



Understanding the True Costs of Abandoned Properties: How Maintenance Can Make a Difference

An analysis of the direct costs and long-term effects of foreclosure
and abandonment on communities

Aaron Klein

Former United States Treasury Department Deputy Assistant Secretary for Economic Policy

January 2017

Table of Contents

Executive Summary.....	3
Introduction.....	4
Analysis.....	4
• Direct Foreclosure Cost on Homes and Neighbors.....	7
• Beyond Foreclosures Abandoned Properties Have their Own Costs.....	7
• Crime.....	8
• Fire.....	10
• City Resources: Police and Fire.....	10
• Long-Term Effects.....	11
• Minimizing Foreclosure Impact: All About Maintenance.....	11
Conclusion.....	13
Author.....	14

Executive Summary

It is time to rethink how we deal with vacant and abandoned properties.¹ Almost a decade since the housing bubble burst, there are still 1.3 million vacant residential homes in America.² This includes areas that were the hardest hit during the great recession, such as Florida with 180,800 vacant homes, Michigan with 117,800, Ohio with 86,400 but also Texas with 117,000 and smaller states like Mississippi and Alabama where more than one out of every 40 homes is vacant.³ Vacant and abandoned properties impose major costs for neighbors, communities, municipalities and society. Quantifying these costs is challenging but even using conservative estimates, the costs are substantial. This paper's conservative estimate is that the typical foreclosed home imposes costs of over \$170,000. The majority of these costs, around \$85,000, are directly attributable to being vacant and the condition in which that vacant house is kept. Fortunately, there are common sense, practical and affordable remedies that can help reduce these costs, create value and reduce the negative externalities caused by vacant and abandoned properties.

This paper examines the main drivers of the cost of abandoned properties to uncover a surprisingly simple path forward to mitigate some of this harm. It begins by quantifying the costs associated with vacant buildings. These costs may appear self-evident at first – the reduction in property value for the building, for neighbors, for the community – but they are often broader than commonly appreciated: major costs stem from increased crime and arson generated from abandoned properties. The paper expands the analysis to consider how abandoned buildings and associated community blight add to the number and cost of foreclosures. These costs have been shown to linger over time, adding another dimension to the analysis.

The final section of analysis focuses on what affects these costs. The key finding is that maintenance of the property, what condition the property is in, has a large impact on both the direct

and indirect costs. Maintenance is a broadly defined term, and this paper explores specific questions regarding what types of maintenance make a difference. The result of this analysis is the conclusion that how a building is secured can have a substantial impact on the total costs that its vacant status impose on its neighbors, the community and society. It impacts future foreclosures and the costs of those foreclosures.

This finding calls into question the decades-old practice of simply boarding up vacant properties with plywood. It highlights the need for further analysis (which is underway in a soon-to-be released follow-up paper) into superior methods of securing vacant properties, such as using polycarbonate or clearboarding. This analysis sets the stage for answering the simple question, what are the economic costs and benefits to securing a property through different methods? Are there methods that while more expensive than the traditional, business-as-usual plywood produce overall net savings for communities, and how do those savings reduce foreclosures?

Economic study is important but should not be considered in a vacuum. Given the magnitude of vacant buildings, some forward-thinking public and private enterprises have already begun to experiment and will reap the benefits. Recently, the nation's largest mortgage owner, Fannie Mae, announced that it was embracing alternative methods of securing buildings, including clearboarding.⁴ Cities such as Detroit and Chicago have adopted this technological improvement as well.⁵ However, the economic benefits of this alternative, particularly the positive externalities – the benefits that spill over beyond the vacant property to neighbors, communities, local and state governments, and society at large have not been fully appreciated. Broader appreciation of those benefits starts with a greater understanding of the costs of vacant houses.

¹While the terms vacant and abandoned can and do have different meanings in legal and certain contexts, this paper will largely treat them as synonymous terms referencing all properties that are vacant and abandoned, unless specifically noted otherwise.

²<http://www.realtytrac.com/news/foreclosure-trends/u-s-q1-2016-u-s-residential-property-vacancy-analysis/>

³Tbid

⁴<https://www.fanniemae.com/content/announcement/svc1610.pdf>

⁵<http://www.secureviewusa.com/markets/government-municipality-and-schools>

Introduction

The housing bubbles, financial crisis and great recession created the largest wave of foreclosures the country had experienced since the Great Depression. More than one out of every 65 families who owned a home lost it due to foreclosure.⁶ Foreclosures impact the value of homes in the community. As a result the 13 million foreclosures have affected almost 100 million households, reducing over \$2 trillion in property value as a result.⁷ Because foreclosures reduce property value for others, they can push others into foreclosure, causing a cascading cycle of value destruction. As properties become foreclosed, they can sit vacant and abandoned without new ownership. This causes additional cost as vacant buildings create additional negative externalities and further depress property value, adding to the cycle.

