Flood Hazards, Insurance, and House Prices - A Hedonic Property Price Analysis [1]

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Abstract: This study estimates a hedonic property price function using floodplain data coupled with extensive property sales records from Pitt County, North Carolina to estimate the effects of flood hazards on residential property values. Using a large data set of 5,122 single-family residential home sales between January 1998 and June 2002, our study finds that the market value of a house located within a floodplain is significantly lower than an equivalent house located outside the floodplain. The price differentials range from $5,000 to $11,000 for houses sold between $50,000 and $225,000. We find that these price differentials are greater than the present value of the future flood insurance costs. An average house located in a floodplain is discounted by 6.6 percent of the property value, while the capitalized insurance premium value represents approximately 4 percent of the house's selling price.

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I. Introduction

In September 1999, the torrential rains of Hurricane Floyd hit central and eastern North Carolina resulting in record flooding along most rivers and streams in the area. This historic flooding brought by Floyd turned out to be the worst natural disaster ever to hit North Carolina. According to the Federal Emergency Management Agency (FEMA), Hurricane Floyd directly affected about 2.1 million people and resulted in the largest peacetime evacuation ever. The total amount of insured and uninsured damage was estimated to be about $6 billion (FEMA, 2002). Many people whose homes were flooded were not even aware they lived in a floodplain and thus did not have a flood insurance. The devastating losses caused by the flood have led to flood insurance awareness and renewal campaigns. A study carried out by the FEMA reveals that the sales of flood insurance policies in North Carolina have increased by 24 percent after the occurrence of Hurricane Floyd (FEMA, 2002).

For a long time the Federal Government and the general taxpayers had to bear the cost of disaster relief to flood victims. In the face of mounting flood losses and escalating cost of disaster relief to the general taxpayers the U.S. Congress created the National Flood Insurance Program (NFIP) in 1968. The purpose of this program was to reduce future flood damage through community floodplain management ordinances, and provide protection for property owners against potential losses through an insurance mechanism that requires a premium to be paid for the protection. The Federally sponsored flood insurance program is available in communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage. The National Flood Insurance is available in nearly 20,000 communities across the United States. In North Carolina, the number of flood insurance policies and the amount of coverage in effect are 102,876 and $14.9 billion, respectively, as of December 2001 (FEMA, 2002).

In this paper we estimate the effects of flood hazards on residential property values and compare the price reduction due to the flood hazards with the capitalized future flood insurance premiums based on the insurance cost paradigm. A hedonic property price function is estimated using floodplain data coupled with extensive property sales records from Pitt County in eastern North Carolina. Our data include 5,122 single-family residential home sales records between January 1998 and June 2002. The results indicate that the market value of a house located within a floodplain is significantly lower than a similar house located outside the floodplain by the amounts of $5,000 to $11,000 for houses sold between $50,000 and $225,000. We find that the price reduction due to the location within a floodplain is greater than the capitalized future flood insurance costs. An average house located in a floodplain is discounted by 6.6 percent of the property value, while the capitalized premium value represents approximately 4 percent of the house's selling price. The result indicates that there are substantial non-insurable costs perceived by house buyers associated with the flooding events.

In an efficient housing market, property price differentials should reflect the perceived risk of environmental hazards such as flooding after controlling for structural and locational amenity differentials. The probability of the occurrence of a flood is very low, most often once in 100 years, but the impacts of the flood are very high. If the property buyer is risk neutral or risk averse, the property price differentials should be at least equal to the expected loss from flooding. The selling price of a house located within a floodplain should be lower than an equivalent property outside the floodplain. Several studies have applied the hedonic property price methods to estimate the relationship between flood hazards and residential property values

(MacDonald, Murdock, and White, 1987; Donnelly, 1989; Speyrer and Ragas, 1991; Harrison, Smersh, and Schwartz, 2001). A common finding across these studies shows that houses located within a floodplain sell on average for less than equivalent houses located outside the floodplain. This price reduction is often greater than the present value of the future flood hazard insurance costs.

