

Enforcement of the Massachusetts Lead Law and Its Effect on Rental Prices and Abandonment

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I. Introduction

For more than thirty years, the Commonwealth of Massachusetts has been a leader in childhood lead poisoning prevention. In 1971, Massachusetts passed the first state statute aimed at preventing lead poisoning.¹ Today, the Massachusetts regulatory program continues to be considered one of the most effective childhood lead poisoning prevention programs in the country.² Many states addressing this serious public health issue have enacted lead paint statutes modeled after the regulatory program in Massachusetts.³

Nevertheless, childhood lead poisoning remains a serious public health problem in the Commonwealth. In fiscal year 2001, 159 children in Massachusetts were lead poisoned (i.e., a level of 25 mcg/dl or higher), 159 had elevated blood lead levels (i.e., a level between 20 mcg/dl and 24 mcg/dl), and 426 had a moderately elevated blood level (i.e., a level between 15 mcg/dl and 19 mcg/dl). In Boston, twenty-two children were lead poisoned, twenty-nine had elevated blood levels, and ninety-two had moderately elevated blood levels in fiscal year 2001. These numbers underestimate the size of the problem because only 56 percent of children between six and seventy-two months in Massachusetts and only 69 percent in Boston were screened in fiscal year 2001.⁴

The reason why lead poisoning has not been eradicated in Massachusetts is often attributed to the Commonwealth's focus on secondary prevention, i.e., screening programs and intervention only after an elevated blood level is detected in a child, at the expense of primary prevention, i.e., removal of lead paint from homes.⁵ The view that primary prevention has taken the back seat to secondary prevention in the implementation of the Massachusetts statute is supported by the relatively low number of apartments that have been lead abated and the relatively high percentage of apartments that still contain lead paint. Between 1982 and 1986, only 2,260, or 0.5 percent, of the estimated 450,000 high-lead paint units in selected cities in Massachusetts were abated.⁶ In 1986, 80.7 percent of all units in Boston still contained lead-based paint. In the same year, an estimated 93.6 percent of the units in Chelsea were not lead safe.⁷ Between 1989 and 1997,

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letters indicating full compliance with the Massachusetts lead abatement requirements were issued to only 18,336 additional units.⁸

The lack of primary prevention, however, is not the state legislature's fault. From the beginning, lawmakers have given primary prevention a preeminent role in the reduction of incidents of lead poisoning in Massachusetts. The Lead Poisoning Prevention Act,⁹ passed in 1971, required abatement of lead-based paint in all homes occupied by children under the age of six.¹⁰ Thus, the lack of primary prevention must be a result of how the lead law is implemented.

Organized opposition from real estate interests and limited funding for enforcement are often blamed for the failure to implement fully the primary prevention goals of the lead law.¹¹ It is probably true that, despite the favorable provisions of the lead law, tenants affected by lead poisoning tend to lack the political power to maintain a sustained effort on their own behalf. Similarly, aggressive enforcement of a comprehensive regulatory enforcement plan probably would not improve the incumbent administration's political position.¹² After all, tenants constitute only a subgroup of the voting population,¹³ and, of those, only some (i.e., tenants with children under six) stand to be affected by this problem. Moreover, landlords tend to be a better source of campaign finance contributions than most tenants affected by this problem because tenants as a class, especially those affected by lead poisoning, tend to be poorer than landlords.

Nevertheless, political realities cannot adequately explain why more has not been done to force landlords to remove lead paint from the housing stock in Massachusetts. To understand this situation completely, it is useful to go beyond the realpolitik, or power politics, explanation described in the previous paragraph. Underlying these political restraints is the genuine concern of some stakeholders and tenant advocates that to some extent the warnings of real estate advocates, despite their self-serving motivations, are true, i.e., that the high costs of lead abatement may have the unintended effect of reducing housing affordability and increasing abandonment of residential housing.¹⁴ The Lead-Based Paint Hazard Reduction and Financing Task Force,¹⁵ for instance, has stated that "without additional subsidies, rigid mandates for lead-based paint hazard control would threaten the economic viability of many low-income units and/or force rents to be increased to unaffordable levels,"¹⁶ and that "[w]ithout targeted public sector intervention, . . . these [economically distressed] units will undergo further disinvestment and possibly abandonment."¹⁷

These concerns about housing affordability and availability are serious and, if legitimate, arguably justify the reluctance to implement fully the primary prevention provisions of the lead law. At the very least, if these concerns are valid, a cost/benefit analysis comparing the costs of lead paint abatement to the costs of lead poisoning would be warranted.¹⁸ If these concerns are unfounded, however, reservations about the primary prevention provisions of the Massachusetts lead law are misplaced.

To help address these concerns, this article explores the economic effects on housing of a comprehensive, more vigorous enforcement strategy of the lead abatement provisions of the Massachusetts lead law.¹⁹ First, the article reviews the background of lead poisoning, including its consequences, the populations disproportionately affected, the sources, the costs of abatement, and the legal avenues available in Massachusetts to force landlords to lead abate apartments. The article next discusses the impact of a comprehensive, more vigorous enforcement strategy on housing rental prices and quantity, specifically considering if such an enforcement strategy would lead to increased rents, abandonment of residential property, or both.

II. Childhood Lead Poisoning

A. Consequences of Lead Poisoning

Childhood lead poisoning is a preventable public health problem that can have serious lifelong consequences.²⁰ Exposure to lead has been associated with neurological damage, decreased intelligence, reading and learning disabilities, impaired hearing, and behavioral problems. The immediate symptoms associated with lead poisoning include abdominal pain, constipation, and fatigue.²¹ At higher levels, ingestion of lead can cause coma, convulsions, and even death.²²

Lead is particularly harmful to children because their nervous systems are still developing.²³ Lead-poisoned children tend to exhibit poorer speech and language processing, disordered classroom behavior, excessive daydreaming, and an inability to follow directions.²⁴ Children with increased lead levels also are more likely to drop out of high school.²⁵

B. Populations Disproportionately Affected by Lead Poisoning

A disproportionate number of lead-poisoned children in the United States are from low-income homes and households of color.²⁶ African-American children are four times more likely to have elevated blood levels than white children, and poor children are four times more likely to have elevated blood levels than children from wealthier families.²⁷ Although lead poisoning is widespread throughout Massachusetts, children living in communities with high rates of poverty are more likely to have lead poisoning, and communities with a higher proportion of African-American children are at greater risk.²⁸ Lead poisoning was also the first problem recognized by the federal government as an environmental justice issue. A 1992 report on environmental equity released by the U.S. Environmental Protection Agency states that a significantly higher percentage of black children compared to white children have unacceptably high blood lead levels.²⁹

C. Sources of Lead Poisoning

Today, the most common source of lead exposure for children is lead-based paint.³⁰ Until about 1940, lead was used as a primary additive in

interior and exterior house paints.³¹ The use of lead in house paint decreased from the 1950s through the 1970s as latex paint became more available.³² In 1971, Congress enacted the Lead-Based Paint Prevention Act, which banned the manufacture of paint containing more than a certain percentage of lead by weight for use on interior or exterior residential surfaces.³³ In 1978, the Consumer Product Safety Commission finally reduced the permissible percentage to the current level of 0.06 percent.³⁴ Unfortunately, however, lead-based paint applied before 1978 remains a problem because lead does not decompose and continues to present a hazard even if covered over with latex paint.³⁵

