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INDEXING THE COST OF PRODUCING HOUSING SERVICES IN SITE II, 1974-77

Charles W. Noland

HOUSING ASSISTANCE SUPPLY EXPERIMENT

A RAND NOTE

This Note was prepared for the Office of Policy Development and Research, U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT, under Contract No. H-1789. Its views and conclusions do not necessarily reflect the opinions or policies of the sponsoring agency.

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PREFACE

This note was prepared for the Office of Policy Development and Research, U.S. Department of Housing and Urban Development (HUD). It reports on a continuing task of the Housing Assistance Supply Experiment (HASE): indexing the cost of producing housing services in Brown County, Wisconsin; St. Joseph County, Indiana; and the five-state region that contains both counties.

Each county is the site of an experimental housing allowance program that may affect local demand for housing services. To measure market response to the allowance program requires production cost indexes for both sites and the region.

This note presents 1976 and 1977 price and index data for St. Joseph County (Site II of the Supply Experiment) and the region. For the index components it gives price relatives or indexes covering the entire experimental period in Site II (1974-77), thus providing the basic data an analyst would need to construct an index of the cost of producing housing services.*

The data were compiled by the author, with advice from members of the HASE research groups. Doris Dong prepared the figure. Jane Abelson edited the final draft and supervised its production. Karen J. Stewart and Dolores Davis typed the final copy.

This note was prepared pursuant to HUD Contract H-1789, Task 2.10.1.

*In most instances, data used to construct the index prior to 1976 are not included in this note but are available from the earlier publications in the series (see Noland, 1981a and 1981b). The first of these two presents the theoretical background for the cost indexes.

SUMMARY

Various factors of production combine to form an annual flow of housing services. The Housing Assistance Supply Experiment intends to measure the annual real factor costs as well as background inflation (not caused by any events in the experimental sites) and locally caused inflation in factor costs. An index of the cost of producing housing services is prerequisite to such calculations.

Index and *cost index* both designate the same set of annual index numbers: local and regional indexes for each major group of production factors. We calculate cost indexes for interest rates, land, improvements, property services, maintenance and repair, and property taxes. Local indexes measure inflation rates in the experimental sites and are used to deflate actual factor costs to obtain real costs. Regional indexes estimate background inflation. The difference between the local and regional indexes is an approximate measure of program-induced inflation, attributable to the increased demand for housing caused by the allowance program.

This note provides data necessary to construct the two most common types of index--Laspeyres and Paasche--for each major factor group. Both indexes are ratios of quantity-weighted component prices at the beginning and end of the index period. The Laspeyres index uses initial quantities; the Paasche, terminal.

Alternatively, both indexes can be formulated as expenditure-weighted price relatives. The expenditure weight for a production factor is the proportion of total cost attributable to it. The Laspeyres index is the sum of initial expenditure-weighted price relatives, and the Paasche uses terminal expenditure weights.

Measuring program-induced inflation will require comparing indexes for each experimental site with similar indexes for the five-state region--Illinois, Indiana, Michigan, Ohio, and Wisconsin--that contains both sites. The price relatives and indexes for the experimental period

in St. Joseph County, Indiana (1974-77) presented here can be weighted with the appropriate expenditure data to construct an index of local inflation (either Laspeyres or Paasche). Similarly, the regional population-weighted relatives and indexes can be used to construct a first approximation to the inflation rate that would have prevailed without the experiment or any other local disturbance (background inflation).

Since the average regional price changes estimate variations in our sites in the absence of both random errors and local demand disturbances (including but not limited to the allowance program), the regional index only approximates background inflation for the site. The difference between the local and regional indexes, then, only approximates the rate of program-induced inflation.

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I. INTRODUCTION

This note presents the component price relatives and indexes necessary to construct local and regional housing service cost indexes for 1974-77 in St. Joseph County, Indiana, Site II of the Housing Assistance Supply Experiment (HASE).* Three related but separate steps in measuring the supply elasticity of housing services require such cost indexes.

First, we use annual factor costs in constant dollars to estimate the quantity of housing services produced.** The percentage change in the real value of production factors equals the percentage change in their quantity. Assuming that the quantity of output is proportional to the quantity of input, the percentage change in output equals the percentage change in input. Given the real value of annual factor costs, we can thus calculate the percentage change in the quantity of housing services produced.

Second, we disaggregate observed rent variations into changes in producer markup, the quantity of housing services, and the cost of producing housing services. The last component is provided by our housing service production cost index.

Third, we want to measure *program-induced inflation*--price increases purely attributable to the increased demand for housing because of the allowance program. The difference between the actual inflation rate in the experimental site *(local inflation)* and the rate that would have prevailed there without the experiment is program-induced inflation. Unfortunately, we can measure only *background inflation*--price increases that would have occurred in the absence of *all* local

---

*Two previous notes reported 1974 (baseline) and 1975 sources and data for the construction of housing service cost indexes in St. Joseph County: Noland (1981a and 1981b). The first note describes the theoretical background and components of the cost indexes.

**This method of analysis is detailed in Lowry (1980), pp. 246-64.

events affecting prices. A regional cost index, similar to those constructed for each site, estimates background inflation. The difference between the local and regional indexes is a first approximation to program-induced inflation.

These three steps will disaggregate the differences in rents from year to year into four additive components:

- Change in the quantity of housing services produced.
- Background inflation in factor prices.
- Local inflation in factor prices.
- Change in producer markup.

COMPONENTS OF THE INDEX

The first two steps determine which components are indexed. Together, the plans for the production factor accounting and production function analysis define seven input cost categories: (1) opportunity cost of land and improvements, (2) cost of land, (3) cost of improvements, (4) cost of additions to improvements,* (5) cost of property services, (6) cost of maintenance and repair, and (7) property taxes.** We either use existing indexes or construct our own for each category.

The opportunity cost of residential land and improvements is the effective market rate of interest on conventional residential mortgages multiplied by the base-year value of residential real estate.***

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*_Improvements_ are any structures on the property at baseline. _Additions to improvements_ are any additions made to those structures after baseline.

**Our earlier notes called for indexing only six components. More recently, we have identified property taxes as an additional index component.

***Changes in the mortgage interest rate are relevant only in discussions of equity yield. Since completion of the theory presented in Lowry (1960), therefore, we have developed an alternative theory that the opportunity cost of capital equals the annual real rate of return times capital value (elaborated in Rydell, 1976, pp. 21-29). The new approach simply requires an estimate of the (presumably constant) real rate of return to property value.

Although the effective market rate may be higher or lower than the mortgage rate actually paid, it measures what an investor must pay for the use of residential land and improvements, i.e., their opportunity cost. Section II presents interest rate data.

Changes in the value of residential land will be indexed by the national rate of growth in consumer prices, modified within the experimental site by a model of the effects of differential changes in neighborhood amenities. This note analyzes only the general element of the index, the national inflation rate, reported in Sec. III.

Changes in the value of existing improvements will be measured with an index of residential construction costs. The procedure assumes a long-term equilibrium in the housing market such that existing improvements are valued at their replacement cost. Section IV presents the data for this component. We should stress that neither the land value index nor the construction cost index is a true measure of the change in market value for specific properties. Rather, each is a benchmark against which the significance of actual changes can be assessed.

Because additions to improvements are a small portion of annual factor costs, changes in their costs affect total factor costs very little. We estimate that a 10-percent increase in the cost of such additions causes an overall increase in factor costs of only 0.46 to 0.54 percent.* Because our results are so insensitive to such changes, we need not construct an index that measures changes in the specific costs of rehabilitating or altering residential structures. Instead, we measure inflation for this component with the same general index of residential construction costs used to measure improvement cost inflation.

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*The underlying assumptions and supporting calculations appear in Lowry (1980), pp. 276-279.

Property services are indexed using wages, costs of utilities, and insurance rates, for which data appear in Sec. V. Price relatives for these components are weighted by relative expenditures to form the index. A similar procedure is followed for maintenance and repair costs, a category including wages, supply prices, and repair costs, for which data appear in Sec. VI. Appendix D shows expenditure weights for the components and uses them to index maintenance and replacement costs and capital addition costs for both rental and homeowner units.

We use actual property tax bills for properties with no significant physical changes to index property taxes. The procedure and index are described in Sec. VII.

FORMULATING THE INDEX

The cost index comprises several indexes, one each for the seven input categories described above. Every index is calculated as the sum of the component price relatives,* each weighted according to its proportion of total expenditures. Weighting with baseline expenditures yields a Laspeyres index:

$$\lambda = \sum_i \left(E_{i1} \frac{P_{it}}{P_{i1}} \right) ,$$

where i = the component,

1 = baseline,

t = the current period,

E_{i1} = the baseline expenditure weight for component i,

P_{i1}, P_{it} = the baseline and current prices of component i.

*Price refers either to the price of a commodity or service or to the wage rate for labor. A *price relative* is the ratio of prices for the same item at two times. In practice, we sometimes approximate price relatives with index numbers for components.

On the other hand, using current expenditure weights and the inverse of the above price relatives, a Paasche index can be constructed as follows:

$$\phi = \left[\sum_i \left(E_{it} \frac{P_{i1}}{P_{it}} \right) \right]^{-1}$$

Either equation yields a regional index if we use regional prices--the mean of the price distribution for each item throughout the region--for P_{i1} and P_{it}. The maximum likelihood estimator of the mean is the population-weighted average of the prices for cities in the region, if two assumptions hold: (1) The prices are all from the same normally distributed population, and (2) the number of observations used to estimate the average price for a city is proportional to its population. This note reports regional indexes calculated in the same manner by either HASE staff or the U.S. Bureau of Labor Statistics (BLS).

The regional indexes only estimate background inflation because the regional prices are estimates of the price-distribution means. Even if we could measure the means exactly, the resulting index would measure inflation in the absence of all local demand stimuli, not just the allowance program. Thus, the difference between our local and regional indexes only approximates program-induced inflation.

CHOOSING THE REGION

We sought a region that included the two HASE experimental sites, was large enough to be unaffected by either, and could be considered a single economic unit. We combined seven major trading areas* in the east north-central United States to form a region

*As defined by the *1972 Commercial Atlas and Marketing Guide* of such factors as "physiography, population, newspaper circulation, economic activities, highway facilities, railroad services, suburban transportation, and field reports of experienced sales analysts" (p. 65).

that met these requirements. Because the combined seven trading areas nearly coincided with the five-state area including Illinois, Indiana, Michigan, Ohio, and Wisconsin,* we defined the entire five-state area (shown in the figure) as the region of interest for cost indexing.

Regional data collection has been constrained by the geographic coverage of the available sources, whose areas do not always coincide with each other or with our defined region. This note carefully documents the areas or cities covered by each source.

We index standard metropolitan statistical areas (SMSA) whose central cities are within the five states, even if their boundaries lie partly outside the region. The figure shows the full set of such SMSAs. We collect data and calculate average prices only for those included in our sources.

Some sources provide regional indexes, whereas others give price data for a subset of all SMSAs within our region. From the latter we calculate regional prices using the 1976 population estimates for SMSAs compiled by the Census Bureau.

Table 1 lists all SMSAs shown in the figure except Green Bay and South Bend, and presents population estimates as of 1 July 1976 and 1 July 1977. Data for our two experimental sites are not included in the weighted regional averages. We are estimating what prices in those two SMSAs would be without the allowance program and do not want actual prices, which the program may influence, to affect the estimate.

COMPILING THE DATA

The remainder of this note provides the component prices and indexes for both St. Joseph County and the entire region. It also summarizes the data presented in previous notes as well as listing the 1976 and 1977 price relatives and indexes (with 1974 = 100) for each index component. The final index depends on expenditure weights obtained from

*Lowry (1980), p. 290, compares the boundaries of the trading areas and the five-state region.

