AN ANALYSIS OF SOME ASPECTS OF THE LANSING HOUSING MARKET

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AN ANALYSIS OF SOME ASPECTS OF THE LANSING HOUSING MARKET

By

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Chapter I

INTRODUCTION

Purpose

The primary aim of this paper is to analyze the Lansing housing market - to study the demand, supply and catalytic factors which influence prices of used houses in the real estate market with the purpose of predicting in broad outline the future trends of real estate prices. A secondary but important purpose is to study the interrelationships of various housing market factors over time. This latter mentioned aim is, of course, imperative to the accomplishment of the first. For two reasons it may seem presumptuous to claim as one purpose the predicting of future trends in the market: (1) the complexity and intangibility of the factors that must be considered, and (2) the fact that numerous qualified experts already are making housing and real estate price forecasts.

Regarding the first of these reasons, it is recognized that completely accurate predictions of future trends cannot be made in any field of economic activity and especially not in the field of real estate. However, since judgments as to future conditions of the market are being made and acted upon every day, it is not a case of perfect prediction or no prediction, but rather a question of prediction by guess, hunch, and rule of thumb or by analysis

of some of the influencing factors in the past to determine some of their interrelationships and trends. A careful and systematic study of the latter information should provide a more dependable basis for decisions than the former method.

As regards the second factor (i.e., there already exist experts who attempt to predict future trends in the market) it is true that there are a few organizations who are concerned with this problem, but their analyses are almost entirely on a national basis while one of the unique aspects of the housing market is its local nature. The demanders, that is, the buyers and renters, of housing are confined to one particular locality, a city or metropolitan area. People do not usually move great distances in order to obtain lower rents or prices on real estate. Since the incentive toward mobility for most of us is the employment motive, if we find that we have a secure job in one place, we are not likely to jeopardize our status by moving to some other city just because rent happens to be $10 a month cheaper. It is therefore necessary for the analyst of housing demand to work with local market data rather than with the statistics of a whole state or nation. One authority, in discussing housing research, states, "Statistical series on a national basis are of limited usefulness, and, in fact, can be misleading if applied unqualifiedly to local situations."[1]

1 Richard U. Ratcliff, Urban Land Economics, (New York, 1949), p. 459.

Importance

The real estate market is a very important aspect of our economy. It involves both a large amount of investment funds and many people. Most people make one of the most important financial decisions of their lifetime when they buy a house. They not only commit most of their past savings, but also in many cases a good part of their future income will be earmarked for this purpose. Should both house prices and incomes depreciate by fifty per cent during the period that the buyer is paying for his house, the payment schedule to which he has committed himself may constitute a terrific burden - a burden that he cannot unload without loss because of the reduction in selling prices. On the other hand, could the laboring man know that market conditions will remain stable in relation to incomes, perhaps rising somewhat for a period of five years or so, he might find it very desirable to risk buying a home.

There are many groups in addition to buyers and sellers who would benefit from a knowledge of the local market. Government officials who are concerned with zoning, city planning, public housing, et cetera, need to know market conditions in order to carry out their duties and programs adequately. For example, a large public housing program might well be timed to counteract the real estate cycle rather than to intensify the peak. Among the reasons the real estate broker has for an interest in knowing the future prospects is in order that he may adjust his outlay of capital.

Still other groups interested in the real estate market are investors and subdividers.

Perhaps the most important reason for knowing something of future conditions is in order to control and modify fluctuations before they occur, that is, to practice preventive rather than corrective measures. Great booms and their accompanying busts are very detrimental to our way of life, not only in the economic sphere, but also in the political and social spheres. In order to function smoothly any society needs a certain amount of stability. In regard to the part that market information can play in stabilizing the real estate cycle, one authority has the following comment:

> "One of the most effective methods for contributing to the stability of the housing market is to improve the flow of information among the traders in the market. Prospective consumers must know more about the offerings in the market, about recent transactions, about construction costs, and about trends on both the demand and supply side. Prospective sellers and producers must be informed on all the same points, with particular emphasis on the facts with respect to demand. A freer flow of market information will not cure all the market imperfections, but within limits, it will help to direct production to the points where supply is most urgently needed, to check production before too great a surplus is created, to rationalize the relationship between market price and cost of production, and to reduce the spread of market prices for housing of similar facilities. Certainty is the greatest of market stabilizers. Certainty depends on predictability and, in most areas of economic activity, prediction must depend mainly upon an analysis of recent trends and present market facts."[2]

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2 Ibid., p. 455.

Scope

In geographical area this study will encompass Lansing and East Lansing. The city of East Lansing was included because it appears to be an integral part of the Lansing housing market. It is especially attractive as a place of residence to the high income groups of Lansing proper, and vice versa, many students and workers of East Lansing reside in Lansing.

The time period covered by the real estate price indices and other indices with which they will be compared is fifteen years, from 1935 to 1950. This period was chosen for two reasons: (1) because it seemed necessary to go back some years before the war in order to observe price movements in a normal period before the influence of the war, and (2) because most of the indices with which the price indices were compared use the 1935-1939 period as a base. Under ideal conditions, the study should have gone back to 1929 or thereabouts in order that a whole business cycle could have been included. Because of inadequacy of data and time limitations this was impossible.

As the title of the paper indicates, this is an analysis of <u>some</u> of the factors of the Lansing housing market. It would be almost impossible to include all of the factors which might be deemed relevant in the housing market analysis. However, it is felt that the major elements have been included - statistics on real estate prices, population, construction costs, building activity, incomes, and

the general price level as measured by the Bureau of Labor Statistics' consumer price index.

Procedure

The first essential step was to divide Lansing into certain homogeneous areas, in order that their trends could be compared and examined for significant differences. The hypothesis was that there are certain forces which operate to make certain areas essentially different from others. Some of these forces are socio-economic differences, racial and ethnic characteristics, geographical location, and cultural and institutional influences. The delineation of these areas is made in Chapter II, entitled "An Ecological Study of Lansing."

The second step was the finding of a method to construct the real estate price indices. Real estate is a peculiar commodity and is not susceptible to the orthodox type of index construction. The method used was developed by Herman Wyngarden in a doctoral dissertation.[3] A complete discussion of the method will be found in Chapter III. In essence it involves finding houses which have been listed more than once over the period considered and which have not been essentially changed by major improvement in order that there can be a comparison of a relatively homogeneous product. In actuality, the complete number of listings for

3 Herman Wyngarden, An Index of Local Real Estate Prices, An unpublished doctoral dissertation, (Ann Arbor, 1937), pp. 65-77.

each house is made into a separate index, and all these separate indices are combined to form the final index.

After having defined the areas and found a method, it was next necessary to collect the data on prices. These were obtained from the files of the Lansing Real Estate Board and from the Advance Realty Company.

There are several questions with which any collector of data for index numbers must be concerned. Is the data accurate? Is it comparable? Is the sample representative, and is it adequate? The prime requisite for comparability is a homogeneous product. Perfect homogeneity in the real estate market is impossible, but the method used seems to insure the closest possible comparability. It assumes, however, that those houses which have been essentially altered by improvements be eliminated from consideration in the index. Unfortunately, the form in which the data are available make this determination practically impossible. The data collected from the Advance Realty Company were so filed that information on building permits and comparison of photographs make it possible to eliminate some of the houses from consideration. The information from the Lansing Board of Realtors did not permit any elimination on this basis. Certain ones were eliminated when they seemed to deviate too extremely from the average prices in any given year. In other words, it was necessary to use the criteria of "reasonableness". For this reason, the indices may well have an upward bias.

Since the data were taken directly from the files of real estate firms, they are accurate in that they were obtained from a primary source. However, an element of inaccuracy does enter in because in order to have sufficient data it was often necessary to use listing prices rather than actual selling prices. Selling prices were used in every case where it was possible. In no case was a listing price used in one year and a selling price in another on the same house, since the two obviously would not be comparable. The use of listing prices gives the index an upward bias. Some writers have maintained that the listing price would probably be above the selling price by a constant amount through all time periods and that therefore comparison would still be valid. Observation of the relationships between list price and selling price does not substantiate this conclusion. At the beginning of an upswing in business selling prices are even with list price. As the upswing of the cycle continues list prices begin to gain on selling prices and finally when selling prices begin to level off and go down, list prices are reluctant to drop, and the gap between list price and selling price is greatest at this point.

As to the representativeness and adequacy of the sample, the data were assembled by going through the material in straight alphabetical order from A to Z. For the Negro and East Lansing areas every listing was examined, while in the others the sampling was stopped short of Z when it was felt that an adequate sample had been obtained. In no case

did the sampling stop before the letter N had been reached. In the middle income area for which the largest sample was taken, 230 different houses with two or more listings for each address were used, while in the Negro area which had the smallest sample, 200 different houses were used.

All the important data upon which the indices are based are shown in the first part of Chapter IV. After the area indices have been completed, they will be compared and analyzed in the latter part of the chapter. The function of the comparison is to describe the differences which exist and to determine whether these differences were logical.

In Chapter V, a composite index of the six areas is computed and then considered in conjunction with such relevant housing market factors as construction costs, the general price level, supply, and potential demand, the purpose being to analyze the relationships between these variables over time. There are at least three reasons why such an analysis would be valuable: (1) to test imperically already existing theory in this field of economic activity, (2) to attempt to discover new relationships and generalizations which might be added to the economists' store-house of knowledge in this field, and (3) to set up certain quantitive relationships which might be valuable in predicting future movements of real estate prices.

In the concluding chapter of this study, some attempt is made to predict in broad outline the probable future course of real estate prices. The vehicle used for this task is an analysis of probable future movements of the related factors. Different sets of assumptions are made in regard to future developments on the international scene and separate analyses and conclusions reached under each set of assumptions.