Children can be exposed to lead from lead paint in different ways.³⁶ One commonly known way is by eating paint chips from defective paint surfaces (pica).³⁷ Most children get exposed to lead from lead paint, however, through the ingestion or inhalation of lead-contaminated dust.³⁸ Lead can get into dust through normal wear and abrasion of painted surfaces.³⁹ Although lead dust is created, for example, by chipping and flaking paint, the surface does not have to be loose or flaking to pose a threat. When windows are opened and closed, for instance, the paint on the window rubs against the paint of the frame and creates and releases fine particles. Children ingest lead-contaminated dust either by putting their hands, toys, or other objects in their mouth or just by inhalation.⁴⁰

D. Cost of Abatement

Lead abatement in compliance with the Massachusetts lead law and regulations can be accomplished in three ways: (1) remove all lead paint from the premises (lead-free compliance); (2) correct all lead hazards (lead-safe, full compliance); or (3) remedy only those lead hazards that are urgent while controlling remaining hazards (interim control). The lead law does not require removal of all lead paint from the premises. Full compliance with the lead law generally requires only that accessible, mouthable surfaces to a height of five feet be abated or contained; that so-called movable impact surfaces (e.g., windows) be abated; and that all other surfaces be made intact or contained.⁴¹

Since 1995, property owners have been permitted to perform less work than full compliance requires without violating the lead law.⁴² Under this interim control approach, property owners make some lower-cost repairs necessary to correct urgent lead paint hazards and protect occupants from lead poisoning until the home is brought into full compliance. Property owners then have a maximum of two years before they must get the home delead for full compliance.⁴³

Generally, the lead law and its regulations require that a licensed deleading contractor remove the lead paint and perform all deleading work necessary to correct lead violations.⁴⁴ The lead law and its regulations, however, provide exceptions to the licensing requirement for low-risk and moderate-risk deleading work, whether the work is done for full compliance or interim control.⁴⁵ For example, property owners and their agents

may perform certain low-risk deleading activities, such as removing doors and covering surfaces, after reading a training booklet and passing an at-home quiz administered by the Massachusetts Childhood Lead Poisoning Prevention Program.⁴⁶ They may also perform moderate-risk deleading activities, such as making limited amounts of paint intact, without a deleader's license, after they complete a one-day training program and pass a take-home exam.⁴⁷

A full lead abatement, which makes the property entirely lead free, is estimated to cost between \$7,000 and \$40,000 per housing unit. A lead abatement sufficient to make the premises lead safe costs between \$3,000 and \$15,000 per housing unit.⁴⁸ In addition, property owners must account for occupant relocation costs. The lead law and regulations require occupants to be relocated, at the expense of the property owner, whenever a deleader is performing any work on interior surfaces that is not defined as low risk.⁴⁹

E. Legal Avenues for Requiring Landlords to Lead Abate

Landlords can be required to lead abate their apartments as a result of both the Massachusetts lead law and the state sanitary code. At the heart of the statute lies the duty of landlords to abate, or in appropriate cases contain, lead paint in an apartment whenever a child under six years of age lives on the premises.⁵⁰ Landlords cannot legally escape this duty to lead abate by evicting or not renting to tenants with children under six years of age because the lead law explicitly prohibits such housing discrimination,⁵¹ and tenants with children are also a protected category under federal law and the Massachusetts antidiscrimination law.⁵² In Massachusetts, a level of lead paint greater than 1.2 mg/cm² is considered dangerous and in violation of the state's lead regulations.⁵³ Lead paint accessible to children under six years of age also constitutes a violation of the state sanitary code.⁵⁴ These statutory provisions requiring the abatement of lead can be enforced by government agencies as well as affected or aggrieved tenants.

Enforcement authority is vested in all local boards of health and other code enforcement agencies. Massachusetts General Laws Chapter 111, Section 198, requires these agencies to enforce the lead law in the same manner as they enforce the sanitary code.⁵⁵ This enforcement authority thus includes civil and criminal enforcement. Furthermore, the statewide lead poisoning prevention program established under the lead law, the Massachusetts Childhood Lead Poisoning Prevention Program, has concurrent responsibility and authority to enforce the lead law provisions.⁵⁶ In Boston, however, this responsibility has been delegated to the Boston Public Health Commission, a legal entity that is a subdivision of the Commonwealth rather than of the city.⁵⁷ The Inspectional Services Department, which is Boston's equivalent of a board of health, can also prosecute property owners.

Moreover, tenants who are affected by lead paint violations can seek enforcement of the lead abatement provision of the lead law and the san-

itary code. They can seek injunctive relief affirmatively or defensively. Often violations of the lead law are raised as defenses and counterclaims in the context of an eviction, i.e., in summary process, and tenants seek injunctive relief as part of their counterclaims against the landlord. Under Massachusetts General Laws Chapter 239, Section 8A, lead paint counts as a condition for a defense against the landlord's attempt to evict the tenant. Tenants can also obtain damages and/or a rent abatement as a result of the presence of lead paint in their apartments. A lead law violation can be raised as a breach of the implied warranty of habitability,⁵⁸ a breach of quiet enjoyment,⁵⁹ a violation of the Consumer Protection Act,⁶⁰ or as a claim for the landlord's negligence or failure to inspect and repair.

The Massachusetts lead law, like federal law, also requires sellers of residential property and real estate agents to notify potential buyers about the hazards of lead paint and the requirements for their abatement.⁶¹ This section of the lead law not only requires general warnings about the hazards of lead, but also obligates sellers and real estate agents to disclose any information known to them about the presence of lead paint.⁶²

III. Impact of Enforcement Strategy on Housing Price and Quantity

A. *Potential Adverse Impacts of Lead Law Enforcement*

Some of the opposition to primary prevention strategies and comprehensive enforcement of lead laws is based on genuine concern about the effect that such a campaign would have on low-income tenants (versus the effect on the financial interests of residential property owners). The objections to comprehensive enforcement of lead laws are similar to the well-documented opposition to strict or stricter enforcement of the warranty of habitability and the sanitary code.⁶³ The underlying fear, just as in the case of enforcement of the warranty of habitability, is that landlords who are required to lead abate their units will simply pass on the additional costs to their tenants by increasing rents or, even worse, by abandoning the property entirely.⁶⁴ Although people sharing this viewpoint generally concede that the risk of lead poisoning is serious, they maintain that the effect on children of a policy that places their shelter at risk is clearly worse.

The potential consequences of comprehensive enforcement of the lead law are obviously of grave concern for low-income tenants and their advocates. Both the problem of abandonment and the issue of affordability of housing have preoccupied housing law analysts and public officials for a long time.⁶⁵ To fully appreciate their gravity, it is helpful to briefly sketch the nature of these undoubtedly undesirable consequences before we explore whether comprehensive enforcement of the Massachusetts lead law would result in them.

The adverse consequences of rent increases and reduced housing affordability are not difficult to predict and comprehend. Higher rents leave low-income tenants with few alternatives: moving out of the neighborhood; consuming fewer goods and services (usually food and health care)

in order to be able to afford the higher rent; sharing the same or another apartment with more people; or becoming homeless.

Each of these options presents a concomitant set of problems. Displacement from the neighborhood hurts low-income tenants because it often removes them from their family and friends, takes them away from important cultural and religious institutions, and generally reduces accessibility to jobs. If low-income tenants are forced to spend an even higher proportion of income on rent, the inevitable result is often malnutrition and poor health. Overcrowding can result in increased stress levels and negative health effects.

