propriety standard for computer components.[4] A rival standard adopted by a competitive fringe quickly overturned that attempt. Apple's attempt at a closed architecture has met a similar fate.

IV. CONCLUSION

Disagreements over the generality and importance of all of this will undoubtedly remain. Our discussants' contributions to this exchange can only serve to sharpen ideas. We believe, however, that our initial points stand: that the existence of network effects does not establish externality, that failures in proximate markets are better understood for what they are, and that pecuniary externalities are different from real ones. And finally, we maintain that the empirical case for network externality is both necessary and absent.

NOTES

1. Note the margin of the externality here—network size—which, as we discuss in our paper, is not the typical margin of externality in this literature, which instead focuses on the choice of the network itself.
2. Obviously, we have also dropped the assumption of perfectly discriminating monopoly.
3. Further, it appears that our distinction between network effects and network externalities is catching on. For example, it is used not just in our paper in the recent symposium in the *Journal of Economic Perspectives*, but also in the article by Katz and Shapiro.
4. We are talking about the proprietary bus found in IBM's ill-fated PS/2s of several years ago (the Micro Channel).

PUBLIC USE, JUST COMPENSATION, AND LAND REFORM IN HAWAII

Sumner J. La Croix and Louis A. Rose

ABSTRACT

The Land Reform Act as amended was a misapplication of eminent domain because it violated both the public use and just compensation clauses of the Fifth Amendment. There was no rational nexus linking eminent domain with the public purpose of reducing the price of land; the high price was due to natural and governmental restrictions on land supply rather than oligopoly. The Act provided for compensation for the condemned leased fee at below market value; compensation was based on controlled lease rents and excluded the reversionary interest in improvements.

I. INTRODUCTION

In 1967, the Hawaii State Legislature passed the Land Reform Act (LRA) which permitted groups of single-family homeowners on leasehold land to petition the state to condemn the land and force the transfer of the leased fee.[1] The stated purpose of the Act was to make fee-simple residential land accessible

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to the public at reasonable prices. The Legislature argued that an oligopolistic market in land allowed landowners to restrict the quantity of land allocated to residential development and to lease residential land to homeowners at supracompetitive prices. It concluded that by forcing large lessors to sell fee-simple rights to homeowner lessees, landowners would be induced to develop and/or sell more residential land, thereby causing residential land prices to fall.

The constitutionality of the LRA was reviewed in both state and federal courts, with opponents arguing that the law violated the "public use" provision of the Fifth Amendment's takings clause.[2] In 1979, a U.S. district court in Honolulu upheld the major provisions of the LRA.[3] The Court of Appeals for the Ninth Circuit reversed in 1983, finding that the LRA violated the Fifth Amendment's public use clause.[4] In 1984, the U.S. Supreme Court upheld the constitutionality of the law in a landmark 8-0 decision, *Hawaii Housing Authority v. Midkiff*.[5] Parallel litigation in Hawaii state courts ended in 1985 when the Hawaii State Supreme Court found that the LRA did not violate the Hawaiian constitution.[6]

The Supreme Court's unanimous decision and forceful opinion in *Midkiff* established the case as the leading precedent for public use issues in eminent domain cases. While numerous law review articles (Grande and Harrison 1984; Landry 1985; Epstein 1985; Brine 1986; Merrill 1986; Humbach 1987) have examined legal and philosophical issues associated with *Midkiff*, no study has yet examined the complex historical, economic, and political issues surrounding Hawaii's Land Reform Act.

Our paper fills this gap by examining the economics of Hawaii's land market, tracing the history of the LRA, and analyzing its evolving compensation rules to determine whether the Supreme Court's decision captured the underlying reality of the LRA's statutory language and implementation. Our analysis of the LRA is broader than the Court's analysis, as we are not constrained by the legal process and the particular questions presented to the Court by the litigants. Regardless, our findings that the LRA did not provide just compensation to landowners and that it was incapable of accomplishing its stated public purpose, cast serious doubt on the *Midkiff* conclusion that the LRA was constitutional.

Our investigation of the impact of the LRA on land and housing markets in Hawaii finds that concentration of ownership was not the cause of land's high prices, and the legislature was wrong in alleging that a forced transfer of fee-simple interest from lessors to lessees would lower land prices. Rather, the wholly overlooked causes of the high prices of land were severe natural and governmental restrictions on the supply of residential land. Using cross-section data, we provide an empirical analysis of our hypotheses.

Both Richard Epstein and Thomas Merrill anticipated some of these findings, although neither attempted to develop the theoretical and empirical basis for them.[7] Epstein wrote:

> No antitrust expert thinks 'oligopoly' because there are 'only' seventy or twenty-two or eighteen landowners in a given market. Why then allow the legislature to so find?...The better place to look for land shortages and high prices is in the extensive network of state land use regulations that is today beyond constitutional challenge, even though it facilitates the very oligopolistic practices that land reform statutes are said to counteract (1985, p. 181).

With respect to the compensation issue, we argue that the 1967 LRA, as amended in 1975 and 1976, required compensation for lessors at below-market value. The required compensation was based on below-market controlled lease rents, and excluded the lessor's share of the reversionary interest in site-specific improvements.

The provision for less than market value compensation has been wholly overlooked by scholars. James Durham (1985, p. 1312) focused on *Midkiff* as an "example of the efficiency and equity resulting from one state's attempt to provide full compensation." Merrill, too, based his conclusions on the notion that in *Midkiff* the "renters pay the same high prices in just compensation that they would pay in a market transaction" (1986, p. 110).

We proceed by setting forth in Section II the history and structure of Hawaii's land market and the structure of single-family land leasing contracts. Section III summarizes the rationale for and provisions of the 1967 LRA, and the U.S. Supreme Court's decision upholding its constitutionality. Section IV reviews and refutes arguments that oligopoly and land leasing elevated land prices. Section V explains that natural and governmental restrictions on land supply are the real reasons for high land prices. Sections VI and VII analyze accessory legislation under which the LRA provided for below-market unjust compensation. Section VII concludes with policy considerations, including a suggestion that closer attention be paid to the compensation issue.

The issues analyzed in this paper are now moot with regard to single-family homes in Hawaii. By September 1991 there had been 23,400 leasehold conversions to fee simple, and only 4,600 leaseholds remained. Our analysis of the Act, its amendments and previously overlooked aspects of the *Midkiff* decision should provide a useful case study perspective on the exercise of eminent domain.

II. PRICES, CONCENTRATION, AND LEASING IN HAWAII'S LAND MARKET

A. Prices and Concentration

We focus our analysis on the island of Oahu, also legally known as the City and County of Honolulu, or simply Honolulu. In 1967, Oahu had 82 percent of the state's population and 98 percent of the leasehold owner-occupied dwellings.[8]

Table 1. Housing and Site Prices in Hawaii and Mainland U.S.

	Average Price of Existing Single-Family Home	
	1960	1967
Hawaii	18,750*	28,447
Mainland	13,300*	15,940
	Average Price of Existing Housing Site	
	1960	1967
Honolulu	6,758	13,000*
Mainland	2,100*	3,574

Note: *Approximate values.
Source: State Office of Lt. Governor, Housing Costs in Hawaii (1969) at 22, 24 (b), 59, 82.

The Land Reform Act's stated purpose refers to the high prices of both fee-simple sites and lessor interests in leasehold homes, with the underlying concern being the price of homes, whether leasehold or fee simple. Some price comparisons prior to enactment are instructive. Home prices were high in 1960 compared to the rest of the nation, and the differential was increasing. According to the Federal Housing Administration (FHA), as shown in Table 1, in 1960 the average existing (as distinct from new) single-family home price in Hawaii was approximately $19,000. This was over $5,000 higher than the mainland average. By 1967, the Hawaii price had risen to $28,000, and the Hawaii-mainland differential had risen to $12,000 (Schmitt 1977). By 1968, the price per square foot for existing single-family homes was $25.6—1.8 times higher than for the nation (Schmitt 1977, p. 28).

Site prices were also high and rising. As shown in Table 1, in 1960 the average price of an existing site in Hawaii was approximately $7,000, compared with only $2,000 on the mainland (p. 59). By 1968, the average Honolulu site price was $13,000, compared with under $4,000 on the mainland (p. 82). Average Honolulu site prices per square foot in 1968 were $1.76, or 3.6 times the average for the nation.[9]

The primary perceived cause of the high site and home prices, and the target of the LRA, was the concentration of land ownership. This concentration evolved out of a nineteenth-century Hawaiian monarchy and a sugar plantation economy. Integration with the world economy, government fiscal difficulties, and the influence of Western ideas and advisors led to the creation of alienable private property rights in land in 1848 (La Croix and Roumasset 1990; Kame'eleihiwa 1992). Approximately two-thirds of the lands were reserved for the king and the government, with Hawaiian chiefs receiving the bulk of the remaining lands. Between 1848 and 1885 the government sold much of its land to Native Hawaiians.

Over the next century, land ownership became increasingly concentrated as the plantations purchased government lands and appropriated small parcels abandoned by Native Hawaiians. After 1930, sugar industry consolidation further concentrated land ownership. The number of sugar plantations fell from 47 in 1930 to 25 in 1965. Moreover, the five firms which served as factors for the plantations acquired majority holdings in almost all sugar plantations during the 1930s when sugar producers were unable to repay loans made by the factors.

Table 2. Concentration of Land Ownership on Oahu, 1964

	Acres Owned in Fee Simple[1]	Percent of Total Land
Privately owned land	259,096	68.04
Bishop Estate	59,007	
Campbell Estate	50,260	
Castle & Cooke	42,399	
Harold Castle	9,366	
Zion Securities	6,374	
Smaller owners[2]	91,719	
Publicly owned land	121,704	31.96
State of Hawaii	56,676	
United States	55,109	
City and County[3]	9,923	
Total Land on Oahu	380,700	100.00
Fee Acres as	*Percent of Privately Owned Acres*	*Cumulative Percent*
Major Private Owners		
Bishop Estate	22.77	22.77
Campbell Estate	19.40	42.17
Castle & Cooke	16.36	58.74
Harold Castle	3.60	62.14
Zion Securities	2.46	64.60
Fee Acres as	*Percent of Privately and Publicly Owned Acres*	*Cumulative Percent*
Major Private and Public Owners		
Bishop Estate	15.50	15.50
State of Hawai	14.88	30.38
United States	14.47	44.85
Campbell Estate	13.20	58.05
Castle & Cooke	11.13	69.18

Notes: 1. Horowitz and Finn (1967).
2. Acreage owned by smaller owners is the imputed residual from the publicly owned land and the five largest private land owners.
3. City and County of Honolulu acreage, not provided in Horowitz and Finn, is for 1965.

