucas was prohibited from building any structures on his million dollar coastal property.[108] Mr. Lucas did not claim that the regulation, passed after his purchase by the Coastal Commission, to stop building on the beach was an impermissible use of the state's power.[109] This issue was not at question; the government met the first prong of the *Agins* test. Mr. Lucas claimed that the land was left without any "economically viable use;" he had lost all value in his property.[110] Justice Antonin Scalia, writing for the majority, stated that because the building prohibition deprived the land of all of its economic value, the state must pay just compensation.[111] South Carolina accepted this conclusion and eventually bought the land outright for Mr. Lucas' original purchase price plus interest.[112]

Lucas 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.[113] If some value remains, however small, *Lucas* provides no new guidance.[114] Justice Scalia recognized that a test based on the "deprivation of *all* economically viable use" sheds no light on when "a mere diminution in value of the tract" goes so far as to justify compensation even though some economic value remains.[115] While *Lucas* applied the

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[106]*Id.* at 841.

[107]505 U.S. 1003 (1992).

[108]*Id.* at 1005.

[109]*Id.* at 1009.

[110]*Id.*

[111]*Id.* at 1016.

[112]The state then re-sold the land to a developer as a building site! Apparently the State of South Carolina rebalanced the public needs when its money was at stake. *See* Michael Berger, *Environmental Protection? It Depends on Who is Paying*, L.A. DAILY J., Aug. 11, 1993.

[113]505 U.S. at 1019.

[114]A possibly perverse effect of *Lucas*, noted in Justice Stevens' dissent, is presented by Mandelker: "The result is that *Lucas* allows courts to reject, not approve, takings claims in the vast majority of land use cases in which they are likely to arise." Daniel R. Mandelker, *Of Mice and Missiles: A True Account of Lucas v. South Carolina Coastal Council*, 8 J. LAND USE & ENVTL. L. 295 (1993).

[115]505 U.S. at 1016 n.7 (emphasis added).

second *Agins* prong, the decision focused on the value of the property remaining, accepted as zero, and did not advance the consideration of when lesser economic losses become compensable.[116]

Dolan v. City of Tigard[117] added to Justice Scalia's concern about diminution in value as a criterion for compensable takings—as an afterthought. *Dolan*, like *Nollan*, advanced the first prong of the *Agins test* by requiring that the government show that nexus be sufficiently strong to warrant the burden imposed on the property owner; i.e., there must be "rough proportionality" between the imposition on the property owner and the impact of the development upon public facilities.[118]

Although *Dolan* relied on the first prong of the *Agins* test to rule for Mrs. Dolan, the Court noted that she was not denied economically viable use of her property.[119] Had Mrs. Dolan relied on the second prong of the *Agins test*, presumably she would have lost. The court wrote: "There can be no argument that the permit conditions would not deprive petitioner of 'economically beneficial use' of her property as she currently operates a retail store on the lot. Petitioner assuredly is able to derive *some economic use* from property."[120]

If the facts of *Dolan* imply that Mrs. Dolan's existing hardware business would not be impaired by the required bike path behind the store, had the Court relied on "some economic use remains" as a test, the government could have taken the right-of-way to provide a public benefit to the citizens of Tigard without compensation. "Some economic use remains," derivative of *Penn Central's* parcel-as-a-whole ruling, is no more insightful on the question that Justice Holmes had in mind—when does a regulation go too far? or when is diminution of value sufficient to justify a compensated taking?—than the *Lucas* decision.

Dolan moved the *economic* debate backward, away from an understanding of when compensation should be paid because of "the extent to which the regulation has interfered with distinct investment-backed expectations," while at the same time advancing the notion of "rough proportionality" between mandates and burdens. 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.

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[116]*Id.* at 1004.

[117]512 U.S. 374 (1994).

[118]*Id.* at 403.

[119]512 U.S. at 374.

[120]*Id.* at 385 (emphasis added).