The consequences of homelessness are also undoubtedly serious and cannot easily be dismissed, especially since 15 percent of homeless "households" contain at least one minor child⁶⁶ and 34 percent of homeless people (including parents and children in homeless families) are members of such homeless households.⁶⁷ Homelessness may well lead to malnutrition, drug abuse, other health problems, and victimization.⁶⁸ Furthermore, children are particularly vulnerable and face additional problems as a result of homelessness.⁶⁹

The consequences of abandonment are equally serious. The most obvious and direct effect of abandonment is that it reduces the availability of affordable housing. The conventional assumption that the price and quantity of low-income housing is determined by the interaction of supply and demand can help us predict the direct consequences of abandonment. If 1,000 tenants are competing for 500 affordable apartments before abandonment, and the same 1,000 tenants are forced to compete for 400 apartments after abandonment, the consequences will probably include higher rents, increased crowding, a higher average percentage of income spent on rent, and possibly homelessness, as in the case of a rent increase. Thus, every time an affordable unit is taken off the market due to abandonment, low-income tenants find it even more difficult to secure housing that they can afford.

In addition to its direct effect on the availability of affordable housing, abandonment has serious adverse external effects on the surrounding neighborhood.⁷⁰ The value of an apartment depends not only on the characteristics of the apartment unit, but also on the characteristics of the neighborhood.⁷¹ When landlords improve the appearance of their buildings by painting them or landscaping the property, the neighborhood becomes a more desirable place to live, and the market values of surrounding buildings increase.⁷² On the flip side, the mere presence of uninhabited and deteriorating buildings as a result of abandonment reduces the quality of life in a community and triggers a broken-window-syndrome effect. In response to empty structures, property values of neighboring buildings plummet, thereby discouraging owners from property maintenance because any investments most likely will not be recouped due to the decline in property value. As a result of poor upkeep, these buildings start dete-

riorating themselves, which, in turn, reduces property values in neighboring buildings, and a new cycle begins.

This vicious cycle, however, is not merely a result of irrational reactions by landlords who misinterpret the presence of abandoned buildings as a signal of neighborhood decline. Empirical studies have shown that abandoned buildings are targets for vandalism and often become the location for criminal activities such as drug dealing.⁷³ Furthermore, the frequency of fires, particularly arson, in a community also tends to increase when abandoned buildings are present. A significant percentage of fires actually occur in abandoned buildings.⁷⁴ These criminal activities reduce the attractiveness and safety of a neighborhood, a consequence that, in turn, depresses property values. This deterioration in property values leads to more abandonment, and the downward spiral gains momentum. Thus, the biggest problem with abandonment may be that it feeds on itself.⁷⁵

B. Would Comprehensive Enforcement Lead to Higher Average Rents?

Aware of the serious consequences of higher rents on low-income tenants, we can now consider whether comprehensive, more vigorous enforcement of the lead law would raise average rents and thus result in crowding, displacement, reduced disposable income after housing expenses, or homelessness. This argument intuitively makes sense. Enforcement of the lead law requires landlords to spend a large amount of money on lead abatement. A full lead abatement costs between \$7,500 and \$40,000 per housing unit, and abatement of lead hazards, which makes housing lead safe but not lead free, costs between \$3,000 and \$15,000 per housing unit.⁷⁶ Enforcement thus significantly increases the cost of providing rental housing and encourages landlords to raise rents. Moreover, having a lead-safe apartment is of value to a large number of tenants. Tenants with young children, or those planning to have children in the near future, who are aware of the danger of lead paint will prefer to live in a delead apartment and presumably would be willing to pay more for a safer residence. Thus, if property owners are forced to lead abate apartments, rent prices would go up.

A threshold question, however, is whether landlords can actually charge more for lead-safe apartments. Because there is no empirical evidence that lead-safe apartments cost more than units that contain lead paint hazards, this question needs to be explored. Certainly, one important factor in this question is how tenants respond to lead-safe apartments. Unfortunately, housing analysts have not yet constructed a hedonic price index for rental units that isolates the independent price impact of deleading.⁷⁷ Even without such an index, we can assume that a significant number of tenants, i.e., those with children, would prefer lead-safe apartments and therefore would be willing to pay more, although we do not know how much more.⁷⁸

Even if most tenants with children would be willing to pay more for a lead-safe apartment, the question remains whether they have to. Surely, if tenants can enjoy the safety of a lead-safe apartment without paying more rent, they will not voluntarily agree to a rent increase. The problem facing

landlords is that although a lead-safe apartment is of value to many tenants, most do not benefit from lead-safe apartments at all. Tenants without young children and without any intention of having children in the near future do not have to worry about adverse health effects from lead paint and presumably would not be willing to pay more rent for a lead-abated apartment.

This indifferent attitude of a large number of tenants toward lead-safe apartments has a huge impact on the owners' ability to charge higher rent for such apartments. If we start with the simplified assumption that as a result of comprehensive enforcement of the lead law all units are now lead safe, can landlords simply pass on their lead abatement costs to all tenants whether or not the tenants will benefit from the deleading? The answer is clearly no. If landlords could raise the rent without providing any additional housing service of value to the tenant, they would have done so long before the enforcement of the lead law.⁷⁹ Landlords are in the business of renting residential apartments to make a profit and generally charge rent at the highest level that tenants are willing to pay. The few possible aberrations from this norm, as a result of misinformed landlords or tenants, do not change the conclusion that landlords cannot raise the rent without providing additional housing services. Thus, if at all, landlords can raise the rent only for tenants who have children or plan to have children and therefore prefer to live in a lead-safe apartment.

At first glance, it appears that landlords could pass on at least a part of their lead abatement costs. Because landlords can easily distinguish between tenants who prefer a lead-safe apartment and those who do not, owners could attempt to increase the rent for tenants with children but absorb the abatement cost for tenants without children. This would allow owners to recover some, but not all, of the lead abatement costs. If such an approach were possible, comprehensive enforcement of the lead law would undoubtedly place the shelter of children at risk. Comprehensive enforcement would amount to a deliberate choice in favor of prevention of lead poisoning at the cost of higher rents for low-income tenants with children, a practice that is likely to lead to displacement, overcrowding, or homelessness for some families. Although this may be a legitimate public policy choice, it surely requires a cost/benefit analysis or detailed comparison between the adverse medical consequences of lead poisoning and the shelter risk involved.

However, this attempt at price discrimination is bound to fail. Unlucky landlords who are stuck with tenants who have no incentive to pay more for lead-safe apartments will try to replace them with tenants who are willing to pay more. For example, if lead abatement will increase the rent for tenants with children from \$500 to \$550, a landlord who is getting only \$500 from an indifferent tenant will try to entice a competitor's tenants with children by offering a lead-safe apartment for \$525. In response, the tenants with children will threaten to move unless their rent is reduced to \$525. The landlords will keep competing, respectively reducing the rent,

in order to keep or win over the tenants. This process will continue until all tenants are paying the same rent, i.e., \$500.⁸⁰ Thus, under the simplified assumption that all units are lead abated at the same time, landlords would be forced to absorb the entire cost of lead abatement.

Although this example is useful for understanding the housing market dynamics involved, it is not a realistic way of anticipating the effect of comprehensive lead law enforcement. Even an extremely successful enforcement strategy would not result in universally lead-safe apartments, at least not in the short run. After all, only apartments rented, or about to be rented, to families with children have to be lead abated.⁸¹ Accordingly, a large number of apartments that are not deleaded will remain.