The large land holdings left by Princess Bernice Bishop in her estate, and her dictate to preserve the corpus of the estate, also facilitated long-run concentration in land holdings. In 1964, the Bishop Estate was the largest private landowner in the state. On the urbanized island of Oahu, it owned 22.8 percent of the land. Table 2 shows ownership and concentration statistics. In 1964, 68 percent of the island was privately owned, and 32 percent publicly owned. The three largest private owners, Bishop Estate, Campbell Estate, and Castle & Cooke, had almost 59 percent of the privately held land. The state of Hawaii and the United States each owned approximately 45 percent of the public land, and the city of Honolulu had the remainder. Concentration was indeed high for an urban land market.

B. The Extent of the Leasehold System

The rationale for the LRA was partly that the large estates' practice of leasing land for residential development was responsible for producing the high land prices. The large estates did indeed tend to lease rather than sell their land. By 1967, single-family homes on leased land comprised about 26 percent of the total stock of 55,937 single-family homes on Oahu (Economic Research Associates 1969, V9-10). The Bishop Estate owned 33 percent; an individual, Harold Castle, owned 29 percent; and the Campbell Estate owned 6 percent (V9-10).

The rate of leasehold, relative to fee-simple, development had been increasing. Between 1950 and 1967, approximately 40 percent of all new owner-occupied housing developed on Oahu was on leasehold lots; between 1961 and 1967, 60 percent of new housing development was leasehold. There were active markets in both lots and homes, on both fee-simple and leasehold bases. Listings of the Honolulu Board of Realtors show that approximately 50 percent of all single-family units offered for sale during 1967 were on leasehold land.[10]

Why did the major estates lease rather than sell most of their residential land? La Croix, Mak, and Rose (1995) identify four major reasons for such leasing. First, Princess Bernice Bishop, founder of the Bishop Estate, specified in her will that estate lands be held in a charitable trust and that the income from them be used to further the education of Hawaiians. The will further stated that the trustees should not sell the trust's land if at all possible.[11] This may have been an important factor tending to deter the Bishop Estate's sale of land, especially since the beneficiaries of this perpetual trust were native Hawaiians who had previously sold or lost most of their lands. James Campbell, founder of the Campbell Estate, placed a similar provision in his will.[12]

Second, additional legal constraints on the trustees discouraged them from selling land. The Bishop and Campbell Estates are dynastic, rather than caretaker, trusts (Friedman 1964; Blair and Heggestad 1978). Dynastic trusts have two basic goals: (1) to preserve the trust principal, and (2) to provide a reasonable income for the income beneficiaries. In Hawaii, dynastic trustees are subject to the "prudent man rule" first formulated by the Massachusetts Supreme Court in *Harvard College v. Armory*.[13] Under this rule, the trustee is encouraged to make conservative estate management decisions to protect his personal wealth from suits alleging imprudent decisions, including land sales.[14]

Third, the estates feared that the Internal Revenue Service would, following review of land or leased fee sales, classify them as dealers in land. Dealer classification implied higher taxes for noncharitable estates, and especially for the Bishop Estate. As frequent sellers, the estates would subject themselves to the risk of dealer classification. As lessors, they would retain preferred tax status (La Croix, Mak, and Rose 1995, pp. 1001-1010).

Finally, all practical alternatives to leasing for income required sale. The noncharitable estates' sales were subject to a capital gains tax. Because the estates had owned the land for many decades, the basis for taxation was the entire sales proceeds. The large tax liabilities effectively locked these estates into leasing for income.

C. The Structure of Residential Leasehold Contracts

Residential ground lease lengths varied among different properties, but typically were set at 55 years with an option to obtain a new 55-year lease from the date of subsequent resale for homes sold within the first 20 years of the lease for the purpose of obtaining a new mortgage loan.[15] Land rent was usually specified as an annual fixed sum (paid semi-annually) for the first 30 years, with the rent for the next 25 years being determined by mutual agreement or appraisal. The long initial fixed rent period was set "to allow long-term mortgage financing by FHA and other institutional lenders."[16]

At renegotiation, lease rents generally rose. One reason is that a new lease rent incorporates expectations of land price inflation over the remaining term of the lease in the same manner that a fixed-rate mortgage incorporates inflationary expectations. This means that the renegotiated lease rent is "front-loaded"; that is, it exceeds spot market rents initially and in later years is less than spot market rents. Another reason is that initial rents established in the 1950s and 1960s were renegotiated in the early 1970s, when expected inflation rates were higher.

Prior to 1967, leases (including renegotiation and/or arbitration procedures) varied. In 1967, the estates began to use a standard lease approved by the Federal Housing Administration (FHA). It specified that the renegotiated lease rent shall be determined by mutual agreement of Lessor and Lessee, or, if they fail to reach such agreement at least 90 days before the commencement of said period, by appraisal... [The rent] shall be the product of the then prevailing rate of return for similar lands (but not less than the prime rate of interest in Hawaii) multiplied by the then market value of the demised land exclusive of improvements thereon.[17]

Most leases contain provisions restricting lessees from making significant improvements without the consent of the lessor and requiring lessees to maintain property to reasonable standards. A buyer of an existing single-family home or condominium may assume the existing land lease, but mortgagors usually will not issue a new mortgage on a house or condominium located on leased land that is less than 10 years from renegotiation or expiration.

Prior to 1960, the prevailing rule in residential land leases was that all improvements reverted to the lessor without compensation. Disputes between the lessee and the lessor at the expiration of the lease concerning real and personal property were common. During the 1950s, more leases were negotiated which provided the lessee with the option to remove on-site improvements. The LRA mandated that at the expiration of the lease, the lessee be given the option to remove his improvements; if this option is not exercised, then improvements revert to the lessor.

III. THE LRA, PUBLIC USE, AND THE SUPREME COURT

As the number of leasehold residential units increased after World War II, there was growing concern that major landowners preferred to lease rather than sell their lands for residential developments. From 1952, the Democratic Party platform called for land reform to enable homeowners to purchase the fee interests in their residential lots.[18] In 1963, a leasehold condemnation bill narrowly failed to pass the Hawaii State Legislature. In 1967, when some of the earliest ground leases were being renegotiated, the Legislature enacted the LRA[19] which enabled single-family homeowners leasing land to acquire it in fee simple.[20]

In brief, the LRA states that upon the petition of 50 percent of the owners (or 25 owners, whichever is less) in a leasehold housing tract, the Hawaii Housing Authority (HHA) will condemn the land and resell individual parcels to the lessees.[21]

The stated purpose of the LRA seems to be a response to the high price of lessee interests and fee-simple lots. It is to make it possible for "...people to acquire fee-simple ownership of residential lots at a fair and reasonable price...." This would presumably bring about two other stated purposes: to disperse the ownership of fee-simple residential lots to a larger number of people, and to make it possible for the residential lessees to derive full enjoyment from their leaseholds.[22] The Act states:

The population growth and the increase in demand for residential lots, and the concentration of ownership of private lands in the hands of a few and their practice of leasing, rather than selling in fee simple, the residential lots developed on their lands, have led to a serious shortage of residential fee simple property at reasonable prices in the States' urban areas and have deprived the people of the State of a choice to own or to take leases to the land on which their homes are situated.[23]

The shortage of single-family, residential, fee simple property, and the restriction on the people of a real choice between fee simple and leasehold residential property have in turn caused land prices for both fee simple and leasehold residential lots to become artificially inflated and have enabled lessors to include in residential leases terms and conditions that are financially disadvantageous to the lessees, restrict unduly their freedom to enjoy their leasehold estates and are weighted heavily in favor of the landlord as against the lessees.[24]

There is a presumption that the concentration of land ownership and the practice of residential land leasing were responsible for the high prices of both fee-simple and leasehold lots. Condemnation with forced transfer of leased-fee interests from large landowners would at once decrease ownership concentration and the amount of leasing. If we accept as valid the LRA's alleged remedial effects, it follows that it would create a more competitive land market with a greater supply of fee-simple and leasehold lots, so that thereafter fee-simple ownership could be acquired at more competitive prices.

The U.S. District Court decision in 1979 found the LRA's compulsory arbitration and compensation formula provisions unconstitutional, but upheld all other provisions of the LRA.[25] Then, in 1983, the Ninth Circuit Court of Appeals reversed because the LRA transferred property from one private party to a second private party, and because the LRA did not fit into the set of circumstances in which private-to-private takings had been previously found constitutional.[26] The Ninth Circuit also declared the 1967 State Legislature's statement of public purpose to be mere "trappings of 'public use.'"[27] Finally, the court noted that "the statute itself is so structured that it can only aggravate this shortage and resultant inflation of land values."[28]

In 1984, the U.S. Supreme Court upheld the constitutionality of the LRA in an 8-0 decision, *Hawaii Housing Authority v. Midkiff*.[29] In her opinion for the Court, Justice Sandra Day O'Connor responded forcefully to the Ninth Circuit's arguments, declaring that "[t]he mere fact that the property taken by eminent domain is transferred in the first instance to private beneficiaries does not condemn that taking as having only a private purpose."[30] Justice O'Connor then asserted that "[a]s the unique way titles were held in Hawaii skewed the land market, exercise of the power of eminent domain was justified."[31]

Justice O'Connor deferred to the Court's earlier decision in *Berman v. Parker*[32] and concluded that

the 'public use' requirement is thus coterminous with the scope of a sovereign's police power. There is, of course, a role for courts to play in reviewing a legislature's judgment of what constitutes a public use, even when the eminent domain power is equated with the police power. But the Court in *Berman* made clear that it is 'an extremely narrow' one.