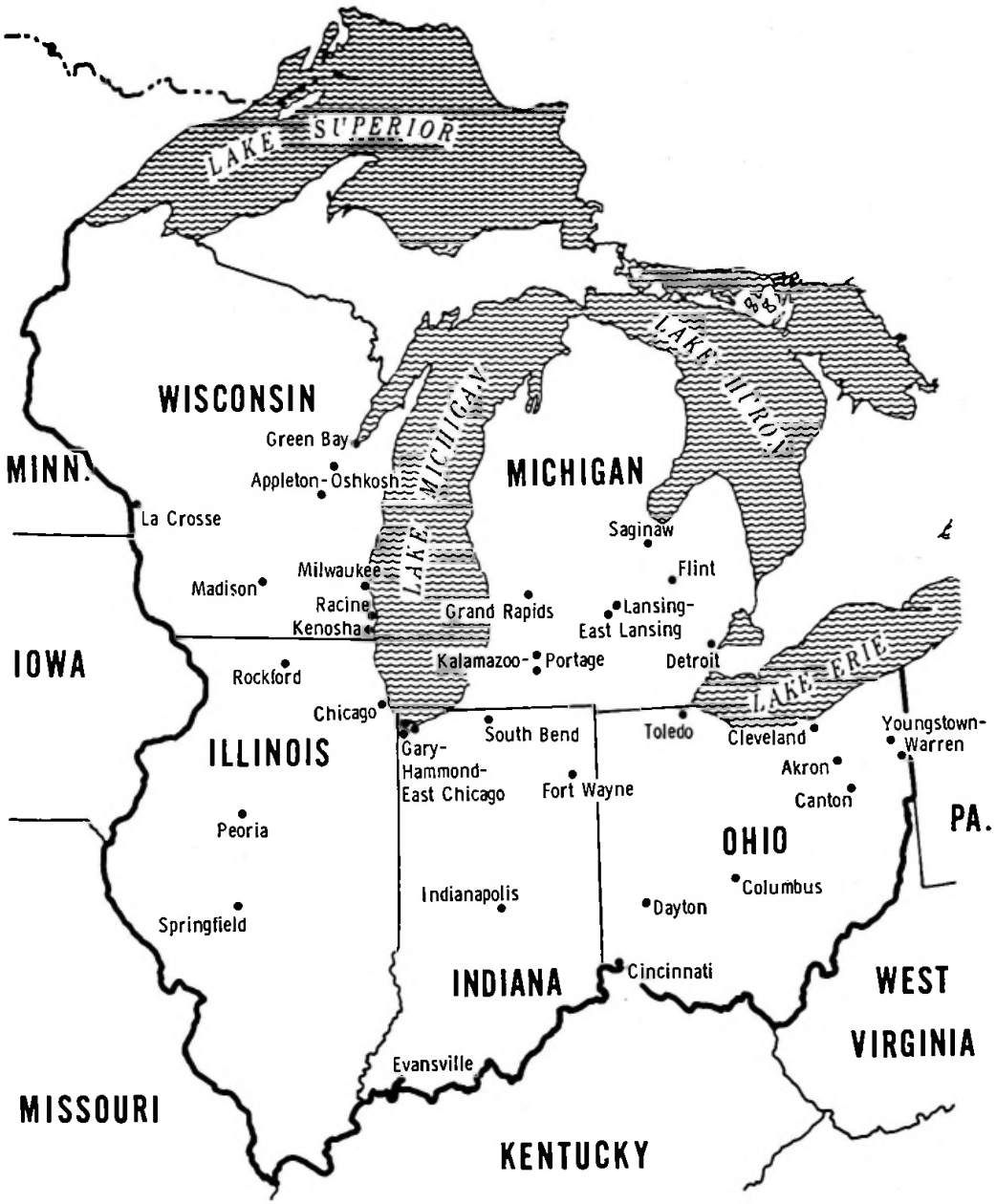

Figure--States and relevant SMSAs in the cost index region

HASE surveys. Each analyst needing cost indexes must compile a unique set of expenditure weights that will depend on the population being analyzed. Such weights, together with the data presented here, will permit construction of regional and local housing service cost indexes for 1975, 1976, and 1977.

Consistent with our procedure for compiling the earlier data, we have sought price data for the midpoints of 1976 and 1977 or as near thereto as our sources permit. The reference date for each price is given as precisely as the source reports it.

Table 1

ESTIMATED SMSA POPULATIONS IN THE FIVE-STATE REGION, 1 JULY 1976 AND 1 JULY 1977

SMSA	Population 1976	Population 1977	SMSA	Population 1976	Population 1977
Illinois			*Ohio*		
Chicago	6,997,400	7,023,600	Akron	665,200	659,100
Peoria	356,800	357,500	Canton	401,000	401,800
Rockford	268,500	268,300	Cincinnati	1,375,500	1,379,200
Springfield	184,000	184,800	Cleveland	1,957,700	1,946,000
Indiana			Columbus	1,073,500	1,078,800
Evansville	287,700	291,500	Dayton	835,900	831,400
Fort Wayne	371,200	373,400	Toledo	773,600	644,400
Gary-Hammond-East Chicago	643,800	645,800	Youngstown-Warren	540,400	542,200
Indianapolis	1,139,500	1,148,100	*Wisconsin*		
Michigan			Appleton-Oshkosh	285,800	288,500
Detroit	4,387,500	4,381,900	Kenosha	123,300	122,700
Flint	515,700	518,200	La Crosse	85,500	88,200
Grand Rapids	570,000	577,600	Madison	309,200	312,900
Kalamazoo-Portage	265,000	267,300	Milwaukee	1,419,300	1,418,300
Lansing-East Lansing	448,500	451,500	Racine	176,200	176,200
Saginaw	226,600	227,400			

SOURCES: U.S. Bureau of the Census, *Current Population Reports*, Series P-26, Nos. 77-13, 77-14, 77-17, 77-22, 77-35, 77-49, 78-13, 78-14, 78-17, 78-22, 78-35, and 78-49, U.S. Government Printing Office, Washington, D.C., September 1978-November 1979.

II. INDEX OF OPPORTUNITY COST

Changes in interest rates index the opportunity cost of residential land and improvements. That cost is the effective market rate of interest on conventional residential first mortgages multiplied by the base-year value of residential real estate. For both the local and background indexes, we use effective rates obtained from surveys of major lending institutions. A borrower actually pays the effective interest rate, which takes into account the contract rate specified by the mortgage, initial fees and points, and the term and life of the mortgage. A lender can change the effective rate without altering the contract rate by varying either the points or the term. We want to capture all such changes in the effective borrowing rate.

Residential mortgage data are published monthly in the Federal Home Loan Bank Board (FHLBB) *News*, a series that covers fully amortized, conventional first-mortgage loans for purchasing new or previously occupied single-family homes. Lenders who originated approximately 90 percent of all conventional home mortgages in 1972 are surveyed.* The published data cover three SMSAs in our region: Chicago, Cleveland, and Detroit. Table 2 presents the effective interest rates and population-weighted averages for July 1974, 1975, 1976, and 1977 in the three metropolitan areas.

We obtain comparable St. Joseph County data from mortgage lenders interviewed as part of the HASE market intermediaries study. Table 3 reports the July 1976 and July 1977 rates and supporting data for the five responding institutions. Weighting each institution's effective rate by its proportion of the total dollar volume of mortgages written, we obtain the average St. Joseph County effective interest rate for residential first mortgages. Table 4 summarizes the 1974-77 regional and local interest rate data, together with the opportunity cost indexes.

*Appendix A describes the FHLBB survey and its contents.

Table 2

REGIONAL MORTGAGE INTEREST RATES, 1974-77

SMSA	Effective Interest Rate (%)[a]			
	July 1974	July 1975	July 1976	July 1977
Chicago	8.38	9.00	8.96	8.82
Cleveland	8.60	8.86	8.85	8.84
Detroit	8.86	8.88	8.93	8.90
Weighted average[b]	8.57	8.94	8.93	8.85

SOURCES: Federal Home Loan Bank Board, *News*, September 1974, September 1975, September 1976, and September 1977.

[a]Includes points and term for first mortgages, assuming a 10-year mortgage life. Rates for new previously occupied homes are averaged.

[b]Weighted by SMSA populations estimated for July of each year.

Table 3

MORTGAGE DATA FOR MAJOR LENDERS IN ST. JOSEPH COUNTY, INDIANA, 1976-77

Date and Lender[a]	Contract Interest Rate (%)	Points	Term (years)	Volume of Mortgages Written[b] ($ million)	Effective Interest Rate[c] (%)
July 1976					
A	9.75	0	25	15.00	9.75
B	9.00	0	22	10.00	9.00
C	8.75	1	20	5.50	8.92
D	8.25	0	25	2.84	8.25
E	8.50	3	30	14.50	8.99
July 1977					
A	9.00	1	25	15.00	9.17
B	9.00	0	22	15.00	9.00
C	9.00	1	20	7.01	9.17
D	9.25	0	30	2.70	9.25
E	8.50	4	30	18.30	9.15

SOURCE: Interviews conducted by Rand staff in 1979 and 1980.

NOTE: Data are for residential first mortgages written during July of each year for 1- to 4-unit structures.

[a]Names of financial institutions, on file at Rand, are available only for future survey purposes.

[b]Volume of mortgages (defined in the note above) written during the entire year.

[c]Including points and term and assuming a ten-year mortgage life.

Table 4

REGIONAL AND LOCAL MORTGAGE INTEREST RATES AND OPPORTUNITY COST INDEXES, 1974-77

Item	Region	St. Joseph County
Effective interest rate:[a] (%)		
July 1974	8.57	9.61
July 1975	8.94	9.44
July 1976	8.93	9.18
July 1977	8.85	9.12
Opportunity cost index:		
1974	100.0	100.0
1975	104.3	98.2
1976	104.2	95.5
1977	103.3	94.9

SOURCES: Charles W. Noland, *Indexing the Cost of Producing Housing Services in Site II, 1974-75*, The Rand Corporation, N-1130-HUD, May 1981, Table 4; and Tables 2 and 3 above.

[a]Includes points and term for first mortgages, assuming a 10-year mortgage life.

III. INDEX OF LAND COST

Land is a factor in the production of housing, so if its price increases, the price of housing will rise correspondingly. The allowance program may induce changes in land prices. For example, allowance recipients' attempts to obtain housing in a preferred neighborhood could cause a localized increase in land prices. Most changes in land prices should, however, arise from nonallowance stimuli: better roads, new schools, new shopping centers, general price inflation. Because neighborhoods change slowly, the most important stimulus of land price change during the experiment will be changes in the general value of the dollar, which we measure with the consumer price index (CPI).

We plan to use the CPI, modified by a function whose independent variables are neighborhood characteristics, to estimate changes in neighborhood land value. We will check the CPI's validity as the general inflator for land value by doing cross-sectional studies similar to that done at baseline. The CPI value for July 1974 is 148.3; for July 1975, 162.3; for July 1976, 171.1; and for July 1977, 181.8.* The rebased indexes (July 1974 = 100) are 109.4, 115.4, and 122.6 for 1975, 1976, and 1977, respectively.

The local index will be constructed from annual estimates of Brown County land prices. Because the procedure** uses no outside data, none are reported here. Actual land prices will be published separately.

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*U.S. Bureau of Labor Statistics, *CPI Detailed Report* (1974, p. 7; 1975, p. 8; 1976, p. 7; 1977, p. 7). These figures are the unadjusted indexes (1967 = 100) for all items, U.S. city average.

**Described in Rydell (1979), pp. 24-26, and more briefly in Noland (1981a), p. 20.

IV. INDEX OF IMPROVEMENT COST

Improvement cost is indexed using American Appraisal Associates' Boeckh building cost modifiers for residential structures of siding or stucco. The modifiers are Laspeyres indexes with expenditure weights calculated from baseline cost studies of standard building types. The weights reflect factor shares and construction costs generally encountered in the east north-central United States in 1967, the baseline period for the modifiers. At that time, the index for Milwaukee was set to 1.00, and the index for any other city reflected the baseline cost of the standard building type in that city divided by its cost in Milwaukee. The modifiers are thus geographic indexes also.

Excluding our two sites, American Appraisal publishes modifiers for 27 SMSAs in our cost index region. Table 5 presents the 1976 and 1977 modifiers for those cities and the unweighted regional average, which is used to construct the regional index.*

The modifiers for South Bend are used to index local improvement costs. Table 6 presents the data used to calculate the 1974-77 improvement cost indexes, together with the regional and local indexes.

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*The methodology and derivation of this procedure are described in Noland (1981a), pp. 47-53.

Table 5

BOECKH MODIFIERS FOR SMSAs IN THE COST INDEX REGION, JULY-AUGUST 1976 AND JULY-AUGUST 1977

SMSA	Boeckh Modifier for Residential Construction[a] 1976	1977	SMSA	Boeckh Modifier for Residential Construction[a] 1976	1977
Illinois			*Ohio*		
Chicago	2.04	2.24	Akron	2.04	2.18
Peoria	1.97	2.22	Cincinnati	2.04	2.17
Rockford	1.95	2.13	Cleveland	2.11	2.34
Springfield	1.84	2.16	Columbus	1.94	2.10
Indiana			Dayton	2.01	2.16
Evansville	1.87	2.08	Toledo	2.15	2.27
Fort Wayne	1.87	2.03	Youngstown-Warren[b]	1.99	2.17
Gary-Hammond-East Chicago[b]	2.00	2.19	*Wisconsin*		
Indianapolis	1.92	2.11	Appleton-Oshkosh[b]	1.81	1.99
Michigan			Kenosha	1.97	2.12
Detroit	2.11	2.39	La Crosse	1.82	2.00
Flint	1.93	2.13	Madison	1.88	2.04
Grand Rapids	1.85	2.02	Milwaukee	1.97	2.21
Kalamazoo-Portage[b]	1.90	2.08	Racine	1.93	2.11
Lansing-East Lansing[b]	1.97	2.14	Unweighted Average	1.96	2.14
Saginaw	1.94	2.13			

SOURCE: American Appraisal Associates, *Boeckh Building Cost Modifier*, Pub. 9, No. 4, July-August 1976, and Pub. 10, No. 4, July-August 1977.

NOTE: 1967 = 1.00 in Milwaukee, Wisconsin.

[a] Siding or stucco exteriors.

[b] The source used only one city's name to designate the SMSA.

Table 6

REGIONAL AND LOCAL BOECKH MODIFIERS AND IMPROVEMENT COST INDEXES, 1974-77

Item	Region	St. Joseph County
Boeckh modifier:		
July-August 1974	1.72	1.68
July-August 1975	1.80	1.74
July-August 1976	1.96	1.90
July-August 1977	2.14	2.04
Improvement cost index:		
1974	100.0	100.0
1975	104.7	103.6
1976	114.0	113.1
1977	124.4	121.4

SOURCES: American Appraisal Associates, *Boeckh Building Cost Modifier*, Pub. 9, No. 4, July-August 1976, and Pub. 10, No. 4, July-August 1977; Charles W. Noland, *Indexing the Cost of Producing Housing Services in Site II, 1974-75*, N-1130-HUD, May 1981, Table 6; and Table 5 above.