8. *Whitney Benefits* Removed Inherent Economic Ambiguities

Courts have improved their understanding of economic practice in land use cases over recent years. *San Diego Gas and Electric v. City of San Diego*[121] explicitly included "reasonable future uses." *Williamson County RPC v. Hamilton Bank*,[122] added the word "profit" to the *Penn Central* language, clarifying exactly what investors expect.[123] Both of these cases reversed the 1979 standard from *Andrus v. Allard*[124] that "loss of future profits . . . provides a slender reed upon which to rest a takings claim. . . . [a] speculation that courts are not specifically competent to perform."[125] By 1989, the New York Court of Appeals had conformed its views to standard economic practice by focusing on expected profits in determining investment-backed expectations as the criterion by which to measure a takings claim in *Seawall Associates v. City of New York.*[126]

The *Florida Rock* and *Whitney Benefits* cases nailed down standard economic methods to estimate diminution of economic value. *Whitney Benefits* broke new ground by explicitly adopting the discount cash flow (DCF) model as the basis for evaluating the value of the foreclosed coal mine and rejecting the comparable sales method urged by the government.[127] A reasonable projection of the dollar flows of the lost business opportunity is the standard for estimating economic injury today.

In *Florida Rock IV*,[128] the court also confirmed that the economic loss need not be 100 percent to justify compensation. "Nothing in the language of the Fifth Amendment compels a court to find a taking *only* when the Government divests the total ownership of the property: the Fifth Amendment prohibits the uncompensated taking of private property without reference to the owner's remaining property interests."[129]

Florida Rock IV advanced the law to conform with economic practice and mitigated *Penn*

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[121]450 U.S. 621 (1981).

[122]473 U.S. 172 (1985).

[123]*Id.*

[124]444 U.S. 51 (1979).

[125]*Id.* at 66.

[126]542 N.E.2d 1059 (N.Y. 1989), *cert. denied*, 110 S.Ct 500 (1989).

[127] In spite of the Supreme Court's 1943 definition of fair market value based on market transactions. United States v. Miller, 317 U.S. 369, 373-74 (9th Cir. 1943).

[128]Florida Rock Industries v. United States, 18 F.3d 1560 (Fed. Cir. 1994).

[129]*Id.* at 1568 (emphasis in original).

Central's value remaining non-theory of economics. Regardless of the value remaining in the property, the court ruled that Florida Rock's land investments to mine limestone were frustrated by the Corps of Engineers' regulation.[130]

III. Economic Methods and Thresholds

9. Evaluation of Investment-backed Expectations

The benchmark phrases of takings law are analytically impoverished and must be subjected to quantitative economic analysis to infuse clarity into otherwise jumbled strings of words. 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.[131] Economic decision rules can clarify notions of reasonable investment-backed expectations, economic viability, and such language that is defined only vaguely in takings cases. The fact that courts have chosen not to implement numerical formulas to decide when a taking has occurred does not mean that courts are not remiss in defining the methods of measuring and conditions that would tip the balancing decision toward government or the property owner. While no "bright line standard" that encompasses all three *Penn Central* "particularly significant factors" is discovered, quantitative thresholds for the two economic factors are defined in this subsection.

9.1 Necessary and Sufficient Conditions

Professor Mandelker concluded a 1995 article: "If investment-backed expectations are to play a role in takings cases, courts must resolve [the] inherent ambiguities and develop a clear idea of what the term means."[132] William Walter surveyed the economic and investment literature[133] and fixed on John Maynard Keynes 1936 text The General Theory of Employment, Interest and Money to define that an investment is "the right to the series of prospective returns, which [the investor] expects to obtain . . . during the life of the asset [invested in]."[134] Economists have characterized investments in terms of expectations regarding the timing, magnitude and riskiness of outflows and inflows at least since Keynes. Therefore, the economic value of an investment is the present worth of the flow of future returns discounted at the investor's opportunity cost of capital; i.e., what he would expect to earn from the investment someplace else.

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[130]*Id.* at 1560-63.

[131]*See Pennsylvania Coal*, 260 U.S. 415 (1922).

[132]Daniel R. Mandelker, *Investment-Backed Expectations in Taking Law*, 27 URB. LAW. 215, 249 (1995).

[133]William S. Walter, *Investment-Backed Expectations in 'Takings' Jurisprudence*, (copyright 1995).

[134]*Id.*

Two joint standards emerge from the Supreme Court's rulings over the last two decades and offer guidance to allay Professor Mandelker's concerns. These can be read as the economist's necessary and sufficient conditions.