Justice O'Connor observed that "deference to the legislature's 'public use' determination is required 'until it is shown to involve an impossibility.'"[33] O'Connor then focused on the Hawaii State Legislature's stated public purpose for the LRA (put forth in the bill's "Findings and declaration of necessity") that the cause of the high land prices in Honolulu was the high concentration of ownership in the land market. The practice of residential land leasing was implicitly portrayed as an undesirable outcome of this high market concentration.[34]

> [t]he people of Hawaii have attempted, much as the settlers of the original 13 Colonies did, to reduce the perceived social and economic evils of a land oligopoly traceable to their monarchs. The land oligopoly has created artificial deterrents to the normal functioning of the State's residential land market and forced thousands of individual homeowners to lease, rather than buy, the land underneath their homes. Regulating oligopoly and the evils associated with it is a classic exercise of a State's police powers (pp. 241-242).[35]

Justice O'Connor also declared that the Court could not "condemn as irrational the Act's approach to correcting the land oligopoly problem."[36] The LRA was further praised for providing "a comprehensive and rational approach to identifying and correcting market failure."[37] This passage is followed by the cautionary note that "this Act, like any other, may not be successful in achieving its intended goals."[38] The Court then reiterated a line of argument often used in general welfare clause cases: "But 'whether in fact the provision will accomplish its objectives is not the question: the [constitutional requirement] is satisfied if... the ... [state] Legislature rationally could have believed that the [Act] would promote its objective.'"[39]

IV. THE ALLEGED RELATIONSHIPS BETWEEN (1) THE PRICE OF LAND AND (2) OLIGOPOLY AND LEASING

A. The Price of Land and Oligopoly

In general, if there is a rational link between a forced transfer of residential lands and a reduction in residential land prices, the land oligopolists must be effectively restricting the supply of land to residential use and charging a higher than competitive price. If this condition is satisfied, then forced transfer would deconcentrate the ownership of land; less land would be withheld from the residential market; and the increased supply would cause residential land prices to fall.

George Stigler's (1968) theory of oligopoly provides a useful framework for analyzing the Hawaii land market. In his model, greater producer concentration implies smaller costs of establishing, monitoring, and enforcing a cartel agreement to limit production. Also, a smaller number of producers implies a higher cost of free-riding to any member who produces more than his quota. Of course, land is a fixed stock, so the theory must be applied to the flow of services from this stock. Since the relevant services are in housing use, an effective cartel would have to withhold some of its members' lands from housing use, and allocate them to lower-valued uses. By withholding some lands that would otherwise be released to residential use under competition, the remaining residential lands are leased or sold at a price above the competitive price.

According to Stigler, several problems must be solved if a cartel is to operate effectively. The cartel must negotiate, monitor, and enforce its agreements. This is costly even when cartel members have similar opportunities. The large landowners in Honolulu were, however, quite heterogeneous with regard to their state of development. For example, in 1967 the Bishop Estate had already developed and leased a major portion of its residentially suitable land, whereas the Campbell Trust still leased almost all of its residentially suitable land for agriculture. Thus, the latter trust most likely preferred more development than the former.

An effective cartel would require a system of side-payments from some landowners to others (e.g., Bishop to Campbell) to compensate them for keeping their land in lower-valued uses. The side-payments mechanism would have to be flexible enough to respond appropriately to changing patterns of land value in housing and other uses. If at any time payments were insufficient, then some landowners could lease or sell land for housing use and undermine the cartel's attempt to support prices by restricting supply.

Ronald Coase (1972, p. 143) set forth an additional obstacle for cartel land sales at prices above the competitive level. A monopolist of a completely durable good cannot obtain monopoly rents unless buyers are assured that they will not incur capital losses due to the monopolist's subsequent sale of land initially withheld from the market. In Coase's words, "[w]ith complete durability, the price becomes independent of the number of suppliers and is thus always equal to the competitive price."[40]

Thus, even if residential buyers believe the cartel will operate effectively in the long run, they must be assured that the cartel will continue to withhold land from residential use. Since most important cartels have lasted only a short time, it is more likely that buyers will anticipate the cartel's demise and expect a release of additional land to the residential market within a few years. Such anticipated capital losses undermine the ability of the cartel to lease or sell at a price above the competitive level.

Thus, even in Honolulu's concentrated land market, it was unlikely that landowners could operate an effective cartel. Certainly there is no evidence that there were any agreements between owners, any monitoring activities, or any private side-payments to those withholding land from the residential market.[41]

In the early 1980s, several homeowners on leased land brought actions under the Sherman and Clayton Acts against the Bishop Estate. In *Souza v. Estate of Bishop*,[42] the district court provided summary judgment to the Bishop Estate. The court ruled that the Bishop Estate had accumulated its lands legally and that it had not taken actions which would prevent other landowners from disposing of their lands as they desired. The Ninth Circuit Court of Appeals upheld the ruling on appeal. It commented on a possible cartel of large landowners by observing that the "plaintiffs have not offered any evidence of 'a conscious commitment to a common scheme designed to achieve an unlawful objective.'"[43]

Our conclusion that there was no effective cartel is also consistent with evidence provided by more formal measures of market structure.[44] Concentration of land ownership in Honolulu can be conveniently summarized by the Herfindahl-Hirschman index (HHI) which is equal to the sum of the squares of market shares (multiplied by 100).[45] HHI's value varies from 0 in a perfectly competitive market with an infinite number of firms to 10,000 in a monopoly market.

Horizontal merger guidelines issued in 1992 by the U.S. Justice Department and the Federal Trade Commission[46] and in 1993 by the National Association of Attorney's General[47] both label a market with an HHI below 1000 as "unconcentrated," a market with an HHI between 1000 and 1800 as "moderately concentrated," and a market with an HHI above 1800 as "highly concentrated."

The Honolulu HHI calculated from shares of all privately-owned land equals 1213. Redefining the market to include privately- and publicly-owned lands produces an HHI of 999. Restricting the market to newly subdivided housing lots (between 1946 and April 1963) reduces the HHI to 408. The range of Hirfendahl-Hirschman indexes from 408 to 1213 provides little support for the contention that the land market was highly concentrated.[48]

It is possible to argue that one large landowner, the Bishop Estate, was able to exercise a small degree of monopoly power by virtue of its ownership of a large proportion of the residential land in one eastern Honolulu suburb. However, this monopoly power was severely restricted by competition from other suburban areas equally accessible to major Honolulu business districts. The HHIs for Honolulu summarize a market structure that was more conducive to competition among landowners than to collusive conduct. Not only was the market (at worst) only "moderately" concentrated, but the

durability of land and the heterogeneity of landowners warrant the conclusion that supracompetitive prices in Honolulu's land market were less likely than in other industries with similar concentration indexes.

B. The Price of Land and Leasing

In 1967, the Hawaii State Legislature alleged that the practice of leasing land for residential development produced high site prices.[49] The shortage of fee-simple lots allowed lessors to structure leases so that they were financially disadvantageous to lessees. The substance of the argument was, however, directed toward the restricted supply of either fee-simple or leasehold residential lots. If supply restrictions allowed landowners to charge supracompetitive prices, then consumers were likely to face "financially disadvantageous terms" regardless of whether they were leasing or purchasing land.[50]

There are two longstanding arguments in industrial organization that link leasing and the exercise of monopoly power. Aaron Director originated the argument that a firm with monopoly power over a durable good may lease the good to consumers with a contract calling for consumer purchases of complementary inputs from the durable good manufacturer. If demand for the product is metered by sales of the tied good, then leasing rather than selling the product allows the producer to price discriminate among customers with different demands by raising the price of the tied good above marginal cost. This line of reasoning has little relevance in our context, as neither tie-in sales nor other proxies for price discrimination are observed in Honolulu's land market.

A second argument linking leasing to monopoly was provided by Coase.[51] As we observed previously, producers of a durable good cannot set a supracompetitive price unless they can make credible commitments to buyers that they will not increase the supply unexpectedly in the future and thereby impose a capital loss on current buyers. Coase suggested that landowners in a land cartel could signal such a credible commitment by leasing rather than selling land. If the landowner unexpectedly increases the supply of land for development, a *short-term* lease minimizes the capital loss suffered by a consumer of land, as it allows the consumer quick access to the lower land price. Since residential land leases in Honolulu usually specify fixed-lease rents for a 30-year term, Coase's short-term leasing argument does not apply to the Honolulu land market.[52] In sum, leasing in a concentrated market is often associated with the exercise of monopoly power, but the particular mechanisms required for the exercise of such power are entirely absent from the Honolulu land market.

V. WHY WERE LAND PRICES IN HONOLULU HIGH?

A. Natural Restrictions on Land Supply

Two other obvious land supply restrictions were wholly overlooked by the 1967 Legislature.[53] These, rather than oligopoly and leasing, were the primary causes of high land prices. The first restriction is imposed by nature, for Honolulu is a small island of little more than 380,000 acres. The second restriction stems from government zoning and permitting practices.

The ocean is the primary natural restriction. The extent to which water restricts the supply of urban land can be measured by an index. Rose provided an index based on the premise that a parcel of land close to the center of an urban market contributes more to the supply of urban land than does a parcel at a more remote location (Rose 1989b). Accordingly, we can measure urban land supply as a sum of weighted acres, net of water, where the weights decrease with distance from the center. The use of exponentially diminishing weights that are asymptotic to zero ensures that the sum is finite, even for a land-locked market. The index for an urban area is its sum relative to the sum for a hypothetical urban area with no nearby bodies of water.

The Honolulu land supply index is 0.47, which means that Honolulu has only 47 percent of the land available in the hypothetical urban area. This is the lowest index of any major U.S. urban area, although San Francisco and Chicago have indexes of 0.52 and 0.56, respectively. The mean index for the 40 most populous urban areas in the U.S. is 0.87. An additional natural restriction in Honolulu, not accounted for by the index, is the unusable mountainous terrain that comprises much of the island. Because there is negligible unusable terrain in almost all of the 40 most populous areas, one can safely say that Honolulu has only half of the land naturally available to the average mainland urban area.

B. Regulatory Restrictions on Land Supply

In the preceding section, we noted severe obstacles to the successful operation of a land cartel left to its own devices. In this section we apply the economic theory of regulation to the land market to demonstrate how landowners may support government regulation to overcome the difficulties of private collusion in the land market.[54]

In essentially all U.S. urban areas, regulatory agencies can zone land for agricultural and conservation use. Residential zoning is necessary for residential development. In addition, permits must be obtained from other regulatory agencies that can deny applications or grant them subject to use restrictions and other conditions so costly that they preclude economic development.