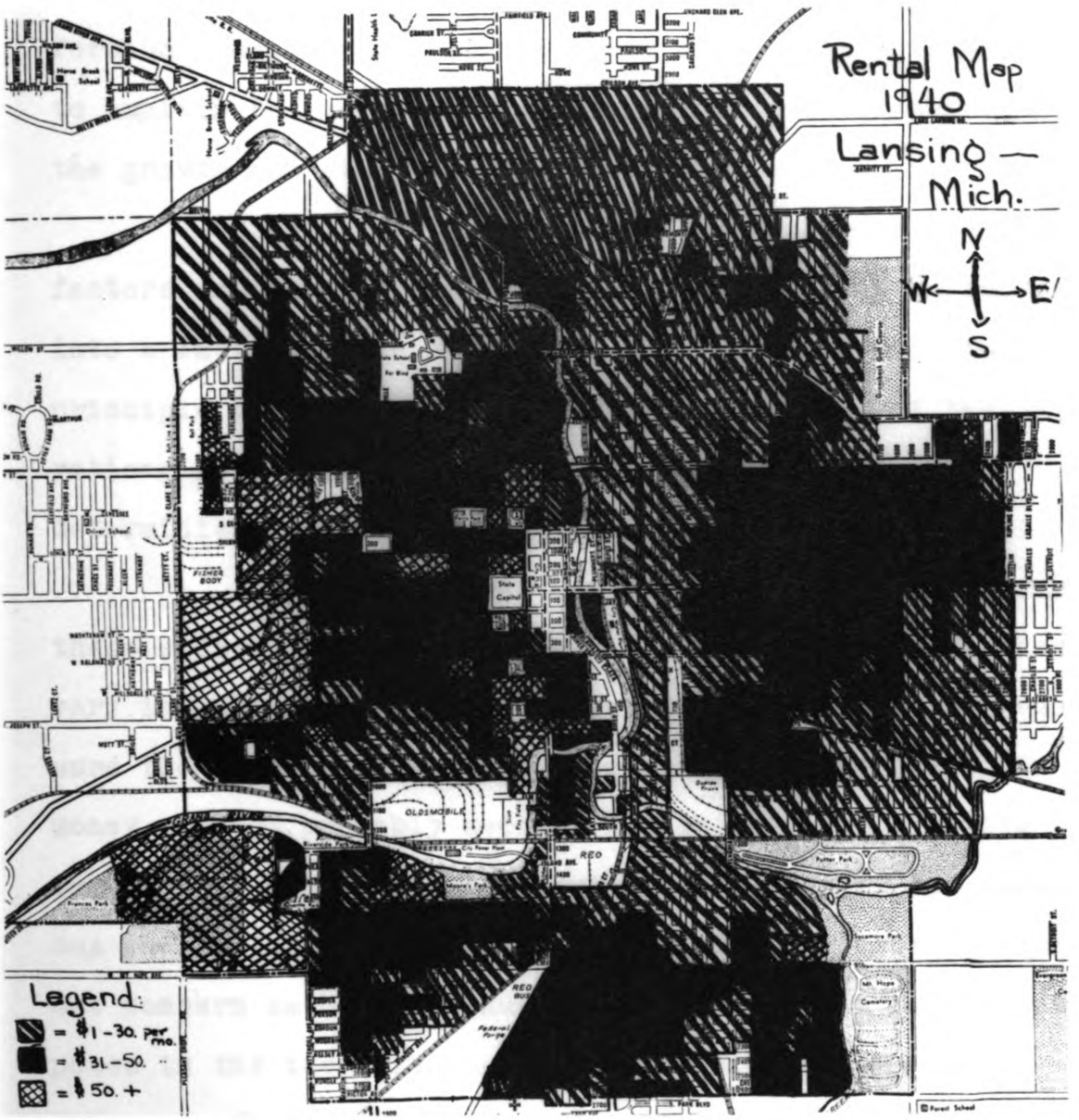
Chapter II

AN ECOLOGICAL STUDY OF LANSING, MICHIGAN

The hypothesis upon which this chapter is based is that real estate prices may vary considerably between certain areas of the city, and that to make separate indices for these "natural" areas would be important in the analysis. In selecting "natural" areas, one is faced with a multitude of criteria which could be used to determine them. Those to be chosen, of course, depend upon the purpose for which one wishes to delineate the areas. Since this problem deals with real estate prices, a socio-economic index is of primary interest, although cultural factors are important also and may not be reflected in the rental map index which has been used in this chapter. It would be interesting to attempt to set up a "natural" area index through the use of a social register or occupational register, but the time factor prohibits this. In addition to the rental map (see map no. 1) an historical map of Lansing, which may be of some use in studying the dynamics of Lansing's ecological structure, has been constructed.

Before attempting an analysis of the Lansing situation, it is imperative that one get a notion of some of the conceptual frameworks through which urban ecology can be viewed. A summary of some of the more widely recognized theories follows. Before going directly into the theories, it may be helpful to set up a taxonomy into

Map I.--Map Showing the Average Monthly Rent for each block in the City of Lansing, Michigan, as of 1940.



Map no. 1

Source: Data obtained from U.S. Bureau of Census. Housing, Supplement to the First Series, Housing Bulletin for Lansing, Michigan, Block Statistics, 1940.

which these theories may be fitted. Walter Firey has made a very meaningful classification.[1] He separates the theories into two main categories, those which are descriptive and usually depict their generalizations in an idealized form on a map, and those which are rationalistic and attempt to explain the underlying mechanism which will determine the growth and structure of the city.

Except for Firey's attempt to consider cultural factors and to integrate them with the economic variables into a rationalistic system, which might be termed "the principle of the proportionality of ends," all of the rationalistic systems are pitched in terms of economic determinism.

Any community has various ends which it desires; these ends may be economic, cultural, et cetera, and they vary in intensity. Firey, it seems, would attempt to measure the utility of these various ends (not in terms of money, though probably necessarily in some quantitative terms) and to balance the marginal utilities of the various ends. At any rate, these rationalistic theories need not concern us here, because we are interested for our purposes in the idealized descriptive theories.

The first of these descriptive theories in point of time was the Burgess Concentric Circle Theory.[2] Burgess

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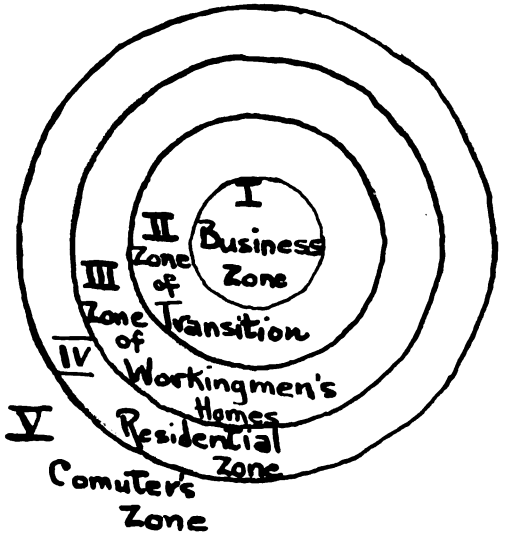
1 Walter Firey, Land Use in Central Boston (Cambridge, Mass., 1947), p. 6.

2 Ernest W. Burgess, "The Growth of the City," Readings in General Sociology, edited by Robert W. O'Brien (Palo Alto, California, 1947), pp. 268-270.

states that cities in the process of expanding separate themselves into a certain spatial pattern based on economic and cultural groupings and that this pattern is typical of all cities with only "interesting minor modifications." This natural pattern takes the form of concentric zones as pictured in the diagram below. The first concentric zone is the central business district; the zone encircling the business area is the zone of transition or deterioration and is characterized by poverty, degradation, disease, crime and vice. The third zone is made up of workingmen's homes, families who are poor but thrifty, honest, and skilled. Following the workingmen's zone is the residential circle, and finally, around the periphery of the city, we find the highest grade residential area where the elite congregate.



Another major descriptive theory is the Hoyt Sector Theory. The basic postulates of this theory were given in an article entitled, "The Structure and Growth of Residential Neighborhoods in American Cities."[3] His idea is that the

3 Homer Hoyt, The Structure and Growth of Residential Neighborhoods in American Cities, (Washington, D. C., 1939), pp. 116-122.

"natural" areas of a city tend to take the shape of sectors originating at the center of the city and expanding outward toward the periphery in a fan-shaped manner. This is especially true of the high grade residential neighborhoods. They are prevented from moving sideways because this area has already been occupied by an intermediate rental sector. The area beyond them is usually available because land promoters anticipate the trend of growth and have restricted it to high grade use. This is not by any means a complete statement of Hoyt's theory, but as many of the details of his scheme will be brought up in the analysis of Lansing, it will not be elaborated further here.

The third and final theory which we shall consider is the Firey Cultural Theory.[4] Descriptively, Firey's scheme is not a complete theory in itself but rather a refinement of the above two theories. Instead of refuting Hoyt's Sector Theory (if you grant a broad interpretation of a sector), Firey's work adds cultural causes to the economic causes as an explanation of the development of sectors. Nor does Firey refute Hoyt's theory that high rent areas tend to move out in their sector to the periphery of the city in every case. Hoyt's idea was undoubtedly postulated on the principle of filtering within the sector, and Firey merely showed that there are certain cultural and institutional impediments to the filtering process.