MacDonald, Murdoch, and White (1987) developed a theoretical model of willingness to pay for a marginal reduction in the probability of flooding in the residential location decision. Using housing market data from Monroe, Louisiana, this study found that the price reduction due to a floodplain was equivalent to the capitalized cost of differential insurance premiums and non-insurable costs. Donnelly (1989) estimated the loss in the market value of residential homes attributable to a floodplain to be on average $6,000, using the property sales data from La Crosse, Wisconsin. This study found that the perceived risk measured by the sales price differential differed from the actual risk measured by the capitalized flood insurance premiums. Speyrer and Ragas (1991) also found that location in a floodplain reduced property values based on housing sales records obtained from New Orleans, Louisiana. This study found that unexpected flooding reduced the property values via the insurance cost capitalization, but repeated flooding did not matter further. Using the property parcel data from Alachua County, Florida, a recent study by Harrison, Smersh, and Schwartz (2001) assessed that the comparable characteristics homes located within a floodplain sell, on average for less than homes located outside floodplains, but the price differential was less than the present value of future flood insurance premiums. This study also discussed some limitations of the insurance cost paradigm in the hedonic price literature, given that not all structures within floodplains are fully insurable.

In this study we utilize a large data set which includes over 5,000 recent residential home sales records. Such a large data set was not readily available in most prior studies. In addition, due to the recent development of geocoded data in Geographic Information Systems, our data enable us to find out if some properties are either in a floodplain or not. We also calculate the distances to the nearest river, stream and creek for each house in the data set. Since floodplains are usually located along rivers and streams, it is difficult to discern if negative effects on property values come from floodplains or from rivers and streams. Hence, controlling the effects of rivers and streams is essential in estimating the effects of floodplains on property values. Our data also include a number of housing attributes that affect home purchase decisions, such as proximity to railroads and business centers, property structure, and neighborhood information. We find that proximity to railroads and business centers have a negative impact on housing values. Moving 1,000 feet closer to the nearest railroad lowers the property value by $157 evaluated at the mean value, and similarly reducing the distance to the nearest business center by 1,000 feet from an initial distance of one mile results in a $459 decrease in house value.

II. Study Area and Data

Pitt County is located in the center of the coastal plain of eastern North Carolina. According to the Special Census conducted in April 1998, the County has a population of about 126,000, including the largest city of Greenville (population: 56,800). The coastal plain drops only about 60 meters in elevation as it extends from 120 to 60 kilometers from the Piedmont region in the middle of the state to the coast. Higher ground is usually located in the southern side of the Tar River, and about 60 percent of the soils in the area are characterized primarily as poorly or extremely poorly drained. The majority of the flooding in Pitt County that followed

Hurricane Floyd was located in the floodplains along the Tar River. Flooding occurred in many areas in the County including residential and industrial areas, the Pitt-Greenville airport, the water treatment facility and the main power transmission substation (Colby, Mulcahy, and Wang, 1999). A study by FEMA indicates that after the significant flooding associated with Hurricane Floyd in 1999, the number of flood insurance policies through the NFIP has increased substantially (FEMA, 2002).

This study combines three data sets from the Pitt County Management Information Systems (MIS): floodplain mapping data, property parcel data, and Pitt County Geographic Information Systems (GIS) data. Floodplain mapping data provide the location, size and types of floodplains in the County. The most common floodplain is the 100-year flood area with a 1.0 percent chance of annual flooding. This floodplain usually includes areas near rivers or streams with more significant chance of exposure to flooding. Currently, the NFIP provides a maximum flood coverage limit of $250,000 on single-family dwellings, two to four family dwellings and condo units. The coverage is written through local insurance companies who collect the premium and pay claims for the NFIP. Property parcel records contain detailed information about the structural attributes of the properties such as sales date, sales price, age, square feet, and heating source. A total of 5,122 single-family residential homes sold between January 1998 and June 2002 are compared with the floodplain mapping data to determine whether each property is within the floodplain or not. In addition, this study calculates the distance of each property to the Tar River, Pitt-Greenville airport, major roads and landmarks, and streams and creeks. Distances are measured as the Euclidean distance in feet from the centroid of the house to the nearest edge of a feature. Table I defines the variables used in the hedonic price function and their definitions.

House sales prices are adjusted to obtain figures in June 2002 using a consumer price index for housing. The average selling price was $137,415 with a minimum sales price of $15,061 and a maximum of $722,018. About 6.5 percent of the total homes in the data locate in a floodplain. A typical home is about 20 years old and has 2,380 square feet. About 44 percent of the homes have access to gas heating, and about 82 percent have a fireplace. The average distance to the nearest creek or stream is 850 feet and a railroad is about 5,000 feet. Summary statistics are given in table II.