Oahu was subject to considerably more severe land use restrictions than any other major urban area in the United States. At the state level, the Land Use Law established the State Land Use Commission which exercises statewide zoning powers. This was the first law of its type in the United States. At the city level, there was also zoning. Its structure was set forth in the Comprehensive Zoning Code administered by the city's Department of Land Utilization (DLU), and in the Shoreline Management Act under which the City Council approved or denied most development proposals. There were also permitting requirements specified in subdivision and grading ordinances administered by the DLU and a building code administered by the Building Department.

It may well be that some of the large landowners were a primary force underlying the establishment and subsequent restrictive administration of these institutions. In any event, the regulatory agencies solved the landowners' problems of withholding land from residential use and assuring lessors and buyers of continued withholding. While a private cartel could not succeed in raising land prices, government regulation has supported the lease and sale prices of land.[55]

An alternative analysis of the political economy of land markets and monopoly zoning was initially set forth by White (1975), and subsequently elaborated on by Hamilton (1978) and Fischel (1980). Homeowners, rather than large landowners, seek to increase the value of their homes by persuading their local governments to zone restrictively. This strategy works best if a single zoning authority has jurisdiction over the entire urban area. It might also work if a few separate local governments were to act as a public sector cartel, colluding to restrict the supply of residential land.

If, however, there is a large number of small jurisdictions, the strategy will probably not work because of the difficulty of coordinating zoning. One of many small jurisdictions acting alone cannot significantly restrict the supply of homes in the urban area. In contrast, a large government with jurisdiction throughout the urban area can substantially restrict the supply of homes, and thereby raise their price. Thus, the extent to which zoning can support the price of homes is positively related to the amount of monopoly power possessed by the zoning jurisdictions. This argument applies to permitting as well as to zoning per se; and it applies more specifically to residential lots than to homes, since capital is mobile across jurisdictional boundaries.

The concentration of zoning power in Honolulu is far greater than in any other urban land market in the United States. On the mainland, states generally do not zone land. Moreover, in urban areas, zoning is done by numerous local governments. The average number of local governments with zoning powers in the 39 most populous urbanized areas in 1980 was 72.[56] At one end of the distribution, Charlotte had two and Tampa had three. At the other end, New York had 360 and Chicago had 347. In contrast, Honolulu had (and still has) *two* public monopolies—one at the state level and the other at the city level—

each regulating land use throughout the entire island.[57] Developers must obtain approval for a housing project from *both* authorities.

C. Empirical Indications

Although it is difficult to determine precisely the extent to which natural and governmental land supply restrictions are responsible for Honolulu's high land prices, there is empirical evidence for placing most of the blame on these two causes. In a recent cross-section study of the 39 most populous mainland urban areas, Rose (1989a) explains observed variation in 1980 residential lot prices by variation in the level and growth of urban population, income, water restrictions, and zoning jurisdictional concentration (see also, Rose and La Croix 1989).

The last independent variable is an index measuring the concentration of zoning power. This measure, developed by Fischel, is preferred to a simple count of zoning jurisdictions (Fischel 1981). Analogous to the four-firm concentration ratio used in studies of industry concentration, it is the fraction of the urban area's land market contained by the four largest (in area) suburbs. The ratios in the 39-area sample range from 0.825 in Richmond to 0.035 in Minneapolis. The mean is 0.352.

Table 3. Effects of Natural and Monopoly Restrictions on Land Supply[1]

Dependent Variable: Price of FHA Home Site	
Independent Variables	*Coefficients*
Population (MSA)	0.264** (2.37)
Income ($ Per Capita)	2.01*** (2.64)
Population Change (% Change in 10 Years)	0.255*** (3.55)
Natural Land Supply (Weighted Sq. Miles)	-0.754** (-2.15)
Concentration Ratio	0.182** (2.30)
Constant	-17.20*** (2.49)
adj. R^2	.54
SE	.37
F	9.92*** (5,33)

Notes: 1. All variables except population change (which is already a relative change) are in logarithms. *t*-statistics are in parentheses. Two and three asterisks indicate one-tail significance levels of .05 and .01, respectively.

Table 3 displays an estimated regression from Rose's study indicating the effect of land supply restrictions. The dependent variable, land price, and four of the five independent variables are in logarithms.[58] All estimated coefficients have the expected signs and are statistically significant at the 5 percent level. The coefficients on water and zoning power are large enough to explain typical interurban price differentials of 40 percent of the mean price. About 75 percent of this explanatory power is due to water restrictions and 25 percent to concentration of government zoning jurisdictions.

The values of the regression variables for Honolulu are compared with those of the (more populous) 39 areas in Table 4. Honolulu's land prices are higher than any in the sample, and the measures of its water restrictions and monopoly zoning are more severe than any in the sample.

VI. THE LRA'S PROVISION FOR COMPENSATION

A. 1967-1975: Compensation Below Market Value

The 1967 LRA provided for lessees, directly or indirectly through the HHA, to compensate lessors for the condemned transferred leased fee interest.[59] The law's specification of the amount of compensation changed with the passage of related legislation in 1968, 1975, 1976, and 1980. In this section we briefly explain why these changes occurred and how they affected the amount of compensation for the leased fee relative to a benchmark market value. We also explain how they affected the number of "voluntary" and condemned leased-fee transfers.

Table 4. Values of Regression Variables

Variables	*Units*	*Honolulu*	*39 MSAs Mean*[1]	*Honolulu's Rank*
Price of Land	$/Sq. Ft	8.60	1.72	1
Population	Residents	763,000	2,811,000	41
Population Change	10 Yrs. %	20.9	12.8	12
Income Per Capita	$/Year	10,498	10,256	15
Natural Land Supply	Index	.470	.873	41
Concentration Ratio	Index	1[2]	.352	1

Notes: 1. The regression was fit to 39 observations, and the mean concentration ratio is for these 39. The other means are for 40 observations including Houston, and Honolulu's ranks are relative to the 40. Houston has essentially no zoning, so it was not possible to calculate a concentration ration for Houston.

2. Strictly speaking, the concentration ratio for Honolulu cannot be calculated, because there are no suburban jurisdictions within the urbanized area. However, the sense of the measure justifies an imputation of unity.

A benchmark market value of the leased fee is useful for comparison with both (1) compensation prescribed in the original law and its amendments and (2) voluntarily negotiated prices influenced by the legislation. This benchmark is the value of the leased fee that would be negotiated in a free market in the absence of the LRA. It has three present value components:[60] (1) the remaining contract rents, including rents following renegotiation, (2) the value of the site at lease termination, and (3) at least a part of the value of on-site improvements, including the house, at lease termination.[61]

An explanation for the latter component is requisite. In 1967, most of the older lease contracts in force specified that on-site improvements would revert to the lessor at lease termination. Under these contracts, the market value of the lessor's interest included the value of on-site improvements. Most of the newer contracts entitled the lessee to remove the improvements. The difficulty of removing them meant that their value if removed (net of removal costs, and probably for scrap) was less than their value if left on the site. Under the new contracts, the lessee's (potential or actual) threat of removal would be expected to evoke a lessor payment for improvements greater than scrap value but less than value in place. Thus, under old and new contracts, the benchmark market value of the lessor's interest included at least a part of the value of the improvements. We shall refer to this as the lessor's reversionary interest in the on-site improvements.

The original LRA of 1967 specified compensation in terms differing from those of our benchmark. It stated essentially that compensation should be the current market value of the improved land diminished by three amounts: the current market value of on-site improvements, the current replacement cost of off-site tract improvements paid for by the lessee, and a "surplus" value of the leaseholder's use of the property.[62]

Each of the three amounts subtracted reduces compensation below our benchmark market value. First, the value of on-site improvements at condemnation includes the lessor's reversionary interest in on-site improvements at the termination of the contract; the subtraction of this reversionary interest reduces compensation below the benchmark. Second, if the current replacement cost of off-site improvements approximately measures the market value that the improvements contribute to the site, then the subtraction of this measure of market value reduces compensation below the benchmark. That is because the market value of off-site improvements at condemnation includes the lessor's reversionary interest in the site at the termination of the contract. Both the first and second subtractions reduce compensation below our benchmark because on-site and off-site improvements have residual value at termination. (The historical pattern of payments for both types of improvements has no influence on the determination of market value.) Third, the subtraction of the "surplus" obviously decreases compensation below the benchmark. Thus, the original LRA provided for compensation at less than market value.

In 1968, Act 46 modified the compensation, stating that it should be the greater of two amounts: (1) the current market value of the land, as if it were unencumbered and unimproved, plus some historical costs of off-site improvements; or (2) the present value of contract rents plus the present value of the reversionary interest in the lot.[63]

Both of these specifications of compensation are less than the benchmark value. The first specification is less than the benchmark because, due to inflation, historical costs provide an underestimate of the market value of off-site improvements. The second specification is less than the benchmark because it entirely excludes the lessor's reversionary interest in the on-site improvements.[64] Thus, from 1967 until 1975 when the next changes were enacted, prescribed compensation for the condemned leased fee was below the market value.

There were very few voluntary conversions from leasehold to fee simple between 1967 and 1975; and there were no LRA-forced conversions in spite of the fact that the HHA was authorized to condemn under the LRA beginning in 1969. This was due to a lack of lessees' economic incentives, since the required compensation under Act 46 was still sufficiently close to market value to preclude substantial gains in lessees' wealth. The lack of lessee interest in petitioning the HHA was also reflected in the unwillingness of Governors Burns and Ariyoshi to fund implementation of the law.[65]

B. 1976-Present: Compensation Adjusted Downward Again

The LRA was first employed in 1976.[66] This was followed by a growing number of petitions and subsequent conversions, especially from 1979 through 1982. Why did nine years elapse before the Act became effective? La Croix, Mak, and Rose explain how, during this period, increasing general price and land price inflation, changes in federal tax rules and rates, and the passage of time toward renegotiation of leasehold contracts created economic rents that could be captured through the political process. In 1975 and 1976 the Legislature amended or modified procedures under the LRA in four acts, each favorable to lessees at the expense of lessors. The voting pattern on these acts confirms that their passage was partly driven by the economic interests of lessees (La Croix, Mak, and Rose 1995, pp. 1007-1009).