With only a limited number of lead-safe apartments available, landlords might be able to charge higher rents for lead-safe units because of their scarcity. If, for example, 200 families are competing for only fifty lead-safe apartments, the theory of economic rent would predict that the rent prices of these apartments will be higher. Economic rent, in this context, is the difference between what tenants are willing to pay for a lead-safe apartment less the minimum amount necessary to rent an apartment.⁸² Although regular apartments might rent for \$500, landlords might be able to charge \$550 for lead-safe apartments. The additional \$50 is entirely attributable to the absence of lead paint.

This economic rent, however, cannot be large enough to offset the cost of lead abatement—if it were, landlords would voluntarily lead abate their units. This means that even if landlords can pass along some of their lead abatement costs, they will be forced to pay a large portion, but tenants will get the benefit without paying the full cost. The standard analysis of the impact of compulsory terms in consumer contracts confirms this conclusion. It suggests that if a term needs to be imposed, the term must be worth less to consumers than it costs sellers to provide it.⁸³ Thus, at the very least, tenants with children would be able to live in lead-safe apartments without paying the full cost of the lead abatement.

A comprehensive lead law enforcement strategy will reduce this economic rent even further. Because the supply of lead-safe apartments will increase as more apartments are deleaded, rent prices for lead-safe apartments will decrease. Thus, if anything, a comprehensive lead law enforcement strategy will result in lower rents for tenants who prefer to live in lead-safe apartments and have no effect on those who do not care. As a result, lead law enforcement would not only prevent lead poisoning in children but do so at little or no cost to tenants.

C. Would Comprehensive Enforcement of the Lead Law Result in Abandonment?

Although our analysis, so far, has shown that landlords are either completely unable to pass along the costs of lead abatement or are less and less able to do so as the lead law is enforced, we have not yet addressed whether comprehensive enforcement would result in abandonment. It seems that

the very fact that landlords cannot pass along lead abatement costs increases the probability of abandonment. If lead abatement increases the costs of providing housing services and, at the same time, landlords are unable to pass along any significant portion of these costs to tenants through higher rents, owners are bound to make less profit. Some landlords faced with less profit would decide to drop out of the residential housing market and divert their attention and time to a more profitable business or investment.

There are no empirical studies available that show that a comprehensive enforcement strategy under lead laws leads to abandonment. Housing analysts, however, have demonstrated that proportionally high property taxes increase the frequency of abandonment.⁸⁴ When low-end residential buildings have relatively high tax liabilities, landlords have less incentive to keep title to their properties.⁸⁵ Despite a pretax profit, a fixed property tax can make a building unprofitable and lead to abandonment. Arguably, forcing a landlord to pay for lead abatement could have the same effect as a high property tax.

But basic economics suggests that no building will be abandoned as long as tenants are willing to pay a sum in rent large enough to cover a little more than the building's costs. This significantly limits the cases in which lead law enforcement could lead to abandonment. Only when the rent is not high enough to cover property taxes, insurance, regular maintenance costs, a nominal profit, and the cost of lead abatement is a building not inherently profitable. Only when a building is not inherently profitable will it drop out of the residential housing market.⁸⁶ An individual landlord, of course, can lose interest in providing residential housing. However, someone else will always be willing to rent out the apartments as long as the building is inherently profitable, as defined above.⁸⁷

It is important to emphasize here that in terms of inherent profitability, mortgage payments, unlike property taxes, do not matter from the perspective of the building, but they surely matter from the perspective of the individual landlord.⁸⁸ Again, if tenants pay enough to cover regular maintenance costs, insurance, property taxes, and a nominal profit, the apartment is inherently profitable. Mortgage payments do not matter from the perspective of the building because if a particular landlord is not making a profit anymore as a result of mortgage payments, the landlord is still better off selling the building at a loss than abandoning it completely. The new owner will be able to acquire the property at a price that will allow a profit in the long term because the market value of a building equals the sum of its discounted future stream of rents minus property taxes, insurance, and maintenance costs.⁸⁹

When rental housing is inherently unprofitable, however, current owners are left with few options. Because nobody will purchase an inherently unprofitable building, owners can convert, board up, or abandon their buildings.⁹⁰ Conversion to nonresidential use is generally uncommon because conversion cost is relatively high due to demolition and construction

of a new building or the necessity of major remodeling.⁹¹ Boarding up is profitable only if a landlord expects the market rent to increase sometime in the future.⁹² In the case of involuntary lead abatement, the lack of inherent profitability is, by definition, a result of higher maintenance costs, rather than an economic depression; therefore, waiting for the rent prices to increase is futile and abandoning the property becomes a viable alternative. Abandonment has been defined as a building "which has been removed from the housing stock for no apparent alternative profitable reason and for which no succeeding use occurs on the land."⁹³ In other words, abandonment occurs when "all those having a private profit-oriented economic interest in a unit lose any incentive for continued ownership beyond the immediate future, and are willing to surrender title to it without compensation, because of the absence of effective demand for its continued use or reuse."⁹⁴

1. Lead Abatement: Ongoing Enforcement Effort Versus Theoretical Threat

To predict when a current owner of residential property will choose to abandon a building rather than lead abate or sell the property, we need to explore under what circumstances the cost of lead abatement can convert an otherwise inherently profitable residential property into a losing venture for the current owner as well as the prospective buyer. To this end, we need to distinguish between two situations. In our first hypothetical situation, the building is unlikely to escape lead abatement as a result of an ongoing lead law enforcement effort (by the government or a tenant). In the second hypothetical situation, because neither the government nor a tenant has yet enforced the lead law against the building, lead abatement remains a theoretical threat.

Under the first hypothetical, the building must undergo lead abatement. However, the landlord cannot pass on the cost of the lead abatement to the buyer, just as such costs cannot be passed on to tenants. Although the new owner will have to acquire the lead-abated building at a slightly higher price from the original owner, this increase in price would only be in proportion to the ability to charge higher rent because of the scarcity of lead-safe apartments, rather than the full cost of the lead abatement. Thus, the original owner will have to absorb, at the very least, most of the lead abatement cost, and the new owner could rent out lead-safe apartments at a profit. The previous landlord cannot avoid this predicament by selling the building without lead abating it first for an obvious reason:⁹⁵ the sales price of the property surely would reflect the fact that the building is not de-leaded but subject to an ongoing enforcement effort that portends a required lead abatement.⁹⁶ As such, the cost of lead abatement is a sunk cost, i.e., an expenditure that has essentially been made and cannot be recovered.⁹⁷ Thus, it should be ignored when making future economic decisions.

The economic position of the property owner, however, changes if neither the government nor a tenant has yet enforced the lead law, as in the second hypothetical. In this situation, the owner still has a choice between

risking lead abatement or abandoning the building. The cost of lead abatement is now a prospective sunk cost rather than a sunk cost. A prospective sunk cost is an investment, and the owner must decide whether the investment in lead abatement is economical.⁹⁸ But how does a landlord decide whether to risk being forced to lead abate the apartments or abandon the building? In this decision, the landlord will take into consideration the inherent profitability of the residential property as described before, i.e., the value of the future rent stream minus property taxes, insurance costs, and maintenance costs. Because the cost of lead abatement has not yet been incurred, it will be included in the future maintenance cost and thus will reduce the building's profitability. If the property owner can predict that the government- or tenant-induced lead abatement will probably not be required in the near future, as in the absence of a comprehensive lead law enforcement strategy, the owner will discount the estimated cost of abatement accordingly.⁹⁹ The more distant the enforcement is, the less the presence of lead paint will affect the building's profitability¹⁰⁰ and the less impact it will have on a decision to abandon the building. If, however, enforcement is expected soon because of a comprehensive enforcement strategy, the estimated cost of abatement will be discounted less and, as a result, will have a bigger effect on profitability and, hence, on an abandonment decision.