1. Economic impact is a necessary, but not a sufficient basis, for an owner to prevail on a takings claim unless the loss is 100 percent (e.g., *Lucas* categorical taking), in which case it is necessary and sufficient. The majority holds that "[M]ere diminution in the value of property, however serious, is insufficient to demonstrate a taking."[135]

2. Interference with reasonable investment-backed *profit* expectations can be a sufficient basis for a favorable takings decision if the loss from the distinct project undermines the economic viability of the entire property; i.e., if the regulation "denies an owner economically viable use of his [property]."[136]

Empirical, not *ad hoc*, factual analysis must reveal these conditions along with the fact that the impeding regulation was non-existent and unforeseen at the time of the investment. Once the focus becomes diminution of value, and not value remaining, or the comparison of value taken to value remaining, economic decision rules that existed long before the Brennan majority went astray are available to animate Justice Holmes' "too far" test[137] and respond to Professor Epstein's concern about Holmes' silence as to "whether the relevant test is dollar or percentage loss."[138]

9.2 Criteria to Measure Economic Impacts

How do you measure necessary and sufficient economic impacts to support a compensatory taking? According to Professor Mandelker: "Investment-backed expectations arise in property markets, where market participants invest with the expectation that they will obtain [income and] capital gains from the development of their property."[139] Evidence must demonstrate this. The following criteria, based largely on *Whitney Benefits,* show the information required to measure and demonstrate the severity of economic impacts caused by a regulation.[140]

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[135]*Concrete Pipe*, 508 U.S. at 645.

[136]*Carson Harbor Village Ltd. v. City of Carson*, 37 F.3d 468, 473 (9th Cir. 1994), is another and recent reference to this standard followed in *Florida Rock*, 18 F.3d 1560, and *Whitney Benefits*, 926 F.2d 1169. So far, I am not arguing against the received doctrine of the takings fraction being the whole property.

[137]*Pennsylvania Coal*, 260 U.S. at 415.

[138]Epstein, *supra* note 45, at 893.

[139]Mandelker, *supra* note 27.

[140]*See, e.g., Reahard v. Lee County*, 978 F.2d 1212 (11th Cir. 1992) (providing a similar list of steps to the analysis). Thanks to John J. Delaney, *Advancing Private Property Rights: The Lessons of Lucas*, 23 STETSON L. REV. 395 (1993).

1. Establish the timing and amounts of invested capital and property interests to demonstrate a legitimate, *reasonable* investment-backed expectation.

2. Document actual and/or planned activities at the site proscribed by the regulation that show the lost opportunity for the property's economic use:

   - To show the value of the property at the time "the taking was said to have occurred."[141]
   - To show the ability of the property and business to supply the activities/uses intended; and,
   - To show market conditions that create the opportunities foreclosed by the regulation.

3. Establish time period of the loss: a specific temporary period, or in perpetuity.

4. Estimate the reduced profits caused by the regulation.

5. Estimate tangible asset values reduced by the regulatory constraint:

   - Determine portion of property retaining any economic use, if any.

6. Estimate intangible asset values, including business goodwill, reduced by the regulatory constraint:

   - How severe is the economic loss as measured by the change in net present value of the ongoing and planned enterprise?
   - Does economic viability of the entire property remain, although at a lower level?

7. Determine elements of risk related to the project:

   - Project completion risk;
   - Product market risk (i.e., sales);
   - Financing risk; and
   - Other risks.

8. Capitalize the lost earnings at a discount rate which reflects the enterprise's cost of capital and risk factors governing future cash flows. Compute the before and after regulation value of the property.

The appropriate measure of economic injury is the opportunity foreclosed as a result of the

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[141]Loveladies Harbor, Inc. v. United States, 15 Cl. Ct. 381, 392 (1988).

regulation that prohibits the planned economic use, not the cost of the land.[142] Loss is keyed to the property's planned (demonstrable) use. Criterion 2 above emphasize the *Wheeler IV* standard in that lost future opportunity is the basis for economic injury if supported by a concrete plan to supply the product or service and evidence of a market to rule out the notion of speculative future cash flows. Nonetheless, uncertainty and risk, which never can be 100 percent eliminated, are explicitly incorporated within criteria 7 and 8.