Act 186 (1975) simply reaffirmed the original LRA and offered a more extensive rationale.[67] Act 184 (1975) required that at the termination of a lease, the lessor compensate the lessee for unremoved on-site improvements at fair market value.[68] This provision applied to existing and future leases.[69] It also explicitly excluded the reversionary interest in on-site improvements in the determination of compensation for the condemned leased fee.[70] Act 185 (1975) established controls on land rents at lease renegotiation.[71] Act 242 (1976) then set forth explicit guidelines for appraisers to determine compensation for the leased fee.[72] These acts all reduced the market value of the leased fee in voluntary negotiations. (Note that, by definition, they do not affect our benchmark market value.)

The acts reduced market value via two channels. First, the acts that controlled rents (185) and required payment for on-site improvements (184) directly reduced the market value of the leased fee. Act 185 reduced the value of the site reversionary interest, as well as the present value of rents for the duration of the lease.[73] Act 184 eliminated the lessor's reversionary interest in on-site improvements. Second, all four acts indirectly reduced the market value by reinforcing the state's commitment to condemnation as an alternative to voluntary transfers, while three of the acts (184, 185, and 242) provided rules that reduced compensation in the event of condemnation.

The rent control requirement of Act 185 (1975) limited renegotiated rents to a maximum of four percent of:

> the current fair market value of the lot, excluding onsite improvements, valued as if the fee title were unencumbered; less the lessee's share, if any, of the current replacement cost of providing existing offsite improvements attributable to the land.[74]

A major purpose of the rent control law was to reduce the basis for the calculation of leased-fee compensation under the LRA. The preamble of Act 185 states this intent:

> The compensation provided to be paid to lessors under Act 307 was directly related to the present value of the lease income stream generated under the lease to be condemned. Since June 24, 1967 lessors have generally adopted a practice of increasing lease rentals on renegotiations of existing leases in a manner unrelated to the raw land value, thereby greatly increasing the cost to the lessee when exercising his rights under Act 307...[75]

This statement clearly reveals that controls on renegotiated rents were imposed for the purpose of reducing the compensation to be paid to lessors under the LRA.

Act 242 (1976) provided appraisal guidelines for determination of the compensation for condemned leased fees:

> The value shall be determined by whichever following method provides just compensation and gives the greater consideration to the lessee's interest:
> (A) The sum of: (1) the future rental income stream for the lot for the term of the lease... and (2) the value of the lessor's reversionary interest in the lot...;[76] or
> (B) The current fair market value of the lot, valued as if it were a fee simple lot and as if the fee title were unencumbered, and excluding onsite improvements...[77, 78]

Following Judge King's 1979 decision that the compensation formulae specified in Act 242 were unconstitutional, the legislature passed Act 107 in 1980.[79] This act deleted the requirement that the appraisal method yielding greater compensation to the lessee's interest must be used and allowed the use of methods A and B or any other appropriate method.

From 1976 forward, appraisers employed by lessors and lessees alike have all employed method A or a method similar to A, and they have all (1) used controlled rents and (2) excluded the reversionary interest in on-site improvements. Although both of these requirements have reduced compensation, Oahu appraisers inform us that the greater effect has been due to the rent controls. With rules requiring compensation at less than market value, it is not surprising that the lessees' right to petition for condemnation was frequently exercised after 1976.[80]

It is one thing to analyze the wording of the statute and conclude that its provision for compensation is less than market value. It is quite another to establish that the statute was effective in reducing compensation. Appraisers have considerable latitude in their choice of the land price inflation rate and the discount rate used in their calculations. As a consequence, there has often been a wide disparity between compensation determined by the appraiser for the lessees and the appraiser for the lessor.

Evidence of the importance of the reversionary interest in improvements, as a part of the compensation, is lacking. Bargaining breakdowns and terminations that resulted in the loss of improvements by tenants were uncommon. In a few cases lessees allowed improvements to depreciate toward negligible value, but in other cases the value of improvements was substantial.[81] Evidence of the importance of rent control (at 4% of the lot value) is found in observed rates higher than 4 percent (1) before the law passed, and (2) in leasehold contracts not subject to the law after the law passed. In the early 1970s, the Bishop Estate's policy was to set rents at 4.5 percent of the land's value.[82] According to real estate and legal specialists in leasehold contracts, in the late 1970s and early 1980s, after the rent control law passed and before the Supreme Court decision, many new residential condominium and commercial and industrial leasehold contract rents were based on 6 and 8 percent rates of return on land value.[83]

VII. JUST COMPENSATION

It has been argued by several scholars that just compensation under the Fifth Amendment should be greater than market value. Richard Epstein cited *Olson v. United States*[84] as the basis for this argument and concluded that compensation should be value rather than cost, and use value instead of the usually smaller exchange price or market value (Epstein 1985, pp. 182-183).

Epstein further argued that compensation should include the landowner's transaction costs. Robert Ellickson also reasoned that, in some instances, market value systematically underestimates the just compensation; in such cases, he proposed that market value plus a bonus be awarded.[85] Against this standard, the amended LRA obviously fails to provide just compensation.

An alternative standard, again provided by Epstein, is that rent controls impose terms that the landlord would reject in a voluntary transaction, so they are takings without just compensation.[86] It follows that if compensation for the condemned leased fee is based on a controlled land rent, the compensation must likewise be unjust.

Of course, it is unnecessary to take such a strong position to argue that the amended LRA provides for unjust compensation. We can simply note the tendency of federal and state legislatures and the courts to provide for market value compensation, and accept that as the standard practice. In 1984, the same year as the *Midkiff* decision, the U.S. Supreme Court, in a unanimous decision, reaffirmed in *United States v. 50 Acres of Land* [*Duncanville*] what it had ruled in several prior cases, that just compensation is presumptively market value. In emphasizing the necessity for an objective standard of compensation, the Court quoted from its 1949 eminent domain opinion in *Kimball Laundry Co. v. United States*:

> Most things... have a general demand which gives them a value transferable from one owner to another. As opposed to such personal and variant standards as value to the particular owner whose property has been taken, this transferable value has an external validity which makes it a fair measure of public obligation to compensate the loss incurred by an owner as a result of the taking of his property for public use.[87]

Against this market value standard, the LRA has failed to prescribe just compensation. We should emphasize that this conclusion is based on a comparison of the legally authorized compensation relative to our unbending benchmark. There are at least two arguments that one might make for specifying compensation below the standard. First, one could argue that the existence of the land rent control and the exclusion of the reversionary interest in on-site improvements should define just compensation as if they were longstanding and independently worthy of merit and not imposed to reduce the basis for computation of the leased fee compensation. However, in the case of the LRA, they were imposed to reduce the leased fee compensation on impending condemnations. Act 184 (1975) amended the land reform statute, redefining and reducing compensation by excluding the reversionary interest in improvements from the land market value component of compensation. Although Act 185 (1975) did not amend the land reform statute, it reduced land rents expressly for the purpose of reducing compensation under condemnation.[88]

An interesting parallel set of events at the Honolulu City Council provides another example, only it relates to leasehold condominium law. (Recall that the LRA applied only to single-family leaseholds.) Two ordinances motivated by rent-seeking lessees and patterned after the LRA and Act 185 were enacted in 1991. Ordinance 91-96 established rent control at renegotiation, and companion Ordinance 91-95 authorized condemnation and compensation for the leased-fee transfer based on the controlled rents.[89]

More generally, the issue is whether, when eminent domain proceedings are anticipated, it is just to lower the compensation by legislative or bureaucratic means. Down-zoning, site-specific permit requirements, the placement of public facilities, and many other government decisions affecting the market value of property offer opportunities to reduce market value compensation. At least in some instances when governments have seized upon such opportunities, the courts have objected.[90]

There is a second argument for specifying compensation below the benchmark market value. One could assert, contrary to our finding, that there were monopoly prices attributable to either a cartel of oligopolists or tacitly colluding oligopolists. If there were an effective cartel, the monopoly price would be illegal, and deduction of the monopoly premium from the market value would provide for compensation at a just price. There is, however, no evidence of an effective land cartel in Honolulu.

The other variant of this argument assumes that unorganized oligopolists are charging supracompetitive prices, and that the premium due to their monopoly power ought to be deducted from the market prices to determine the just compensation. However, in *Souza v. Estate of Bishop*,[91] the district court observed that the large landowners had legally acquired their lands; that the large landowners were not colluding to set prices; and that there was no evidence that they were using illegal methods to extract additional monopoly profits. Under these circumstances, the supracompetitive market price is also the legal market price. There is, therefore, no rationale in this case for deducting any market power premium from compensation.

Neither of these two arguments persuade us that just compensation under the LRA should be less than the unbending benchmark market value. The LRA, as amended, was designed not merely to force the transfer of land for an equivalent amount of wealth, but to force a transfer of land without just compensation, as measured by market value.

VIII. CONCLUSION

Our analysis confirms what was suggested by Epstein and Merrill: that the concentration of land ownership was not responsible for high land prices in Hawaii. It indicates, rather, that the high prices were attributable largely to natural and governmental restrictions on the supply of land for housing use.

Our analysis further reveals that compensation provided by the LRA was less than market value for two reasons: compensation excluded the reversionary interest in improvements; and the value of both renegotiated contract rents and the reversionary interest in land were depressed by controlled land rents.

These findings suggest that the LRA was a misapplication of the power of eminent domain, because it was inconsistent with both public use and just compensation requirements of the Fifth Amendment. One can most clearly understand the LRA's inconsistency with the public use limitation on takings by following Merrill's view of the public use clause as a limitation on means rather than ends. Within this framework, the central public purpose stated by the Legislature and accepted by the Court... was to reduce the price of land, and the means specified to achieve that end was eminent domain. Our first finding, which indicates the absence of a rational nexus linking the end with the means, suggests that the use of eminent domain was inappropriate.[92]

The Court might well have justified the use of eminent domain as a means of achieving some *alternative* public purpose. The Act 307 preamble alluded to numerous objectives, one of which was to increase the completeness of homeownership to include land.[93] The encouragement of homeownership has been a public policy of governments for half a century. The Court might have found this to be a public purpose logically linked to the use of eminent domain. Other public purposes that might have been attained by condemnation include the elimination of (1) anxiety costs associated with lease rent redetermination and (2) economic rent dissipation (premature depreciation of the housing stock) due to strategic bargaining toward the end of the contract. Unfortunately, the Court's reasoning was not logically based on such possibilities.