V. INDEX OF PROPERTY SERVICE COST

The property service cost index has three components: costs of employees, costs of utilities, and insurance rates. The price relative or index for each component can be weighted by its share of the baseline cost of services calculated from HASE surveys. Summing the expenditure-weighted price relatives yields the property service cost index.

EMPLOYEES

Most employees who provide services for residential properties in St. Joseph County are either managers or janitors. Area Wage Survey (AWS) publications provide data for (1) janitors, porters, and cleaners, and (2) office and clerical workers. Changes in the wage rates for those two categories, weighted equally, form the employee component of the property service cost index.

Table 7 presents 1976 and 1977 regional wage rates for the two occupational groups by SMSA. Table 8 summarizes the 1974-77 regional and local wage rates, together with their 1975, 1976, and 1977 price relatives. Weighting the relatives equally, and then averaging them, yields the regional and local indexes for the employee cost component of the property service cost index.

UTILITIES

The Federal Power Commission (FPC) annually publishes typical residential electric bills for all U.S. cities with at least 2,500 residents. The bills are computed for various consumption levels, using rate schedules applicable to the majority of each area's customers. We index the cost of 500 kWh monthly, a level that is close to the average monthly usage level of 487 kWh during 1974 in the east

Table 7

WAGE RATES FOR SMSAs IN THE COST INDEX REGION, 1976-77

SMSA	Month of Publication		Janitors, Porters, and Cleaners[a] ($/hr)		Office and Clerical Workers[b] ($/wk)	
	1976	1977	1976	1977	1976	1977
Illinois						
Chicago	May	May	4.56	4.87	174.71	187.76
Indiana						
Indianapolis	October	October	4.71	5.36	165.91	172.66
Michigan						
Detroit	March	March	5.85	6.37	194.59	209.30
Ohio						
Akron	December	December	5.49	5.97	181.28	195.36
Canton	May	May	4.63	4.99	158.80	172.76
Cincinnati	March	July	4.57	5.06	158.29	172.02
Cleveland	September	September	5.08	5.63	169.87	181.18
Columbus	October	October	4.55	5.00	158.08	169.37
Dayton	December	December	5.27	5.69	168.01	176.07
Toledo	May	May	5.20	5.62	173.41	184.72
Wisconsin						
Milwaukee	April	April	4.94	5.28	161.75	175.38
Weighted regional average	--	--	4.99	5.42	174.72	187.40

SOURCES: U.S. Bureau of Labor Statistics, *Area Wage Survey*, U.S. Government Printing Office, Washington, D.C., 1976 and 1977 (specific sources listed in Appendix B).

[a]Mean wage rate for men and women in establishments of all sizes in manufacturing industries (from Table A-5 of the sources).

[b]Weighted average of mean wage rates for men and women (all sizes of establishments in all industries) in 13 occupational groups from Table A-1 of the sources: (1) accounting clerks, class A; (2) accounting clerks, class B; (3) file clerks, class B; (4) order clerks; (5) payroll clerks; (6) keypunch operators, class A; (7) keypunch operators, class B; (8) secretaries; (9) general stenographers; (10) senior stenographers; (11) switchboard operator-receptionists; (12) typists, class A; (13) typists, class B. Wages for each category were weighted by the number of workers in the category.

Table 8

EMPLOYEE COMPONENT OF THE PROPERTY SERVICE COST INDEX: REGIONAL AND LOCAL WAGE RATES AND INDEXES, 1974-77

Item	Region	St. Joseph County
1974 Wage Rate		
Janitors, porters, and cleaners[a]	4.15	3.91
Office and clerical workers[b]	150.63	127.73
1975 Wage Rate		
Janitors, porters, and cleaners[a]	4.60	4.15
Office and clerical workers[b]	164.34	136.96
1976 Wage Rate		
Janitors, porters, and cleaners[a]	4.99	4.45
Office and clerical workers[b]	174.72	151.21
1977 Wage Rate		
Janitors, porters, and cleaners[a]	5.42	5.33
Office and clerical workers[b]	187.40	173.84
1975 Employee Cost Index[c]		
Janitors, porters, and cleaners	110.8	106.1
Office and clerical workers	109.1	107.2
Average	110.0	106.6
1976 Employee Cost Index[c]		
Janitors, porters, and cleaners	120.2	113.8
Office and clerical workers	116.0	118.4
Average	118.1	116.1
1977 Employee Cost Index[c]		
Janitors, porters, and cleaners	130.6	136.3
Office and clerical workers	124.4	136.1
Average	127.5	136.2

SOURCES: U.S. Bureau of Labor Statistics, *Area Wage Survey*, U.S. Government Printing Office, Washington, D.C., Bulletin 1900-5, March 1976, Tables A-1 and A-5, and Bulletin 1950-51, August 1977, Tables A-1 and A-5; Charles W. Noland, *Indexing the Cost of Producing Housing Services in Site II, 1974-75*, The Rand Corporation, N-1130-HUD, May 1981, Table 8; and Table 7 above.

[a]Dollars per hour.

[b]Dollars per week.

[c]For the region, 1974 = 100; for St. Joseph County, March 1974 = 100.

north-central United States (Federal Power Commission, 1975, p. 169).* For January 1976, the typical residential bill for 500 kWh of electricity was $16.91 in that region and $15.33 in St. Joseph County (Federal Power Commission, 1976, pp. xii and 401). The January 1977 figures are $18.83 for the region and $15.97 for South Bend (Federal Power Commission, 1977, pp. xii and 38).

The BLS bases its annual index for the Region V** CPI gas component on a sampling of three typical gas bills for each city in which the BLS collects gas rate data. With July 1972 as the base, the July 1976 and July 1977 indexes are 167.5 and 205.4, respectively. Locally, we calculate the cost of 110.42 therms of residential gas monthly, the average east north-central U.S. household consumption level in 1970 (Anderson, 1973, p. 53).*** Table 9 gives the 1976 and 1977 rates for the predominant type of residential gas service in St. Joseph County. Applying those rates to the average consumption figure of 110.42 therms monthly yields a typical residential gas bill of $20.88 for July 1976 and $24.32 for July 1977.

The BLS bases its annual index for the Region V CPI fuel oil component on the price of fuel oil No. 2, sampling outlets in 10 metropolitan areas. With July 1972 as the base, the 1976 and 1977 indexes are 213.5 and 248.6, respectively. Table 10 lists the 1976 and 1977 retail prices of fuel oil No. 2 at 12 St. Joseph County outlets. The average price per gallon was $.38 in July 1976 and $.46 in July 1977. Table 11 summarizes 1974-77 utility data and the 1975, 1976, and 1977 utility cost indexes for the region and St. Joseph County.

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*The FPC's east north-central U.S. region comprises the same five states as our cost index region.

**BLS Region V includes Minnesota in addition to the five states comprising our region.

***The consumption figures in that publication are for the entire United States. The figures in the present analysis are for the FPC's east north-central region, calculated from the primary data compiled for Anderson's study.

Table 9

RATE SCHEDULE FOR RESIDENTIAL GAS SERVICE IN ST. JOSEPH COUNTY, INDIANA, 1976-77

Quantity Consumed (therms)	Price ($/therm)	
	1976	1977
First 10	.3631	.3942
Next 40	.2003	.2314
All additional	.1529	.1840

SOURCE: Compiled by Rand site office and housing allowance office staff, South Bend, Indiana.

NOTE: Rates are for Northern Indiana Public Service Company residential gas service (Rate 11). The prices are those in effect on 1 July of each year, including purchased gas adjustment factors of $.0317 and $.0628 per therm in 1976 and 1977, respectively.

Table 10

RETAIL PRICES OF FUEL OIL NO. 2 AT SELECTED OUTLETS IN ST. JOSEPH COUNTY, INDIANA, 1976-77

Outlet	Price ($/gallon)		Outlet	Price ($/gallon)	
	1976	1977		1976	1977
A	.357	.439	H	.369	.449
B	.378	.519	I	.409	.454
C	.374	.449	J	.377	.449
D	.369	(a)	K	.376	.455
E	.384	.459	L	.369	.459
F	.378	.459			
G	.378	(a)	Average	.376	.459

SOURCE: Compiled by Rand site office staff, South Bend, Indiana. Names and addresses of the 12 outlets are on file at Rand for survey purposes only.

NOTE: Prices are those in effect during July 1976 and June 1977.

[a]Price quotations not available.

Table 11

UTILITY COST INDEX: REGIONAL AND LOCAL DATA AND INDEXES, 1974-77

Item	Region	St. Joseph County
1974 Cost Data		
Electricity[a]	12.28	11.18
Gas[b]	116.74	17.10
Fuel oil[c]	191.44	.33
1975 Cost Data		
Electricity[a]	15.20	13.88
Gas[b]	148.14	18.98
Fuel oil[c]	199.57	.34
1976 Cost Data		
Electricity[a]	16.91	15.33
Gas[b]	167.50	20.88
Fuel oil[c]	213.50	.38
1977 Cost Data		
Electricity[a]	18.83	15.97
Gas[b]	205.40	24.32
Fuel oil[c]	248.60	.46
1975 Utility Index[d]		
Electricity	123.8	124.2
Gas	126.9	111.0
Fuel oil	104.2	103.6
1976 Utility Index[d]		
Electricity	137.7	137.1
Gas	143.5	122.1
Fuel oil	111.5	113.9
1977 Utility Index[d]		
Electricity	153.3	142.8
Gas	175.9	142.2
Fuel oil	129.9	139.1

SOURCES: Charles W. Noland, *Indexing the Cost of Producing Housing Services in Site II, 1974-75*, The Rand Corporation, N-1130-HUD, May 1981, Table 11; and pp. 17 and 20 above.

[a] Dollars per month.

[b] For the region, an index with July 1972 = 100; for St. Joseph County, dollars per month.

[c] For the region, an index with July 1972 = 100; for St. Joseph County, dollars per gallon (rounded to the nearest cent).

[d] 1974 = 100.

INSURANCE

The BLS bases its index of homeowner insurance premiums on data from 14 metropolitan areas in Region V. With July 1972 as the base, the 1976 and 1977 indexes are 128.9 and 144.2, respectively. Locally, we price two types of property insurance--homeowner and multiple peril. The first covers homeowners and resident landlords of small multiple-unit buildings. The second covers all other residential properties.

Since rate schedules differ by area, type of building, and insurance company, our method of obtaining typical insurance bills was complex. First, we identified four of the largest homeowner insurance writers in Indiana--Allstate, Indiana Insurance Companies, State Farm, and United Farm Bureau--and found that all four sell significant amounts of homeowner insurance in St. Joseph County. Allstate sells few multiple-peril policies, and we were unable to use Indiana Insurance Companies'.multiple-peril schedules. We therefore used rate schedules of all four suppliers to price homeowner insurance; but to price multiple-peril insurance, we used only State Farm and United Farm Bureau schedules.

Next, we identified four residential property types and priced policies for each: (1) single-family homeowner, (2) single-family rental, (3) duplex with a resident landlord, and (4) duplex without a resident landlord or buildings with three or more units. The first and third types are insured with homeowner policies; multiple-peril policies cover the second and fourth.

Insurance rates depend on the protection class of the property's location. The class is based on ratings of an area's water supply, building department, fire department, and fire alarm system and prevention program, as well as the condition of its buildings. The lower the protection class, the less risk to property, and thus the lower the rate schedule.

Detailed insurance data appear in Appendix C. Table C.1 presents the July 1976 and July 1977 protection classes for the 20 minor civil divisions (MCDs) in St. Joseph County. Tables C.2 through C.9 list 1976 and 1977 insurance premium data for the county's MCDs. For each combination of property type and MCD, we calculated an average premium for the companies priced. We then weighted the average premiums by the number of properties in the property type/MCD group and averaged across all groups to obtain 1976 and 1977 average annual premiums of $73.14 and $77.49 (based on baseline property values). Table 12 summarizes the 1974-77 regional and local insurance data and insurance rate indexes.

Table 12

INSURANCE RATE INDEX: REGIONAL AND LOCAL DATA AND INDEXES, 1974-77

Item	Region	St. Joseph County
Insurance data:		
1974	105.1	62.71
1975	114.6	69.09
1976	128.9	93.14
1977	144.2	77.49
Insurance rate index:		
1974	100.0	100.0
1975	109.0	110.2
1976	122.6	116.6
1977	137.2	123.6

SOURCES: Charles W. Noland, *Indexing the Cost of Producing Housing Services in Site II, 1974-75*, The Rand Corporation, N-1130-HUD, May 1981, Table 17, and above, pp. 23 and 24.

VI. INDEX OF MAINTENANCE AND REPAIR COST

The component costs for employees and supplies (maintenance) and repairs are indexed here using wage rates and material prices. We obtain wages primarily from AWS publications but, for some occupations and cities, use union wage scales from other sources. Wholesale price index (WPI) components index material prices.