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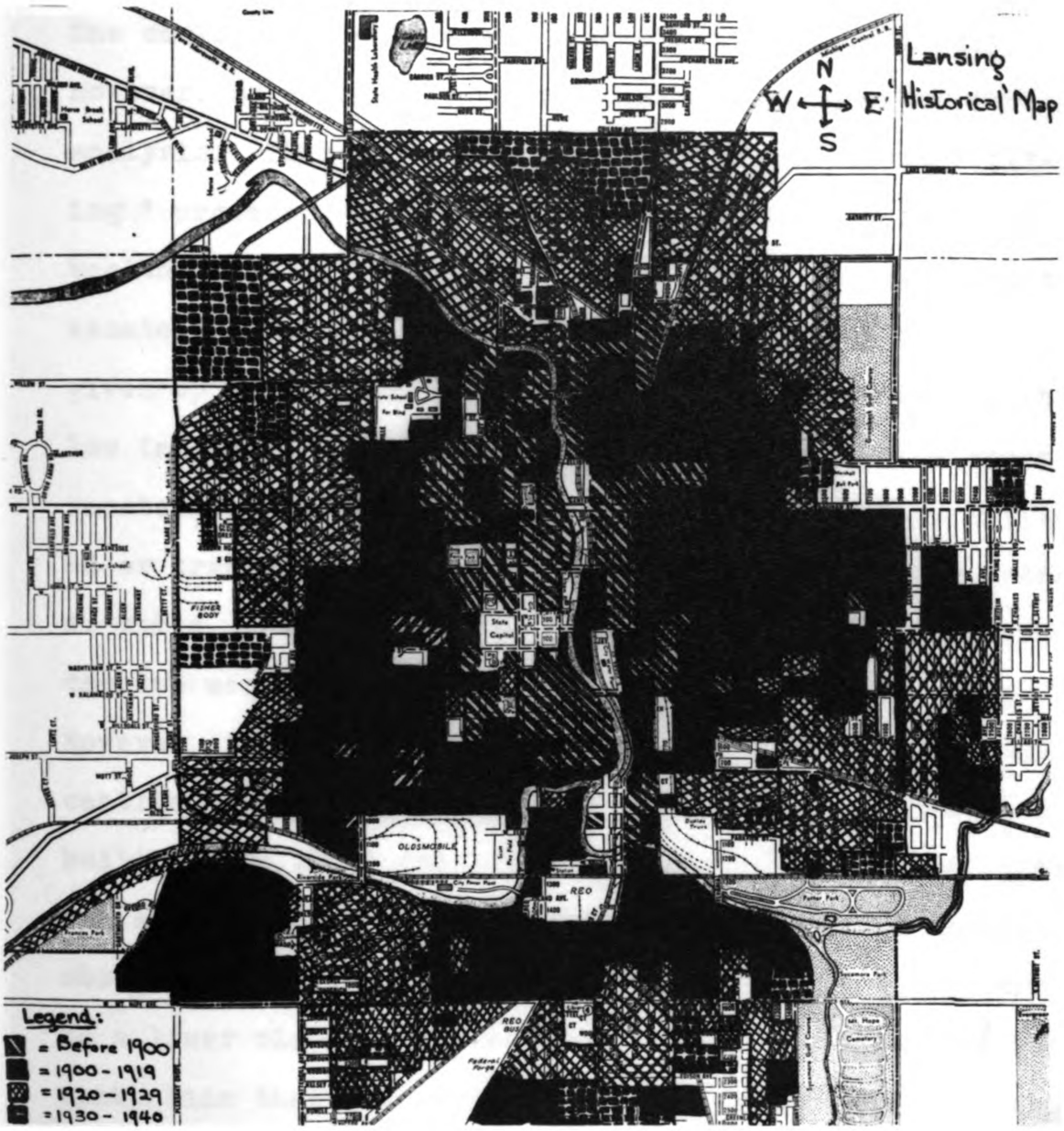
4 Firey, pp. 30-38.

In attempting to study the ecological structure of Lansing, it is necessary to separate our analysis into two separate parts, the dynamic and the static. For the study of the dynamics of the city's structure, two sources of information will be used: (1) an 'historical' map (see attached map no. 2) which shows the blocks which in 1940 had a plurality of structures built within a certain span of years, and (2) the early history of Lansing. The information used from these two sources will be oriented toward discovering the validity of the various descriptive theories summarized above.

The 'historical' map gives a rough indication of the way in which Lansing developed. It would seem to indicate that the early growth was approximately in a concentric pattern, but with the concentric circles being somewhat flattened or eliptical in nature due to the flow of the Grand River, and with the top (western) part having a larger radius than the lower half of the centermost elipse. Thus this map lends support to the Von Thunen theory of land use developed in Germany in the 1800's.[5] That it conforms to this theory is due largely to Lansing's topography, it beingpractically a level plain, with no natural barriers to development except the Grand and Cedar Rivers. These rivers did modify the pattern slightly. Of course, this structure

5 Richard T. Ely and George S. Wehrwein, Land Economics (New York, 1940), p. 68.

Map II.-- Map Showing those Areas of Lansing, Michigan which had a Plurality of Homes Within Certain Specified Time Periods, as of 1940.



Map no. 2

Source: Data Obtained from the U.S. Bureau of Census. Housing. Supplement to the First Series, Housing Bulletin for Michigan, Lansing Block Statistics, 1940.

does not add support to the Burgess Concentric Circle Theory, because the point of his theory was not to explain historical development but rather to explain the "natural" socio-economic areas of the city by the concentric scheme. One could come to Burgess' conceptualism theoretically, however, by combining another concept with the Von Thunen analysis. This other concept is often called the "filtering " process. The general idea is that it is the more wealthy that build the new homes, and the houses which they vacate filter down to the next income group. The houses given up by the middle income group are taken over by the low income group. The houses which the low income group vacates either ripen into business usage or become a blighted or transitional area. Thus if the Von Thunen analysis is valid, and if the filtering process holds, by combining the two mechanisms, one emerges with the Burgess Theory. However, this analysis neglects the fact that in any concentric circle (for example, that one represented by houses built before 1900) the houses, having been built in different styles and qualities, tend to depreciate and become obsolete at different time rates and hence do not filter to a lower class at the same time. It also neglects Firey's contention that cultural values may prevent the filtering process from operating in various areas. As a result of these omissions and inadequacies, the Concentric Circle Theory breaks down as a satisfactory explanation of socio-economic groupings.

Let us now consider the written history of Lansing with a view to analyzing the Sector, Cultural, and Concentric theories. Lansing's development was peculiar in that the impetus for its origin was political rather than economic. Before the state legislature decided upon this as the site for the Capitol of Michigan, the area was practically all swamp and wilderness. "The State Census of 1845 gives the white population of Lansing Township as 88 souls, and the entire 36 square miles was practically an unbroken wilderness covered with virgin timber. The only settlement was a group of log cabins around a small saw mill at the east end of the dam at what is now North Lansing."[6] When the Capitol was built in 1847, the locus of the town was shifted from North Lansing to its present center. The business district, however, was not at first concentrated at its present location. Because of the placement of the main roads leading into the area, it was thought that the business district would develop along what was then and still is Main Street. J. P. Edmonds says, "They apparently intended that the residential section should be in the central part of town around the Capitol square."[7]

"This, however, was not to be. Business places commenced to spring up around the Capitol square and in a very few years Main Street was practically deserted for

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6 J. P. Edmonds, Early Lansing History (Lansing, Michigan, 1944), p. 13.

7 Ibid., p. 20.

business purposes."[8] The location selected for the Capitol was instrumental in causing Lansing to be divided into separate sections during these early years. The transportation lines and bridges were so placed that a community and business area developed along Main and South Cedar Streets in order to be in the direct line of traffic coming to the Capitol from the other important towns and cities of the day. A second section grew up around the Capitol itself, and the third was the original settlement in North Lansing. It thus so happened that for some time there were three separate and distinct sections of the town--Lower Town, Middle Town, and Upper Town. The names given to these areas apparently described fairly accurately the socio-economic status of their residents, although it is difficult to distinguish any great difference in status between the Middle (around the Capitol) and Upper (Main Street) Towns.

In respect to hotels, it is interesting to note that the first one was located in North Lansing, but was not successful; the second hotel to be built was also started in 1847 "on the northwest corner of Main Street and Washington Avenue where the residence of R. E. Olds now stands... For nearly twenty years it was the best hotel in Lansing and from its opening became political headquarters and the center of social activity."[9]

A few other quotations give us an indication of the

8 Ibid., p. 21.

9 Ibid., p. 29.

locations of the socially élite. "Probably no man in the early life of the city has left a more vivid memory than he (Mr. Hosmer). Possessed of ample means for his time, he was generous to a fault and charitable to the extreme. His residence was on East St. Joseph Street, corner of Grand. The grounds covered the greater part of the entire block and were landscaped and beautified more than any other in town."[10] Mr. Buck was another important man in business and politics. "His residence was on the corner of Capitol Avenue and Ionia Street where the Telephone Building now stands. The Buck family were all very much socially inclined and exceedingly hospitable. Their house was always open and headquarters for every social event..."[11]

"It is, however, somewhat remarkable that on North Washington Avenue there are still standing, in the same neighborhood, three of the original mansions erected at that time, each of which is intimately connected with early business, social, and political life of our city. At 878 North Washington Avenue, there still stands in fine condition, an old-fashioned square brick house which was built about the year 1857 by Daniel L. Case."[12]

"A block or so north at 1025 there is standing a

10 Ibid., p. 41.

11 Ibid., p. 55.

12 Ibid., p. 136.

frame building which we now know as the Colonial Apartments. The original of this building was once one of the finest and most impressive private residences in Lansing. The third house was across the street from the Peck house (above), and it was occupied by Dewitt Clinton Leach, who was one of the first editors of the old Lansing Republican, now the State Journal."[13]

These excerpts give us an indication of where the high grade residential areas were at the beginning. There would seem to have been at least two separate districts, one south of the Capitol and present business district along Main, Cedar, Washington, and Capitol Avenues and the other north of the Capitol along Ionia, Ottawa, and North Washington. Both districts seem to have strung out along the main arteries of transportation leading to the Capitol and business district. This tends to support Hoyt's observation that the "first type of high rent development was the axial type with the high grade homes in a long avenue or avenues leading directly to the business centers."[14]

"The total area of the original town was about two square miles, but as time went on and the population increased, many subdivisions were made and adjacent lands platted until the area increased to 7½ miles in 1900."[15] In 1872 plats were filed which extended the city on the west

13 Ibid., p. 137.

14 Ibid., p. 138.

15 Edmonds, pp. 38, 39.

to Logan Street, from Michigan Avenue south to Main, east to approximately Pennsylvania Avenue and including the areas both south to Main and north to Grand River Avenue. Between 1872 and 1900 the movement of the élite seemed to be predominantly westward on Main Street (Barnes mansion erected 1872). Two pioneers of Upper Town built large estates in the one hundred block of West Main in 1890 and in the area two, three, and four blocks north and west of Michigan Avenue. Interestingly enough, the development of East and West Main Street on the high bank of the river agrees with one of Hoyt's placements of the high rent district in a city located on a level plain. However, the high rent area has not spearheaded out from this point of origin as Hoyt's theory claims. The area extending from one hundred to three hundred West Main and north to Kalamazoo has not filtered down to the lower rent groups and to commercial use. Instead, it has resisted deterioration strongly, perhaps for reasons of sentiment and symbolism and because, traditionally, leading citizens have lived here, all reasons similar to those Firey found for the tenacity of Beacon Hill. Consistently, from earliest days to the present, the western half of the city has been considered the more desirable, whereas, except for isolated cases, the eastern and northern sections have always been lower rent districts.

In 1901 the relocation of R. E. Olds' automobile factory in Lansing inaugurated the period of rapid industrial

growth. In housing development, this accelerated the filtering down of the area directly surrounding the plant and extending west and north along Pine and adjacent streets. In general, our 'historical' study of Lansing tends to substantiate Hoyt's theories of residential development, but with some additions from Firey. However, it is difficult to find any substantiation for the Burgess Concentric Theory.