Our second finding, that the law provided for compensation at less than market value, also suggests that the LRA was an improper use of eminent domain because the courts normally interpret just compensation to mean market value. Compensation at less than market value was wholly overlooked by parties in the *Midkiff* case. It is remarkable that the legislature made the state vulnerable to court challenge by explicitly stating in the law that rent control was to reduce compensation for the condemned leased fee. It is equally remarkable that lawyers for the plaintiff did not challenge the law on grounds of unjust compensation.

Blume, Rubinfeld, and Shapiro (1984) have shown that undercompensation is efficient in an eminent domain case when it involves the destruction of site-specific capital. Partial compensation for the value of capital assets on a land parcel would, however, force the landowner to take into account the low value of the site-specific capital to the government if the land is taken by eminent domain. Similar reasoning applies to government takings of land to dismantle residential leaseholds. If the Bishop Estate were perfectly compensated for land takings, trustees would be financially indifferent between offering land in

leasehold or fee simple. Given the obligations of Princess Bishop's will, they might even be compelled to offer only leasehold land. Lessees and the Bishop Estate would then have to incur substantial costs to convert new leased lands to fee-simple tenure. Undercompensation would provide incentives to the Estate to end leasehold transactions and offer only fee-simple residential parcels.

In general, legislative bodies' tendency to misapply eminent domain can be explained as the result of economic forces, just as the literature has explained property owners' use of zoning.[94] Merrill (1986) offers the following argument:

> The expiration or renegotiation of the ground leases rendered tenants with substantial capital investments in the property vulnerable to rent-seeking behavior by landlords. A landlord could charge a lease-renewal price that included not only the unimproved land's opportunity cost, but also the value of improvements previously paid for by the tenant. The Land Reform Act would have represented a rational response to this problem (pp.110-111).

In Hawaii the voting pattern on the four acts in 1975 and 1976 indicates that their passage was indeed driven by the economic interests of lessees, as well as by Democrats' ideological opposition to the large estates.[95] The largest concentrations of lessees were relatively affluent residents in neighborhoods represented by Republican legislators who were ideologically opposed to government regulation and interference with private property rights. In the Senate, all four of the Republicans from lessee senatorial districts joined the other senators in unanimous passage of the four bills. In the House, all eight of the Republicans from lessee representative districts voted with the overwhelming majority for passage of the four bills. In the subsequent election, none of the four senators, and only one of the eight representatives, was defeated. For these Republican legislators and their Republican lessee constituents to vote contrary to their ideology indicates they were motivated by wealth (as distinct from land) acquisition.

The Fifth Amendment's limitations on legislatures' taking of property are often viewed as a protection for the minority from exploitation by a majority coalition.[96] For example, a legislature responding to majority preferences can take property for the building of a highway, leaving a minority of deprived individuals facing a one-time burden. Because the latter group is ill-equipped to deal effectively in the political arena, the courts ensure that there is a public purpose and/or that just compensation is provided. In Hawaii, the legislature acted on behalf of the majority when it passed the LRA of 1967. However, contrary to the minority protection view, the Court's decision in *Midkiff* did not protect the few estates.

Saul Levmore (1990) argues an alternative view that the Amendment's provisions and courts' decisions in regulatory takings cases are there to protect the politically isolated from the politically organized, normally influential, repeat players. In Hawaii, the Democratic Party successfully promoted the view that individual homeowners were powerless and the large estates were powerful. In the light of Levmore's argument, the Court's apparent acceptance of the Democrats' view helps to explain its siding with the majority.[97]

There are two possible defenses against the misapplication of eminent domain. The first is judicial scrutiny of legislative reasoning on public use, and the second is enforcement of the just compensation clause. In *Midkiff*, the Supreme Court almost completely closed the door on review of legislative reasoning about public use in takings cases. It stated:

> Judicial deference is required because, in our system of government, legislatures are better able to assess what public purposes should be advanced by an exercise of the taking power.... Thus if a legislature...determines there are substantial reasons for an exercise of the taking power, courts must defer to its determination that the taking will serve a public use.[98]

On the other hand, it left a small opening, indicating that conditions might exist in which judicial deference might not be required.[99]

> There is, of course, a role for courts to play in reviewing a legislature's judgment of what constitutes a public use.... The Court has made clear that it will not substitute its judgment for a legislature's judgment as to what constitutes a public use "unless the use be palpably without reasonable foundation."[100].... Where the exercise of the eminent domain power is rationally related to a conceivable public purpose, the Court has never held a compensated taking to be proscribed by the Public Use Clause.[101,102]

Because courts generally defer to legislatures on public use, they are left with the second defense against improper application of eminent domain, enforcement of the just compensation clause. If market value compensation is paid, there is a higher likelihood that the taking is for some valid public purpose, since the payment of market value precludes the use of eminent domain for a wealth redistributive purpose. The just compensation defense against misuse of eminent domain places responsibility on attorneys who argue before the courts to prepare their claims and arguments with an eye to bureaucratic and legislative actions that provide for and/or yield below-market compensation.

In the absence of a challenge on compensation grounds, the courts currently give carte blanche to legislatures to effectuate transfers of private property via takings as long as the drafters of legislation place the usual rhetoric about the public interest in the preamble to the legislation. The cost to politicians is low, as they surely have a comparative advantage in the ability to frame private interest in the language of public interest. Without substantive review, the public use provision in the Fifth Amendment's taking clause might as well be struck from the Amendment's text. The protection of private property has come to rest on enforcement of the just compensation requirement.

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NOTES

1. Haw. Rev. Stat. 516. The original legislation was Act 307, Session Laws of Hawaii, Regular Session (1967).

2. The Fifth Amendment of the United States Constitution provides that "nor shall private property be taken for public use without just compensation."

3. 483 F. Supp 62 (Haw. 1979).

4. 702 F. 2d 788 (1983).

5. 467 U.S. 229 (1984).

6. 704 P. 2d 888 (Haw. 1985).

7. Merrill writes (1986, p. 110): "[T]he Court's figures suggest that the residential home market in Hawaii is neither a monopoly nor a cartel, and is thus not subject to noncompetitive pricing."

8. Economic Research Associates (1969). It is noteworthy that in 1967, notwithstanding the substantial Oahu population of approximately 600,000, less than 20 percent of the island was classified as urban. For the numerator of this percentage, 71, 692, see State Office of Lt. Governor (1969, p. 24b). For the denominator, 373, 636, see Schmitt (1977, p. 295); the denominator excludes the area in public streets and highways.

9. The FHA home and site price data have well-known limitations. See Muth (1971); also, see Greenlees (1982). The Honolulu data include leasehold observations, but do not reveal the extent to which the average prices reflect the presence of lessor interests. For Honolulu prices see Economic Research Associates (1969, VI 3-6).

10. Honolulu Board of Realtors, Multiple Listing Service.

11. Bernice Pauahi Bishop, The Will of the Honorable Bernice Pauahi Bishop (1884) states: "[T]rustees shall not sell any real estate, cattle ranches, or any other property, but...continue to manage the same, unless in their opinion sales may be necessary for the establishment or maintenance of said schools, or for the best interest of my estate."

12. James Campbell, The Estate of James Campbell (1978, p. 25) "...that the Trustees and their successors keep intact my estate and administer the same under the name of 'The Estate of James Campbell'...and that the realty thereof shall be particularly and especially preserved intact and shall be aliened only in the event, and to the extent, that the obvious interest of my estate shall so demand."

13. Mass. (9 Pick.) 446, 461 (1830). Estate of James Campbell, Decsd., 42 Haw. 586 (1959); *Hyde v. Smith*, 11 Haw. 535 (1899); and *Dowsett v. Hawaiian Trust Co.*, 47 Haw. 577 (1965).

14. There have been several such suits against trustees of the Bishop Estate. In these cases, the individual trustees' personal assets were at risk.

15. The Bishop Estate's standard lease now runs 55 years, but there has been some variation in lease length across different properties and at different times. See Economic Research Associates (1969, VI-2 through VI-8). Prior to 1940, most leases were 30 years in length. From 1946 to 1952, the prevailing term conformed to the Federal Housing Administration (FHA) standard of 50 years. A 55-year lease became the standard in 1952 to conform with FHA financing requirements (Economic Research Associates 1969, VI-3).

16. The Bishop Estate, Information for Kamehameha Schools/Bernice Pauahi Bishop Estate Residential Leases as of March 1, 1975.

17. The Bishop Estate, Information for Kamehameha Schools/Bernice Pauahi Bishop Estate Residential Leases as of March 1, 1975.

18. Large landowners could hardly complain that the passage of the LRA in 1967 took them by surprise.

19. Haw. Rev. Stat. 516. The original legislation was Act 307, Session Laws of Hawaii, Regular Session (1967). The law applies strictly to single-family homeowners, and not to leasehold condominimus, townhouses, and cooperatives.

20. Cooper and Daws (1985), provide a detailed account of the politics leading to passage of the LRA.

21. For a chronology of the land reform measures affecting single-family residences, see State of Hawaii (1982). The LRA's provision for bulk condemnation was designed to obtain favorable tax treatment of leasehold sales from the IRS. The IRS did maintain the Bishop Estate's tax-exempt status and also allowed noncharitable landowners to choose between (a) paying taxes at the capital gains tax rate on condemnation sales and (b) indefinitely deferring such taxes by rolling the gains over into another investment. The IRS policies toward sales by charitable and noncharitable landowners were implemented sale-by-sale, through post-sale audits, until 1978 when, for the Bishop Estate, it provided a blanket ruling. Kato (1978).

22. Act 307, supra note 1, at Pt. I, Sec. 1(j).

23. Id. at Sec 1(f).

24. Id. at Sec 1(g).

25. 483 F., supra note 3.

26. 702 F., supra note 4.

27. 702 F., supra note 4 at 805.

28. 702 F., supra note 4 at 806.

29. See text accompanying notes 3 and 4 for a brief review of the *Midkiff* litigation prior to the U.S. Supreme Court decision.

30. 467 U. S., supra note 5, at 243. The Court also declared that the standard of review in public use cases would be the same for takings authorized by state legislatures as for takings authorized by the U. S. Congress, supra note 5, at 244.