The WPI is a national index, making no regional or local distinctions. However, the commodities so indexed are generally supplied to a national market. A local increase in demand could thus result in brief local shortages or price increases until stocks were replenished, but would cause at most a temporary divergence between the local and regional indexes.

EMPLOYEES

The wage rate change for janitors, porters, and cleaners, as reported in the AWS, indexes the cost of employees. Table 13 lists 1974-77 regional and local wage rate data and employee cost indexes.

SUPPLIES

Nine commodity groups--commonly used maintenance supplies--contribute to the cost of supplies. Table 14 presents the 1974-77 WPI data for those groups and their rebased (July 1974 = 100) indexes. Because we have no expenditure data for these detailed categories, the groups are weighted equally. By averaging the price relatives in the last two columns of Table 14, we obtain the supply cost component index (both regional and local) of the maintenance and repair cost index.

REPAIRS

Table 15 lists nine repair index components. Because cost breakdowns are not available, a reasonable proportion of the total cost of each repair type is allocated to labor and material. Wage rate and material price relatives are weighted with those proportions--in effect,

Table 13

EMPLOYEE COMPONENT OF THE MAINTENANCE AND REPAIR COST INDEX: REGIONAL AND LOCAL WAGE RATES AND INDEXES, 1974-77

Item	Region	St. Joseph County
Janitors, porters, and cleaners:[a]		
1974 wage rate	4.15	3.91
1975 wage rate	4.60	4.15
1976 wage rate	4.99	4.45
1977 wage rate	5.42	5.33
Employee cost index:		
1974	100.0	100.0
1975	110.8	106.1
1976	120.2	113.8
1977	130.6	136.3

SOURCE: Table 8.

[a]Dollars per hour.

Table 14

SUPPLY COST INDEX: COMMODITY PRICE INDEXES, 1974-77

Commodity Group	WPI Code Number	WPI Index[a]				Rebased Index[b]		
		July 1974	July 1975	July 1976	July 1977	July 1975	July 1976	July 1977
Soap and synthetic detergent	0671	132.1	149.5	159.7	168.6	113.2	120.9	127.6
Builders hardware	104101	140.5	159.1	164.3	176.8	113.2	116.9	125.8
Furniture hardware	104104	177.0	201.5	213.2	229.2	113.8	120.5	129.5
Metal doors, sash, and trim	1071	149.8	160.5	169.4	190.0	107.1	113.1	126.8
Lighting fixtures, residential incandescent, ceiling, enclosed bowl	10830103.05[c]	152.5	167.3	174.2	183.1	109.7	114.2	120.1
Insect screening, galvanized	10890126.01	153.1	168.3	170.9	180.1	109.9	111.6	117.6
Electric lamps/bulbs, incandescent, 100 watts, inside frosted	11770101.02[d]	147.7	178.8	194.3	228.5	121.1	131.6	154.7
Paint brush	15970141.05[e]	126.9	141.1	148.8	160.3	111.2	117.3	126.3
Household maintenance brushes	159703	151.6	172.2	177.4	190.4	113.6	117.0	125.6
Supply cost index	--	--	--	--	--	112.5	118.1	128.2

SOURCES: U.S. Bureau of Labor Statistics, *Wholesale Prices and Price Indexes, Data for July 1974, Wholesale . . . July 1975, Wholesale . . . July 1976, and Wholesale . . . July 1977*, U.S. Government Printing Office, Washington, D.C., October 1974, September 1975, October 1976, and September 1977, respectively.

[a] 1967 = 100.

[b] Both regional and local (July 1974 = 100).

[c] Listed as code 10830103.06 in July 1975; code 10830103.07 in July 1976 and July 1977.

[d] Listed as code 11770101.03 in July 1975 and July 1976; code 11770101.04 in July 1977.

[e] Listed as code 15970141.07 after July 1974.

Table 15

COMPONENT WEIGHTS FOR REPAIR COST INDEX BY TYPE OF REPAIR

Type of Repair	Index Components				Component Weight
Carpentry	1.00	Labor	1.00	Carpenters, maintenance	1.00
Electrical work	.75	Labor	1.00	Electricians, maintenance	.75
	.25	Commodities	1.00	Electrical machinery and equipment	.25
Flooring work	.60	Labor	1.00	Carpenters, maintenance	.60
	.40	Commodities	1.00	Floor coverings	.40
Glass work	.75	Labor	1.00	Helpers, maintenance trades	.75
	.25	Commodities	1.00	Flat glass	.25
Masonry work	.75	Labor	1.00	Helpers, maintenance trades	.75
	.25	Commodities	1.00	Concrete products	.25
Miscellaneous repairs	1.00	Labor	.50	Janitors, porters, and cleaners	.50
			.50	Helpers, maintenance trades	.50
Painting	.80	Labor	1.00	Painters, maintenance	.80
	.20	Commodities	1.00	Prepared paint	.20
Plumbing and heating work	.60	Labor	.10	Engineers, stationary	.06
			.20	Boiler tenders[a]	.12
			.70	Plumbers	.42
	.40	Commodities	.10	Hardware	.04
			.20	Heating equipment	.08
			.70	Plumbing fixtures and brass fittings	.28
Roofing work	.60	Labor	1.00	Roofers	.60
	.40	Commodities	1.00	Prepared asphalt roofing	.40

SOURCE: I.S. Lowry (ed.), *The Design of the Housing Assistance Supply Experiment*, The Rand Corporation, R-2630-HUD, June 1980, Table D.5.

NOTE: Most of the categories, indexed items, and weights are given in George Sternlieb, *The Urban Housing Dilemma*, Department of Rent and Housing Maintenance, Housing and Development Administration, New York, 1972, pp. 245-259.

[a]Formerly called "firemen, stationary boilers."

expenditure weights.* We treat the resulting indexes as repair-type price relatives and weight them with HASE baseline expenditure data to compute the repair index. The items to be indexed (both labor and materials) as well as the weights within each repair category are listed in the last two columns of Table 15. We price nine commodities and nine occupations.

Table 16 presents the 1974-77 WPI data for the commodity groups and their rebased (July 1974 = 100) indexes. Tables 17 and 18 give 1976 and 1977 rates, respectively, for the wage categories listed in Table 15. For the first seven, wage rates are presented for all SMSAs for which the AWS gave data. The last two are from the *Engineering News-Record*. Every rate was not available for every city because no single source was entirely comprehensive, and each had different characteristics. The last row of each table shows the population-weighted average of each wage category, based on the cities for which wage data were available.

Table 19 summarizes the 1974, 1976, and 1977 regional and local wage rate data and price relatives for the nine wage categories in Table 15. When these relatives, those from the earlier note (Noland, 1981b, p. 36), and the indexes from Table 16 are weighted with Table 15 weights, the resulting figures are the 1975, 1976, and 1977 indexes for the nine repair index components. Table 20 presents the regional and local indexes.

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*The weights are from Sternlieb (1972). The data are for 1967-69 and are directly applicable to large, rent-controlled buildings in New York. We have been unable to find a set of weights based on properties like those in our experimental sites.

Table 16

REPAIR COST INDEX: COMMODITY PRICE INDEXES, 1974-77

Commodity Group	WPI Code Number	WPI Index[a]				Rebased Index[b]		
		July 1974	July 1975	July 1976	July 1977	July 1975	July 1976	July 1977
Prepared paint	0621	149.7	167.1	174.0	183.9	111.6	116.2	122.8
Hardware	104	139.7	163.5	173.2	186.8	117.0	124.0	133.7
Plumbing fixtures and brass fittings	105	152.1	160.9	177.7	189.3	105.8	116.8	124.5
Heating equipment	106	137.1	150.2	158.5	165.4	109.6	115.6	120.6
Electrical machinery and equipment	117	126.3	140.8	145.8	154.1	111.5	115.4	122.0
Floor coverings	123	115.9	123.9	131.3	136.1	106.9	113.3	117.4
Flat glass	1311	128.6	140.2	152.1	160.0	109.0	118.3	124.4
Concrete products	133	155.2	171.2	180.1	192.8	110.3	116.0	124.2
Prepared asphalt roofing	1361	198.7	220.5	230.3	245.6	111.0	115.9	123.6

SOURCES: U.S. Bureau of Labor Statistics, *Wholesale Prices and Price Indexes, Data for July 1974, Wholesale . . . July 1975, Wholesale . . . July 1976, and Wholesale . . . July 1977*, U.S. Government Printing Office, Washington, D.C., October 1974, September 1975, October 1976, and September 1977, respectively.

[a] 1967 = 100.

[b] Both regional and local (July 1974 = 100).

Table 17

REPAIR COST INDEX: REGIONAL WAGE RATES, 1976

SMSA	Month of Publication[a] (1976)	Hourly Wage ($)								
		Boiler Tenders[b]	Carpenters, Maintenance[c]	Electricians, Maintenance[c]	Engineers, Stationary[c]	Helpers, Maintenance Trades[c]	Janitors, Porters, and Cleaners[d]	Painters, Maintenance[c]	Plumbers[e]	Roofers[e]
Illinois										
Chicago	May	6.87	7.51	7.43	7.76	5.54	4.56	7.83	12.87	12.80
Peoria	(f)	--	--	--	--	--	--	--	12.11	--
Indiana										
Evansville	(f)	--	--	--	--	--	--	--	12.52	--
Indianapolis	October	5.37	7.22	7.40	6.29	5.18	4.71	7.11	12.06	--
Michigan										
Detroit	March	7.48	7.52	7.83	7.60	6.10	5.85	7.47	13.82	12.51
Grand Rapids	(f)	--	--	--	--	--	--	--	11.19	--
Lansing-East Lansing	(f)	--	--	--	--	--	--	--	12.34	--
Ohio										
Akron	December	6.59	6.72	7.02	7.03	5.73	5.49	6.72	--	--
Canton	May	5.73	6.87	6.73	7.19	--	4.63	--	--	--
Cincinnati	March	6.45	6.74	6.60	6.93	5.86	4.57	6.22	13.40	12.36
Cleveland	September	6.06	7.32	7.24	7.19	6.02	5.08	7.14	13.28	13.10
Columbus	October	5.16	6.20	6.80	6.79	--	4.55	6.68	13.23	10.57
Dayton	December	5.77	7.33	7.52	7.25	--	5.27	7.56	12.30	--
Toledo	May	6.13	7.16	7.05	6.62	5.53	5.20	6.56	13.49	--
Youngstown-Warren	(f)	--	--	--	--	--	--	--	12.79	--
Wisconsin										
Madison	(f)	--	--	--	--	--	--	--	12.18	--
Milwaukee	April	5.78	6.70	7.55	6.62	5.56	4.94	7.15	12.73	--
Weighted regional average	--	6.55	7.25	7.38	7.32	5.73	4.99	7.34	13.01	12.57

SOURCES: U.S. Bureau of Labor Statistics, *Area Wage Survey* (specific sources listed in Appendix B). Wages for plumbers and for roofers are from the *Engineering News-Record*, Vol. 197, No. 13, 23 September 1976, pp. 70 and 75.

NOTE: The wage rates in columns 3 through 9 were obtained from the AWS; in columns 10-11, from the *Engineering News-Record*. Dashes in columns 3 through 9 indicate either that no AWS was published for the SMSA or that a trade's wage was suppressed for a particular SMSA. Dashes in the last two columns indicate that the wage rate for the SMSA was not published in the *Engineering News-Record*.

[a] AWS collection dates for the indicated SMSA. These dates do not apply to wage rates in the last two columns.

[b] Mean wage rate for men only in establishments of all sizes in all industries. This trade was formerly reported as "firemen, stationary boilers."

[c] Mean wage rate for men only in establishments of all sizes in all industries.

[d] Mean wage rate for men and women in establishments of all sizes in manufacturing industries.

[e] Union wage rate, including fringe benefits, as reported in the *Engineering News-Record*. All rates are those in effect on 1 August 1976 except those for plumbers in Peoria, Evansville, Indianapolis, Grand Rapids, Lansing-East Lansing, Dayton, Toledo, Youngstown-Warren, Madison, and Milwaukee, which are the rates in effect on 2 July 1976.

[f] No AWS publication available.

Table 18

REPAIR COST INDEX: REGIONAL WAGE RATES, 1977

SMSA	Month of Publication[a] (1977)	Hourly Wage ($)								
		Boiler Tenders[b]	Carpenters, Maintenance[c]	Electricians, Maintenance[c]	Engineers, Stationary[c]	Helpers, Maintenance Trades[d]	Janitors, Porters, and Cleaners[d]	Painters, Maintenance[c]	Plumbers[e]	Roofers[e]
Illinois										
Chicago	May	6.89	7.59	8.03	8.49	5.73	4.87	7.47	13.57	13.45
Peoria	(f)	--	--	--	--	--	--	--	12.36	--
Indiana										
Evansville	(f)	--	--	--	--	--	--	--	13.58	--
Indianapolis	October	5.90	7.87	8.28	6.67	5.36	5.36	7.85	12.71	--
Michigan										
Detroit	March	8.03	8.37	8.61	8.25	6.69	6.37	8.34	15.52	14.57
Grand Rapids	(f)	--	--	--	--	--	--	--	12.79	--
Lansing-East Lansing	(f)	--	--	--	--	--	--	--	13.34	--
Ohio										
Akron	December	6.80	7.29	7.65	7.77	6.29	5.97	7.47	--	--
Canton	May	6.80	7.34	7.45	7.19	6.54	4.99	--	--	--
Cincinnati	July	6.89	7.27	7.37	7.71	5.86	5.06	7.04	14.00	12.84
Cleveland	September	7.01	8.28	8.28	7.87	6.66	5.63	8.36	14.13	13.95
Columbus	October	5.59	6.95	7.43	7.27	--	5.00	--	13.88	12.46
Dayton	December	6.20	7.94	8.25	7.49	--	5.69	7.65	13.10	--
Toledo	May	6.78	7.12	7.77	7.12	6.37	5.62	7.21	14.60	--
Youngstown-Warren	(f)	--	--	--	--	--	--	--	13.61	--
Wisconsin										
Madison	(f)	--	--	--	--	--	--	--	12.84	11.60
Milwaukee	April	6.26	7.45	8.27	7.23	5.95	5.28	7.68	14.28	--
Weighted regional average	--	6.94	7.76	8.11	7.95	6.11	5.42	7.76	14.00	13.66

SOURCES: U.S. Bureau of Labor Statistics, *Area Wage Survey* (specific sources listed in Appendix B). Wages for plumbers and roofers are from the *Engineering News-Record*, Vol. 199, No. 12, 22 September 1977, pp. 74, 79, and 80.