Thus, it is very possible that a sweeping enforcement strategy could lead to a higher rate of abandonment. Even the most stringent lead law enforcement could not require all landlords to lead abate their apartments at the same time; therefore, some residential property owners will be able to avoid the cost of lead abatement by abandoning their buildings before the government or a court can enforce the lead law against them. To be clear, the only possible candidates for abandonment are residential properties that are still profitable without the threat of lead law enforcement but that are not profitable with it. After all, landlords will not abandon buildings that continue to be profitable even with the added cost of lead abatement.

To illustrate, consider the situation of a landlord operating in a stable, low-income neighborhood. The landlord is making a profit, albeit a small one. A significantly increased likelihood of being forced to lead abate due to a comprehensive lead law enforcement strategy will change the landlord's profit margin. Expecting an imminent enforcement action, the landlord will have to decide whether to rent out the apartment again. If the landlord expects the cost of the lead abatement to eliminate the small profit and result in a deficit, it is not irrational to abandon the building before having to pay for the lead abatement. Of course, the landlord can also try to sell the building.

In many situations in which landlords argue that the lead abatement will force them out of the market, their assertion is true for themselves but not for prospective buyers. As discussed above, mortgage payments do not matter from the perspective of the building itself. Thus, even if the landlord in our case decides that the additional expense of the lead abatement is

unbearable, the building itself is not necessarily unprofitable. It would still be economically better to sell the building for a low price, even a very low price, than to abandon it. The new owner, in turn, will have lower mortgage payments because of the lower purchase price and will thus be able to stay in business despite the cost of the lead abatement. In other words, as long as the value of the discounted future profit stream is higher than the anticipated cost of the lead abatement plus property taxes and the usual maintenance and insurance costs, the building will not be abandoned.

Only if the lead abatement costs added to the standard maintenance and insurance costs plus property taxes exceed the discounted future profit stream will the landlord abandon the property, despite its otherwise good condition. Selling the building to another landlord under these circumstances would be impossible. A prospective buyer, intending to rent out the apartments, would have to consider the cost of the imminent lead abatement; the current owner cannot be forced to absorb the lead abatement cost as in the case of a post-enforcement sale. If the building is not profitable (inherent profitability that does not include mortgage payments) for the current landlord, the building also would be unprofitable for a new landlord, even if the new owner could take possession of the building at no cost. Unlike the case of a post-enforcement sale considered above, the current owner in this hypothetical cannot be forced to absorb the lead abatement cost for the benefit of the buyer.

Our analysis thus far has shown that only some properties under the threat of lead law enforcement are vulnerable to abandonment as a result of lead law enforcement. Owners of buildings that already are under a government or court order to abate are forced to absorb the cost of lead abatement. As a result, the building remains profitable and will not be abandoned, although it might change owners. Buildings merely under the threat of lead law enforcement will be abandoned only if a new owner with lower mortgage payments cannot continue to rent out the apartments for a profit. Thus, only when the discounted future profit stream is too small in relation to the landlord's costs, which include the lead abatement but not any mortgage payments, is a residential property likely to be abandoned. But even with respect to such properties, further analysis shows that more vigorous enforcement often will not result in abandonment.

Let us return to the landlord operating at a small profit in a stable, low-income neighborhood. We said earlier that if the value of the discounted future profit stream is less than the anticipated cost of lead abatement, it would be rational for the landlord to abandon the building, despite its otherwise good condition. Selling the building to another landlord also seemed not to resolve the landlord's predicament because a prospective buyer would also have to take the lead abatement into consideration in a profitability calculation. Nevertheless, the building should still be viable. Because the market rent in the stable, low-income neighborhood is sufficient to maintain the building as long as the additional cost of lead abatement can be avoided, the building would be of value to a tenant without

children. Although a landlord cannot discriminate against tenants with children,¹⁰¹ a tenant without children could take over the building and live in it without having to pay for the lead abatement.¹⁰² The landlord could thus sell the building to an owner/occupant, rather than abandon it, albeit for a small amount. Thus, lead law enforcement would generally not result in abandonment; rather, it could induce a change in ownership, even a particularly desirable change in ownership from the perspective of low-income tenants who want to own their homes.¹⁰³

2. Market Dynamics

Thus far, our analysis of the effect of comprehensive lead law enforcement on abandonment has excluded general market dynamics in the residential housing market. To complete our analysis, it is necessary to consider the possible consequences of comprehensive lead law enforcement in the context of rising and declining residential housing markets, respectively. The impact on abandonment, as would be expected, is different in a rising residential housing market than in a declining one.

Because of the fundamental economic reality that inherently profitable buildings will not be abandoned, abandonment as a result of comprehensive lead law enforcement should be of little concern in a rising residential housing market. A rising residential housing market generally enriches landlords without requiring them to invest any additional capital in rehabilitation or provision of services. When rents are rising rapidly without investment of additional expenditures, landlords can still make a profit, even if forced to expend some money on lead abatement. Thus, although lead law enforcement would reduce the amount of profit landlords can make in the rising market, it surely would not lead to abandonment of buildings. As a matter of fact, the comprehensive lead law enforcement would ensure that at least some tenants (those with children under six) would get some additional housing services (lead-safe apartments) for the increased rent that they are required to pay as a result of the rising housing market.

The effect of a comprehensive lead law enforcement strategy on abandonment is different, however, in a declining housing market, in which abandonment often is not an accidental or unanticipated event, but rather a planned process.¹⁰⁴ Declining low-income housing markets attract specialized investors to whom abandonment is merely the final step in a planned-out process of trading off long-term ownership of a building for short-term profits. This process begins with a reduction in maintenance, is followed by nonpayment of property taxes, continues with failure to keep up vital parts of the building such as heat and utility elements, and ends with abandonment of the building to avoid tax liability.¹⁰⁵ Professor Duncan Kennedy has called this process "milking" and has noted that the milking landlord treats property as a wasting rather than as a renewable asset.¹⁰⁶

Milking a building with the intent of eventually abandoning it is rational whenever rents in a neighborhood decline relatively quickly.¹⁰⁷ When rents are decreasing rapidly toward an unprofitable level, the building becomes,

for all practical purposes, a wasting asset even if the landlord continues to maintain the building. As a result, milking during the time before the inevitable abandonment is rational because it increases profits of the remaining life of the building. However, as long as the landlord can expect rent to continue to cover maintenance, insurance, property taxes, and a nominal profit into the future, the profit-maximizing landlord will not milk because that would destroy the property and ultimately eliminate the secure future income stream. Although enforcement of the lead law adds an additional expense to the provision of residential housing, it does not result in a continuous decline of rents in the neighborhood. Thus, in a declining housing market, lead law enforcement by itself generally will not be the cause of abandonment, but it could accelerate abandonment if rents are already falling in a neighborhood. A milking landlord will decide to abandon a building rather than pay for the lead abatement if the discounted future stream of rent is less than the landlord's expected costs, including the cost of lead abatement.¹⁰⁸

Although abandonment is undesirable, the hastening of inevitable abandonment is actually beneficial.¹⁰⁹ The advantage of earlier abandonment is that the building will be in a better condition at the time of takeover and will therefore be less expensive to repair and operate. Consequently, a smaller subsidy will be required to keep it in the rental market. The prospects for long-term use of the building are higher if the milking process is stopped earlier rather than later. Accordingly, some cities have deliberately tried to reduce the grace period between tax delinquency and foreclosure.¹¹⁰

3. Recap of Abandonment Possibilities

In sum, the concern that a comprehensive lead law enforcement strategy will lead to abandonment is not completely unfounded. However, the preceding analysis has shown that abandonment is likely to occur only in a fairly limited number of cases. First of all, only barely profitable residential properties are susceptible to abandonment as a result of lead law enforcement. That is, an owner will only abandon property if the lead abatement costs added to the standard maintenance costs, insurance costs, and property taxes exceed the discounted future profit stream. However, even many of these barely profitable buildings will not be abandoned. If these properties are already under a government or court order to lead abate, the current owner will be forced to absorb the lead abatement cost, and the building will not be abandoned. Furthermore, even barely profitable buildings not currently under a government or court order to lead abate will generally not be abandoned because they still can be sold to owners/occupants without children. In a declining residential housing market, buildings already in the process of being milked toward abandonment might be abandoned early as a result of increased lead law enforcement. However, this hastening of inevitable abandonment has a beneficial rather than detrimental effect on the low-income housing market. Thus, although the fear of abandonment as a consequence of enforcement is not completely

unfounded, the preceding analysis shows that this concern is largely exaggerated.