31. Id. at 244.

32. 348 U.S. 26 (1954).

33. Id. at 240. O'Connor is quoting from the Court's decision, *Old Dominion Co. v. United States*, 269 U.S. 55, 66 (1925).

34. Id. at 241.

35. Between 1776 and 1787, all states passed legislation mandating the confiscation of the land holdings of Loyalists and British subjects without compensation. Forrest McDonald (1985) estimated that at least 10 percent of the value of real estate was confiscated by bills of attainder during this period. The states sold the traitors' land holdings to raise revenue during the Revolutionary War and to reduce the ability of Loyalists to contribute to the British war effort. See Van Tyne (1959, pp. 268-285, 331-341) for an account of the legislation and confiscations. Justice O'Connor's comparison of the colonists' land confiscations with the LRA is totally misplaced. First, the large landowners in Hawaii had no record of treasonous conduct or leanings. Second, while suspensions of individual rights often occur during wartime, the United States was not formally at war when the LRA passed. Third, while the LRA had to satisfy the requirements of the Fifth Amendment (applied to the states via the Fourteenth Amendment), the states' confiscations during the Revolutionary War occurred prior to the passage of the Bill of Rights in 1789. Fourth, while the colonists passed legislation (in the case of Virginia see 10 *Hening's Statutes At Large* 64, ch. 13, 6) to eliminate feudal obligations such as quit rents, land in Hawaii had no feudal obligations after private property in land was established in 1848.

Justice O'Connor probably alluded to the colonists' actions because "state after state specifically directed that the larger confiscated estates be sold in small parcels, so as to break up 'dangerous monopolies of land.'" McDonald, id. at 91. Legislatures have, of course, long specialized in the art of rhetoric, and our forefathers provide no exception to this rule. Despite the legislation's declared purpose, the confiscation, breakup, and sale of Loyalist holdings had its roots in raising revenue for the state, increasing the popularity of state governments among the people, and providing the new landowners with an increased stake in the success of the war effort.

36. Id. at 242.

37. Id.

38. Id.

39. Id. The Court is quoting from its decision, *Western & Southern Life Ins. Co. v. State Bd. of Equalization*, 451 U.S. 648, 671-672 (1981). Brackets were provided by the Court.

40. Coase (1972, p. 144). This argument is also applicable to long-term leases: the fixed rents are competitive rents due to lessees' fear of capital losses.

41. Admittedly, because of the illegality of such activities, they should be difficult to observe.

42. 594 F. Supp. 1480 (1984).

43. *Souza v. Estate of Bishop*, 799 F.2d 1327, 1329 (9th Cir. 1986). The Court is quoting *Wilson v. Chronicle Broadcasting Co.*, 794 F.2d 1359, 1365 (9th Cir. 1986) which is quoting *Edward J. Sweeny & Sons, Inc. v. Texaco, Inc.*, 637 F.2d 105, 111 (3d Cir. 1980).

44. Merrill (1986) and Epstein (1985) both briefly observe that concentration in Hawaii's land market is unlikely to be sufficiently great to generate supracompetitive land prices.

45. All HHI calculations refer to the stock of land rather than to a flow of land transactions.

46. ABA Antitrust Section, *The 1992 Horizontal Merger Guidelines: Commentaries and Text* (1992).

47. Trade Regulation Reports, *1993 Horizontal Merger Guidelines* (March 30, 1993).

48. Since the total lots in our data do not include fee-simple lots developed prior to 1946 whereas it includes all leasehold lots, the HHI for the residential land market is biased upward. Moreover, our analysis includes only single-family homes and does not include apartment buildings. Since 1960 and 1970 data indicate that ownership of leased land for condominiums and apartment buildings is even less concentrated, this factor also biases the HHI upward. Data for this HHI calculation are from Vargha (1964, pp. 11-12).

49. Act 307, supra note 1, at Sec. 1.

50. Indeed, Vargha made this point in his thorough study of leasehold housing in Hawaii. See Vargha (1964, fn. 107).

51. See Coase (1972). For a summary of recent elaborations of Coase's analysis, see Tirole (1988, pp. 80-86).

52. Liebowitz (1983) has argued that there are many efficiency-based reasons for a monopolist (or any other type of producer) to lease rather than sell a product.

53. The Legislature did mention that increases in population were driving the increasing demand for land, but did not specify other supply factors besides leasing and oligopoly that increased the price of land.

54. Peltzman (1989) provides an overview and evaluation of the economic theory of regulation. Fischel (1990) applied the theory to the urban land market.

55. Several authors have briefly analyzed the possibility of a cartel among large landowners supported by state zoning. See Ellickson and Tarlock (1981, pp. 954-956); Ellickson (1977, pp. 434-435); Bosselman and Callies (1971, pp. 25-27); Epstein (1985, pp. 180-181).

56. Houston, with no zoning, was the only excluded populous area.

57. The City and County of Honolulu and the island of Oahu are coterminous.

58. One independent variable, population change, is a percentage and is not converted to logarithms.

59. Most lease contracts specified that in the event of condemnation, the lessor would be entitled to the current market value of the land, and the lessee would be entitled to the current market value of the improvements. Our interpretation is that this clause is applicable in the case of standard condemnation for a public facility. The guidelines for compensation in the case of leased fee condemnation are provided in the LRA and its amendments.

60. Economic theory implies that the market value cannot be meaningfully divided into these component values. Yet, the law can require that such a division be made, and appraisers can attempt to determine each component's value.

61. Our purpose is to compare compensation provided under the LRA with just compensation defined as the market value benchmark. Many leasehold contracts have provisions for the apportionment of compensation for the land and improvements if there is condemnation of the residential leasehold. Some contracts provide that upon condemnation, the lessee's interest shall terminate, so that the lessor receives the compensation for both land and improvements. Other contracts provide that upon condemnation, the lessee shall receive compensation for all on-site improvements, while the lessor shall receive compensation for the land. The presence of these contractual provisions and provisions of the common law will be reflected in the lease rent, thereby raising the usual issues of ex ante vs. ex post compensation.

62. Act 307, supra note 1, at Sec. 13 provided for payment of "the current fair market value of the tract diminished by the lessees' interests in the leased lots within the tract." A "lessee's interest" was defined in Sec. 2 as "the current fair market value of all onsite improvements...paid for or required to be paid for by the lessee, plus the unamortized current replacement cost of all offsite improvements paid for or required to be paid for by the lessee,...together with the lessee's value increment." The "lessee's value increment" was defined in Sec. 2 as "the value of his interest in the residential use, enjoyment and amenities of the lot during the balance of the unexpired term of the lease..." The value increment was to be 10 to 15 percent of the current fair market value of the unencumbered fee of the lot.

63. Act 46, Session Laws of Hawaii, Regular Session (1968). The act redefined compensation in Act 307, supra note 1, Sec. 13 to be

> the current fair market value of the tract, valued as if the fee title to the tract were unencumbered and the tract were undeveloped and unsubdivided, plus the unpaid balance owing to the lessor by lessees of the lots in the tract as reimbursement for the actual offsite improvement costs paid for by the lessor; provided, that in no event shall the compensation be less than the sum of the present worth of the future rental income stream under the leases to lots in the tract and the present worth of the lessor's reversionary interest in the leased lots.

64. Our interpretation of the first specification is that it actually includes the lessor's reversionary interest in on-site improvements. Even though the stated basis for compensation makes no mention of these improvements, the value of the currently unimproved land (if leased) implicitly includes the present value of at least a part of the reversionary interest in improvements at termination. That is because the current market value of land to be leased, even if currently unimproved, would include at least a part of the present value of expected future on-site improvements at the termination of the lease. In other words, the compensation would include this component of the benchmark value.

65. A revolving fund was necessary to enable the HHA to compensate the lessors. Subsequently, the lessees would reimburse the HHA.

66. Lessees purchased 182 lots from the Pflueger-Cassiday Trust in a negotiated settlement.

67. Act 186, Session Laws of Hawaii, Regular Session (1975) amended Haw. Rev. Stat. 516, supra note 1, at Sec. 1 (1975).

68. Act 184, Session Laws of Hawaii, Regular Session (1975) amended Haw. Rev. Stat., supra note 1, at Sec. 70 (1975). The Act redefined compensation as

> the current fair market value of the lot excluding onsite improvements, valued as if the fee title were unencumbered, less the lessee's share, if any, of the current replacement cost of providing existing offsite improvements attributable to the lot, which replacement cost shall include an overhead and profit not exceeding twenty per cent of the current replacement cost of the existing offsite improvements, or the original lot development credit to the lessee, whichever is greater, plus the unpaid balance, if any, owing to the lessor by the lessee as reimbursement other than as a part of the lease rent for the actual offsite improvement costs paid by the lessor.

69. *Anthony v. Kualoa Ranch, Inc.*, 69 Haw. 112, 736 P.2d 55 (1987) overturned the retroactive provisions of the law. This meant that only leases initiated after July 1, 1975 would be subject to the law. This issue was unresolved during federal and state court deliberations on the LRA.

70. See supra note 68, at Sec. 2 (14) where "owner's basis" is defined. The exclusion of the lessor's reversionary interest in the improvements reduces the first component in the compensation specified in Act 46 (1968): the current market value of the land as if it were unencumbered and unimproved.

71. Act 185, Session Laws of Hawaii, Regular Session (1975), amended Haw. Rev. Stat. 519 (1975).

72. Act 242, Session Laws of Hawaii, Regular Session (1976), amended Haw. Rev. Stat. 516, supra note 1. Act 107, Session Laws of Hawaii, Regular Session (1980) and Haw. Rev. Stat. 516, supra note 1, retained the Act 242 methods of appraisal and allowed for additional methods as well. It also removed an Act 242 instruction to use the method most favorable to lessees.

73. The site reversionary component would be reduced under the assumption that the estate would offer a new lease whose rents were, at least in part, subject to rent controls.

74. Act 185, supra note 71, at Sec 2.

75. Act 185, supra note 71, at Sec 1.

76. Act 242, supra note 72, at Sec. 1. These amounts were to be discounted to "present worth" from the expiration date of the lease.