It is important to distinguish between foreclosure – the process by which the original homeowner loses claim to the property and the lender or government entity becomes the new owner – and that of a property sitting vacant. This analysis will show that

the majority of value destruction for neighbors of a foreclosed property can come from the property's abandonment. As a result, the policy prescriptions that have been focused on foreclosure mitigation have failed to adequately focus on mitigating the impact of abandoned properties. Expanding our thinking into this field will show that there are simple methods, such as better securing an abandoned building, that can significantly mitigate the costs of vacancy and help break the cycle of depressed property values and subsequent foreclosures.

This is particularly important for government entities, including cities and states, which have become large owners of properties. Some of their ownership has been driven by the increase in tax foreclosures, whereby the government entity forecloses on the property due to unpaid taxes or debts. Tax foreclosures have grown large enough to merit the title “the other foreclosure crisis” in some research⁸ and are another reason why governments that are focused on reducing blight and harm from foreclosures need to continually rethink ways to be more effective.

Analysis

Direct Foreclosure Cost on Homes and Neighbors

Calculating the direct cost of a single home's entry into foreclosure and abandonment takes several steps. First, start with the home itself. The median sales price of non-distressed homes in the U.S. is currently \$235,000. That price falls by 45 percent among foreclosed homes down to \$105,000.⁹ One might argue that the typical property that could enter into distress is inherently more likely to be below the median home. There have been several studies that have looked into this question attempting to control

for various effects like this and they have all consistently found a loss in value with magnitudes varying from 22 to 50 percent.¹⁰ As these studies are usually based on a specific geographic area over a given time frame, it is entirely possible that the magnitude of this effect varies over time and place. In attempting to set a range for the value lost as a result of a property becoming foreclosed one study looked at what buyers would expect to pay in a discounted state and found it at 38 percent, very close to the midpoint of the studies mentioned above.¹¹

However, one repeated finding is that a driver of the loss of value is reduced maintenance and neglect. Simply put, foreclosed properties that sit abandoned and vacant lose substantially more value.

⁶ <http://www.bls.gov/opub/btn/volume-2/patterns-of-homeownership.htm>

⁷ <http://www.responsiblelending.org/mortgage-lending/research-analysis/2013-crl-research-update-foreclosure-spillover-effects-final-aug-19-docx.pdf>

⁸ https://www.nclc.org/images/pdf/foreclosure_mortgage/tax_issues/tax-lien-sales-report.pdf

⁹ <http://www.realtytrac.com/statsandtrends>

¹⁰ https://www.frbatlanta.org/-/media/Documents/research/publications/economic-review/2010/vol95no3_frame.pdf studies referenced include Sumell (2009), Campbell (2009), and Shilling (1990).

¹¹ http://www.fhfa.gov/PolicyProgramsResearch/Research/PaperDocuments/20120917_MMNote_12-01_508.pdf page 4

For a house to become abandoned or vacant, it almost always enters into a period of foreclosure, which is when the owner of the house can no longer afford to pay the mortgage or tax liens placed against the property. While foreclosures are devastating events for the lives of people who experience it, there are additional costs borne by others. These costs are a form of negative externalities, the economic concept of costs borne by others from actions that they did not contribute to. Commonly accepted and frequently studied negative externalities from foreclosures include:

1. Reduction in property value of surrounding homes
2. Increased crime
3. Increased probability of fire
4. Reduced tax base for local governments

These costs increase when foreclosed properties become vacant and increase further when those vacancies are not properly maintained. As research from the Federal Reserve Bank of Atlanta's Scott Frame concluded: "Social costs associated with foreclosure may arise from both direct municipal expenses as well as any reduction in the value of nearby properties. These costs would seem to be especially acute for vacant properties, which are more likely to attract criminal activity (resulting in higher municipal costs) and be in worse physical condition (depressing property values)."¹²

The most studied impact is the reduction in the property value of surrounding homes. This research has produced a wide variety of estimates, but before delving into depth, there is a key common finding. Proximity to the foreclosed or vacant property matters a great deal. Simply put, if the house next door to you is abandoned your house is worth a lot less than if the vacant house is an eighth of a mile, a half a mile or more away. The impact of this

distance can be debated, and may vary significantly depending on the physical characteristics of the neighborhood. An eighth of a mile that is in your line of sight may be very different than that separated by a highway or a park. It is one reason why we see the difference in costs and the impact of distance vary in studies conducted in different cities.