III. Methodology

This study uses a hedonic property price approach to estimate the effects of the location within a floodplain on property values. Since the pioneering work by Rosen (1974), many studies have applied the hedonic property price models to estimate the impacts of probabilistic events such as flooding, earthquakes, volcano hazards, and potential disasters from chemical plants on residential property values (Brookshire, Thayer, and Schulze, 1985; Thayer, Berknopf, and Brookshire, and Schulze, 1985; Shilling, Benjamin, and Sirmans, 1985). Freeman (1993) provides a useful summary of the theoretical aspects of the hedonic property price models. In this section, we provide a brief discussion of key features for the theoretical model and the estimation method.

Assume that $\boldsymbol{X}$ represents a vector of structural characteristics of the residence (e.g., square footage, age, number of rooms), and that $\boldsymbol{Z}$ denotes a vector of locational characteristics (e.g., distance to nearest river or streams, distance to railroad, major roads or airport). Similarly, assume that F represents the risk of flooding from the location within a floodplain. The housing market is assumed to be in equilibrium, which requires that individuals optimize their residential choice based on the prices of alternative locations. Prices are assumed to be market clearing, given the inventory of housing choices and their characteristics. With these assumptions, the price of any house, P, can be described as a function of structural and locational characteristics as well as flooding risks:

$$P = P(\boldsymbol{X}, \boldsymbol{Z}, F) \quad (1)$$

Equation (1) is referred to as the hedonic price function. Assume that each individual's utility function depends upon Q, a composite commodity representing all goods other than housing and the housing characteristics. Then, each individual will choose where to live by maximizing utility, $U(Q, \boldsymbol{X}, \boldsymbol{Z}, F)$ subject to a budget constraint given by $M - P - Q = 0$, where M is income. The price of Q is implicitly scaled to \$1. The first-order necessary conditions yield:

$$\frac{\partial U / \partial F}{\partial U / \partial Q} = \frac{\partial P}{\partial F} \quad (2)$$

Equation (2) shows that the marginal rate of substitution between the flood risk and the composite good, that is the marginal willingness to pay to reduce the flood risk, equals the implicit price of the flood risk. Thus, the estimation and partial differentiation of the hedonic price function with respect to the flood risk variable reveal the marginal willingness to pay for the flood risk reduction.

The hedonic price function in equation (1) is the reduced form equation representing the results from the interaction of supply and demand forces. Selecting an appropriate functional form has been a frequent concern in the hedonic literature (Cropper, Deck, and McConnell, 1988; Halvorsen and Pollakowaski, 1981). The issue arises because economic theory gives little guidance about the proper functional relationship between property attributes and property prices. In this study, we model the hedonic price function based on a Box-Cox transformation (1964), which includes several popular functional forms as special cases:

$$P^{(\lambda)} = \alpha + \sum_{i=1}^{10} \beta_i X_i + \sum_{j=1}^{6} \gamma_j Z_j^{(\lambda)} + \phi F + \varepsilon \,, \qquad (3)$$

where

$$P^{(\lambda)} = \frac{(P^{\lambda} - 1)}{\lambda} \text{ and } Z^{(\lambda)} = \frac{(Z^{\lambda} - 1)}{\lambda}, \;\; if \; \lambda \neq 0$$
$$P^{(\lambda)} = \log(P) \text{ and } Z^{(\lambda)} = \log(Z), \;\; if \; \lambda = 0.$$

The dependent variable, *P*, is the house sales prices, X_i is the untransformed quantity of the i^{th} house attributes, Z_j is the nearest distance to j^{th} neighborhood attribute which is subject to the Box-Cox transformation, *F* is the risk of flooding from the location within a floodplain, and ε is the random error term. Most previous studies using the Box-Cox transformation apply the transformation to only the dependent variable because most independent variables are binary indicators representing house characteristics. Since we have six distance related variables in the right hand side of the model, the transformation is applied to both sides of the equation (3).