IV. Conclusion

Since 1971, the Commonwealth of Massachusetts has recognized lead poisoning as a serious public health problem. Despite innovative legislation designed to address this preventable problem, however, lead poisoning has not been eradicated and continues to be a consequential public health issue. At the heart of this inability to end childhood lead poisoning in Massachusetts lies the lack of primary prevention in the implementation of the Massachusetts lead law. Without a doubt, a comprehensive, more vigorous lead law enforcement effort would decrease the number of lead hazards in residential housing and thereby significantly reduce the incidence of childhood lead poisoning. However, the concern that such enforcement would lead to increased rents and abandonment of affordable residential housing due to the prohibitive costs of lead abatement has been an understandable obstacle to committing time and resources to the enforcement of the primary prevention provisions of the Massachusetts lead law.

This article has analyzed the possible consequences of comprehensive lead law enforcement on higher rents and abandonment and suggests that under comprehensive, more vigorous lead law enforcement, landlords would not be able to pass on the cost of lead abatement through rent increases. Furthermore, only in very limited circumstances would comprehensive lead law enforcement lead to abandonment. Indeed, in some cases lead law enforcement would lead to desirable ownership changes. Thus, the widespread reluctance to implement fully the primary prevention provisions of the Massachusetts lead law is misguided. Legal services, public interest groups, and government attorneys seeking to help the potential victims of lead poisoning should continue to seek or pursue aggressive enforcement of the primary prevention provisions of the Massachusetts lead law.

1. On November 15, 1971, Governor Francis W. Sargent signed the Lead Poisoning Prevention Act, now codified at MASS. GEN. LAWS ch. 111, §§ 189A-199B (2003), into law.

2. See Martha R. Mahoney, *Four Million Children at Risk: Lead Paint Poisoning Victims and the Law*, 9 STAN. ENVTL. L.J. 46, 61-62 (1990).

3. California, Connecticut, Georgia, Illinois, Louisiana, Maine, Maryland, Minnesota, Missouri, New Hampshire, New Jersey, Ohio, Rhode Island, Vermont, Virginia, and Wisconsin have enacted comprehensive lead poisoning prevention programs. See DOUG FARQUHAR, NAT'L CONF. OF STATE LEGISLATURES, LEAD POISONING PREVENTION: A GUIDE FOR LEGISLATORS 11 (1994).

4. See MASS. CHILDHOOD LEAD POISONING PREVENTION PROGRAM, SCREENING AND INCIDENCE STATISTICS: FISCAL YEAR 2001 (2001). The Massachusetts Childhood Lead Poisoning Prevention Program established the cited definitions of lead-poisoned, elevated, and moderately elevated blood levels. These definitions are only applicable in Massachusetts.

5. For a discussion of the limits of secondary prevention, i.e., the medical approach, see MASS. ADVOCACY CTR., *STATE OF DANGER: CHILDHOOD LEAD PAINT POISONING IN MASSACHUSETTS* 18–19 (1974). For specific criticism of how this failure to implement fully the Massachusetts lead law has limited its usefulness, see *id.* at 63.

6. See AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY, U.S. DEP'T OF HEALTH AND HUMAN SERV., *THE NATURE AND EXTENT OF LEAD POISONING IN CHILDREN IN THE UNITED STATES: A REPORT TO CONGRESS IX-9* (1988).

7. See Special Legislative Commission on Lead Poisoning Prevention, Mass. Dep't of Pub. Health (1986). For more recent information about the Massachusetts Childhood Lead Poisoning Prevention Program, see the program's website at www.state.ma.us/dph/clppp/clppp.htm.

8. See Massachusetts Childhood Lead Poisoning Prevention Program, *Queries in Deleading Notification Database* (Mar. 9, 1998) (unpublished report, on file with the author).

9. MASS. GEN. LAWS ch. 111, §§ 189A-199B (2003).

10. *Id.* § 197(a).

11. See, e.g., AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY, *supra* note 6, at IX-9.

12. Cf. Bruce Ackerman, *Regulating Slum Housing Markets on Behalf of the Poor: Of Housing Codes, Housing Subsidies and Income Redistribution Policy*, 80 YALE L.J. 1093, 1094 (1971) (offering the same explanation as to why city officials do not embark on a sustained and comprehensive housing code enforcement program).

13. According to the 1990 Census Data, out of 2,247,110 occupied residential units in Massachusetts, 915,617 were renter occupied and 1,331,493 were owner occupied.

14. See Donald A. Lash, *Cost Allocation of Lead Paint Abatement in Distressed Buildings in New York City*, 6 J. AFFORDABLE HOUS. & COMMUNITY DEV. L. 299, 305–306 (1997); see also Jane Schukoske, *The Evolving Paradigm of Laws on Lead-Based Paint: From Code Violation to Environmental Hazard*, 45 S.C. L. REV. 511, 529 (1994); David Reiss, *Housing Abandonment and New York City's Response*, 22 N.Y.U. REV. L. & SOC. CHANGE 783, 786 (1996–97).

15. The Task Force on Lead-Based Paint Hazard Reduction and Financing was mandated by Title X of the Housing and Community Development Act of 1992. Its members were appointed by the Department of Housing and Urban Development (HUD) Secretary. Representing a diversity of constituencies, all members shared a common dedication and commitment to helping reduce the hazards associated with lead-based paint.

16. LEAD-BASED PAINT HAZARD REDUCTION AND FIN. TASK FORCE, *PUTTING THE PIECES TOGETHER: CONTROLLING LEAD HAZARDS IN THE NATION'S HOUSING* 45 (1995).

17. *Id.* at 6.

18. For an analysis of the costs of lead poisoning, see Mary Jean Brown, *Costs and Benefits of Enforcing Housing Policies to Prevent Childhood Lead Poisoning*, MEDICAL DECISION MAKING (Nov./Dec. 2002); see also Michele Gilligan and Deborah Ann Ford, *Investor Response to Lead-Based Paint Abatement Laws: Legal and Economic Considerations*, 12 COLUM. J. ENVTL. L. 243, 255 (1987).

19. A comprehensive or more vigorous enforcement of the lead law strategy would involve enforcing MASS. GEN. LAWS ch. 111, § 197(a) (2003), which re-

quires removal of all lead hazards from the property whenever a child under the age of six resides on the premises, as well as MASS. GEN. LAWS ch. 111, § 199A (2003), which prohibits discrimination in the rental of homes due to the landlord's desire to avoid responsibilities to delead under § 197(a). See Section II. E. *infra* for a description of the legal avenues in Massachusetts through which landlords can be required to delead.