77. Method B further indicates that the fair market value of the lot is to be established by a market data approach utilizing comparable sales, and that six amounts will be subtracted from the fair market value of the lot to determine compensation. These include the value of the lease, replacement cost of the lessee's share of off-site improvements, and the lessor's ordinary costs of transactions in transferring the leased fee to the lessee.

78. Under the LRA, as amended, Method A requires compensation based on controlled rents and exclusion of the reversionary interest in on-site improvements. As we previously noted, the reversionary interest in the lot is also determined by controlled rents. Method B excludes on-site improvements in the determination of compensation, and more important, the comparable sales reflect the controlled rents. Thus, both methods imply compensation for the condemned leased fee at less than benchmark market value.

79. 471 F. Supp 871 (Haw. 1979) at 881-83.

80. One-third of the 23,400 conversions that had occurred by September 1991 occurred in 1977-1982. See Locations, Inc. (1992, p. 19). For evidence of the effectiveness of the rent control legislation, see note 66. In spite of ten years of legislation and the ensuing condemnations, the largest owner of residentially-suitable land, the Bishop Estate, continued to contract with developers for the development of leasehold subdivisions until after the U.S. and Hawaii State Supreme Court decisions were handed down.

81. In *Anthony v. Kualoa Ranch*, supra note 69 at pp. 5 and 8, Judge Padgett's Opinion of the Court stated that the lessee claimed the fair market value of leasehold improvements was between $100,000 and $140,000 at lease termination in 1986. The terminating lease was for a period of 30 years at a rental of $75 per annum. Even if the lease had been extended for another 30 years at ten times the former rent, the estimated value of improvements would have far exceeded the present value of the land rents calculated by using a wide range of discount rates. Thus, at least in this important case, the value of improvements was substantial.

In many lease contracts the lessee agrees to maintain his improvements at a reasonable standard. This may effectively deter the lessee from allowing depreciation to a value of zero.

82. See "Bishop Estate Trustees Discuss Job," *Honolulu Advertiser*, II-A-7 (August 1, 1973).

83. Bishop Estate commercial and industrial rents were regularly set at six and eight percent, according to Trustee Oswald Stender. All Kaneohe Ranch condominium lease contracts required that if renegotiation failed, the three arbitrators would set the new rent at six percent of the fair market value of the unencumbered fee, according to CEO Randolph Moore. He also noted that many other condominium lease contracts specified rates at seven and eight percent.

84. 292 U. S. 246 (1934).

85. Ellickson (1973). His proposal for bonus awards would be applicable only when condemnees lose nonfungible surplus. Although this is less likely in the case of Hawaiian landlords than in the case of individual homeowners whose property has been taken, Hawaiinn landlords frequently claim that they lose nonfungible surplus when their leased fees are condemned.

86. Epstein (1985, pp. 186-88). Epstein argued that in regard to the takings issue, there is essentially no difference between rent controls and the transfer of condemned property at less than market value. "Leases are property just as much as fee interests are, and the same principles of just compensation apply with equal force to both."

87. For *Duncanville*, see 105 S. Ct. 451 (1984). For *Kimball*, see 338 U. S. 1 (1949). The quotation from *Kimball*, which is in *Duncanville* at 458, continues:

> In view, however, of the liability of all property to condemnation for the common good, loss to the owner of nontransferable values deriving from his unique need for property or idiosyncratic attachment to it, like loss due to an exercise of the police power, is properly treated as part of the burden of common citizenship.

For additional recent cases in which the U.S. Supreme Court upheld the standard of market value as just compensation, see *Almota Farmers Elevator & Warehouse Co. v. United States*, 409 U. S. 470 (1973); and see *United States v. Fuller*, 409 U. S. 488 (1973). There are many older cases. Indeed, the practice of British colonial courts, and that of the states during the era of the Articles of Confederation, was to use market value. See Stoebuck (1972).

There are exceptions to the rule: for example, see Epstein (1985, p. 174) where he noted that the New Hampshire Mill Act of 1868 provided for compensation at 150 percent of market value, and (p. 185) where he noted that *Penn Central Transp. v. City of New York* suggests compensation based on original investment rather than current market value, which is greater than historical cost.

88. Recall that the legal benchmark value of the lessor's interest already excludes any interest in the improvements, so Act 184 did not affect compensation relative to that standard. In contrast, Act 185 reduced compensation to the lessor below even the legal standard.

One could argue that the ground rent control law is itself a regulatory taking because it allows a lessee who sells his home to monetize the value of the below-market rent at the expense of the lessor. Alternatively, one could argue (as we do) that the culprit is the condemnation law because it does not exclude the effect of rent control on the valuation of the leased fee.

89. A federal district court recently struck down two versions of Honolulu's condominium land rent control law. See *Richardson v. City and County of Honolulu*, 759 F. Supp. 1477 (D. Haw. 1991); and *Richardson v. City and County of Honolulu*, 802 F. Supp 326 (D. Haw. 1992); also, *Richardson v. City and County of Honolulu*, Civ. No. 91-00725 DAE, ORDER DENYING PLAINTIFFS' MOTION TO AMEND JUDGMENT, filed June 3, 1994. In the second of these decisions, the court ruled that the condemnation law did not violate the U.S. Constitution but asked the Hawaii Supreme Court to rule on whether the city's law is preempted by state statutes. In *Richardson v. City and County of Honolulu*, 75 Haw. (no. 16457, Feb. 18, 1994), the Hawaii Supreme Court ruled that the city's ordinance did not violate state laws.

90. In *Almota*, supra note 87 at 480, Justice Powell stated in his concurring opinion:

> It would be unjust to allow the government to use 'salami' tactics to reduce the amount of one property owner's compensation by first acquiring an adjoining piece of property or another interest in the same property from another property owner.

For a discussion of the *Almota* case, see Goldberg, Merrill, and Unumb (1987). For an example of a state court decision in which the down-zoning of land for airport acquisition was held a taking, see *Peacock v. County of Sacramento*, 77 Cal. Rptr. 391, 403 (Ct. App. 1969).

91. 594 F. Supp. 1480 (1984).

92. The basis for our rejection of the legislature's price reduction rationale is its susceptibility to theoretical and quantitative analysis. If the legislature had believed that the specified public purpose of the legislation was to be substantively reviewed, it could have specified a more ambiguous public purpose less susceptible to analysis and more difficult for the courts to evaluate.

Act 307, supra note 1 at Section 1, paragraphs a and g, contained some language, subsequently eliminated by amendment in 1975, suggesting two public purposes less vulnerable to such analysis. The first is avoidance of strategic bargaining between landlords and tenants at rent renegotiation and/or termination of the lease. This opportunistic rent-seeking situation—due to site-specific capital—was becoming increasingly apparent with the aging of leases. The second public purpose is a fuller realization of the federal policy of encouraging homeownership by extending ownership to include the land under the home. If either of these statements of public purpose had been retained instead of the price reduction rationale, eminent domain would have had a less vulnerable and more plausible foundaton. See Epstein (1985, pp. 161-181) for a critique of this argument.

Merrill suggested that eminent domain would have been inappropriate if the buyers of homes subject to long-term ground leases had negligently bypassed opportunities for "thick market" exchange. In Hawaii there is no evidence of either intentional or negligent bypass.

93. See supra note 1, part 1, section 1 (j).

94. As early as 1963, Otto Davis wrote of the vulnerability of zoning to rent-seeking landowners. The dominant group of property owners would obtain zoning restrictions on others' properties to enhance the value of their own properties. See Davis (1963). There have been many subsequent papers on the tendency to use zoning improperly. For example, see White (1975), Hamilton (1978), and Fischel (1980).

95. See La Croix, Mak, and Rose (1995). Merrill's argument is inconsistent with the voting pattern observed in the passage of the original LRA in 1967, but is certainly consistent with the pattern observed in the passage of the four acts in 1975 and 1976. At the latter time, many more lease contracts were scheduled for renewal.

96. For example, see *Nollan v. California Coastal Commission*, 483 U.S. 825 n. 4 (1987), where it is noted that if one landowner had been singled out to provide views of the ocean to the public, then a statute otherwise valid might violate the takings or equal protection clauses.

97. The validity of Levmore's argument is questionable. The estates had already lost their political dominance by statehood in 1959; besides, the largest estate represented Native Hawaiians, one of the least powerful minorities, and leasehold homeowners were the most affluent residents in the state.

98. 467 U.S., supra note 5, at 244.

99. We suggest that two conditions that the Court might consider as grounds for review were present in the *Midkiff* case. First, the legislation did not provide for change in the use of the condemned (or nearby) property. Second, the legislation provided for a transfer of the condemned property between private parties.

100. Id. at 241. Here the Court is citing *United States v. Gettysburg Electric R. Co.*, 160 U.S. 668, 680 (1896).

101. Id. Here the U. S. Supreme Court is citing *Berman v. Parker; Rindge Co. v. Los Angeles*, 262, U. S. 700 (1923); *Block v. Hirsh*, 256 U.S. 135 (1921).

102. In a recent case, the U.S. Supreme Court required a state legislature to provide objective evidence to substantiate the alleged foundation for legislation. In *Lucas v. South Carolina Coastal Council*, the Court required the State of South Carolina to

> ...do more than proffer the legislature's declaration that the uses Lucas desires are inconsistent with the public interest...South Carolina must identify background principles of nuisance and property law that prohibit the uses he now intends in the circumstances in which the property is presently found.

Although Lucas was a de facto taking case rather than a public use taking case, the important point is that the Court sought to protect the property owner's constitutional rights by removing the presumption of constitutionality from the South Carolina Legislature's actions and by shifting the burden of proof to the legislature.

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HOW TO VALUE A LOST OPPORTUNITY:

DEFINING AND MEASURING DAMAGES FROM MARKET FORECLOSURE

William B. Tye, Stephen H. Kalos, and
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ABSTRACT

Despite a long history and the large financial stakes involved, the economic and legal principles governing the determination of damages in lawsuits involving market foreclosure are not well established. Conceptual disagreements typically arise as to: (1) the appropriate recognition of future uncertainty in estimating damages; (2) whether damages should be calculated on the basis of knowledge as of the time of infraction or as of the time of trial (the appropriate role of hindsight); and (3) the appropriate interest or discount rates to be used to value cash flows at different times.

All other things being equal, damage awards based on an accurate application of the ex post approach (making the victim whole as of the date of award of

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