NOTE: The wage rates in columns 3 through 9 were obtained from the AWS; in columns 10-11, from the *Engineering News-Record*. Dashes in columns 3 through 9 indicate either that no AWS was published for the SMSA or that a trade's wage was suppressed for a particular SMSA. Dashes in the last two columns indicate that the wage rate for the SMSA was not published in the *Engineering News-Record*.

[a] AWS collection dates for the indicated SMSA. These dates do not apply to wage rates in the last two columns.

[b] Mean wage rate for men only in establishments of all sizes in all industries. This trade was formerly reported as "firemen, stationary boilers."

[c] Mean wage rate for men only in establishments of all sizes in all industries.

[d] Mean wage rate for men and women in establishments of all sizes in manufacturing industries.

[e] Union wage rate, including fringe benefits, as reported in the *Engineering News-Record*. All rates are those in effect on 1 August 1977 except those for plumbers in Peoria, Evansville, Indianapolis, Grand Rapids, Lansing-East Lansing, Dayton, Toledo, Youngstown-Warren, and Milwaukee, which are the rates in effect on 1 July 1977.

[f] No AWS publication available.

Table 19

REPAIR COST INDEX: REGIONAL AND LOCAL WAGE RATES AND PRICE RELATIVES, 1974-77

Trade	Hourly Wage Rate ($)			Price Relative to 1974 (1974 = 100)	
	1974	1976	1977	1976	1977
Region[a]					
Boiler tenders[b]	5.42	6.55	6.94	120.8	128.0
Carpenters, maintenance	6.13	7.25	7.76	118.3	126.6
Electricians, maintenance	6.21	7.38	8.11	118.8	130.6
Engineers, stationary	6.14	7.32	7.95	119.2	129.5
Helpers, maintenance trades	4.75	5.73	6.11	120.6	128.6
Janitors, porters, and cleaners	4.15	4.99	5.42	120.2	130.6
Painters, maintenance	6.30	7.34	7.76	116.5	123.2
Plumbers	11.32	13.01	14.00	114.9	123.7
Roofers	11.27	12.57	13.66	111.5	121.2
St. Joseph County[c]					
Boiler tenders[b]	5.36	6.47	7.76	120.7	144.8
Carpenters, maintenance	5.56	6.40	7.45	115.1	134.0
Electricians, maintenance	5.50	6.67	7.62	121.3	138.5
Engineers, stationary	5.61	6.75	7.91	120.3	141.0
Helpers, maintenance trades	4.43	5.24	6.08	118.2	137.2
Janitors, porters, and cleaners	3.91	4.45	5.33	113.8	136.3
Painters, maintenance	7.83	8.49	8.99	108.4	114.8
Plumbers	9.37	11.21	12.04	119.6	128.5
Roofers	8.83	10.40	11.08	117.8	125.5

SOURCES: U.S. Bureau of Labor Statistics, *Area Wage Survey*, Bulletins 1900-5 and 1950-51, U.S. Government Printing Office, Washington, D.C., March 1976 and August 1977, respectively, Tables A-5 and A-6; U.S. Bureau of Labor Statistics, special tabulations of rates and hours for building trades, July 1976 and July 1977; Charles W. Noland, *Indexing the Cost of Producing Housing Services in Site II, 1974-75* The Rand Corporation, N-1130-HUD, May 1981, Table 23; and Tables 17 and 18 above.

[a]The 1974 wage rates are from Noland, ibid., Table 23; the 1976 and 1977 wage rates are from Tables 17 and 18 above.

[b]Formerly reported as "firemen, stationary boilers."

[c]The 1974 wage rates are from Noland, ibid., Table 23. For 1976 and 1977, wage rates for boiler tenders, carpenters, electricians, and janitors, porters, and cleaners are from the *Area Wage Survey;* see notes to Tables 17 and 18 above for coverage. Rates for painters, plumbers, and roofers are union wage rates including fringe benefits as of July 1 of each year. The price relative for engineers is predicted using the average of the price relatives for boiler tenders, electricians, maintenance mechanics, and tool and die makers. The average of the price relatives for carpenters, electricians, and pipefitters is used for helpers. Earlier analysis verified the relationships between the relatives for these trades. All wages are from the South Bend *Area Wage Survey*.

Table 20

REPAIR COST INDEX: REGIONAL AND LOCAL INDEXES, 1974-77

Type of Repair	Index Component	Component Weight[a]	1975 Index[b] (1974 = 100)		1976 Index[a] (1974 = 100)		1977 Index[c] (1974 = 100)	
			Region	St. Joseph County	Region	St. Joseph County	Region	St. Joseph County
Carpentry	Carpenters, maintenance	1.00	108.6	106.5	118.3	115.1	126.6	134.0
Electrical work	Electricians, maintenance	.75	110.6	109.5	118.8	121.3	130.6	138.5
	Electrical machinery and equipment	.25	111.5	111.5	115.4	115.4	122.0	122.0
	Weighted average	--	110.8	110.0	118.0	119.8	128.4	134.4
Flooring work	Carpenters, maintenance	.60	108.6	106.5	118.3	115.1	126.6	134.0
	Floor coverings	.40	106.9	106.9	113.3	113.3	117.4	117.4
	Weighted average	--	107.9	106.7	116.3	114.4	122.9	127.4
Glass work	Helpers, maintenance trades	.75	112.0	108.6	120.6	118.2	128.6	137.2
	Flat glass	.25	109.0	109.0	118.3	118.3	124.4	124.4
	Weighted average	--	111.2	108.7	120.0	118.2	127.6	134.0
Masonry work	Helpers, maintenance trades	.75	112.0	108.6	120.6	118.2	128.6	137.2
	Concrete products	.25	110.3	110.3	116.0	116.0	124.2	124.2
	Weighted average	--	111.6	109.0	119.4	117.6	127.5	134.0
Miscellaneous repairs	Janitors, porters, and cleaners	.50	110.8	106.1	120.2	113.8	130.6	136.3
	Helpers, maintenance trades	.50	120.0	108.6	120.6	118.2	128.6	137.2
	Weighted average	--	111.4	107.4	120.4	116.0	129.6	136.8
Painting	Painters, maintenance	.80	106.3	100.0	116.5	108.4	123.2	114.8
	Prepared paint	.20	111.6	111.6	116.2	116.2	122.8	122.8
	Weighted average	--	107.4	102.3	116.4	110.0	123.1	116.4
Plumbing and heating work	Engineers, stationary	.06	109.3	109.6	119.2	120.3	129.5	141.0
	Boiler tenders[d]	.12	110.0	111.2	120.8	120.7	128.0	144.8
	Plumbers	.42	108.2	110.8	114.9	119.6	123.7	128.5
	Hardware	.04	117.0	117.0	124.0	124.0	133.7	133.7
	Heating equipment	.08	109.6	109.6	115.6	115.6	120.6	120.6
	Plumbing fixtures and brass fittings	.28	105.8	105.8	116.8	116.8	124.5	124.5
	Weighted average	--	108.3	109.5	116.8	118.8	124.9	130.0
Roofing work	Roofers	--	105.8	107.0	111.5	117.8	121.2	125.5
	Prepared asphalt roofing	.40	111.0	111.0	115.9	115.9	123.6	123.6
	Weighted average	--	107.9	108.6	113.3	117.0	122.2	124.7

SOURCES: Charles W. Noland, *Indexing the Cost of Producing Housing Services in Site II, 1974-75*, The Rand Corporation, N-1130-HUD, May 1981, Table 24; and Tables 15, 16, and 19 above.

[a] From Table 15 above.

[b] From Noland, ibid., Table 24.

[c] From Tables 16 and 19 above.

[d] Formerly reported as "firemen, stationary boilers."

VII. INDEX OF PROPERTY TAXES

The property tax index should account for any change in tax bills not caused by physical changes in a property's land or improvements. For the regional index, we use the property tax component of the Region V CPI. Locally, we compare actual tax bills for quantity-constant (physically unchanged) residential properties.

The BLS annually supplies us with special tabulations of the property tax CPI component for Region V. The component is the product of (1) estimates of annual changes in assessed values and (2) changes in tax rates. Thus, it corresponds to our measure of the changes in tax bills, which are the products of tax rates and assessed values. The 1974-77 data are as follows:

Year	Index
1974	102.5
1975	108.1
1976	111.1
1977	120.4

The rebased regional indexes are given in Table 21.

St. Joseph County properties with no physical change between each pair of years are identified using landlord and homeowner responses to HASE survey questions concerning property configuration and change. Matching with the actual tax bills for these properties (acquired from the County Assessor) allows us to compute changes in the bills that do not result from physical change to the properties. We calculated

indexes for each pair of years from 1974 through 1977* and chained the indexes together to obtain the 1974-77 property tax indexes for St. Joseph County (reported in Table 21).

*Assuming property taxes for our sample of residential properties are lognormally distributed, the index (I) for period $\underline{t}$ to $\underline{t+1}$ is

$$I_{t,t+1} = exp\ [E\ (ln\ TAX_{i,t+1} - ln\ TAX_{it})]$$

where E = expected value,
ln = natural logarithm,
TAX_{it} = property tax for property i in year t.

Table 21

REGIONAL AND LOCAL PROPERTY TAX INDEXES, 1974-77

Year	Property Tax Index[a]	
	Region	St. Joseph County
1975	105.5	98.5
1976	108.4	95.8
1977	117.5	97.6

SOURCES: Special tabulations by the BLS and tabulations by HASE staff from records for the surveys of landlords and homeowners, Site I, waves 1, 2, 3, and 4.

[a]1974 = 100.

Appendix A

FEDERAL HOME LOAN BANK BOARD MORTGAGE SURVEY COVERAGE

Every issue of the Federal Home Loan Bank Board *News* containing mortgage data includes the technical note reproduced below. It describes the contents and coverage of the survey, giving technical definitions and information on statistical procedures and timing.

TECHNICAL NOTE

Data are weighted averages compiled by the Federal Home Loan Bank Board in cooperation with the Federal Deposit Insurance Corporation from individual loan statistics reported by a sample of major mortgage lenders.

Coverage The series covers fully amortized conventional first mortgage loans for purchasing (and combination construction-purchase loans where construction financing is combined with permanent financing in a single transaction) single-family homes originated by savings and loan associations, mortgage bankers, commercial banks and mutual savings banks. Such lenders accounted for approximately 90 percent of all conventional home mortgage originations in 1972.

Sample The sample of lenders reporting data consists of savings and loan associations holding about 70 percent of the assets of all FSLIC-insured associations, mortgage bankers accounting for approximately 25 percent of all mortgage banker conventional home mortgage originations, commercial banks holding about 42 percent of all home mortgages held by FDIC-insured commercial banks, and mutual savings banks holding about 60 percent of all mutual savings bank holdings of home mortgages. Substantially all of the largest lenders of the covered types are included in the survey, with small institutions selected at random from a number of different geographic-size strata, the sampling fraction being reduced as size declines.

Statistical procedures Loans reported by individual lenders are assigned weights based on the relationship of the assets (or other measure of size) of the lenders in the sample in each of a number of strata, which are defined in terms of type of lender, lender size and geographical location, to the assets of all lenders in a stratum. This provides appropriate weight for the smaller lenders represented by reduced sampling fractions, which tend to be outside major metropolitan areas. The averages, however, will reflect changes in relative lending volume among types of lender, among geographic areas, and among sizes of lender.

Geographic area averages are based on the location of the property securing loans and are subject to more sampling error and more erratic fluctuation than the national averages; small month-to-month changes, therefore, should be interpreted with caution.

Timing The series covers all loans closed by participants during the first five full working days of a month. During months when lending terms are in process of change, the averages may not be representative of the month as a whole. Most mortgage lending, moreover, is based on prior commitments made by lenders. As a consequence, reported terms on loans closed in most cases reflect the interest rates and terms offered borrowers by lenders a month, or more, prior to the reporting date. The series, as a result, should not be interpreted as a measure of "market rates and terms" during the reporting period.