In order to study the present ecological structure of Lansing, we have used the 1940 Housing Census, Block Statistics of Lansing[16] to construct a map showing the average rental values for each block. See Map no. 1, p. 12. Three divisions were made: $0 - $30 per month average rent ~~(red)~~; $31 - $50 ~~(green)~~; $51 - ~~(blue)~~. As Hoyt suggests, patterns early established have continued in the same direction to the present. The west side has remained the more desirable area with the highest rental areas closely following his ideas. Hoyt also postulates that the top residential districts usually grow "toward the section of the city which has free open country beyond the edges and away from the dead end sections which are limited by natural barriers to expansion."[17]

16 United States Bureau of the Census, Housing, Supplement to the First Series, Housing Bulletin for Michigan, Lansing, Block Statistics (Washington, D. C., 1942), pp. 6-16.

17 Homer Hoyt, "The Pattern of Movement of Residential Rental Neighborhoods", Readings in General Sociology, edited by Robert W. O'Brien (Paloalto, California, 1947), p. 317.

Moore's River Drive and that section in the center west extending to the city limits conform quite exactly to this pattern. The only other high rent areas are (1) the small West Main - South Capitol T which is now beginning to succumb to commercialization and (2) isolated blocks north and west of the Capitol which have maintained their prestige due to sentiment and the force of certain personalities such as Richard Scott.

The northern part of the city also has continued in its early pattern as the lower rent area, and with deterioration it has become an almost entirely low rent district. In the eastern half of Lansing wherein very few better homes were built before 1900, settlement was not extensive due to swampy, low terrain and periodic flooding of the rivers. After 1900 the large influx of auto workers were forced to build in the east and southeast, due to limited space on the west side. South Lansing, with the exception of South Washington Avenue below Main Street, which is a commercial and transitional area, and South Cedar and Larch Streets near the Cedar River which have long been old, blighted sections, has developed for the middle rent group. This is partly because the southwestern section is adjacent to the Moore's River area and hence was naturally attractive to the middle group and partly because real estate promoters made the Devonshire, Sunnyside and other subdivisions desirable.

No discussion of the ecological structure of Lansing is complete without mention of the important role played by East Lansing as the bedroom for large numbers of Lansing's upper and middle upper groups. This explains why Lansing proper has a smaller really high grade residential area than one would expect of a city of its size and income.

An ecological analysis of Lansing through three stages has now been completed:

(1) A static analysis of Lansing at the beginning of its development.

(2) A dynamic analysis showing some of the patterns of development and factors which caused these particular patterns.

(3) A 1940 rental map study to obtain a picture of the present structure of Lansing.

This analysis is incomplete both in its historical aspects and in the number of indices that have been used in determining socio-economic status. Nevertheless, it is the object of this chapter to determine some of the natural areas of the city, and hopefully the rationale has been developed sufficiently that this step can be taken with some justification. Before actually outlining the natural areas, it might be well to mention some of the precautions that should be recognized. These precautions were taken from an article by Calvin F. Schmid:[18]

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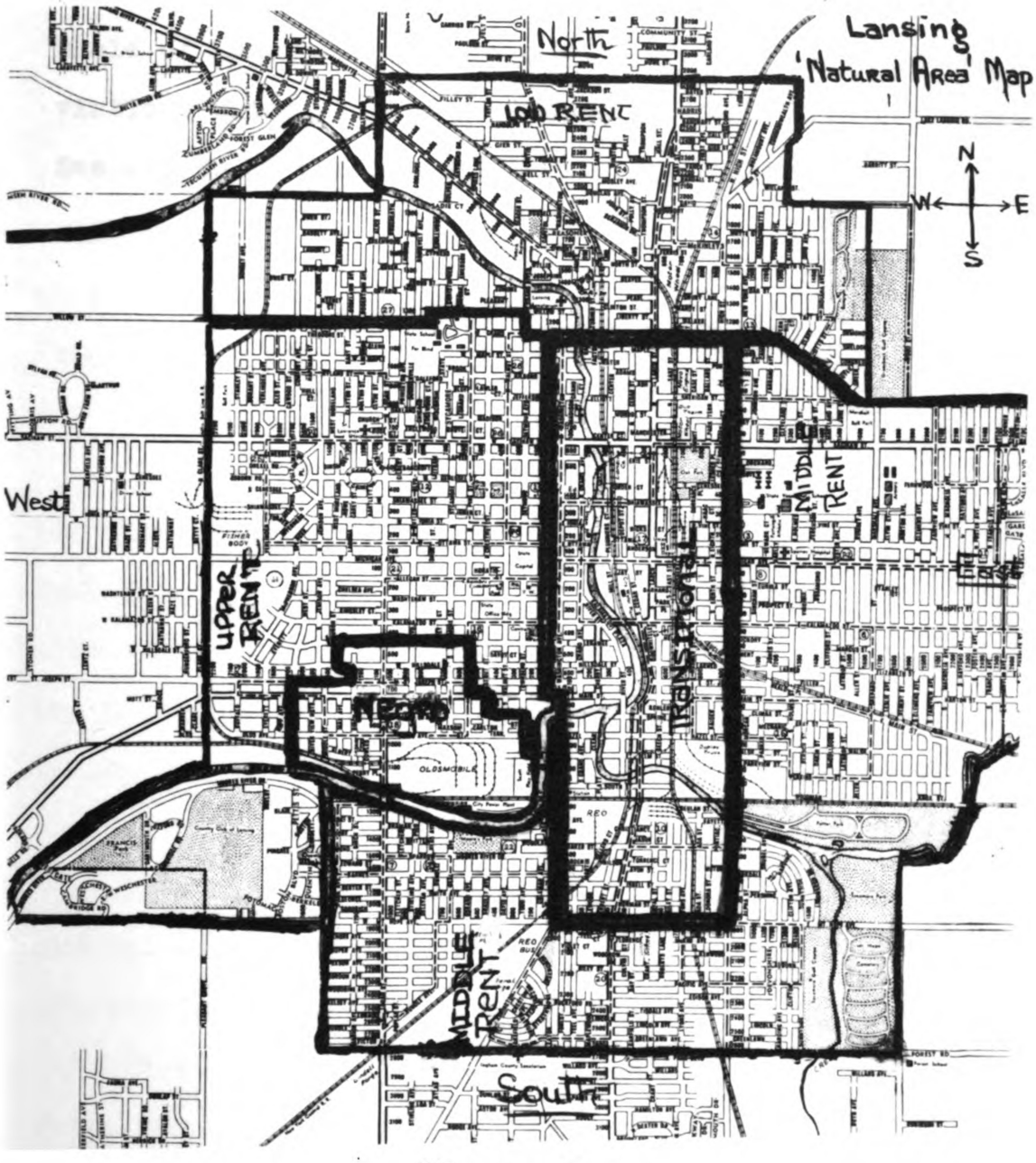
18 Calvin F. Schmid, "Concept of Natural Areas, Census Tracts, and Metropolitan Districts," Readings in General Sociology, edited by Robert W. O'Brien (Palo Alto, California, 1947), p. 381.

> 1. The concept of natural areas should not be applied too rigidly. For example, it would be extremely difficult, if not impossible, to delineate natural areas for the entire city that would serve as a common denominator for all social data. In actual practice it may even be necessary sometimes to make some unit more or less arbitrarily serve as a basis for compiling data and making analyses.
>
> 2. The criteria that are chosen to differentiate natural areas may not be universally applicable. As a general rule it is most satisfactory to select a combination of factors to delineate natural areas... The criteria that are chosen will be largely determined by the problem at hand and by the point of view of the investigator.
>
> 3. Natural areas are not sharply demarcated from one another. The boundaries are usually indefinite, being zones rather than lines. It is entirely permissible to draw boundaries, but their arbitrary nature should be recognized.
>
> 4. Natural areas are not static and fixed but are dynamic and ever changing. The various interrelated factors which differentiate one natural area from another are subject to alteration in the course of time.

Recognizing that the data are somewhat inadequate and the boundaries arbitrary, Lansing, for the purpose of this study, can be divided into five natural areas for which separate indices of real estate prices should be constructed. These areas are: (1) the West Side or high rent area, (2) the Middle Rent Area, which includes most of South Lansing and Lansing east of Pennsylvania Avenue, (3) the Negro Area, (4) North Lansing, the predominately low rent area, (5) the Transitional Area, and (6) East Lansing.

Map III.--Map Showing the Division of Lansing, Michigan into five Natural Areas, for each of Which Separate Real Estate Price Indices have been Constructed.



Map no. 3

The assumption is that within these areas influences are such that the course of real estate prices might be much different between areas, and that an index for just the whole of Lansing would cover up some of these internal deviations which might be significant for analytical purposes. See Map No. 3 for an outline and explanation of these areas.

CHAPTER III

THE METHOD USED TO CONSTRUCT INDICES

The same method was used in constructing all of the indices. As mentioned in the introduction, the methodology is not original but was adopted without change from a doctoral dissertation by Herman Wyngarden, entitled, An Index of Local Real Estate Prices (Ann Arbor, 1927). The West Side (high rent area) Index will be used to explain and exemplify the method.

The first step is to gather the data. Ideally, the data should have been entirely sales prices, but since such data were insufficient, it was necessary to supplement with listing price information.[1] The data were obtained from The Lansing Board of Realtors, which is a federation of thirty-two realty firms, and from the Advance Realty Company.

The data were so filed as to make it possible to translate the listings directly to a working table, that is, each address had a complete history of all listings filed together on separate cards. If one looked, for example, at "A" Street in the files and found 412 "A" St., one would find three cards filed, one for 1942, one for 1947, and one for 1949. A fragmentary sample of the working table used is given in Table I.

---

1 See Introduction (Chapter I) pages 7 and 8, for a discussion as to the accuracy and comparability of the data and the adequacy and representiveness of the sample.

Table I.-- A FRAGMENT OF THE WORKING TABLE SHOWING PROPERTIES UPON WHICH THE WEST SIDE (HIGH RENT AREA) INDEX WAS BASED. LISTING PRICES ARE ENTERED UNDER THE APPROPRIATE YEARS AND RELATIVES COMPUTED FROM THEM.