The *Florida Rock* and the *Whitney Benefits* marathon cases illustrate how government entities and petitioner property owners will disagree over estimates of market demand, the ability to supply, and the risk of the project foreclosed by regulation, as well as valuation methods. The establishment of criteria with which to measure diminution of economic value, while instilling needed rigor, does not guarantee the outcome. As *Florida Rock* demonstrates, however, criteria requirements could preclude specious, self-serving economic valuation evidence designed, perhaps, more to confuse than to enlighten the court.[143]

9.3 Economic Decision Rules

Value for any asset in use, or for which a use is proposed, is determined by computing the net present value (NPV) of future cash flows from the sale of services and/or products produced from the asset. Discounted cash flow analytic methods (DCF models) are used to determine this value, called the investment value or economic value of the asset. A change in economic value reflects the change in expected future cash flows to be earned from using the property, in present value terms. The correct expression of the change in value is the change in discounted cash flow, as measured by the DCF model.

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[142]Wheeler v. City of Pleasant Grove, 833 F.2d 267 (11th Cir. 1987) (*Wheeler IV*). This case extended the logic of *Neemers v. City of Dubuque*, 764 F.2d 502 (8th Cir. 1985), and *Herrington v. County of Sonoma*, 857 F.2d 567 (9th Cir. 1988), and provided the key elements to evaluate in a takings or partial takings case. The critical point adopted in *Wheeler IV* and confirmed in *Herrington* is that the economic injury should be measured as the lost opportunity, not the cost of the land. Mr. Lucas, unfortunately, only got his investment returned plus interest. The case record does not report the value of his lost opportunity. The *Lucas* award was inconsistent with *Wheeler IV* and *Herrington.*

[143]*See Florida Rock III*, 791 F.2d 905, for the Court's derisive assessment of the government's valuation of comparable sales testimony, which claimed that only comparably regulatory-impacted land should be used for valuation. The Court wrote: "if the regulation constituting the taking reduced the value of land . . . to zero, the very severity of the economic injury would relieve the [government] of all but nominal [F]ifth [A]mendment liability. We suppose [government] added this contention to provide a little humor. . . " *Id.*

The DCF model is shown in Equation (2), below.

$$NetPresentValue = \sum_{t=1}^{T} \frac{CF_t}{(1+k)^t} \qquad \textbf{(2)}$$

Where CF_t = Cash flows (after tax) in period t, k is the discount rate, t is the time period, and T is the length of the project.

The discount rate, k, in Equation (2) is the weighted average cost of capital to the investor, including debt and equity. Discounting with this rate yields an appropriate measure of the value of the property incorporating the underlying resources and management skills of the firm; i.e., the tangible and intangible assets.

Another measure of value is fair market value, or comparable transactions value, which requires a trading market for assets, such as a real estate market, where knowledgeable buyers and sellers determine prices. Market values will fluctuate around investment values, buffeted by forces of supply and demand for the producing asset. Markets for the products and/or services foregone by the regulation (e.g., mineral products, housing services) can be more robust than markets for the assets (coal mines, comparable real estate developments), which may be thin and subject to large discontinuities.

In a takings case, the diminution in economic value of the property and associated business is the proper benchmark to measure the loss because case law refers to "economically viable use," "beneficial use," or "investment-backed expectations" of use. Loss of direct use of the asset, causing loss of direct income, is typically at issue, e.g., loss of development potential of part (*Penn Central, Nollan, Florida Rock*) or all (*Lucas, Whitney Benefits*) of the property.

The DCF model is used for both the Net Present Value (NPV) and Internal Rate of Return (IRR) decision tests within investment analysis. The decision thresholds within these tests are:

- If NPV > 0, accept.
- If IRR > minimum required rate of return, accept.

These tests represent the most rigorous tool for evaluation of "investment-backed expectations" associated with any property—and the loss thereof due to regulation. These decision tests provide the appropriate way to evaluate the two *Penn Central* economic factors.

Business investors have an expected, indeed required, *ex ante* hurdle rate of return associated with any project of a certain risk. This hurdle rate is higher than the average cost of capital to the investor because some the firm's portfolio of projects may earn below expectations. Anticipating this outcome, the firm requires that *ex ante* hurdle rates for projects of comparable risk include risk premiums above the average *ex post* cost of capital. Criteria 7 and 8 above reflect this.