Definitions The cost of private (i.e., non-Government) mortgage insurance is excluded from the averages. Most lenders make a separate charge for such insurance which is excluded from reported fees and charges. In the case of the relatively small number of lenders which include such a charge in the contract rate, however, a downward adjustment is made in the reported contract rate to eliminate such charges and make the rate comparable to that charged by other lenders; the effect of this adjustment is minor, reducing the contract rate by only 1 or 2 basis points.

Fees and charges are defined to include all fees, commissions, discounts and "points" paid by the borrower, or seller, in order to obtain a loan, including any general charge for making the loan and specific charges made to offset specific lending expenses. Charges for mortgage, credit, life or property insurance, property transfer costs, and title search and insurance costs are excluded, but other fees are reported without deducting payments made by the lender to others for services rendered.

The effective interest rate includes the contract interest rate plus fees and charges amortized over a ten-year period, the latter being a rough estimate of the actual average life of conventional mortgages.

Appendix B
AREA WAGE SURVEY CITATIONS

Data for Tables 7, 17, and 18 in this note were obtained from the *Area Wage Survey* published by the U.S. Bureau of Labor Statistics. Data for Table 7 are from Tables A-1 and A-5 and, for Tables 17 and 18, Tables A-5 and A-6 of the following AWS bulletins:

1976

Chicago	1900-32	May 1976
Indianapolis	1900-58	October 1976
Detroit	1900-15	March 1976
Akron	1900-76	December 1976
Canton	1900-28	May 1976
Cincinnati	1900-7	March 1976
Cleveland	1900-62	September 1976
Columbus	1900-68	October 1976
Dayton	1900-78	December 1976
Toledo	1900-24	May 1976
Milwaukee	1900-22	April 1976

1977

Chicago	1950-41	May 1977
Indianapolis	1950-56	October 1977
Detroit	1950-13	March 1977
Akron	1950-70	December 1977
Canton	1950-28	May 1977
Cincinnati	1950-45	July 1977
Cleveland	1950-53	September 1977
Columbus	1950-64	October 1977
Dayton	1950-71	December 1977
Toledo	1950-18	May 1977
Milwaukee	1950-14	April 1977

Appendix C

INSURANCE PREMIUMS FOR ST. JOSEPH COUNTY, INDIANA, JULY 1976 AND JULY 1977

The nine tables in this appendix present detailed data on residential property insurance in St. Joseph County, Indiana. Table C.1 lists protection classes for the county's 20 minor civil divisions. The classifications did not change between July 1976 and July 1977. Tables C.2 through C.9 give insurance premium data by minor civil division.

Table C.1

RESIDENTIAL PROPERTY INSURANCE PROTECTION CLASSES: MINOR CIVIL DIVISIONS IN ST. JOSEPH COUNTY, INDIANA, JULY 1976 AND JULY 1977

Minor Civil Division	Protection Class	Minor Civil Division	Protection Class
South Bend	3	Green township	10
Mishawaka	4	Harris township	9
Lakeville	8	Liberty township	10
New Carlisle	7	Lincoln township	10
North Liberty	8	Madison township	10
Osceola	9	Olive township	10
Walkerton	8	Penn township	9
Centre township	9	Portage township	10
Clay township[a]	9	Union township	9
German township	10	Warren township	10

SOURCE: Records of the Insurance Services Office, Indianapolis, Indiana.

NOTE: There was no change in St. Joseph County protection classes between July 1976 and July 1977.

[a]Includes Indian Village and Roseland.

Table C.2

HOMEOWNER INSURANCE PREMIUMS FOR SINGLE-FAMILY OWNER-OCCUPIED RESIDENCES: MINOR CIVIL DIVISIONS IN ST. JOSEPH COUNTY, INDIANA, JULY 1976

Minor Civil Division[a]	Number of Properties[b]	Average Value[c] ($)	Annual Premium ($)				
			Company A[d]	Company B[e]	Company C[f]	Company D[g]	Average
South Bend	22,844	13,000	57	69	55	56	59.25
Mishawaka	8,642	15,000	59	72	60	60	62.75
Lakeville	20	16,000	71	85	75	74	76.25
New Carlisle	262	17,000	72	89	78	76	78.75
North Liberty	180	13,000	66	78	67	69	70.00
Osceola	514	15,000	77	90	76	79	80.50
Walkerton	278	14,000	67	80	69	71	71.75
Centre township	896	28,000	113	154	121	130	129.50
Clay township	4,161	24,000	98	129	102	108	109.25
German township	604	31,000	133	184	148	153	154.50
Green township	661	28,000	118	164	131	136	137.25
Harris township	535	19,000	85	105	86	86	90.50
Liberty township	179	20,000	91	116	98	95	100.00
Madison township	119	21,000	94	121	102	100	104.25
Olive township	179	13,000	77	90	76	78	80.25
Penn township	4,331	20,000	87	109	89	91	94.00
Portage township	581	13,000	77	90	76	78	80.25
Union township	357	18,000	83	102	84	84	88.25
Warren township	773	17,000	84	103	89	86	90.50

SOURCES: Tabulated by HASE staff from records for the survey of homeowners, Site II, baseline; and homeowner insurance premium schedules published by the indicated companies.

[a] Only minor civil divisions with sampled properties of the designated type are included.

[b] Properties with only a single-family homeowner residence at baseline (1974). The count excludes mobile homes and farm properties.

[c] Average equalized assessed value of improvements for all properties defined in the preceding note, rounded to the nearest thousand. Calculated at baseline, these values make the last column's premiums the inputs to an insurance *rate* index.

[d] Premiums are for the following insurance type: homeowner standard policy, $50 deductible, for frame construction. They are computed from the Allstate Insurance Company's Indiana rate schedule that was effective 30 May 1975. That schedule was in effect in St. Joseph County on 1 July 1976.

[e] Premiums are for the following insurance type: homeowner form 1, coverage A, $50 all-peril deductible (Loss Ded. No. 3), for frame construction. They are computed from the Indiana Insurance Companies' Indiana rate schedule that was effective June 1975. That schedule was in effect in St. Joseph County on 1 July 1976.

[f] Premiums are for the following insurance type: homeowner form 2, $50 all-peril deductible, for frame construction. They are computed from the State Farm Fire and Casualty Company's Indiana rate schedule that was effective 1 August 1975. That schedule was in effect in St. Joseph County on 1 July 1976.

[g] Premiums are for the following insurance type: homeowner coverage A, $50 all-peril deductible, for frame construction. They are computed from the United Farm Bureau Mutual Insurance Company's Indiana rate schedule that was effective 1 November 1974. That schedule was in effect in St. Joseph County on 1 July 1976.

Table C.3

HOMEOWNER INSURANCE PREMIUMS FOR SINGLE-FAMILY OWNER-OCCUPIED RESIDENCES: MINOR CIVIL DIVISIONS IN ST. JOSEPH COUNTY, INDIANA, JULY 1977

Minor Civil Division[a]	Number of Properties[b]	Average Value[c] ($)	Annual Premium ($)			
			Company A[d]	Company B[e]	Company D[f]	Average
South Bend	22,844	13,000	57	76	56	63.00
Mishawaka	8,642	15,000	59	80	60	66.33
Lakeville	20	16,000	71	95	74	80.00
New Carlisle	262	17,000	72	99	76	82.33
North Liberty	180	13,000	66	86	69	73.67
Osceola	514	15,000	77	100	79	85.33
Walkerton	278	14,000	67	89	71	75.67
Centre township	896	28,000	113	173	130	138.67
Clay township	4,161	24,000	98	145	108	117.00
German township	604	31,000	133	206	153	164.00
Green township	661	28,000	118	183	136	145.67
Harris township	535	19,000	85	118	86	96.33
Liberty township	179	20,000	91	130	95	105.33
Madison township	119	21,000	94	135	100	109.67
Olive township	179	13,000	77	100	78	85.00
Penn township	4,331	20,000	87	123	91	100.33
Portage township	581	13,000	77	100	78	85.00
Union township	357	18,000	83	113	84	93.33
Warren township	773	17,000	84	114	86	94.67

SOURCES: Tabulated by HASE staff from records for the survey of homeowners, Site II, baseline; and homeowner insurance premium schedules published by the indicated companies.

NOTE: There are no entries for company C because we were unable to obtain updated homeowner rate schedules from State Farm Fire and Casualty Company.

[a] Only minor civil divisions with sampled properties of the designated type are included.

[b] Properties with only a single-family homeowner residence at baseline (1974). The count excludes mobile homes and farm properties.

[c] Average equalized assessed value of improvements for all properties defined in the preceding note, rounded to the nearest thousand. Calculated at baseline, these values make the last column's premiums the inputs to an insurance *rate* index.

[d] Premiums are for the following insurance type: homeowner standard policy, $50 deductible, for frame construction. They are computed from the Allstate Insurance Company's Indiana rate schedule that was effective 20 January 1977. That schedule was in effect in St. Joseph County on 1 July 1977.

[e] Premiums are for the following insurance type: homeowner form 1, coverage A, $50 all-peril deductible (Loss Ded. No. 3), for frame construction. They are computed from the Indiana Insurance Companies' Indiana rate schedule that was effective December 1976. That schedule was in effect in St. Joseph County on 1 July 1977.

[f] Premiums are for the following insurance type: homeowner coverage A, $50 all-peril deductible, for frame construction. They are computed from the United Farm Bureau Mutual Insurance Company's Indiana rate schedule that was effective 1 November 1974. That schedule was in effect in St. Joseph County on 1 July 1977.

Table C.4

MULTIPLE-PERIL INSURANCE PERMIUMS FOR SINGLE-FAMILY RENTAL RESIDENCES: MINOR CIVIL DIVISIONS IN ST. JOSEPH COUNTY, INDIANA, JULY 1976

Minor Civil Division[a]	Number of Properties[b]	Average Value[c] ($)	Annual Premium ($)		
			Company C[d]	Company D[e]	Average
South Bend	3,615	5,000	41	39	40.00
Mishawaka	1,022	8,000	51	48	49.50
Lakeville	24	7,000	52	50	51.00
New Carlisle	15	10,000	65	61	63.00
North Liberty	39	10,000	65	61	63.00
Osceola	46	6,000	54	50	52.00
Walkerton	101	8,000	56	54	55.00
Centre township	39	6,000	54	50	52.00
Clay township	188	7,000	60	55	57.50
German township	44	9,000	72	69	70.50
Green township	24	6,000	56	54	55.00
Liberty township	8	10,000	79	74	76.50
Olive township	8	6,000	56	54	55.00
Penn township	161	8,000	65	59	62.00
Portage township	186	6,000	56	54	55.00
Union township	10	10,000	75	69	72.00
Warren township	52	8,000	67	62	64.50

SOURCES: Tabulated by HASE staff from records for the survey of landlords, Site II, baseline; and multiple-peril insurance premium schedules published by the indicated companies.

NOTE: Companies A and B are not included in this table. Because Allstate writes almost no multiple-peril insurance in St. Joseph County and we were unable to obtain the necessary rate schedules from Indiana Insurance Companies, schedules for these two companies were not included in the average premium calculations.

[a] Only minor civil divisions with sampled properties of the designated type are included.

[b] Properties with only a single-family rental residence at baseline (1974). The count excludes mobile homes and farm properties.

[c] Average equalized assessed value of improvements for all properties defined in the preceding note, rounded to the nearest thousand. Calculated at baseline, these values make the last column's premiums the inputs to an insurance *rate* index.

[d] Premiums are for the following insurance type: (1) multiple-peril coverage for frame construction; (2) basic coverage (coverage A) from Table I (including the special apartment form) for $50 flat deductible; (3) loss of rents coverage (Table V) assuming monthly rent equals $120 times the number of units and repair or rebuilding is estimated to take ten months; and (4) increased limits of liability and medical payments coverage (Table II)--$100,000 for liability, and $1,000 per person and $10,000 per accident for medical payments. Premiums were calculated by State Farm Fire and Casualty Company and reflect rate schedules in effect on 1 July 1976 in St. Joseph County, Indiana.

[e] Premiums are for the following insurance type: (1) "home defender" coverage for frame construction; (2) coverage A (dwellings) assuming eight premium points for rating factors other than fire protection class; (3) $50 all-peril deductible; and (4) increased limits of liability and medical payments coverage for the initial one-family residence--$50,000 per person and $100,000 per occurrence for liability, and $1,000 per person and $10,000 per accident for medical payments. Premiums are computed from the United Farm Bureau Mutual Insurance Company's Indiana rate schedule that was effective 1 November 1974. That schedule was in effect in St. Joseph County on 1 July 1976.

Table C.5

MULTIPLE-PERIL INSURANCE PREMIUMS FOR SINGLE-FAMILY RENTAL RESIDENCES: MINOR CIVIL DIVISIONS IN ST. JOSEPH COUNTY, INDIANA, JULY 1977

Minor Civil Division[a]	Number of Properties[b]	Average Value[c] ($)	Annual Premium ($)		
			Company C[d]	Company D[e]	Average
South Bend	3,615	5,000	44	39	41.50
Mishawaka	1,022	8,000	55	48	51.50
Lakeville	24	7,000	56	50	53.00
New Carlisle	15	10,000	70	61	65.50
North Liberty	39	10,000	70	61	65.50
Osceola	46	6,000	60	50	55.00
Walkerton	101	8,000	61	54	57.50
Centre township	39	6,000	60	50	55.00
Clay township	188	7,000	65	55	60.00
German township	44	9,000	79	69	74.00
Green township	24	6,000	61	54	57.50
Liberty township	8	10,000	85	74	79.50
Olive township	8	6,000	61	54	57.50
Penn township	161	8,000	70	59	64.50
Portage township	186	6,000	61	54	57.50
Union township	10	10,000	82	69	75.50
Warren township	52	8,000	73	62	67.50

SOURCES: Tabulated by HASE staff from records for the survey of landlords, Site II, baseline; and multiple-peril insurance premium schedules published by the indicated companies.