Equation (3) is then estimated using a maximum likelihood estimator (MLE) as described in Spitzer (1993). Since the likelihood function depends on the transformation parameter as well as the coefficients on the explanatory variables, a grid search over the transformation parameter (λ) is performed to find the maximum likelihood estimate. This model contains the linear (λ = 1) and loglinear (λ = 0) functional forms as special cases, depending on the transformation parameter. To test the linear and loglinear specifications, the log of the likelihood function value is compared to the constrained value from either the linear or the loglinear models. The likelihood ratio statistic is –2[log $L(\lambda = 1 \text{ or } 0)$ – log L(MLE)], where log L denotes the log-likelihood from the given model, and is distributed as chi-square with one degree of freedom. The estimation results and the specification tests are reported in the following section.

Unlike the standard linear regression model, the marginal effects of explanatory variables in the Box-Cox model are not directly discernible from the parameter estimates. We report the marginal effects and elasticity estimates along with the parameter estimates. The elasticities are defined as $\partial \ln(P) / \partial \ln(Z) = \gamma(Z^{\lambda}) / (P^{\lambda})$ and $\partial P / \partial Z = (P / Z) \cdot \partial \ln(P) / \partial \ln(Z) = \gamma(Z^{\lambda-1}) / (P^{\lambda-1})$ represent the marginal effects. These are computed at the sample means. For variables which have not been transformed, the value $\lambda = 1$ is used.

IV. Estimation Results

The maximum likelihood estimation results for the Box-Cox model are reported in table III. The estimated transformation parameter, λ, is 0.48. The likelihood ratio statistics are calculated to test the linear and loglinear specification. Given the critical value of 6.63, both linear and loglinear functional forms are rejected at the one percent significance level. Hence, we conclude that the data do not support the standard linear or loglinear specification, and proceed with the Box-Cox transformed model for further interpretation.

Most of the structural and neighborhood variables are statistically significant with the exception of the distance to the nearest stream or creek (CREEK). All coefficients of the structural variables are significant at the one percent level. Signs of the coefficients are consistent with common findings in the hedonic price literature. The coefficient of the flood variable (FLOOD) is significant at the one percent level and has a negative sign. This result indicates that the location of a house within a floodplain lowers the house value. The estimated marginal effect for the flood variable implies that the location within the floodplain lowers the property value by \$8,472, which represents about 6.2 percent of the average house sales price. This estimate is quite comparable with results from previous studies. Donnelly (1989) estimated that the loss in market value attributable to a floodplain was on average about $6,050, which is about 12 percent of the average selling price. MacDonald, White, Taube, and Huth (1990) found that the price differential ranges between $5,000 and $7,500 for similar houses located in and out of a floodplain, which accounts for about 4 percent of average selling price. Schilling, Benjamin, and Sirmans (1985) estimated that the selling price of the house located within a floodplain is on average 6.4 percent less than the sales price on an otherwise comparable house.

The predicted price differentials due to the location within a floodplain and flood insurance premiums for three hypothetical houses are presented in table IV. The average house, for example, is assumed to be 20 years old with 2,500 total square feet, 3 bedrooms, 2 bathrooms, and a fireplace. The calculation of house price differential is based on these assumptions, and similar assumptions are made for below average house and above average house. For the average house the predicted price differential is $8,255, while for the below average and the above average houses the predicted price differentials are $5,008 and $11,265, respectively. We compare these estimates with the annual flood insurance premiums. The flood insurance premiums are somewhat ad hoc in that the premiums could vary significantly depending on the existence of the basement, the amount of contents insured, and the deductible. Flood insurance premium estimates are based on the post Flood Insurance Rate Maps (FIRM) for single-family homes with estimated base flood elevation of 2 feet or more. Reported premium estimates are calculated using the cost of building and the contents of $10,000.

Prior literature has found that these price differentials should be close to the sum of the capitalized flood insurance costs and risk premiums related to any damages from a flooding event (MacDonald, Murdoch, and White, 1984; Donnelly, 1989). In table V, we compare the predicted price differentials of three hypothetical houses with the present value of the annual insurance payments. The annual insurance payments are discounted in perpetuity using three discount rates of 4 percent, 6 percent, and 8 percent. The discount rates which set the predicted price differentials equal to the present value of the annual insurance payments in perpetuity are 4.8 percent for the below average house, 3.6 percent for the average house, and also 3.4 percent for the above average house. We find that the predicted price differentials are greater than the mandated capitalized insurance costs, indicating the substantial uninsurable costs perceived by house purchasers. The difference between the sales price differentials and the capitalized insurance costs would be a risk premium resulting from the perception that insurance does not fully compensate for the loss from flooding.