One of the few positives to come out of the housing crisis was an increase in research in this space with many new data sets. Like many economic research papers, estimates of the direct effect of foreclosed properties on the value of their neighboring properties vary. A commonly cited study in Chicago found a 1-percentage point decline in home value for an entire one-eighth of a mile (660 feet) (Immergluck and Smith). Researchers found a smaller estimate from the Federal Reserve Bank of Boston, which found a 1 percent decline per foreclosure within 300 feet, falling to 0.5 percent within one-eighth of a mile.¹³ Yet another study found property loss as high as 8 percent for those properties within 300 feet. A study in Columbus Ohio, which focused on disentangling the impacts of foreclosure and abandonment, concluded that: "The effect of foreclosures, by contrast, is more moderate, but has a significant impact out to 1,000 feet."¹⁴ One of the lowest impact findings was a study of the city of Dallas that found foreclosures within 250 feet decrease value by one-half of a percent.¹⁵

One of the most in-depth comes from an analysis of the impact in Cleveland of foreclosed and vacant homes, the use of land banks to try to stem the problem and tracking whether the home was foreclosed and occupied or foreclosed and vacant. Recall that foreclosure is a lengthy process and people can and do live in foreclosed properties. This study also used "hedonic modeling" that allows for it to attempt to control for various unique features of homes.¹⁶ As we know, not all houses are the same in a given neighborhood, and having more bedrooms or bathrooms can make a difference. If foreclosed properties in general have consistently greater or fewer features, that could cause existing estimates to be biased. Because this study was done as part of

¹² Frame, Scott, Estimated the Effect of Mortgage Foreclosures on Nearby Property Values: A Critical Review of the Literature, Federal Reserve Bank of Atlanta, Economic Review, Number 3, 2010

¹³ Foreclosure Externalities: Some New Evidence Kristopher S. Gerardi, Eric Rosenblatt, Paul S. Willen, and Vincent W. Yao, Boston Federal Reserve <http://www.bostonfed.org/economic/ppdp/index.htm>

¹⁴ Brian A. Mikelbank, SPATIAL ANALYSIS OF THE IMPACT OF VACANT, ABANDONED AND FORECLOSED PROPERTIES, Federal Reserve Bank of Cleveland, November 2008,

¹⁵ Leonard, T., & Murdoch, J. C. (2009). *The neighborhood effects of foreclosure*. *Journal of Geographical Systems*, 11(4), 317-332.

¹⁶ http://www.clevelandnbp.org/wp-content/uploads/2016/10/DMetrics-CNP-rehabstudy-read_revised-forweb.pdf

a neighborhood revitalization campaign it had access to greater data on the actual properties involved. The data showed a larger impact of foreclosure on the order of 2.1 to 2.8 percent on houses within 500 feet.

While property losses in the value of one-half to 2 percent of home value may not immediately appear staggering, they most certainly are. Consider first that homes are by far the largest asset for most Americans. Second, the value of the typical home is usually on the order of four times as large as that family's annual income.¹⁷ Third, one foreclosure affects the entire neighborhood, impacting many families. One study estimated that the impact of foreclosures from the single year of 2009 caused almost 70 million neighboring homes to lose over \$500 billion in total value nationwide.¹⁸ By comparison that loss of wealth is greater than the state of Michigan's entire gross domestic product (GDP) for the past year, of \$466 billion.¹⁹ Consider a single foreclosed unit that becomes abandoned.

For a single home, one can attempt to calculate these costs.

Using the following conservative assumptions the foreclosure of a home will cause a loss of value of at least \$130,000 as a result of the following:

1. The home if owner-occupied would be worth \$200,000, which is just under the national median sales price of \$235,000. The loss of value to the home itself is 38 percent, the amount expected by buyers and in the midpoint of the range of estimates. This is a loss of value of \$76,000.

2. Assuming 21 houses within 500 feet. This is a conservative assumption based on houses that are roughly one-fourth of an acre that have 100x100 foot square plots. Thus, there are five houses on both sides of the affected property as well as another 11 across the street. This number could be substantially higher in urban settings (condominiums or row houses) and also lower for rural settings or areas where there are not uniform plots or housing on both sides of the street. Each of these houses experiences a 1 percent decline in home value. For the \$200,000 home, that is \$2,000. That is a loss of value of \$42,000.
3. There are another 12 houses beyond 500 feet but that are still affected. Recall some studies used the one-eighth of a mile (660 feet) while others showed effects all the way out to 1,000 feet and even further in some to half a mile. For this estimate we are assuming an impact of another 300 feet in all directions, which is conservative given other findings. These impacted houses have a 0.5 percent decline in value, or \$1,000. That is a loss of value of an additional \$12,000.

For those who find the methodology of studies that find losses of 2 percent in value of neighboring properties closer and 1 percent of those farther away more compelling, then the total losses jump to \$184,000. In this scenario the property loss suffered by neighbors is actually greater than that suffered by the foreclosed home itself!

¹⁷ Based on median home values around \$200,000 and median family income around \$50,000

¹⁸ <http://www.responsiblelending.org/mortgage-lending/research-analysis/soaring-spillover-3-09.pdf>