STREET	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
412 A St.	(100) 14,000						(179) 25,000		(179) 25,000	
413 A St.			(100) 10,000			(195) 19,500	(170) 17,000			
1316 B St.								(100) 40,000	(95) 37,500	
1522 B St.				(100) 8750		(177) 15,500	(171) 15,000		(160) 14,000	
1613 B St.				(100) 7500		(157) 11,750	(160) 12,000			
1407 B St.							(100) 12,600	(89) 11,250		
1611 B St.	(100) 8750	(100) 8750				(171) 15,000				
118 C St.				(100) 7500					(120) 9000	
320 C St.					(100) 8000				(112) 9000	
516 C St.							(100) 7750	(109) 8500		

The addresses are put in the stub and the dates in the headings. The prices at which a property has been listed are then entered in the proper row and column. The illustration shows listings for years 1941 to 1950, but in actuality, the study was carried back to 1935. The method precludes the use of those pieces of real estate which have been listed only once. Houses must have been listed at least twice and may have been listed many times. For example, 1522 "B" Street was listed in 1944, 1946, 1947, and 1949.

After this type of working table had been completed for the whole of a particular area, the listing prices were converted into percentages in order to show what per cent the price was of the base year, the base year in each case being the year in which the property was first listed. For example, (see Table I) 412 "A" Street was listed in 1942 at $14,000, and in 1947 and 1949 at $25,000. In order to compute their relationships on a percentage basis, 1942 was taken as the base (100) and the price for 1947 and for 1949 are divided by the price in 1942, giving in each case a figure of 179. This shows the percentage of change occurring during this interval in the value of a piece of property. The relatives are found in Table I in parenthesis.

The next step is to sort and put in separate tables those relatives (percentages) with the same base year. In Table I, 1522, 1613, and 118 "B" Street would all go into that table whose base year was 1944. Table II shows the

Table II.-- RELATIVES OF PRICES IN SUBSEQUENT YEARS BASED ON PROPERTIES WHICH WERE FIRST LISTED IN 1935, FOR THE HIGH RENT AREA OF LANSING, MICHIGAN.

BASE YEAR - 100

1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
	100	100	86	100	75	75	90	100	141		167	200	218	204	182
	94	113	81	100	96	100	105	90	180		219	230	224		
	105	117	86	105	91	91	80	80	122		230	280			
	100	100	105	106	64			163	125		107				
	127	125	91		88			222	97						
	101	100	109		87				245						
	104	111	82		100										
	106	107	107		117										
	100														
	100														
	103														
	96														
	111														
	100														
	100														

MEANS	100	103	109	94	103	90	89	92	131	152	---	191	237	221	204	182
NUMBER		15	8	8	4	8	3	3	5	6	0	5	3	2	1	1
LINK-RELATIVES	100	103	106	86	110	87	99	103	142	116	---	126	124	93	92	89

relatives of those listings whose base year fell in 1935. The same procedure was followed in each of the years from 1935 to 1949 inclusive.

Each of these tables was then converted into a separate index which means fifteen separate indexes, one for each base year. Table II shows that there were fifteen listings in 1936 whose base year was 1935. An average of those fifteen relatives should be a rather reliable estimate of the relative change in the price of residential real estate from 1935 to 1936. Likewise, an average of the eight listings in 1937 should show the relative change in price from 1935 to 1937. The arithmetic mean was the type of average used.[2] The computation of the mean for each column in Table II produces a separate index which shows the relationship between the value of real estate in any particular subsequent year with the year 1935. Corresponding indices were constructed for each of the years between 1935 and 1949.

Two other operations were performed in Table II. The row entitled "number" shows the number of relatives on which the average was based and will be used as weights in the final index. The other operation is to compute link-relatives of these averages. Link-relatives show relationships between any year and the year preceding. They reveal year to year changes and are computed by dividing the mean

2 This is the only deviation from the method used by Mr. Wyngarden; he used the median.

Table III.-- LINK-RELATIVES COMPUTED FROM THE FIFTEEN SERIES OF INDICES WITH THE NUMBER OF LISTINGS UPON WHICH EACH LINK RELATIVE IS BASED IN PARENTHESIS.

	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
1935		(15) 103	(8) 106	(8) 86	(4) 110	(8) 87	(3) 99	(3) 103	(5) 142	(6) 116		(5) 126	(3) 124	(2) 93	(1) 92	(1) 89
1936			(9) 107	(10) 93	(4) 92	(11) 104	(3) 105	(4) 117	(7) 111	(4) 122	(6) 103	(3) 99	(4) 134	(2) 108		(1) 84
1937				(6) 94	(6) 98	(5) 89	(4) 101	(4) 118	(1) 110	(1) 111	(3) 124	(3) 81		(2) 168	(1) 90	(1) 108
1938					(5) 95	(8) 92	(5) 95	(2) 101	(1) 110	(2) 122	(2) 75	(5) 121	(2) 139	(1) 82	(2) 87	(1) 130
1939						(7) 93	(7) 103	(3) 104	(2) 122	(3) 104	(2) 116	(2) 124	(1) 87		(2) 127	(1) 104
1940							(3) 103		(4) 125	(1) 89	(5) 112	(2) 137	(5) 126	(2) 92		
1941								(9) 102	(3) 103	(2) 116	(2) 133	(2) 109	(3) 112	(1) 102	(1) 99	
1942									(7) 110	(6) 112	(4) 120	(7) 132	(7) 95	(1) 114	(2) 78	(1) 116
1943										(11) 108	(10) 113	(11) 124	(6) 103	(6) 111	(4) 93	
1944											(13) 119	(11) 123	(12) 99	(3) 115	(9) 96	(4) 98
1945												(8) 137	(8) 109	(4) 91	(6) 104	(3) 101
1946													(5) 113	(8) 104	(12) 93	(2) 146
1947														(5) 107	(7) 107	(3) 100
1948															(5) 97	(4) 101
1949																(1) 119

Table IV.-- BASED UPON THE LINK-RELATIVES AND WEIGHTS IN TABLE III. IT SHOWS THE SUM OF THE WEIGHTS, THE COMPUTED WEIGHTED MEANS, THE WEIGHTED MEANS CHAINED, AND THE INDEX NUMBERS CONVERTED FROM A 1935 BASE TO A 1935-1939 BASE.

	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
SUM OF WEIGHTS		15	17	24	19	39	24	25	30	36	47	59	56	37	52	23
WEIGHTED MEANS	100	103	107	91	98	94	101	107	118	115	114	124	110	107	98	106
WEIGHTED MEANS CHAINED 1935=100	100	103	110	100	98	92	93	100	118	136	155	192	211	226	221	234
BASED CHANGED TO 1935-1939=100	96	101	106	96	96	90	91	98	115	133	152	188	207	221	217	229

for any year by that for the preceeding year.

The final step is to combine the fifteen separate indices into one index. This is done in the following manner: First, the link-relatives for each index are transcribed to a table (see Table III). Next, the number of listings upon which each link-relative is based is put in parenthesis above the link-relative to which it refers. To form the final index these link-relatives, which are themselves averages of several relatives, are averaged by the use of the weighted arithmetic mean. The figures indicating the number of listings upon which each link-relative is based is used as a weight. The resulting weighted mean (see Table IV) is still in link-relative form and shows the relationship of average prices in any one year to the average prices of the preceding year. This type of comparison has some usefulness; however, it is customary and necessary if one were going to compare indices over a period of time to express them in relation to some base year. This process is accomplished by "chaining",[3] a system of successive multiplication accomplished in the following manner: Let 1935 be the base year (100); multiply this times the link-relative of the immediately following year (1936) whose value is 103; multiply the product (103) by the link-relative of the next following year (1937) which is 107.

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3 See Applied General Statistics by F. E. Croxton and D. J. Cowden, (New York, 1939), p. 616-621, for a discussion of the chain index.

This product which is 110 is multiplied by the link-relative for 1938. This process is continued in a similar manner completely through 1950. The resulting series of index numbers shows the relationship of any year with 1935 (see Table IV, row entitled "chained" 1935=100). Because these indices will be compared later with indices of construction costs, cost of living, et cetera, many of whose base is an average of 1935-39, it is best that these real estate price indices at this time be expressed in similar terms. Changing the base of an index can be accomplished by the following means:[4] First, determine the 1935-39 average of the chained (1935=100) index thus $\frac{100\ 103\ 110\ 100\ 98}{5} = 102$; Second, divide each of the chained (1935=100) index numbers by the resulting value (102). The resulting final combined index for the West Side (high rent area) is shown below:

1935 - 100	1940 - 90	1945 - 152
1936 - 101	1941 - 91	1946 - 183
1937 - 108	1942 - 98	1947 - 207
1938 - 98	1943 - 115	1948 - 221
1939 - 96	1944 - 133	1949 - 217
		1950 - 229 (based on first quarter only)

4 See Practical Business Statistics by F. E. Croxton and D. J. Cowden, (New York, 1948), p. 326-327, for a discussion of the method of changing the base of an index.

CHAPTER IV

THE SIX INDICES

The preceding chapter traced the method used in constructing the High Rent Area Index. Exactly the same method was used to derive the other five indices. The first part of this chapter will present the important data for each of the six area indices. The first table in each section shows the fifteen series of preliminary indices of real estate values, which are later combined to form the final index. The second table shows the link-relatives computed from the data presented in Table I and also the number of listings upon which each link-relative is based. The results of Table II comprise Table III; the first row (sum of weights) is the sum of the numbers in parenthesis for each column; the second row (weighted means) is the weighted arithmetic average of the link-relatives in each column; the third row is these weighted means chained in order to express them in relation to some base year, in this case 1935; and the fourth row gives the index numbers expressed in terms of a 1935 - 1939 base. It is this fourth row from which the data for the graph is obtained. The final section of the chapter brings together all of the indices on one graph and makes comparisons and analyses of meaning and trends.

THE HIGH RENT AREA INDEX

Table I-H.-- FIFTEEN SERIES OF INDICES OF REAL ESTATE VALUES IN THE WEST SIDE (HIGH INCOME) AREA WHICH ARE COMBINED TO FORM THE FINAL INDEX.