Equation (3) modifies the prior equation to show that owners expect their *ex ante* net present value (NPV) to be positive when the cash flows are discounted with their hurdle rate, h.

$$\sum_{t=1}^{T} \frac{CF_t}{(1+h)^t} > 0 \qquad \textbf{(3)}$$

Where CF_t = Cash flows in period t, h is the hurdle rate, t is the time period, and T is the length of the project. Implicitly, $(h > k)$.

9.3.1 What is an economic impact of the regulation on the claimant?

If the government regulation reduces the NPV, but it remains positive, this is an "economic impact;" a reduction may not be sufficient to frustrate "investment-backed expectations." An economic impact that is less than the transaction cost to protect and maintain the property's value can be characterized as consistent with Justice Holmes's notion that "property may be regulated to a certain extent . . ." as part of the cost of being part of the economic system.[144] The economic impact has to exceed this threshold to pass *Penn Central's* first criterion.

9.3.2 When does an economic impact frustrate distinct investment-backed expectations?

The economic decision rule by which to judge whether the taking has fatally reduced the expected return on the investment is when the regulation causes NPV to change from (> 0) to (< 0). Investors have suffered a loss related to their investment when the NPV swings from positive to negative due to the change in regulatory regime. So, "too far" is when the project's reduced income stream is no longer capable of justifying the investment in the planned project. The difference between the calculated NPV before and after the regulatory prohibition is the measure of economic loss—a basis for damages.

The second prong of the *Agins* test is met if the prohibition undermines economic viability of the project measured by the hurdle rate of return. Economic viability is extinguished if the prohibition forecloses earnings sufficient to achieve the investor's hurdle rate. "Some value remaining" is a moot point if the earnings do not exceed the hurdle rate. Justice Stevens' dissent in *Lucas* made economic sense; his complaint about paying for a 100% loss but not a 95% devaluation begs the rigor of an economic decision rule.[145] Project losses should always be denominated in cash flows, not acres of dirt, or parcels. When cash flows of the impacted project

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[144] *See* Thomas D. Crocker, *Externalities, Property Rights and Transactions Costs: An Empirical Study*, 14 J.L. & ECON. 451, 451-64 (1971) (discussing information contracting and policing costs relevant to property ownership).

[145] 505 U.S. at 1064 (Stevens, J., dissenting).

are reduced sufficiently to deprive investors of earning their hurdle rate, the project has been confiscated and a compensable taking has occurred. The Supreme Court held in *Duquesne*[146] and the California Superior Court, reiterating *Duquesne*, held more recently in *Kavanau v. Santa Monica Rent Control Board*[147] that price regulations that deprive investors of a just and reasonable return are confiscatory.[148] Translating just and reasonable return to a land owners's hurdle rate, this standard makes sense as the benchmark for frustrating their investment-backed expectations.

9.3.3 What is the relevant takings fraction, the denominator?

The denominator is the instant planned project associated with the foreclosed investment, not other ongoing activity.[149] The NPV in the calculation is the NPV of the incremental project, not the NPV of the ongoing enterprise. In a situation such as the prohibition of Penn Central's incremental investment in a new building, the regulation-proscribed project did not reduce the NPV of the ongoing enterprise below zero, according to Justice Brennan's unrebutted assumption.[150] However, reasonable investment-backed expectations related to the incremental project were driven to zero. Stockholders' expectations were reduced by an amount not in evidence. This situation emphasizes the point made previously: the remaining value of the enterprise has no bearing on the calculation of the economic impact of the regulation-proscribed incremental project.[151]

John Fee's proposed rule for defining the denominator can be clarified with reference to the tangible and intangible asset paradigm of equation (1). Horizontal divisions of land are tangible assets which may have earning capability foreclosed by the imposition. "[A]ny identifiable segment of land is a parcel for purposes of [defining the denominator in] regulatory takings analysis if prior to regulation it could have been put to at least one economically viable use, independent of the surrounding land segments."[152]

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[146]DuQuesne Light Co. v. Barasch, 488 U.S. 299 (1989).

[147]16 Cal. 4th 761 (1997).

[148]488 U.S. at 307-308; 16 Cal. 4th at 771.