¹⁹ <https://fred.stlouisfed.org/series/MINGSP>

Beyond Foreclosures Abandoned Properties Have Their Own Costs

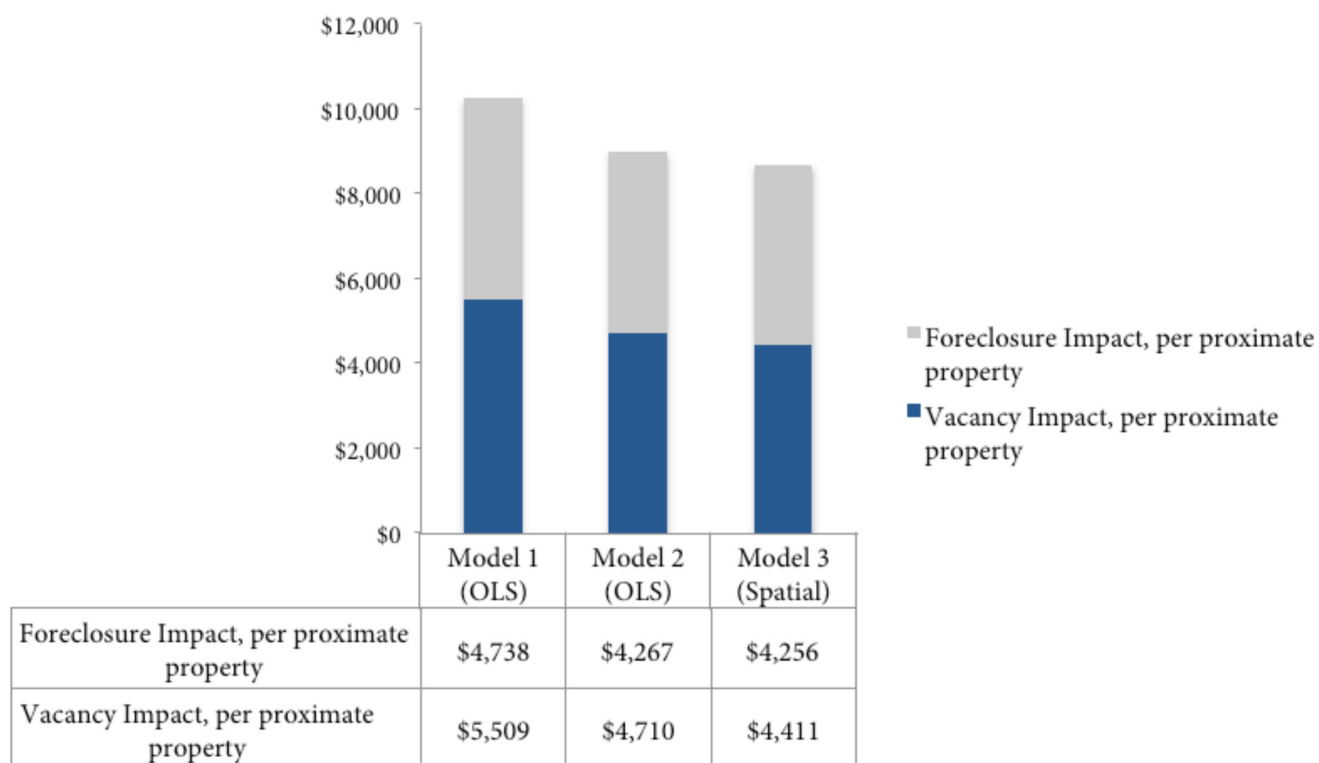
The analysis above on foreclosed properties was generic to the state of foreclosure but did not consider in specific detail the impact of being abandoned. There are abandoned properties that have not been foreclosed and foreclosed properties that spend little to no time being abandoned. Research disaggregating the impact of abandonment in and of itself is less common but still illustrative. This research shows that the condition of abandonment is a significant driver of the negative costs of foreclosure and that abandoned properties impose additional social costs beyond the loss of property value discussed above.

The most detailed research was conducted by the Federal Reserve Bank of Cleveland, and examined just over 9,000 single-family

homes in Columbus Ohio. Of those homes slightly over 6,000 had been foreclosed while 4,152 were vacant and abandoned.²⁰ The numbers total over 9,000 as some of the homes had been abandoned but not foreclosed upon. This study is somewhat unique in disentangling the impact of abandonment itself, not just of foreclosure. This is important in determining how much loss is caused by a property's abandonment, and hence how much can be mitigated in changing the manner in which the property is secured and maintained when unoccupied. The study's key finding was that abandoned properties are themselves very costly and when foreclosed properties become vacant, that adds costs.

The study found that over half of the total cost of a foreclosure's impact on neighboring properties comes from the fact that the property is abandoned. This finding held under three different modeling scenarios as depicted in the chart below:

Cost of Abandonment as Share of Foreclosure Costs



²⁰ Brian A. Mikelbank, SPATIAL ANALYSIS OF THE IMPACT OF VACANT, ABANDONED AND FORECLOSED PROPERTIES, Federal Reserve Bank of Cleveland, November 2008,

Thus, we can extrapolate that while a foreclosure costs the community \$130,000 in lost property value, more than half, or about \$70,000 of that loss comes from its status as being abandoned. **Thus, each abandoned property costs its neighbors \$70,000 in loss as it sits vacant, independent of its status as a foreclosure.**

The drivers of this cost will be further decomposed later in the analysis. However, for now we turn to other costs associated with vacant properties.