NOTE: Companies A and B are not included in this table. Because Allstate writes almost no multiple-peril insurance in St. Joseph County and we were unable to obtain the necessary rate schedules from Indiana Insurance Companies, schedules for these two companies were not included in the average premium calculations.

[a] Only minor civil divisions with sampled properties of the designated type are included.

[b] Properties with only a single-family rental residence at baseline (1974). The count excludes mobile homes and farm properties.

[c] Average equalized assessed value of improvements for all properties defined in the preceding note, rounded to the nearest thousand. Calculated at baseline, these values make the last column's premiums the inputs to an insurance *rate* index.

[d] Premiums are for the following insurance type: (1) multiple-peril coverage for frame construction; (2) basic coverage (coverage A) from Table I (including the special apartment form) for $50 flat deductible; (3) loss of rents coverage (Table V) assuming monthly rent equals $120 times the number of units and repair or rebuilding is estimated to take ten months; and (4) increased limits of liability and medical payments coverage (Table II)--$100,000 for liability, and $1,000 per person and $10,000 per accident for medical payments. Premiums were calculated by State Farm Fire and Casualty and reflect rate schedules in effect on 1 July 1977 in St. Joseph County, Indiana.

[e] Premiums are for the following insurance type: (1) "home defender" coverage for frame construction; (2) coverage A (dwellings) assuming eight premium points for rating factors other than fire protection class; (3) $50 all-peril deductible; and (4) increased limits of liability and medical payments coverage for the initial one-family residence--$50,000 per person and $100,000 per occurrence for liability, and $1,000 per person and $10,000 per accident for medical payments. Premiums are computed from the United Farm Bureau Mutual Insurance Company's Indiana rate schedule that was effective 1 November 1974. That schedule was in effect in St. Joseph County on 1 July 1977.

Table C.6

HOMEOWNER INSURANCE PREMIUMS FOR DUPLEXES WITH RESIDENT LANDLORDS: MINOR CIVIL DIVISIONS IN ST. JOSEPH COUNTY, INDIANA, JULY 1976

Minor Civil Division[a]	Number of Properties[b]	Average Value[c] ($)	Annual Premium ($)				
			Company A[d]	Company B[e]	Company C[f]	Company D[g]	Average
South Bend	505	8,000	53	60	48	51	53.00
Mishawaka	249	14,000	58	70	57	58	60.75
North Liberty	10	11,000	63	74	64	65	66.50
Centre township	10	22,000	93	119	96	99	101.75
Clay township	15	18,000	83	102	84	84	88.25

SOURCES: Tabulated by HASE staff from records for the survey of landlords, Site II, baseline; and from homeowner insurance premium schedules published by the indicated companies.

[a] Only minor civil divisions with sampled properties of the designated type are included.

[b] Properties with only a duplex residence and a resident landlord at baseline (1974). The count excludes mobile homes and farm properties.

[c] Average equalized assessed value of improvements for all properties defined in the preceding note, rounded to the nearest thousand. Calculated at baseline, these values make the last column's premiums the inputs to an insurance *rate* index.

[d] Premiums are for the following insurance type: homeowner standard policy, $50 deductible, for frame construction. They are computed from the Allstate Insurance Company's Indiana rate schedule that was effective 30 May 1975. That schedule was in effect in St. Joseph County on 1 July 1976.

[e] Premiums are for the following insurance type: homeowner form 1, coverage A, $50 all-peril deductible (Loss Ded. No. 3), for frame construction. They are computed from the Indiana Insurance Companies' Indiana rate schedule that was effective June 1975. That schedule was in effect in St. Joseph County on 1 July 1976.

[f] Premiums are for the following insurance type: homeowner form 2, $50 all-peril deductible, for frame construction. They are computed from the State Farm Fire and Casualty Company's Indiana rate schedule that was effective 1 August 1975. That schedule was in effect in St. Joseph County on 1 July 1976.

[g] Premiums are for the following insurance type: homeowner coverage A, $50 all-peril deductible for frame construction. They are computed from the United Farm Bureau Mutual Insurance Company's Indiana rate schedule that was effective 1 November 1975. That schedule was in effect in St. Joseph County on 1 July 1976.

Table C.7

HOMEOWNER INSURANCE PREMIUMS FOR DUPLEXES WITH RESIDENT LANDLORDS: MINOR CIVIL DIVISIONS IN ST. JOSEPH COUNTY, INDIANA, JULY 1977

Minor Civil Division[a]	Number of Properties[b]	Average Value[c] ($)	Annual Premium ($)			
			Company A[d]	Company B[e]	Company D[f]	Average
South Bend	505	8,000	53	66	51	56.67
Mishawaka	249	14,000	58	78	58	64.67
North Liberty	10	11,000	63	82	65	70.00
Centre township	10	22,000	93	134	99	108.67
Clay township	15	18,000	83	113	84	93.33

SOURCES: Tabulated by HASE staff from records for the survey of landlords, Site II, baseline; and from homeowner insurance premium schedules published by the indicated companies.

NOTE: There are no entries for company C because we were unable to obtain updated homeowner rate schedules from State Farm Fire and Casualty Company.

[a]Only minor civil divisions with sampled properties of the designated type are included.

[b]Properties with only a duplex residence and a resident landlord at baseline (1974). The count excludes mobile homes and farm properties.

[c]Average equalized assessed value of improvements for all properties defined in the preceding note, rounded to the nearest thousand. Calculated at baseline, these values make the last column's premiums the inputs to an insurance *rate* index.

[d]Premiums are for the following insurance type: homeowner standard policy, $50 deductible, for frame construction. They are computed from the Allstate Insurance Company's Indiana rate schedule that was effective 20 January 1977. That schedule was in effect in St. Joseph County on 1 July 1977.

[e]Premiums are for the following insurance type: homeowner form 1, coverage A, $50 all-peril deductible (Loss Ded. No. 3), for frame construction. They are computed from the Indiana Insurance Companies' Indiana rate schedule that was effective December 1976. That schedule was in effect in St. Joseph County on 1 July 1977.

[f]Premiums are for the following type: homeowner coverage A, $50 all-peril deductible for frame construction. They are computed from United Farm Bureau Mutual Insurance Company's Indiana rate schedule that was effective 1 November 1974. That schedule was in effect in St. Joseph County on 1 July 1977.

Table C.8

MULTIPLE-PERIL INSURANCE PREMIUMS FOR DUPLEXES WITHOUT RESIDENT LANDLORDS AND ALL RESIDENTIAL BUILDINGS WITH MORE THAN TWO UNITS: MINOR CIVIL DIVISION IN ST. JOSEPH COUNTY, INDIANA, JULY 1976

Minor Civil Division[a]	Number of Properties[b]	Average Value[c] ($)	Average Number of Units	Annual Premium ($)		
				Company C[d]	Company D[e]	Average
South Bend	1,677	22,000	4	113	136	124.50
Mishawaka	493	31,000	4	146	192	169.00
Lakeville	5	30,000	4	158	240[f]	199.00
New Carlisle	5	11,000	2	70	70[f]	70.00
North Liberty	5	13,000	3	81	104	92.50
Osceola	7	15,000	3	106	160	133.00
Walkerton	52	36,000	7	231	367	299.00
Centre township	7	16,000	3	111	171[f]	141.00
Clay township	23	19,000	2	125	118[f]	121.50
Green township	4	15,000	2	108	107[f]	107.50
Penn township	6	28,000	3	174	300	237.00

SOURCES: Tabulated by HASE staff from records for the survey of landlords, Site II, baseline; and multiple-peril insurance premium schedules published by the indicated companies.

NOTE: Companies A and B are not included in this table. Because Allstate writes almost no multiple-peril insurance in St. Joseph County and we were unable to obtain the necessary rate schedules from Indiana Insurance Companies, schedules for these two companies were not included in the average premium calculations.

[a] Only minor civil divisions with sampled properties of the designated type are included.

[b] Properties either with two units and no resident landlord or with more than two units at baseline (1974). The count excludes mobile homes and farm properties.

[c] Average equalized assessed value of improvements for all properties defined in the preceding note, rounded to the nearest thousand. Calculated at baseline, these values make the last column's premiums the inputs to an insurance *rate* index.

[d] Premiums are for the following insurance type: (1) multiple-peril coverage for frame construction; (2) basic coverage (coverage A) from Table I (including the special apartment form) for $50 flat deductible; (3) loss of rents coverage (Table V) assuming monthly rent equals $120 times the number of units and repair or rebuilding is estimated to take ten months; and (4) increased limits of liability and medical payments coverage (Table II)--$100,000 for liability, and $1,000 per person and $10,000 per accident for medical payments. Premiums were calculated by State Farm Fire and Casualty Company and reflect rate schedules in effect on 1 July 1976 in St. Joseph County, Indiana.

[e] Premiums are for the following insurance type: (1) multiple-peril coverage for frame construction; (2) apartment rates with 80-percent coinsurance (Rate Table 7); (3) $100 deductible; and (4) building rate only with no extended coverage. Premiums are computed from the United Farm Bureau Mutual Insurance Company's Indiana rate schedule that was effective 1 November 1974. That schedule was in effect in St. Joseph County on 1 July 1976.

[f] Duplexes must be covered by United Farm Bureau's "home defender" coverage. Such premiums are for the following insurance type: (1) "home defender" coverage for frame construction; (2) coverage A (dwellings) assuming eight premium points for rating factors other than fire protection class; (3) $50 all-peril deductible; and (4) increased limits of liability and medical payments coverage for the initial two-family residence--$50,000 per person and $100,000 per occurrence for liability and $1,000 per person and $10,000 per accident for medical payments. Premiums are computed from the United Farm Bureau Mutual Insurance Company's Indiana rate schedule that was effective 1 November 1974. That schedule was in effect in St. Joseph County on 1 July 1976.

Table C.9

MULTIPLE-PERIL INSURANCE PREMIUMS FOR DUPLEXES WITHOUT RESIDENT LANDLORDS AND ALL RESIDENTIAL BUILDINGS WITH MORE THAN TWO UNITS: MINOR CIVIL DIVISIONS IN ST. JOSEPH COUNTY, INDIANA, JULY 1977

Minor Civil Division[a]	Number of Properties[b]	Average Value[c] ($)	Average Number of Units	Annual Premium ($)		
				Company C[d]	Company D[e]	Average
South Bend	1,677	22,000	4	121	136	128.50
Mishawaka	493	31,000	4	158	192	175.00
Lakeville	5	30,000	4	170	240[f]	205.00
New Carlisle	5	11,000	2	76	70[f]	73.00
North Liberty	5	13,000	3	89	104	96.50
Osceola	7	15,000	3	115	160	137.50
Walkerton	52	36,000	7	251	367	309.00
Centre township	7	16,000	3	121	171[f]	146.00
Clay township	23	19,000	2	135	118[f]	126.50
Green township	4	15,000	2	117	107[f]	112.00
Penn township	6	28,000	3	190	300	245.00

SOURCES: Tabulated by HASE staff from records for the survey of landlords, Site II, baseline; and multiple-peril insurance premium schedules published by the indicated companies.

NOTE: Companies A and B are not included in this table. Because Allstate writes almost no multiple-peril insurance in St. Joseph County and we were unable to obtain the necessary rate schedules from Indiana Insurance Companies, schedules for these two companies were not included in the average premium calculations.

[a]Only minor civil divisions with sampled properties of the designated type are included.

[b]Properties either with two units and no resident landlord or with more than two units at baseline (1974). The count excludes mobile homes and farm properties.

[c]Average equalized assessed value of improvements for all properties defined in the preceding note, rounded to the nearest thousand. Calculated at baseline, these values make the last column's premiums the inputs to an insurance *rate* index.

[d]Premiums are for the following insurance type: (1) multiple-peril coverage for frame construction; (2) basic coverage (coverage A) from Table I (including the special apartment form) for $50 flat deductible; (3) loss of rents coverage (Table V) assuming monthly rent equals $120 times the number of units and repair or rebuilding is estimated to take ten months; and (4) increased limits of liability and medical payments coverage (Table II)--$100,000 for liability, and $1,000 per person and $10,000 per accident for medical payments. Premiums were calculated by State Farm Fire and Casualty Company and reflect rate schedules in effect on 1 July 1977 in St. Joseph County, Indiana.

[e]Premiums are for the following insurance type: (1) multiple-peril coverage for frame construction; (2) apartment rates with 80-percent coinsurance (Rate Table 7); (3) $100 deductible; and (4) building rate only with no extended coverage. Premiums are computed from the United Farm Bureau Mutual Insurance Company's Indiana rate schedule that was effective 1 November 1974. That schedule was in effect in St. Joseph County on 1 July 1977.