[149]This assumes away moral issues such as parcelization to confound the legitimate evaluation of the relevant costs and benefits at stake. "[T]he parcel [should be defined] as realistically and fairly as possible, given the entire factual and regulatory environment." Ciampitti v. United States, 22 Cl. Ct. 310, 318-319 (1991).

[150]*Penn Central*, 438 U.S. at 131.

[151]The value of the ongoing enterprise, the terminal activity in this case, could be carried in both the with and without project economic analysis. Its value in both calculations adds nothing to the evaluation because mathematically and commonsensably it drops out of the calculation.

[152]Fee, *supra* note 12,at 1557.

The incremental loss is the cash flow from the instant project foreclosed. The effect of the cash flow taken from the instant project on the planned investment is the relevant fraction to examine. That is, "the 'property interest' against which the loss of value is to be measured," which Justice Scalia was confused about in *Lucas*.[153] Cash flows from uses made of segments of property that existed prior to and independent of the new planned and foreclosed use have no bearing on the calculus of the instant evaluation. They enter neither the numerator nor the denominator. This "comes to grips" with Professor Epstein's concerns about the relevant takings fraction.[154]

The loss *per se* of the narrowly defined project must be measured and compared with societal gains from the regulation to achieve economic efficiency. The value remaining is a moot point. The value of the ongoing enterprise should have no bearing on any decision, including court decisions.

10. Economic Decision Rules Evaluated with *Whitney Benefits* Data

Counsel for *Whitney Benefits* made the Boyd Mining Plan[155] cash flow spreadsheets available, which are referenced to illustrate the use of the DCF model to establish economic decision rules by which to judge a taking.

The Base Case cash flows were presented for the Peter Kiewet Sons' (PKS) mining plan on the Whitney Benefits lease on Powder River Basin coal in Sheridan County, Wyoming. This project was planned to produce four million tons of coal per year (MTY) and mine eight-two million tons of in-place coal. Mining rates, prices and operating costs per ton, severance tax and depreciation rates per ton, investment inflows, cost and cash flows were estimated within the Boyd Plan.[156] The project, discounted at court-accepted ten percent after tax, would have earned a net present value (NPV) of $93.1 million 1977 dollars. The project returned a 52.4 percent internal rate of return (IRR). This project, which was precluded from going forward on August 3, 1977, by the SMCRA, clearly yielded a substantial investment-backed expectation of profit.

Testimony presented within the case convinced the court that there was some doubt that PKS could sell four million tons a year. The Judge reduced salable coal from 4.0 to 2.5 million tons per year on the basis of this testimony, a 37.5 percent reduction in the assumed mining plan, to account for market risk.[157] The resultant cash flows associated with 2.5 MTY upon which the court based

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[153]505 U.S. at 1016 n7.

[154]Epstein, *supra* note 44, at 1375.

[155]John T. Boyd Company, Denver Colorado, was expert for Claimants in *Whitney Benefits*.

[156]The interested reader can obtain the spreadsheets from the author.

[157]The discount for this amount of market risk could have been achieved by discounting original cash flows at thirteen percent instead of ten percent.

its award to the plaintiff reduced the project's NPV at ten percent to $67.8 million.

The IRR of the 2.5 MTY project dropped less than one percent, to 51.5 percent. The smaller coal mine could be produced with a $52.6 million investment rather than the Base Case $68.1 million investment, and operating costs were scaled down 37.5 percent by the way the data were handled in court. These cash flow changes limited the decrease in NPV to only $25.3 million, a 27.7 percent decline, even though the minable coal was reduced 37.5 percent. If the smaller mine had been allowed to go forward, the data reveal an economic impact of $25.3 million, but no fatal interference with investment-backed expectations.

The U.S. Claims Court based its finding of a taking on the demonstration "that Whitney coal is economically, legally, and technologically minable. . . . Investors reasonably could expect the returns on their investments in Whitney coal that the Boyd Plan sets forth."[158] Claimant's presentation followed the criteria described in Section 9.2 to demonstrate this and overcome the government's claim that the coal was valueless. The Court reached back to the *Agins* test and balanced the government's purpose of protecting agricultural land against the absolute diminution in value of the PKS property, finding "there is no public interest in causing the plaintiffs to solely bear the burden of maintaining the [alluvial valley floor] AVF protected by [the] SMCRA."[159] Value remaining of the land in agricultural uses, argued by the government, was not a factor in the court's decision; i.e., farming was deemed to be not economically viable.[160]

11. Conclusions

The introduction emphasized that two of *Penn Central*'s three particularly significant factors by which to evaluate a compensable taking rest on economic theory, not legal theory. Chief Justice Rehnquist's knowledge of finance suggests that the Supreme Court may be able to create order from takings chaos by infusing better economic understanding into the benchmark phrases of takings law.