Properties in foreclosure suffer loss of significant value for themselves and cause serious negative declines in property value for their neighborhood. But there are additional costs suffered for the community if these properties become vacant or abandoned. Two major reasons why are sharp increases in crime and fire caused by properties in abandonment.

Crime

Vacant properties increase crime. The federal government's own Department of Housing and Urban Development (HUD) states that: "Boarded doors, unkempt lawns, and broken windows can signal an unsupervised safe haven for criminal activity or a target for theft of, for example, copper and appliances."²¹ This well known impact of abandoned properties was even featured as a key theme in the hit television show *The Wire*, where a drug operation used boarded-up houses for various illegal activities, including burying murder victims. The phenomenon of vacant buildings and rising crime is so well accepted that it has been studied by several academics.

Extensive work in the academic literature shows increases in crime around foreclosures. One set of issues with this work was determining causality – an increase in crime causes properties to decline in value and hence increases the likelihood of foreclosure. However, the combination in advances in data methods and the unfortunate wave of foreclosures and abandonments caused by the bursting of the housing bubble created the opportunity for new research to try to disentangle these effects. One such study conducted in Pittsburgh found a 19 percent increase in violent

crime from a property becoming vacant.²² There was a smaller effect of property crimes in the range of 3.5 to 5 percent increases, which were present at certain levels of statistical significance.

One of the methodological advancements in this study was the comparison of crimes within 250 feet of the home as compared to crimes just outside of 250 feet (up until 353 feet). Using this as a control group allowed the researchers to be far more certain that it was the home causing the crime as opposed to crime in the broader neighborhood. Prior studies had attempted control groups far more broadly such as at the census tract level.

A key finding was that this increase in crime is only associated with vacancy, foreclosure alone had no effect in their study. As the authors conclude:

Our empirical analysis suggests four key findings:

1. The foreclosure process can lead to significant increases in violent crime rates – we estimate that, within 250 feet of a foreclosed home, the foreclosure process leads to a roughly 19 percent increase in the number of reported crimes per year (an increase of .13 crimes per year within the 250-foot circle relative to a base rate of .67 crimes per year);
2. These increases in crime are driven not by foreclosure per se, but instead by the vacancies that are associated with the foreclosure process;
3. The impact of vacancy on crime increases as the property stays vacant for longer periods of time, likely plateauing at between 12 and 18 months; and,
4. Once a house is reoccupied the crime impacts of the previous vacancy are attenuated.²³

These findings lead to the clear policy conclusion that mitigating vacant and abandoned buildings are of significant policy importance. As the authors conclude their paper: "As a policy matter, while the majority of current federal and state level foreclosure programs are focusing on loan modification, these results strongly suggest that policies aiming at post-foreclosure vacancy reduction may also warrant attention."

²¹ <https://www.huduser.gov/portal/periodicals/em/winter14/highlight1.html>

²² Cui, Lin and Walsh, Randall, Foreclosure, Vacancy and Crime, NBER Working Paper 20593, <http://www.nber.org/papers/w20593>

²³ *ibid*, pages 3 and 4

While there are certainly unquantifiable costs associated with violent crime, there are also quantifiable costs as well. A recent National Institutes of Health study updated prior work on the cost of crimes and found the following for violent crimes:²⁴

Murder	\$9 million
Rape/Sexual Assault	\$240,000
Assault	\$100,000
Robbery	\$42,000

Understandably, the costs associated with murder are by far the greatest. A 19 percent increase in the number of any of these crimes would lead to seriously increased costs. To understand how big an effect, we need to know how much crime has been occurring. According to the FBI in 2015 there were 15,969 murders, 124,047 rapes and 327,374 robberies.²⁵ While some of those robberies, such as the 5,678 bank robberies, are probably not affected by abandoned properties, the vast majority such as

the 54,021 that occurred in residential homes and another 130,431 that occurred on the street and the over 62,000 that are simply classified as miscellaneous could easily be impacted by a vacant building. Finally, the number of aggravated assaults tops 740,000, according to other FBI data.²⁶

The last piece of the puzzle to develop estimates for the costs associated with increased crime as a result of an additional vacant building requires an estimate of the likelihood of such a crime occurring in the first place. Because neighborhoods with vacant buildings are more likely to have crime to begin with – the reason why causality was difficult to prove to begin with – national data are not helpful. The study that showed the 19 percent increase in crime does have detailed information on crimes, and although it is only from Pittsburgh, it provides a starting point. The chart below shows that data, which uses quarterly crime reports. On the one hand, Pittsburgh may be a slight overestimation of national crime rates. On the other hand, note that the data are inherently biased to the downside because each crime receives only the code associated with its most violent act (e.g., a robbery with a murder is only a murder).