The coefficients of other structural variables all have expected signs and have significant associations with the property values. The results indicate that a house price increases on average by $40 per an additional square foot. An additional age of a house lowers the price by -$1,160. An additional bedroom increases the sales price of the property by $2,366 and an additional bathroom increases the sales price by $15,012. Property with gas heat source increases the sales price by $7,378 and a house with face brick increases the value of the property by $6,254. A fireplace would increase the market value of the property by $15,344, and the sales price of house with hard wood floor would increase by $3,640. A house in good condition would increase the sales price by $27,395 and the price of a vacant property would decrease the value of the sales price by $56,540. Table III also shows that the neighborhood variables have significant influence on the property values. The results indicate that proximity to the Pitt-Greenville airport and the Tar River increases the property values while the proximity to the nearest business center, railroads and major roads and streets lowers the property value.

V. Conclusions

This study estimates the effects of house location within a floodplain on nearby residential property value, using a hedonic property price approach. In estimating the hedonic price function, this study applies the Box-Cox transformation to both sales price and distance related explanatory variables. The estimation results indicate that the price of a residential housing property located within a floodplain is significantly lower than an otherwise similar house located out of a floodplain. We found that the location within the floodplain lowers the property value by $8,472, which represents about 6.2 percent of the average house sales price. The estimated sales price differentials are comparable to the present value of future flood insurance costs and the risk premiums for uninsured damages.

For houses located in the floodplain, the price differentials due to the flood risk should be close to the sum of the capitalized costs of flood insurance premiums and the non-insurable costs. The sales differentials from this study were greater than the capitalized cost of the flood insurance premiums for the three hypothetical houses, implying that there exist substantial non-insurable costs perceived by house purchasers.

There are some limitations of the method used in this study. The estimates from this study do not represent the willing to pay to avoid the flood risks for businesses, renters, and visitors since we focused on single-family residential property sales transactions only. Also, this study utilizes the data from a limited area. The results are site-specific, thus the estimates here may not readily address how floodplains affect residential property values in other areas. Nonetheless, we believe that the results from this study are quite general given that the study area is representative to most geographic regions with substantial floodplains.

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TABLE I

Variables of the Hedonic Property Price Model

Variable	Description
PRICE	House sales price in thousand dollars adjusted to a June 2002 level
TOTSQFT	Total structure square footage
AGE	Year house was built subtracted from 2002
BEDRM	Number of bedrooms
BATHRM	Number of bathrooms
GASHEAT	Dummy variable for gas heating (1 if gas heating, 0 otherwise)
FCBRICK	Dummy variable for face brick (1 if face brick, 0 otherwise)
FIREPLC	Dummy variable for fireplace (1 if fireplace, 0 otherwise)
HWFLOOR	Dummy variable for hard wood floor (1 if hard wood floor, 0 otherwise)
QUALITY	Dummy variable for good quality (1 if good quality, 0 otherwise)
VACANT	Dummy variable for vacant house (1 if vacant house, 0 otherwise)
FLOOD	Dummy variable for house within floodplain (1 if floodplain, 0 otherwise)
AIRPORT	Distance in thousand feet to the Pitt-Greenville Airport
CREEK	Distance in thousand feet to nearest creek or stream
CENTER	Distance in thousand feet to nearest business center
RAILRD	Distance in thousand feet to nearest railroad
RIVER	Distance in thousand feet to the Tar River
TRAFFIC	Distance in thousand feet to major roads and streets

TABLE II

Summary Statistics of the Variables

Variable	Mean	Std. Dev.	Minimum	Maximum
PRICE	137.415	75.796	15.061	722.018
TOTSQFT	2,380.010	977.368	681.000	8,110.000
AGE	19.565	19.125	0.000	122.000
BEDRM	3.168	0.577	1.000	6.000
BATHRM	2.103	0.619	1.000	5.500
GASHEAT	0.443	0.497	0.000	1.000
FCBRICK	0.419	0.494	0.000	1.000
FIREPLC	0.823	0.382	0.000	1.000
HWFLOOR	0.227	0.419	0.000	1.000
QUALITY	0.040	0.195	0.000	1.000
VACANT	0.004	0.061	0.000	1.000
FLOOD	0.065	0.246	0.000	1.000
AIRPORT	32.442	15.931	2.841	101.788
CREEK	0.857	0.609	0.001	4.393
CENTER	4.551	2.267	0.140	18.716
RAILRD	4.987	5.346	0.088	54.385
RIVER	19.788	16.067	0.053	91.224
TRAFFIC	0.142	0.116	0.002	1.635

Note: Number of observations equal 5,122.