	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
1935	100	103	109	94	103	90	89	92	131	152		191	237	221	204	182
1936		100	107	100	92	96	101	118	131	160	165	163	218	236		199
1937			100	94	92	82	83	93	108	120	149	120		194	185	199
1938				100	95	87	83	84	92	167	126	153	213	175	153	199
1939					100	93	96	100	122	127	148	184	160		204	212
1940						100	108		135	120	134	184	231	212		
1941							100	102	110	128	170	185	207	211	210	
1942								100	110	123	147	194	184	210	164	191
1943									100	108	122	152	157	174	162	
1944										100	119	152	150	172	166	163
1945											100	137	149	136	141	142
1946												100	113	117	109	159
1947													100	107	114	114
1948														100	97	98
1949															100	119
1950																

Table II-H.-- LINK-RELATIVES COMPUTED FROM THE FIFTEEN SERIES OF INDICES, WITH THE NUMBER OF LISTINGS UPON WHICH EACH LINK-RELATIVE IS BASED IN PARENTHESIS.

	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
		(15)	(8)	(8)	(4)	(8)	(3)	(3)	(5)	(6)		(5)	(3)	(2)	(1)	(1)
1935		103	106	86	110	87	99	103	142	116		126	124	93	92	89
			(9)	(10)	(4)	(11)	(2)	(4)	(7)	(4)	(6)	(3)	(4)	(2)		(1)
1936			107	93	92	104	105	117	111	122	103	99	134	108		84
				(6)	(6)	(5)	(4)	(4)	(1)	(1)	(3)	(3)		(2)	(1)	(1)
1937				94	98	89	101	118	110	111	124	81		162	90	108
					(5)	(8)	(5)	(2)	(1)	(2)	(2)	(5)	(2)	(1)	(2)	(1)
1938					95	92	95	101	110	182	75	121	139	82	87	130
						(7)	(7)	(3)	(2)	(3)	(2)	(2)	(1)		(2)	(1)
1939						93	103	104	122	104	116	124	87		127	104
							(3)		(4)	(1)	(5)	(2)	(5)	(2)		
1940							108		125	89	112	137	126	92		
								(9)	(3)	(2)	(2)	(2)	(3)	(1)	(1)	
1941								102	108	116	133	109	112	102	99	
									(7)	(6)	(4)	(7)	(7)	(1)	(2)	(1)
1942									110	112	120	132	95	114	78	116
										(11)	(10)	(11)	(6)	(6)	(4)	
1943										108	113	124	103	111	93	
											(13)	(11)	(12)	(3)	(9)	(4)
1944											119	128	99	115	96	98
												(8)	(8)	(4)	(6)	(3)
1945												137	109	91	104	101
													(5)	(8)	(12)	(2)
1946													113	104	93	146
														(5)	(7)	(3)
1947														107	107	100
															(5)	(4)
1948															97	101
																(1)
1949																119
1950																

Table III-H.-- BASED UPON THE LINK-RELATIVES AND WEIGHTS IN TABLE III. IT SHOWS THE SUM OF THE WEIGHTS, THE COMPUTED WEIGHTED MEANS, THE WEIGHTED MEANS CHAINED, AND THE INDEX NUMBERS CONVERTED FROM A 1935 BASE to a 1935-1939 BASE.

	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
SUM OF WEIGHTS		15	17	24	19	39	24	25	30	36	47	59	56	37	52	23
WEIGHTED MEANS	100	103	107	91	98	94	101	107	118	115	114	124	110	107	98	106
WEIGHTED MEANS CHAINED 1935=100	100	103	110	100	98	92	93	100	118	136	155	192	211	226	221	234
BASE CHANGED TO 1935-1939=100	98	101	108	98	96	90	91	98	115	133	152	188	207	221	217	229

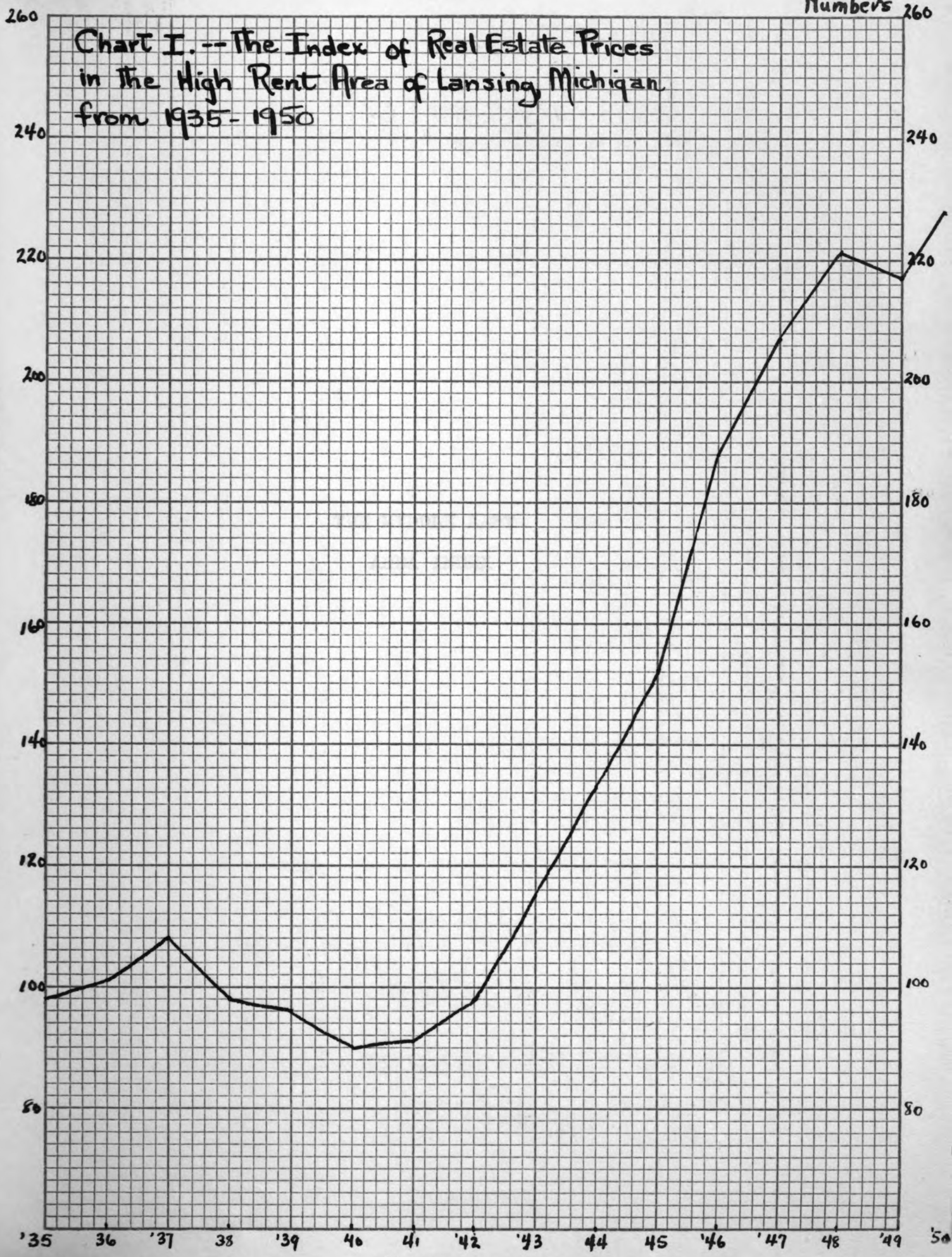


Chart I. -- The Index of Real Estate Prices in the High Rent Area of Lansing, Michigan from 1935 - 1950
Index Numbers
260
240
220
200
180
160
140
120
100
80
'35
36
'37
38
'39
40
41
'42
'43
44
45
'46
'47
48
'49
'50
Years
HOLYOKE, MASS.
10 SQUARES TO INCH

THE MIDDLE RENT

AREA INDEX

Table I-M.-- FIFTEEN SERIES OF INDICES OF REAL ESTATE VALUES IN THE MIDDLE INCOME AREA WHICH ARE COMBINED TO FORM THE FINAL INDEX.

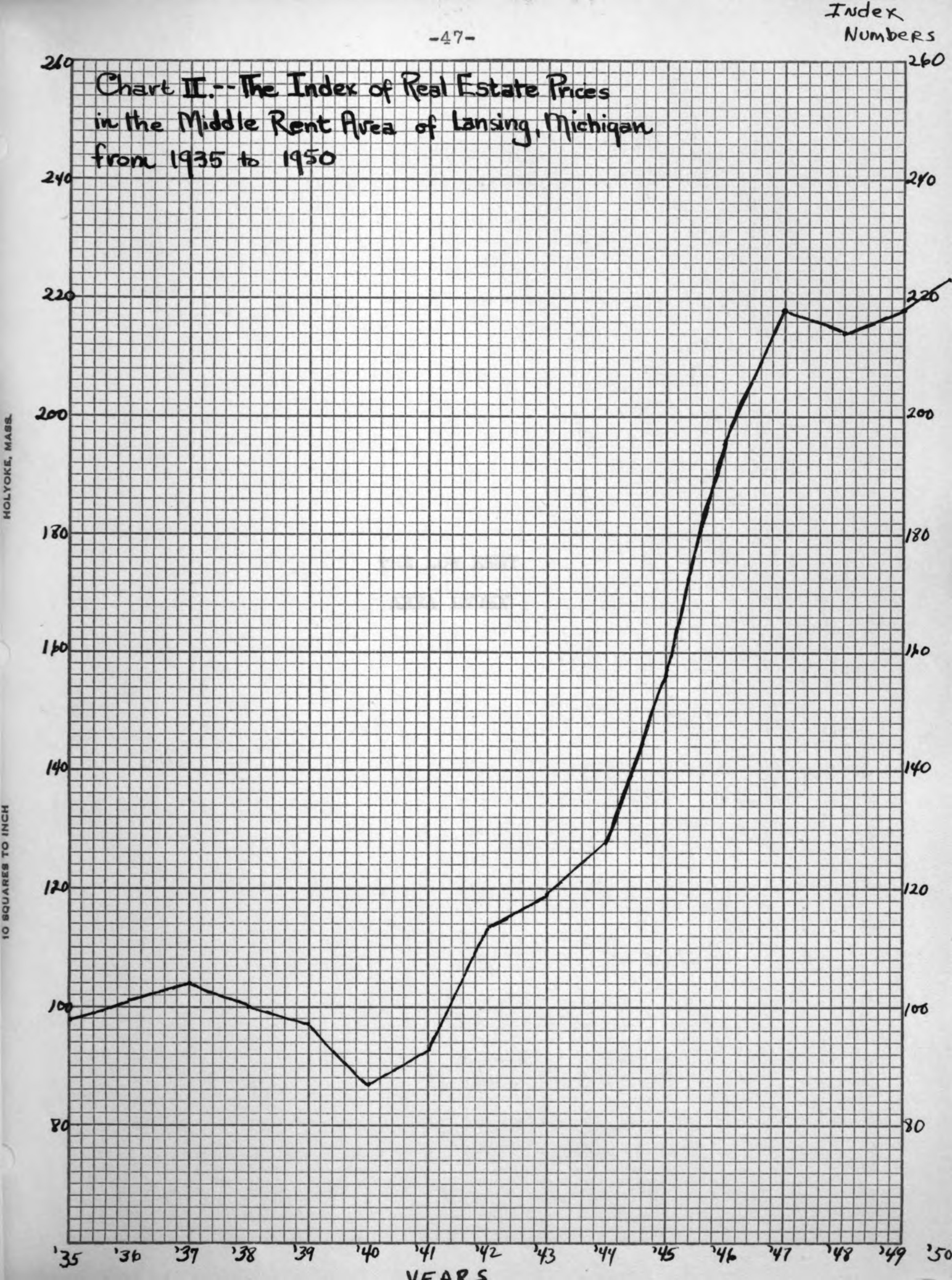
	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
1935	100	103	110	103	96	90	96	107	108	122	170	220	227	216	262	
1936		100	101	98	106	94	91	132	130	127	165	258	214		196	242
1937			100	95	86	86	97	116	115	106	141	232	224	212	176	
1938				100	88	80	88	86		129	129	173	206		192	
1939					100	87	107	121	116	146	136	188		262	265	223
1940						100	111	114		144	130	186		223		206
1941							100	103	110	139	149	171			192	
1942								100	116	118	134	159	200	168	178	217
1943									100	104	142	150	190	168	216	144
1944										100	119	139	156	166	170	235
1945											100	121	138	137	138	125
1946												100	111	106	102	100
1947													100	104	103	105
1948														100	96	103
1949															100	91
1950																