CRIME	AVERAGE COST	INCIDENT RATE	INCREASED RATE	CHANGE	MARGINAL INCREASE	NATIONAL FREQUENCY	NATIONAL COST
Murder	\$9 mill	.13%	.15%	.02%	\$2,223	15,969	\$35.5mil
Rape	\$240k	.25%	.30%	.05%	\$114	124,047	\$14.1mil
Assault	\$100k	4.57%	5.44%	.87%	\$868	741,184	\$643mil
Robbery	\$42k	3.91%	4.65%	.74%	\$312	327,374	\$102mil
Total					\$3,517		\$795mil

This leads one to calculate that an abandoned home will cause an increase in violent crime costs of just over \$3,500 per quarter. This is largely driven by the increase in the probability of a murder, which is slight but very costly. However, there is a substantial cost to the increase in the probability of assaults, which rise by almost 1 percent per quarter.

Over one year, an abandoned property will result in, on average, an increase in crime costs of \$14,000.

²⁴ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2835847/table/T1/#TFN7> using the crimes defines as violent in the Cui and Walsh paper

²⁵ <https://ucr.fbi.gov/crime-in-the-u.s/2015/crime-in-the-u.s.-2015/tables/table-7>

²⁶ <https://www.fbi.gov/news/stories/latest-crime-stats-released>

Fire

Vacant buildings are major fire hazards. According to the Federal Emergency Management Administration (FEMA), vacant residential buildings account for one out of every 14 residential building fires in America.²⁷ That translates into 25,000 fires that caused an estimated 60 deaths, 225 injuries and \$777 million in property loss on an annual basis. One out of every nine fires that starts in a vacant building extends to at least one adjacent property.

Not every one of these fires is the result of a foreclosed or abandoned property that is vacant. About one in eight are homes that are under construction or undergoing major renovation. Another 4 percent are in the process of being demolished. However, the other 84 percent of these fires happen in vacant residential buildings that are most likely abandoned or foreclosed. The majority of these fires are buildings that are unsecured (11,300) although a substantial number (9,600) are vacant buildings that are supposedly secured. Together, fires from vacant homes specifically cause 45 deaths, 150 injuries, and \$600 million in property losses a year.

Thus, we can extrapolate that **a vacant home that catches on fire will cost an estimated \$29,000 in property damage.** The total costs to the local government are higher than just the property damage alone. One study estimated a total cost of over \$34,000 per vacant building fire that included cleanup and other costs by the municipality.²⁸ We can also estimate the probability that a vacant house will catch on fire, as we know that 20,900 vacant houses out of the 1.3 million in America did, a rate of 1.6 percent. This is almost twice the rate of all residential homes, which is less than 1 percent.²⁹ Thus, being vacant significantly increases the cost of potential property damage from fire.

What causes those fires is an important question, as it can help determine how we can mitigate those costs. Within those vacant buildings, the cause of those fires has been determined in just

over half of the fires (56 percent). The single most common cause is arson, accounting for more than one-third of fires whose cause has been determined. But other major causes show that unlawful activity occurring within the vacant property is a major driver of these fires occurring. Consider the other leading causes past arson: an open flame (12.8 percent), human unintentional carelessness (11.1 percent), smoking (1.8 percent), cooking (1.5 percent). We also know that almost half of all vacant residential fires occur in buildings that are supposedly secure. While we do not have a breakdown of cause of fire by how secure the building was, we can easily extrapolate that simply “securing” a building is not effective in preventing people from entering it who then are significantly more likely to start a fire. As FEMA found: “vacant residential buildings are sometimes used by homeless people as temporary shelters or housing.”

City Resources: Police and Fire

There are additional costs created by crime and fire beyond property damage and loss. The fire and police departments invoke significant resources to respond to the fire, put it out, treat those involved and investigate the cause. Municipalities across the country have seen costs with vacant properties skyrocket. Some have investigated these costs and conducted their own analysis. The city of Baltimore estimated that each additional vacant property resulted in additional time spent by police of 445 minutes per year, which they estimated cost \$1,000 per year. In addition, they estimate that throughout the city the additional fire cost per vacant house, in time and resources spent by the fire department (not including actual property damage) was \$472, bringing the grand total cost to the police and fire department of \$1,472 per year per vacant.³⁰

Looking at just costs associated with violent crime and fire, we have identified the following:

- ❑ An extra \$14,000 a year in costs from violent crime (not including property crime);

²⁷ <https://www.usfa.fema.gov/downloads/pdf/statistics/v15i11.pdf>

²⁸ <http://www.urban.org/sites/default/files/alfresco/publication-pdfs/411909-The-Impacts-of-Foreclosures-on-Families-and-Communities.PDF>

²⁹ Using 133 million national homes and 1.24 million fires with the fire data from FEMA <https://www.usfa.fema.gov/data/statistics/> and the housing data from <https://www.quora.com/How-many-residential-property-addresses-exist-in-the-United-States>

³⁰ <http://michiganvacantproperty.org/wp-content/uploads/Determining-the-COT-of-Vacancies-in-Baltimore.pdf>

- An increase in the probability of a fire occurring of almost double. If a fire does occur it is likely to result in \$30,000 in property damage alone; and
- An extra \$1,500 per year per vacant for the police and fire departments

These are significant additional costs as a result of an abandoned property. Further, current attempts to secure the property do not appear to be too effective in stopping the costs associated with crime and fire. Almost half of the fires occur in houses that are supposedly secured. The real increase in crime comes not from foreclosure itself, but from the abandonment of the building.