One reason takings law is confused is because legal tradition emphasizes language and words. The logic of economic equations is a precise form of logic that will not brook the judicial ad hocery rampant in takings cases. Language alone will not overcome the confusion among jurists in interpreting vague words such as "some substantial beneficial use of the property remaining." Numerous variations of the analytically impoverished takings phraseology must be subjected to quantitative and commonsense economic evaluation to elicit meaning from otherwise jumbled catch phrases that often obscure rather than enlighten the courts' reasoning process.

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[158] 18 Cl. Ct. 394, 404.

[159] *Id.* at 406.

[160] Actually, the Court ruled that the government's specious claim that some economic use remained as farming was "completely off the mark." *Id.* at 405.

Economic analysis reveals exactly why the denominator in a takings claim is the foreclosed investment in an "identifiable segment of property." Investments in the vicinity are merely sunk costs, which have no bearing on the economic evaluation of the foreclosed opportunity. Earnings of other investments are not even mathematical "arguments" to evaluate the opportunity foreclosed by regulation.

Economics dictates that takings analysis begin with and focus upon "distinctly perceived, sharply crystallized, investment-backed expectations [related to] that 'thing,' [which] has been destroyed by the measure"[161] -- just as Professor Michelman had in mind. In view of Justice Brennan's confusion with the economic nuances of Michelman's argument, Judge Breitel's underlying economic lunacy, and the deficient economic expertise in Penn Central's evidentiary presentation, the original *Penn Central* decision is explainable. Its perpetuation is not. Takings decisions that rest on the *Keystone* and *Penn Central* rulings are anchored to an error.

Even after *Whitney Benefits* imposed rigor into the presentation and evaluation of a takings claim, courts remain fixated on "value remaining" rather than severity of economic loss. A late 1998 Michigan Supreme Court decision reversed a Court of Appeals decision and remanded the wetlands takings claim to "compare the value removed from the plaintiff's land, and also calculate what value remains."[162] The commonsense economic question to answer is nothing more complicated than "Does the prohibition eliminate the economic viability of the investment?" Yet, the Michigan Supreme Court is still foisting off the *Keystone* test as if its results provide some useful insight.[163] No doubt, the poor language of the Michigan Supreme Court's decision bespeaks its tenuous grasp of the economic backbone of takings law.

Justice Holmes clearly had the extent of loss in mind when he wondered how far was "too far." Diminution, however small, is the essential element for one side of the balance scale envisioned by Holmes; the public gain is the other side. Value remaining is on neither side of the balance envisioned by *Pennsylvania Coal*. Justice Brennan's paradigm shift to the amount of value remaining, rather than the value lost, abrogated the essential economic efficiency implicit in Justice Holmes' 1922 balancing decision. None of the efficiency and equity issues in the economic literature hinges on the outcome of a test that compares the amount of value remaining in the property to the amount of value taken. No theoretical foundation supports comparing value remaining to value taken as any sort of efficiency or compensation decision rule.

Penn Central's errors have confounded takings law for twenty years. Value remaining in the parcel-as-a-whole was an error of the Brennan majority, which has no bearing on the economic severity of a loss imposed by regulatory actions, and no bearing on the efficiency considerations

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[161]Epstein, *supra* note 45, at 899.

[162]K & K Const. Inc. v. Michigan Dep't. of Natural Resources, 575 N.W.2d 531, 540 (Mich. 1998).

[163]*Id.* at 531 (relying on *Keystone*, 480 U.S. at 497) ". . . our test for regulatory taking requires us to compare the value that has been taken from the property with the value that remains."

implicit within the three particularly significant factors within *Penn Central*. "[Empirical] factual inquiries" of these three factors should govern compensable takings decisions.[164]

[164]438 U.S. at 124. Empirical replaces *ad hoc* to remove the stigma attached to *ad hoc*.