20. For discussion of the nature and sources of lead poisoning, see generally IRENE KESSEL & JOHN T. O'CONNOR, *GETTING THE LEAD OUT: THE COMPLETE RESOURCE ON HOW TO PREVENT AND COPE WITH LEAD POISONING* (1997). See also ERIK MILLSTONE, *LEAD AND PUBLIC HEALTH* (1997).

21. See Philip J. Landrigan, Andrew C. Todd, and Richard P. Wedeen, *Lead Poisoning*, 68 *MT. SINAI J. MED.* 360 (1995).

22. See TASK FORCE, *supra* note 16, at 34.

23. *Id.*

24. See Robert G. Feldman and Roberta F. White, *Lead Neurotoxicity and Disorders of Learning*, 7 *J. CHILD NEUROLOGY* 354 (1992).

25. See Herbert L. Needleman et al., *The Long Term Effects of Exposure to Low Doses of Lead in Childhood: An 11-Year Follow-up Report*, 322 *NEW ENG. J. MED.* 83 (1990).

26. See, e.g., Bruce P. Lanphear et al., *Racial Differences in Urban Children's Environmental Exposure to Lead*, 86 *AM. J. PUB. HEALTH* 1460 (1996).

27. See TASK FORCE, *supra* note 16, at 3.

28. See James D. Sargent et al., *Childhood Lead Poisoning in Massachusetts Communities: Its Associations with Sociodemographic and Housing Characteristics*, 85 *AM. J. PUB. HEALTH* 528 (1995).

29. OFF. OF POL'Y PLAN. AND EVALUATION, U.S. ENVTL. PROTECTION AGENCY, *ENVIRONMENTAL EQUITY: REDUCING RISK FOR ALL COMMUNITIES* (1992).

30. Less frequently, children are lead poisoned by lead-contaminated soil (from gasoline or exterior lead paint), lead-contaminated water (from lead pipes), and lead in dishes. See, e.g., KESSEL & O'CONNOR, *supra* note 20, at 16–22.

31. See Julian J. Chisolm, *Lead Poisoning*, 224 *SCI. AM.*, FEB. 1971, at 15, 21.

32. See P. McLaine, NAT'L CTR. FOR LEAD-SAFE HOUS., *LEAD-BASED PAINT HAZARDS AND THE COMPREHENSIVE HOUSING AFFORDABILITY STRATEGY IV* (1993).

33. Lead-Based Paint Poisoning Prevention Act, Pub. L. No. 91–695, 84 Stat. 2078 (1971).

34. 16 C.F.R. § 1303(1)(a) (2003).

35. See KESSEL & O'CONNOR, *supra* note 20, at 15.

36. See *id.* at 16.

37. See, e.g., Jane S. Lin-Fu, *Vulnerability of Children to Lead Exposure and Toxicity*, 289 *NEW ENG. J. MED.* 1289 (1973).

38. See KESSEL & O'CONNOR, *supra* note 20, at 89.

39. See McLaine, *supra* note 32, at 36.

40. See KESSEL & O'CONNOR, *supra* note 20, at 9.

41. Lead Poisoning Prevention and Control Regulations, MASS. REGS. CODE tit. 105, § 460.110(B) (2000).

42. *Id.* § 460.105.

43. *Id.* § 460.105(F).

44. Deleading Regulations, MASS. REGS. CODE tit. 454, § 22.03(2) (1999).
45. *Id.* § 22.03(3), (4).
46. MASS. REGS. CODE tit. 105, § 460.175(A) (2000). Low-risk abatement is limited to the following specific activities: applying encapsulants; covering surfaces; capping baseboards; removing doors, cabinet doors, and shutters; and applying exterior vinyl siding. Some work that may be necessary for interim control, such as lead dust cleaning, may also be performed without a license.
47. *Id.* § 460.175(B). Moderate-risk abatement is limited to the following activities: removing surfaces containing dangerous levels of lead, provided such removal is not accomplished by demolition; making small amounts of loose lead-based paint intact; and conducting all low-risk abatement activities.
48. See MCLAINE, *supra* note 32, at v.
49. MASS. REGS. CODE tit. 105, § 460.160(A) (2000).
50. MASS. GEN. LAWS ch. 111, § 197(a) (2003).
51. *Id.* § 199A.
52. MASS. GEN. LAWS ch. 151B, § 4(11) (2003).
53. MASS. REGS. CODE tit. 105, § 460.020 (2000).
54. *Id.* § 410.502.
55. MASS. GEN. LAWS ch. 111, § 198 (2003).
56. *Id.*
57. See MASS. GEN. LAWS ch. 111, app. §§ 2-1 to 2-15 (2003) (enabling statute for the Boston Public Health Commission, Boston Public Health Act of 1995).
58. Boston Housing Authority v. Hemingway, 293 N.E.2d 831 (Mass. 1973).
59. MASS. GEN. LAWS ch. 186, § 14 (2003).
60. MASS. GEN. LAWS ch. 93A, § 9.
61. MASS. GEN. LAWS ch. 111, § 197A (2003).
62. *Id.* § 197A(b).
63. See Edward Rabin, *The Revolution in Residential Landlord-Tenant Law: Cause and Consequences*, 69 CORNELL L. REV. 517, 558 (1984) (stating that the mainstream view among writers on housing law is that enforcement of a warranty of habitability will hurt tenants as a class, including low-income tenants); see also Duncan Kennedy, *The Effect of the Warranty of Habitability on Low Income Housing: "Milking" and Class Violence*, 15 FLA. ST. U. L. REV. 485, 485 (1987) (citing and agreeing with Edward Rabin in his assessment of the general view in housing law toward the enforcement of the warranty of habitability and its effect on tenants as a class).
64. See TASK FORCE, *supra* note 16, at 6, 45; see also Lash, *supra* note 14, at 302.
65. For abandonment, see, e.g., GEORGE STERNLIEB & ROBERT W. BURCHELL, RESIDENTIAL ABANDONMENT: THE TENEMENT LANDLORD REVISITED 148-153 (1973); see also Peter Marcuse, *Gentrification, Abandonment, and Displacement: Connections, Causes, and Policy Responses in New York City*, 28 J. URB. & CONTEMP. L. 195, 199-200 (1985); PROPERTY DISPOSITION COMMITTEE, CITY OF BOSTON, ABANDONED PROPERTY IN BOSTON (1985); for affordability of housing, see, e.g., Vincent P. McCarthy and Timothy J. Aluise, *Preservation of Affordable Housing*, BOSTON BAR J. (Aug. 1990).
66. See MARTHA R. BURT ET AL., HOMELESSNESS: PROGRAMS AND THE PEOPLE THEY SERVE, FINDINGS OF THE NATIONAL SURVEY OF HOMELESS ASSISTANCE PROVIDERS AND CLIENTS xviii (1999).
67. *Id.*

68. *Id.* at xix.

69. For a study on the emotional and psychological impact of homelessness on children, see LINDA SULLIVAN, *THE IMPACT OF HOMELESSNESS ON CHILDREN* (Stuart Bruchey ed., 1997); for its impact on academic achievement, see HENRIETTA S. EVANS ATTLES, *THE EFFECTS OF HOMELESSNESS ON THE ACADEMIC ACHIEVEMENT OF CHILDREN* (Stuart Bruchey ed., 1997); and for the attitudes of other children toward their homeless peers, see LAWRENCE C. GIBEL, *ATTITUDES OF CHILDREN TOWARD THEIR HOMELESS PEERS* (Stuart Bruchey ed., 1996).