TABLE III

Box-Cox Estimation Results of the Hedonic Price Function
[Dependent Variable = $(Price^{\lambda}-1)/\lambda$]

Variable	Coefficient	Standard Error	Marginal Effect	Elasticity
CONSTANT	10.218	0.392	127.249	0.997
TOTSQFT	0.003[a]	0.0002	0.040	0.748
AGE	-0.093[a]	0.005	-1.160	-0.178
BEDRM	0.190[a]	0.064	2.366	0.059
BATHRM	1.205[a]	0.103	15.012	0.247
GASHEAT	0.592[a]	0.074	7.378	0.026
FCBRICK	0.502[a]	0.068	6.254	0.021
FIREPLC	1.232[a]	0.096	15.344	0.099
HWFLOOR	0.292[a]	0.078	3.640	0.007
QUALITY	2.200[a]	0.233	27.395	0.009
VACANT	-4.540[a]	0.515	-56.540	-0.002
FLOOD	-0.680[a]	0.123	-8.472	-0.004
$(AIRPORT^{\lambda}-1)/\lambda$	-0.114[a]	0.020	-0.232	-0.059
$(CREEK^{\lambda}-1)/\lambda$	0.026	0.043	0.356	0.002
$(CENTER^{\lambda}-1)/\lambda$	0.081[a]	0.028	0.459	0.016
$(RAILRD^{\lambda}-1)/\lambda$	0.029[c]	0.016	0.157	0.006
$(RIVER^{\lambda}-1)/\lambda$	-0.035[b]	0.014	-0.092	-0.014
$(TRAFFIC^{\lambda}-1)/\lambda$	0.390[a]	0.141	13.421	0.015
Sigma-sq (σ^2)	3.794	0.440		
Lambda (λ)	0.480	0.012		
Log-likelihood				-23,416.751
Likelihood ratio test statistic for linear functional form				1,800.128
Likelihood ratio test statistic for loglinear functional form				1,508.410

Notes: Number of observations equal 5,122. Marginal effects and elasticities are evaluated at the sample means. Superscript [a], [b], and [c] denote significance at the 99, 95, and 90 percent levels, respectively.

TABLE IV

Insurance Premiums and Estimated Price Differentials for Three Representative Houses In/Out of the Floodplain

Type of Houses	Flood Insurance Premium	Predicted Price Differential
Below Average House ($50,000)	$239/year	$5,008
Average House ($125,000)	$299/year	$8,255
Above Average House ($225,000)	$379/year	$11,265

Notes: Flood insurance premium estimates are based on the post Flood Insurance Rate Maps (FIRM) for single-family homes with estimated base flood elevation of 2 feet or more. Premiums include the increased cost of compliance (ICC) of $6 and federal policy fee of $80. An average house is assumed to have TOTSQFT = 2,500, AGE = 20, BEDRM = 3, BATHRM = 2, GASHEAT = 0, FCBRICK = 0, FIREPLC = 1, HWFLOOR = 0, and the distances at their sample means. A below average house is assumed to have TOTSQFT = 1,500, AGE = 40, BEDRM = 2, BATHRM = 1, GASHEAT = 0, FCBRICK = 0, FIREPLC = 0, HWFLOOR = 0, and the distances at their sample means. An above average house is assumed to have TOTSQFT = 3,500, AGE = 10, BEDRM = 4, BATHRM = 3, GASHEAT = 1, FCBRICK = 1, FIREPLC = 1, HWFLOOR = 1, and the distances at their sample means.

TABLE V

Comparison Between House Price Differentials and the Present Value of Flood Insurance Payments

Type of Houses	Present Value of Insurance Premium Under Various Discount Rates			Predicted Price Differential
	4%	6%	8%	
Below Average House ($50,000)	$5,975	$3,983	$2,988	$5,008
Average House ($125,000)	$7,475	$4,983	$3,738	$8,255
Above Average House ($225,000)	$9,475	$6,317	$4,738	$11,265