[f]Duplexes must be covered with United Farm Bureau's "home defender" coverage. Such premiums are for the following insurance type: (1) "home defender" coverage for frame construction; (2) coverage A (dwellings) assuming eight premium points for rating factors other than fire protection class; (3) $50 all-peril deductible; and (4) increased limits of liability and medical payments coverage for the initial two-family residence--$50,000 per person and $100,000 per occurrence for liability and $1,000 per person and $10,000 per accident for medical payments. Premiums are computed from the United Farm Bureau Mutual Insurance Company's Indiana rate schedule that was effective 1 November 1974. That schedule was in effect in St. Joseph County on 1 July 1977.

Appendix D

COST INDEXES FOR MAINTENANCE/REPLACEMENTS AND CAPITAL ADDITIONS

Some of our analyses require combining the components given in Secs. IV and V into expenditure-weighted indexes. This appendix presents such indexes for two major expenditure groups analyzed by HASE--maintenance and replacements, and capital additions. We calculate separate indexes for rental and homeowner units using expenditure weights constructed from Site I and Site II baseline surveys of landlords and homeowners. Tables D.1 through D.6 present the components, expenditure weights, and final indexes for 1976 and 1977. Final indexes for the entire experimental period are summarized in Table D.7.

Table D.1

MAINTENANCE AND REPLACEMENT COST INDEX: REGIONAL AND LOCAL DATA AND INDEXES FOR RENTAL UNITS, 1974-76

Expense Category	Expenditure Weight[a]	1974-76 Price Relative[b]		Expenditure-Weighted Price Relative	
		Region	St. Joseph County	Region	St. Joseph County
Air conditioning work	.001	116.8[c]	118.8[c]	.1	.1
Carpentry	.011	118.3[d]	115.1[d]	1.3	1.3
Contracts	.024	120.2[d]	113.8[d]	2.9	2.7
Electrical work	.019	118.0[d]	119.8[d]	2.2	2.3
Employee expenses[e]	.216	120.2[d]	113.8[d]	26.0	24.6
Flooring work	.091	116.3	114.4	10.6	10.4
Glass work	.054	120.0[f]	118.2[f]	6.5	6.4
Landscaping and paving	.012	120.4[f]	116.0[f]	1.4	1.4
Masonry work	.028	119.4	117.6	3.3	3.3
Miscellaneous repairs	.122	120.4	116.0	14.7	14.2
Painting	.154	116.4	110.0	17.9	16.9
Plumbing and heating work	.134	116.8	118.8	15.7	15.9
Roofing work	.068	113.3	117.0	7.7	8.0
Supplies	.066	118.1[g]	118.1[g]	7.8	7.8
1974-76 maintenance and replacement cost index[h]	--	--	--	118.1	115.2

SOURCES: Tabulated by HASE staff from records for the survey of landlords, Site I, baseline; and Tables 13, 14, and 20 above.

NOTE: Components may not add to totals because of rounding.

[a]Computed by HASE staff from records for the survey of landlords, Site I, baseline.

[b]Unless otherwise noted, the price relative is the index for the corresponding repair component in Table 20 (columns 6 and 7) above (1974 = 100).

[c]Table 20 above, plumbing and heating work.

[d]Table 13 above.

[e]Includes unpaid labor and tenant repairs and replacements.

[f]Table 20 above, miscellaneous repairs.

[g]Table 14 above.

[h]1974 = 100.

Table D.2

MAINTENANCE AND REPLACEMENT COST INDEX: REGIONAL AND LOCAL DATA AND INDEXES FOR RENTAL UNITS, 1974-77

Expense Category	Expenditure Weight[a]	1974-77 Price Relative[b]		Expenditure-Weighted Price Relative	
		Region	St. Joseph County	Region	St. Joseph County
Air conditioning work	.001	124.9[c]	130.0[c]	.1	.1
Carpentry	.011	126.6[d]	134.0[d]	1.4	1.5
Contracts	.024	130.6[d]	136.3[d]	3.1	3.3
Electrical work	.019	128.4[d]	134.4[d]	2.4	2.6
Employee expenses[e]	.216	130.6[d]	136.3[d]	28.2	29.4
Flooring work	.091	122.9	127.4	11.2	11.6
Glass work	.054	127.6[f]	134.0[f]	6.9	7.2
Landscaping and paving	.012	129.6[f]	136.8[f]	1.6	1.6
Masonry work	.028	127.5	134.0	3.6	3.8
Miscellaneous repairs	.122	129.6	136.8	15.8	16.7
Painting	.154	123.1	116.4	19.0	17.9
Plumbing and heating work	.134	124.9	130.0	16.7	17.4
Roofing work	.068	122.2	124.7	8.3	8.5
Supplies	.066	128.2[g]	128.2[g]	8.5	8.5
1974-77 maintenance and replacement cost index[h]	--	--	--	126.8	130.1

SOURCES: Tabulated by HASE staff from records for the survey of landlords, Site I, baseline; and Tables 13, 14, and 20 above.

NOTE: Components may not add to totals because of rounding.

[a] Computed by HASE staff from records for the survey of landlords, Site I, baseline.

[b] Unless otherwise noted, the price relative is the index for the corresponding repair component in Table 20 (colums 8 and 9) above (1974 = 100).

[c] Table 20 above, plumbing and heating work.

[d] Table 13 above.

[e] Includes unpaid labor and tenant repairs and replacements.

[f] Table 20 above, miscellaneous repairs.

[g] Table 14 above.

[h] 1974 = 100.

Table D.3

MAINTENANCE AND REPLACEMENT COST INDEX: REGIONAL AND LOCAL DATA AND INDEXES FOR HOMEOWNER UNITS, 1974-76

Expense Category	Expenditure Weight[a]	1974-76 Price Relative[b]		Expenditure-Weighted Price Relative	
		Region	St. Joseph County	Region	St. Joseph County
Air conditioning work	.001	116.8[c]	118.8[c]	.1	.1
Carpentry	.003	118.3	115.1	.4	.3
Electrical work	.025	118.0	119.8	3.0	3.0
Flooring work	.220	116.3	114.4	25.6	25.2
Glass work	.069	120.0	118.2	8.3	8.2
Landscaping and paving	.004	120.4[d]	116.0[d]	.5	.5
Masonry work	.014	119.4	117.6	1.7	1.6
Miscellaneous repairs	.278	120.4	116.0	33.5	32.2
Painting	.109	116.4	110.0	12.7	12.0
Plumbing and heating work	.205	116.8	118.8	23.9	24.4
Roofing work	.072	113.3	117.0	8.2	8.4
1974-76 maintenance and replacement cost index[e]	--	--	--	117.7	115.9

SOURCES: Tabulated by HASE staff from records for the survey of homeowners, Site II, baseline; and Table 20 above.

NOTE: Components may not add to totals because of rounding.

[a]For single-family units only. Computed by HASE staff from records for the survey of homeowners, Site II, baseline.

[b]Unless otherwise noted, the price relative is the index for the corresponding repair component in Table 20 (columns 6 and 7) above (1974 = 100).

[c]Table 20 above, plumbing and heating work.

[d]Table 20 above, miscellaneous repairs.

[e]1974 = 100.

Table D.4

MAINTENANCE AND REPLACEMENT COST INDEX: REGIONAL AND LOCAL DATA AND INDEXES FOR HOMEOWNER UNITS, 1974-77

Expense Category	Expenditure Weight[a]	1974-77 Price Relative[b]		Expenditure-Weighted Price Relative	
		Region	St. Joseph County	Region	St. Joseph County
Air conditioning work	.001	124.9[c]	130.0[c]	.1	.1
Carpentry	.003	126.6	134.0	.4	.4
Electrical work	.025	128.4	134.4	3.2	3.4
Flooring work	.220	122.9	127.4	27.0	28.0
Glass work	.069	127.6	134.0	8.8	9.2
Landscaping and paving	.004	129.6[d]	136.8[d]	.5	.5
Masonry work	.014	127.5	134.0	1.8	1.9
Miscellaneous repairs	.278	129.6	136.8	36.0	38.0
Painting	.109	123.1	116.4	13.4	12.7
Plumbing and heating work	.205	124.9	130.0	25.6	26.6
Roofing work	.072	122.6	124.7	8.8	9.0
1974-77 maintenance and replacement cost index[e]	--	--	--	125.7	129.9

SOURCES: Tabulated by HASE staff from records for the survey of homeowners, Site II, baseline; and Table 20 above.

NOTE: Components may not add to totals because of rounding.

[a]For single-family units only. Computed by HASE staff from records for the survey of homeowners, Site II, baseline.

[b]Unless otherwise noted, the price relative is the index for the corresponding repair component in Table 20 (columns 8 and 9) above (1974 = 100).

[c]Table 20 above, plumbing and heating work.

[d]Table 20 above, miscellaneous repairs.

[e]1974 = 100.

Table D.5

CAPITAL ADDITION COST INDEX: REGIONAL AND LOCAL DATA AND INDEXES FOR RENTAL AND HOMEOWNER UNITS, 1974-76

Expense Category	Expenditure Weight		1974-76 Price Relative		Expenditure-Weighted Price Relative			
					Rental Units		Homeowner Units	
	Rental Units[a]	Homeowner Units[b]	Region	St. Joseph County	Region	St. Joseph County	Region	St. Joseph County
Air conditioning work	.010	.038	116.8[c]	118.8[c]	1.2	1.2	4.4	4.5
Carpentry	.170	.320	118.3[d]	115.1[d]	20.1	19.6	37.9	36.8
Construction	.701	.543	114.0[e]	113.1[e]	79.9	79.3	61.9	61.4
Landscaping and paving	.119	.099	120.4[f]	116.0[f]	14.3	13.8	11.9	11.5
1974-76 capital addition cost index[g]	--	--	--	--	115.5	113.8	116.1	114.2

SOURCES: Tabulated by HASE staff from records for the survey of landlords, Site I, baseline and the survey of homeowners, Site II, baseline; and Tables 6 and 20 above.

NOTE: Components may not add to totals because of rounding.

[a] Computed by HASE staff from records for the survey of landlords, Site I, baseline.

[b] For single-family units only. Computed by HASE staff from records for the survey of homeowners, Site II, baseline.

[c] Table 20 above (columns 6 and 7), plumbing and heating work (1974 = 100).

[d] Table 20 above (columns 6 and 7), carpentry (1974 = 100).

[e] Table 6 above.

[f] Table 20 above (columns 6 and 7), miscellaneous repairs (1974 = 100).

[g] 1974 = 100.

Table D.6

CAPITAL ADDITION COST INDEX: REGIONAL AND LOCAL DATA AND INDEXES FOR RENTAL AND HOMEOWNER UNITS, 1974-77

Expense Category	Expenditure Weight		1974-77 Price Relative		Expenditure-Weighted Price Relative			
					Rental Units		Homeowner Units	
	Rental Units[a]	Homeowner Units[b]	Region	St. Joseph County	Region	St. Joseph County	Region	St. Joseph County
Air conditioning work	.010	.038	124.9[c]	130.0[c]	1.2	1.3	4.7	4.9
Carpentry	.170	.320	126.6[d]	134.0[d]	21.5	22.8	40.5	42.9
Construction	.701	.543	124.4[e]	121.4[e]	87.2	85.1	67.5	65.9
Landscaping and paving	.119	.099	129.6[f]	136.8[f]	15.4	16.3	12.8	13.5
1974-77 capital addition cost index[g]	--	--	--	--	125.4	125.5	125.6	127.3

SOURCES: Tabulated by HASE staff from records for the survey of landlords, Site I, baseline and the survey of homeowners, Site II, baseline; and Tables 6 and G above.

NOTE: Components may not add to totals because of rounding.

[a] Computed by HASE staff from records for the survey of landlords, Site I, baseline.

[b] For single-family units only. Computed by HASE staff from records for the survey of homeowners, Site II, baseline.

[c] Table 20 above (columns 8 and 9), plumbing and heating work (1974 = 100).

[d] Table 20 above (columns 8 and 9), carpentry (1974 = 100).

[e] Table 6 above.

[f] Table 20 above (columns 8 and 9), miscellaneous repairs (1974 = 100).

[g] 1974 = 100.

Table D.7

REGIONAL AND LOCAL COST INDEXES FOR MAINTENANCE/REPLACEMENTS AND CAPITAL ADDITIONS: RENTAL AND HOMEOWNER UNITS, 1974-77

Year	Rental Units		Homeowner Units	
	Region	St. Joseph County	Region	St. Joseph County
Maintenance and Replacement Cost Index				
1975	109.7	107.1	109.2	107.4
1976	118.1	115.2	117.7	115.9
1977	126.8	130.1	125.7	129.9
Capital Addition Cost Index				
1975	106.2	104.6	106.7	105.1
1976	115.5	113.8	116.1	114.2
1977	125.4	125.5	125.6	127.3

SOURCES: Charles W. Noland, *Indexing the Cost of Producing Housing Services in Site II, 1974-75*, The Rand Corporation, N-1130-HUD, May 1981, Tables A.1-A.3; and Tables D.1-D.6 above.

NOTE: For all indexes, 1974 = 100.

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No. 1900-15	No. 1950-14
No. 1900-23	No. 1950-18
No. 1900-24	No. 1950-28
No. 1900-28	No. 1950-41
No. 1900-32	No. 1950-45
No. 1900-37	No. 1950-53
No. 1900-58	No. 1950-56
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