70. *See, e.g.*, EDWIN S. MILLS & BRUCE W. HAMILTON, *URBAN ECONOMICS* 250 (5th ed. 1994).

71. *See, e.g.*, ARTHUR O'SULLIVAN, *URBAN ECONOMICS* 370 (3d ed. 1996).

72. For a more detailed description of neighborhood effects, see the editor's note in *HOUSING IN AMERICA: PROBLEMS AND PERSPECTIVES* 188–92 (R. Montgomery & Mandelker eds., 2d ed. 1979).

73. *See, e.g.*, STERNLIEB & BURCHELL, *supra* note 65, at 148–53.

74. *Id.* at 166–72.

75. *See, e.g.*, JOHN F. McDONALD, *FUNDAMENTALS OF URBAN ECONOMICS* 220 (1997).

76. *See* McLAINE, *supra* note 32, at v.

77. The only attempt to construct a hedonic price index that would isolate the independent price impact of deleading was conducted by Fred C. Doolittle and Wilhelmina A. Leigh. This effort unfortunately did not come to fruition because the authors could not determine the feasibility of using multiple regression techniques before they collected the data on lead citations. FRED C. DOOLITTLE & WILHELMINA A. LEIGH, *THE IMPACT OF THE MASSACHUSETTS LEAD POISONING PREVENTION AND CONTROL ACT ON HOUSING MARKETS IN SPRINGFIELD AND BOSTON, MASSACHUSETTS* 57 (HUD 1981).

78. *See* McLAINE, *supra* note 32, at 7 (stating that families with children, particularly those with children under the age of six, need home environments that are free of lead-based paint hazards).

79. *Cf.* Ackerman, *supra* note 12, at 1108 (stating that if tenants had sufficient market power to maintain a certain rent level before housing code enforcement, they would have the power to maintain it after code enforcement, provided that tenants exist who are unwilling to pay any more for housing brought up to code quality).

80. *Cf. id.* at 1106–07 (describing the same equalizing effect in the case of housing code enforcement).

81. *See* MASS. GEN. LAWS ch. 111, §§ 197, 199A (2003).

82. For a more general explanation of economic rent, see, e.g., ROBERT S. PINDYCK & DANIEL L. RUBENFELD, *MICROECONOMICS* 273–74 (4th ed. 1997).

83. *See generally* Duncan Kennedy, *Distributive and Paternalist Motives in Contract and Tort Law, with Special Reference to Compulsory Terms and Unequal Bargaining Power*, 41 MD. L. REV. 563, 590–624 (1982).

84. *See* Michelle J. White, *Property Taxes and Urban Housing Abandonment*, 20 J. URB. ECON. 312 (1986).

85. *See* O'SULLIVAN, *supra* note 71, at 373.

86. *See* Kennedy, *supra* note 63, at 490.

87. *See id.* at 511.

88. *See id.*

89. *See* O'SULLIVAN, *supra* note 71, at 167.

90. *See id.* at 372–73.

91. *See id.* at 372.

92. *See id.*

93. STERNLIEB & BURCHELL, *supra* note 65, at 277.

94. Marcuse, *supra* note 65, at 199–200.

95. Under the Massachusetts lead law and its regulations, the buyer of a residential property has ninety days to lead abate the building if a child under six years of age continues to or will reside on the premises, or a child was lead poisoned on the premises within the past twelve months even if the child does not live there anymore. MASS. REGS. CODE tit. 105, § 460.180(A)(1) (2003).

96. Empirical evidence supports the theory that the sales price will reflect the fact that the building is not deleaded. *See* Deborah Ann Ford and Michele Gilligan, *The Effect of Lead Paint Abatement on Property Values*, 16 J. AM. REAL ESTATE & URB. ECON. ASS'N 84 (1988) (demonstrating that expectations of lead paint abatement result in the discounting of property values in Baltimore, Maryland, by approximately \$3,813 per rental unit). The Massachusetts lead law helps buyers find out such information because it requires the seller of residential property to provide the prospective buyer with all information and documentation about lead hazards known to the seller, including copies of any lead inspection and risk assessment reports. *See* MASS. GEN. LAWS ch. 111, § 197A (2003); *see also* MASS. REGS. CODE tit. 105, § 460.720 (2003).

97. *See* J. FRED WESTON ET AL., *ESSENTIALS OF MANAGERIAL FINANCE* 525 (11th ed. 1996).

98. *See* PINDYCK & RUBENFELD, *supra* note 82, at 207.

99. Discounting is the mathematical process of stating future cash flows in their present values. *See* WESTON ET AL., *supra* note 97, at 237–38.

100. *See* Gilligan & Ford, *supra* note 18, at 283.

101. Discrimination against prospective tenants with children under the age of six is prohibited by the lead law; *see* MASS. GEN. LAWS ch. 111, sec. 199A (2003). Nevertheless, many landlords prefer not to rent to tenants with children because they fear the civil penalties under the lead law in addition to potential liability from lead poisoning lawsuits; *see* COMMONWEALTH OF MASSACHUSETTS ATTORNEY GENERAL'S LEAD POISONING TASK FORCE, REPORT OF THE ATTORNEY GENERAL'S LEAD POISONING TASK FORCE 5 (1992). According to the Massachusetts Commission Against Discrimination, this form of discrimination has grown to be the primary source of housing discrimination against families with children in Massachusetts; *see* Telephone Interview with Victor Posado, Housing Specialist IV, Massachusetts Commission Against Discrimination (Mar. 23, 1998).

102. The owner of residential property is only required to lead abate the premises if a child under the age of six resides on the premises. *See* MASS. GEN. LAWS ch. 111, § 197 (2003).

103. Homeownership has significant societal benefits as well as individual ones. *See, e.g.*, DENISE DiPASQUALE & EDWARD L. GLAESER, *INCENTIVES AND SOCIAL CAPITAL: ARE HOMEOWNERS BETTER CITIZENS?* (1998), available at www.nber.org/papers/w6363. For an example of rehabilitation of abandoned townhouses, *see* U.S. DEP'T OF HOUS. & URB. DEV., *NEW AMERICAN NEIGHBORHOODS: BUILDING HOMEOWNERSHIP ZONES TO REVITALIZE OUR NATION'S COMMUNITIES* 9–10 (1996) (describing homeownership effort in the Sandtown-Winchester neighborhood of Baltimore).

104. See White, *supra* note 84, at 312–13.

105. See PETER SALINS, *THE ECOLOGY OF HOUSING DESTRUCTION* (1980); see also GEORGE STERNLIEB, *SOME ASPECTS OF THE ABANDONED HOUSE PROBLEM* (1970).

106. Kennedy, *supra* note 63, at 489.

107. See *id.* at 490.

108. Although lead law enforcement can cause earlier abandonment, it cannot cause landlords to start milking buildings that they were not milking before. Intuitively, it seems conceivable that the threat of the additional cost of lead abatement could tip a landlord's perception of residential property from a renewable asset to a wasting asset. Thus, another option for the landlord, in theory, would be to pay for the lead abatement and to start milking the building. This is a rational strategy if the landlord expects the discounted value of the future declining rent stream to be more than the cost of the seemingly inevitable lead abatement. But if this is the case, milking would also have been more profitable than continued maintenance of the building before lead abatement, and the profit-maximizing landlord would have already been milking.

109. See White, *supra* note 84, at 318.

110. See, e.g., *id.*