Thus, improved securing of abandoned buildings offers substantial potential savings. Even if one believes that it would reduce crime and fire by 50 percent, that would result in over \$7,000 a year in community savings, not including the savings from property damage in case of a fire.

Long-Term Effects

In determining how much foreclosure and abandonment impacts a community, the variable of time is important. The analysis above computes average annual costs for crime and fire. The property loss impacts are straightforward while the property is abandoned. However, research shows that even after the property is resold those costs linger. Similar to the magnitude of cost, there is some empirical debate about the duration that foreclosures and abandonment reduces value.

One analysis looking at a national sample of foreclosed properties estimated that impacts lasted as long as five years from the foreclosure.³¹ That study in Chicago also found one of the largest decreases in property values of over 8 percent for houses within 300 feet. Another study of St. Louis that found the more typical impact of a loss of value of 1.4 percent immediately after a foreclosure, still found that property values remained depressed

by just less than half the initial impact (0.6 percent) for two years after foreclosure.³²

Returning to our prior analysis, the impact of a foreclosure on neighboring properties was conservatively estimated at \$54,000. If slightly under half of this impact lasts for two additional years after the property has been sold, **there is a loss of \$25,000 for two additional years.**

The continued impact of foreclosures in reducing neighborhood property value illustrates how long-lasting damage can be from blight. It provides further evidence that solutions that minimize blight initially can potentially produce significant savings down the road. That is to say that steps taken to reduce the impact of foreclosure and abandonment can continue to provide economic returns even after the property has been recovered and rehabilitated. The returns to such an investment continue to outlast the actual vacancy itself.

Minimizing Foreclosure Impact: All About Maintenance

Having established the significant impact that foreclosed and vacant buildings have on communities, the question is what can be done about it. The answer depends on the root driver of the loss of value. There are many potential causes, but one repeatedly stands out: the failure of the owner to maintain the property. Foreclosed and abandoned houses have broken the incentive between homeowner and the person who lives in the home. Unlike a rental property where the renter and the owner share incentives for upkeep and maintenance, an abandoned property has no such incentive.

Research from the Boston Federal Reserve that was overall skeptical on the magnitude of value loss by foreclosure was still definitive as to why it occurred: "Properties in all stages of distress exert downward pressure on nearby home values... The estimates are very sensitive to the condition of the distressed property, with a positive correlation existing between house price growth and foreclosed properties identified as being in 'above average'

³¹ Lin, Rosenblatt and Yao, 2009

³² William Rogers and William Winter, The Impact of Foreclosures on Neighboring Housing Sales, Volume 31, Issue 4 (2009)

condition. We argue that the most plausible explanation for these results is an externality resulting from reduced investment by owners of distressed property.”³³

Similarly, research from the Cleveland Federal Reserve focusing on Columbus Ohio, came to a similar conclusion: “Where vacancy cannot be avoided, the finding highlights the importance of maintaining a property throughout the foreclosure process, so that although foreclosed and vacant, a property retains its value so that abandonment is unlikely to occur.” The paper goes further to recommend that “A city’s housing/code enforcement department could play a strong role here, taking a proactive approach in identifying and targeting recently foreclosed properties.”³⁴

The findings from this study merit special note as the study actually quantified the change in value destruction attributable to the condition of the foreclosed or abandoned property. Using a standard scale of rating the condition of the property as “very good,” “good,” “fair” or “poor,” the author ran controlled regressions attempting to isolate the impact of just the property condition, holding other variables constant. These other variables included not only the standard metrics of home value, such as number of rooms, bathrooms, air conditioning, lot size, construction quality, but also school district, distance to the central business district, and the stability of the specific neighborhood within Columbus Ohio.

The results show that property condition is incredibly important. As expected, the impact of condition is monotonic – that is, the worse the property condition the bigger the negative impact. However, the magnitudes are of interest. Houses that are foreclosed or abandoned in “very good” or even “good” condition sell at a premium compared to other houses in the neighborhood, even those that are not foreclosed or vacant. Overall, houses that are in foreclosure but in “very good” condition sell at a 50 percent premium over the average house (for comparison’s sake, installing air conditioning led to a 26 percent premium, having an extra bedroom a 6 percent premium). Likewise, being in “good” condition

led to a 13 percent premium. Conversely, homes in “fair” condition were worth 13 percent less while those in poor condition were worth 29 percent less.

These estimates were similar when looking at only abandoned homes, excluding those that were in foreclosure but still occupied. Here we see homes in “very good” condition selling at a 40 percent premium while those in poor condition sold at a 31 percent discount. Being in very good condition was worth 11 percent while being in fair condition cost 12 percent.