Table II-M.-- LINK-RELATIVES COMPUTED FROM THE FIFTEEN SERIES SHOWN IN TABLE I WITH THE NUMBER OF LISTINGS UPON WHICH EACH LINK-RELATIVE IS BASED IN PARENTHESIS.

	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
		(19)	(8)	(7)	(5)	(7)	(9)	(1)	(3)	(4)	(4)	(6)	(6)	(3)	(4)	
1935		103	107	94	93	94	107	111	101	113	139	130	103	95		
			(12)	(11)	(8)	(6)	(8)	(7)	(4)	(3)	(7)	(4)	(3)		(3)	(1)
1936			101	97	108	89	97	145	98	98	130	156	83		92	123
				(6)	(7)	(2)	(5)	(3)	(2)	(2)	(3)	(3)	(7)	(3)	(1)	
1937				95	91	100	113	120	99	92	133	165	97	95	83	
					(4)	(10)	(4)	(2)		(1)	(1)	(1)	(4)		(1)	
1938					88	91	110	98		150	100	134	119		93	
						(6)	(2)	(1)	(1)	(1)	(2)	(1)		(1)	(1)	(1)
1939						87	123	113	96	126	93	138		139	101	84
							(1)	(2)		(1)	(1)	(3)		(2)		(1)
1940							111	103		126	90	143		125		88
								(4)	(1)	(2)	(2)	(2)			(2)	
1941								103	107	121	107	115			112	
									(6)	(7)	(10)	(7)	(4)	(7)	(2)	(3)
1942									116	102	113	118	126	84	106	122
										(3)	(4)	(3)	(2)	(6)	(4)	(1)
1943										104	137	106	127	89	128	67
											(6)	(7)	(8)	(3)	(8)	(2)
1944											119	117	112	106	103	138
												(13)	(10)	(12)	(4)	(1)
1945												121	114	99	101	91
													(17)	(9)	(11)	(7)
1946													111	86	96	98
														(12)	(10)	(4)
1947														104	99	102
															(8)	(1)
1948															96	108
																(3)
1949																91
1950																

Table III-M.-- BASED UPON THE LINK-RELATIVES AND WEIGHTS IN TABLE II, SHOWS THE SUM OF THE WEIGHTS, THE COMPUTED WEIGHTED MEANS, THE WEIGHTED MEANS CHAINED, AND THE INDEX NUMBERS CONVERTED FROM A 1935 TO A 1935-1939 BASE.

	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
SUM OF WEIGHTS		19	20	24	24	31	29	19	17	24	40	50	53	58	59	25
WEIGHTED MEANS	100	103	103	96	97	91	107	121	105	108	121	126	111	98	102	103
WEIGHTED MEANS CHAINED (1935=100)	100	103	106	102	99	89	95	115	121	131	159	200	222	218	222	229
BASE CHANGED TO 1935-39= 100	98	101	104	100	97	87	93	113	119	128	156	196	218	214	218	224



THE LOW RENT

AREA INDEX

Table I-L.-- FIFTEEN SERIES OF INDICES OF REAL ESTATE VALUES IN THE LOW RENT AREA WHICH ARE COMBINED TO FORM THE FINAL INDEX.

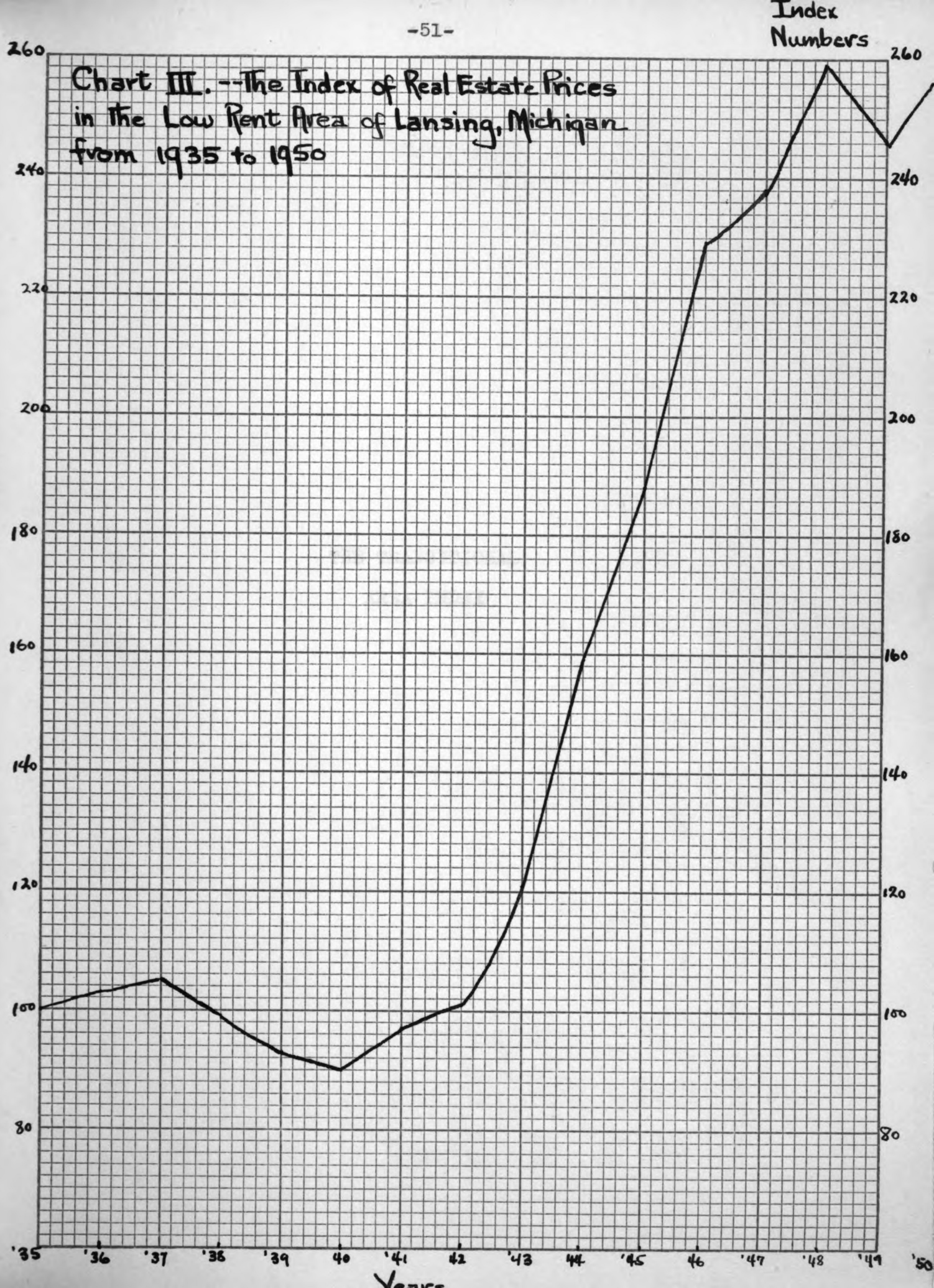
	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
1935	100	103	106	101	93	81	98	107	134	116	153	198	259	269	197	
1936		100	102	94	96	90	97		140		173	181	214	208		275
1937			100	97	84	93	91	103	120	148	150	226			185	
1938				100	89	89	84	82		137	185		170			
1939					100	98	101		124	142	168	236	191	229	238	
1940						100	106		108	208	220	222	180	306	230	243
1941							100	102	110	167	170	199	221	211	210	143
1942								100	103		157	178	175	182		
1943									100	115	113	148	158	157	142	
1944										100	114	139	137	149	155	120
1945											100	121	132	138	137	115
1946												100	98	110	107	129
1947													100	109	101	105
1948														100	94	105
1949																
1950																

Table II-L.-- LINK-RELATIVES COMPUTED FROM THE FIFTEEN SERIES SHOWN IN TABLE I WITH THE NUMBER OF LISTINGS UPON WHICH EACH LINK-RELATIVE IS BASED IN PARENTHESIS.