Mitigation also impacts crime. Recent research examining the impact of improved methods to secure abandoned buildings found a nearly 40 percent decrease in firearm violence.³⁵ The data on crime reduction was so compelling from this study in Philadelphia that the researchers concluded: “Abandoned buildings and vacant lots are blighted structures seen daily by urban residents that may create physical opportunities for violence by sheltering illegal activity and illegal firearms. Urban blight remediation programs can be cost-beneficial strategies that significantly and sustainably reduce firearm violence.”

Comparing the 40 percent reduction in firearm offenses to the nearly 20 percent increase in crime due to property abandonment in Pittsburgh and the evidence begins to point to the fact that a very well secured vacant property may reduce crime more than the average occupied property. While this may appear counterintuitive, it is in line with the work cited above on property value that shows that abandoned properties in “very good condition” actually sell at a premium compared to other properties that are occupied but in worse condition.

This evidence is compelling to prove that condition is a major driver of loss of value. Methods that can change a property’s condition can thus have large impacts not only on that property’s value but that on their neighbors and broader community.

³³ Foreclosure Externalities: Some New Evidence Kristopher S. Gerardi, Eric Rosenblatt, Paul S. Willen, and Vincent W. Yao, Boston Federal Reserve (<http://www.bostonfed.org/economic/ppdp/index.htm>.)

³⁴ Mikelbank (2008)

³⁵ Urban Blight Remediation as a Cost-Beneficial Solution to Firearm Violence, Charles C. Branas, PhD, Michelle C. Kondo, PhD, Sean M. Murphy, PhD, Eugenia C. South, MD, Daniel Polsky, PhD, and John M. MacDonald, PhD

Conclusion

Under a conservative set of assumptions, a vacant property causes losses of approximately \$150,000 in its first year: \$133,000 from reduced property value for its neighbors, \$14,000 in increased crime and \$1,500 in increased costs for the police and fire departments. If this house were to catch fire, which is almost twice as common among vacant properties, there would be another \$30,000 in damages, on average.

These costs last over time. For every additional year the property sits vacant, the crime and police costs add up. Even after the property is sold, neighbors will lose at least \$25,000 for two years and quite possibly longer.

Further, we know that the majority of these costs are not simply derived from the property's status as being foreclosed, but rather from its position as being vacant. Abandonment drives the loss of property value and is the cause of increased crime and likelihood of fire.

Within abandoned properties we know that the main driver is the deteriorating condition of the house. A large driver of this is when the property is boarded shut. Boarding a property is an investment by the owner that signals to the neighborhood and community at large that this house is going to stay vacant for some time. Simply put, no one boards a property that they are going to have vacant for a few weeks during maintenance before renting or selling. Instead it is a longer-term signal that no one will be home for months or even years.

Boarding techniques that purport to be secure are not. Vacant buildings that are "secured" have higher incidence of fire caused by people having broken into those units. They serve as hubs for crime and criminal activity.

A solution that really secured a vacant building and would reduce the characteristics of abandonment, namely blight, would produce tremendous savings. Given that more than \$85,000 of these costs are driven by the property's status as vacant, a solution that obscured that condition – that is, made the home appear to the external viewer as occupied, would reduce and potentially eliminate those costs. In fact, securing the vacant property is likely to create value itself that could go beyond the costs of being vacant as the building becomes in better condition than it would have been when occupied. In that case, even more savings would be realized. This is especially true when the solution makes the house impenetrable to vagrants and criminals, the costs of crime, policing and fire would be subsequently significantly reduced.

These savings would, in turn, reduce the probability of future foreclosures in the affected neighborhood. By stabilizing property values, reducing crime and reducing blight, the solution is directly attacking the cycle of foreclosures. Programs and policies created with foreclosure mitigation in mind must turn their attention to ways to better secure vacant properties. Realizing the potential economic savings, value creation, the opportunity to reduce future foreclosures and to combat crime, fire damage and all of the other additional non-economic value that is destroyed by vacant properties, researchers and policymakers can and should incorporate smarter methods to secure vacant and abandoned buildings into their analysis, foreclosure research, and foreclosure mitigation and prevention strategies.

Aaron Klein

Aaron Klein previously served as the Deputy Assistant Secretary of the U.S. Treasury Department for Economic Policy and Chief Economist of the U.S. Senate Banking, Housing, and Urban Affairs Committee. In those positions Klein played a major role in the response to the financial crisis, including leading work on housing policy and finance reform on such legislation as the Housing and Economic Recovery Act of 2008, the Emergency Economic Stabilization Act of 2008 (TARP), and the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010. A leader in the field of housing and finance policy, with over a decade of senior-level experience, he has served as a consultant and economist in providing clients with expert analysis and innovative solutions. This paper was funded with the support of Community Blight Solutions with the data, research and opinions those of the author. Klein previously directed the Financial Regulatory Reform Initiative at the Bipartisan Policy Center in Washington, D.C. Klein is a frequent author and commentator on major issues cited extensively in US and international media, including *The New York Times*, *Wall Street Journal*, BBC, CNBC, Fox Business News, *Politico*, *LA Times*, *The Guardian*, *The New Yorker*, and National Public Radio.