	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
		(19)	(7)	(14)	(7)	(6)	(8)	(4)	(3)	(3)	(7)	(2)	(4)	(1)	(2)	
1935		103	103	95	92	87	121	109	125	87	132	129	131	112	63	
			(11)	(13)	(16)	(14)	(9)		(4)		(5)	(4)	(3)	(2)		(1)
1936			102	92	102	94	108		144		123	105	118	97		132
				(5)	(9)	(6)	(2)	(1)	(1)	(2)	(4)	(2)			(1)	
1937				97	87	111	96	111	116	123	101	151			82	
					(6)	(10)	(4)	(3)		(3)	(2)		(1)			
1938					89	100	94	96		167	135		92			
						(2)	(3)		(2)	(2)	(2)	(1)	(1)	(1)	(1)	
1939						98	103		123	115	118	140	81	120	104	
							(2)		(1)	(1)	(1)	(2)	(2)	(1)	(1)	(1)
1940							106		102	103	106	101	81	170	75	106
								(5)	(3)	(3)	(2)	(1)	(3)	(1)	(1)	(1)
1941								102	103	152	102	117	111	95	99	68
									(3)		(4)	(2)	(5)	(2)		
1942									103		153	113	98	104		
										(3)	(6)	(5)	(4)	(3)	(1)	
1943										115	98	131	106	99	90	
											(6)	(13)	(3)	(6)	(4)	(1)
1944											114	122	98	109	104	77
												(10)	(5)	(3)	(6)	(1)
1945												121	109	105	99	84
													(13)	(8)	(9)	(1)
1946													98	111	97	121
														(7)	(5)	(5)
1947														109	93	104
															(8)	(5)
1948															94	112
1949																
1950																

Table III-L.-- BASED UPON THE LINK-RELATIVES AND WEIGHTS IN TABLE II-L. IT SHOWS THE SUM OF THE WEIGHTS, THE COMPUTED WEIGHTED MEANS, THE WEIGHTED MEANS CHAINED, AND THE INDEX NUMBERS CONVERTED FROM A 1935 TO A 1935-1939 BASE.

	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
SUM OF WEIGHTS		19	18	32	38	33	28	13	17	17	39	42	44	35	39	16
WEIGHTED MEANS	100	103	102	94	95	97	108	104	120	131	118	122	104	109	95	104
WEIGHTED MEANS CHAINED (1935=100)	100	103	105	99	93	90	97	101	121	159	188	229	238	259	246	256
BASE CHANGED TO 1935-1939= 100	100	103	105	99	93	90	97	101	121	159	188	229	238	259	246	256



THE TRANSITIONAL

AREA INDEX

Table I-T.-- FIFTEEN SERIES OF INDICES OF REAL ESTATE VALUES IN THE TRANSITIONAL AREA WHICH ARE COMBINED TO FORM THE FINAL INDEX.

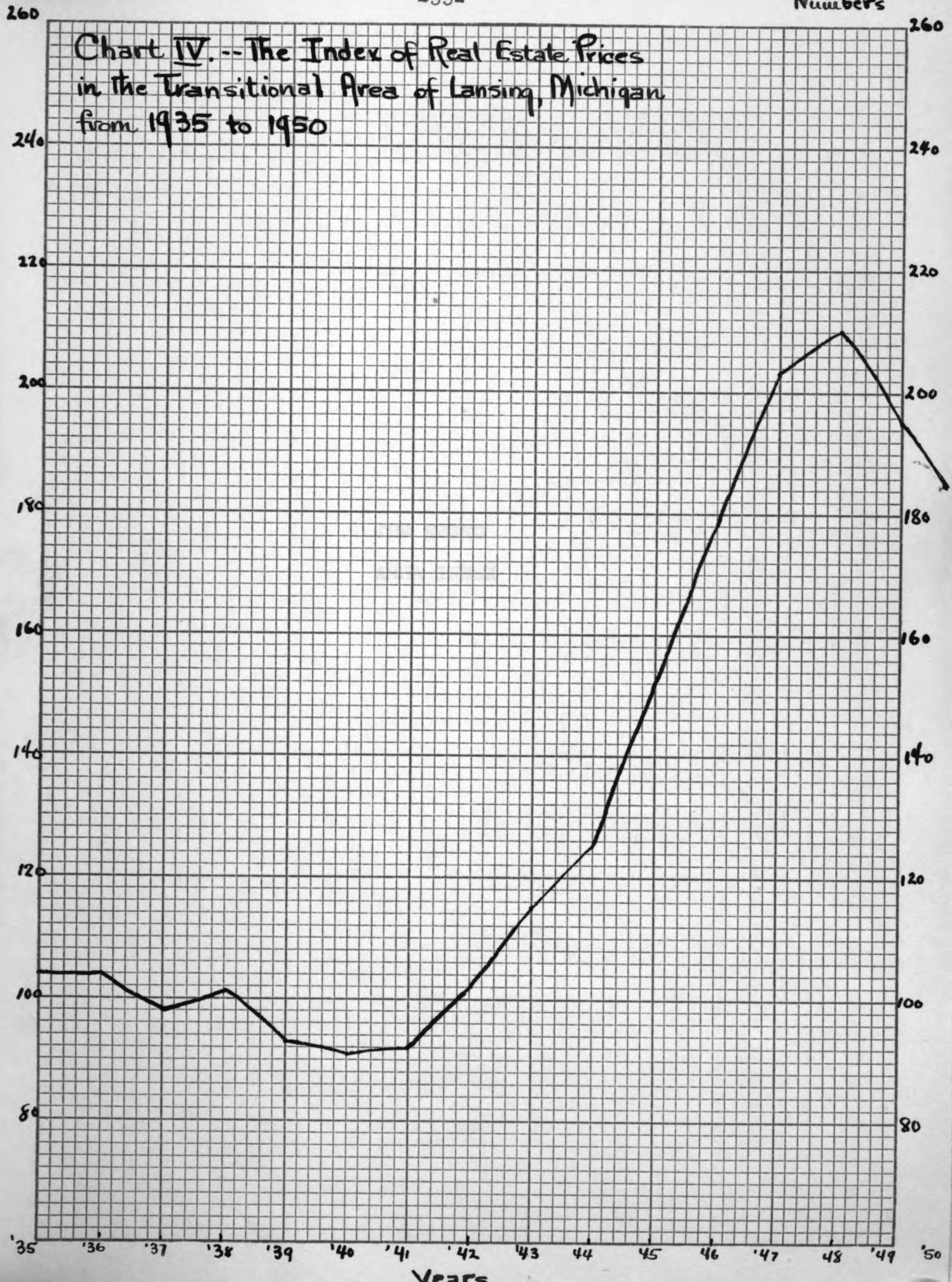
	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
1935	100	100	96	98	95	97	91	117	114	168	187	208	253		225	174
1936		100	93	98	84	86	91	106	117	124	159	188		199	202	172
1937			100	101	93	90	87	95	128	115	143	167	208	248	200	
1938				100	95	89	90	91	112	123	203	198	197			202
1939					100		98	121	148	164	185	219	232	345		
1940						100	108	100	168	130	225	225	213	200	200	
1941							100	97	93	105	150	190			200	
1942								100	103	110	139	142	192	212	183	174
1943									100	111	117	145	164	188	176	
1944										100	108	139	149	142	123	
1945											100	130	135	168	131	122
1946												100	115	111	111	109
1947													100	96	99	88
1948														100	92	94
1949															100	102
1950																

Table II-T.-- LINK-RELATIVES COMPUTED FROM THE FIFTEEN SERIES SHOWN IN TABLE I-T WITH THE NUMBER OF LISTINGS UPON WHICH EACH LINK-RELATIVE IS BASED IN PARENTHESIS.

	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
		(13)	(7)	(13)	(4)	(12)	(5)	(2)	(2)	(3)	(7)	(5)	(2)	(1)	(3)	(2)
1935		100	96	102	97	98	94	129	97	147	111	111	122	92	96	77
			(13)	(16)	(6)	(15)	(9)	(5)	(4)	(4)	(10)	(6)	(1)	(2)	(2)	(1)
1936			93	105	86	102	106	116	109	106	120	110	126	84	101	85
				(3)	(2)	(4)	(3)	(1)	(1)	(2)	(3)	(1)	(2)	(2)	(1)	
1937				101	92	97	97	109	135	90	124	117	125	119	81	
					(5)	(13)	(8)	(4)	(6)	(3)	(3)	(5)	(2)	(1)		(2)
1938					95	94	101	101	123	110	165	98	99	99		103
							(4)	(6)	(3)	(4)	(4)	(3)	(1)	(2)		
1939							98	123	122	111	113	118	106	74		
							(3)	(1)	(1)	(2)	(1)	(1)	(1)	(1)	(1)	
1940							108	93	168	77	173	100	95	94	100	
								(5)	(3)	(3)	(4)	(3)			(1)	
1941								97	96	113	143	127			105	
									(10)	(10)	(8)	(7)	(6)	(1)	(3)	(1)
1942									103	107	126	102	135	112	86	95
										(3)	(8)	(3)	(4)	(2)	(1)	
1943										111	105	124	103	115	94	
											(8)	(7)	(7)	(4)	(2)	
1944											108	129	107	95	87	
												(10)	(5)	(7)	(10)	(3)
1945												130	104	124	78	93
													(8)	(5)	(4)	(5)
1946													115	97	100	99
														(5)	(11)	(1)
1947														96	103	89
															(3)	(3)
1948															92	102
																(1)
1949																102
1950																

Table III-T.-- BASED UPON THE LINK-RELATIVES AND WEIGHTS IN TABLE II-T. IT SHOWS THE SUM OF THE WEIGHTS, THE COMPUTED WEIGHTED MEANS, THE WEIGHTED MEANS CHAINED, AND THE INDEX NUMBERS CONVERTED FROM A 1935 TO A 1935-1939 BASE.

	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
SUM OF WEIGHTS		13	20	32	17	44	32	24	30	34	56	51	39	33	42	19
WEIGHTED MEANS	100	100	94	103	92	98	101	111	112	109	122	117	114	103	93	95
WEIGHTED MEANS CHAINED (1935=100)	100	100	94	97	89	87	88	98	110	120	146	171	195	201	187	178
BASE CHANGED TO 1935-1939=100	104	104	98	101	93	91	92	102	115	125	152	178	203	210	195	185


Index Numbers
Chart IV. -- The Index of Real Estate Prices in the Transitional Area of Lansing, Michigan from 1935 to 1950
260
240
220
200
180
160
140
120
100
80
'35
'36
'37
'38
'39
'40
'41
'42
'43
44
45
46
'47
48
'49
'50
Years

THE NEGRO

AREA INDEX

Table I-N.-- FIFTEEN SERIES OF INDICES OF REAL ESTATE VALUES IN THE NEGRO AREA WHICH ARE COMBINED TO FORM THE FINAL INDEX.

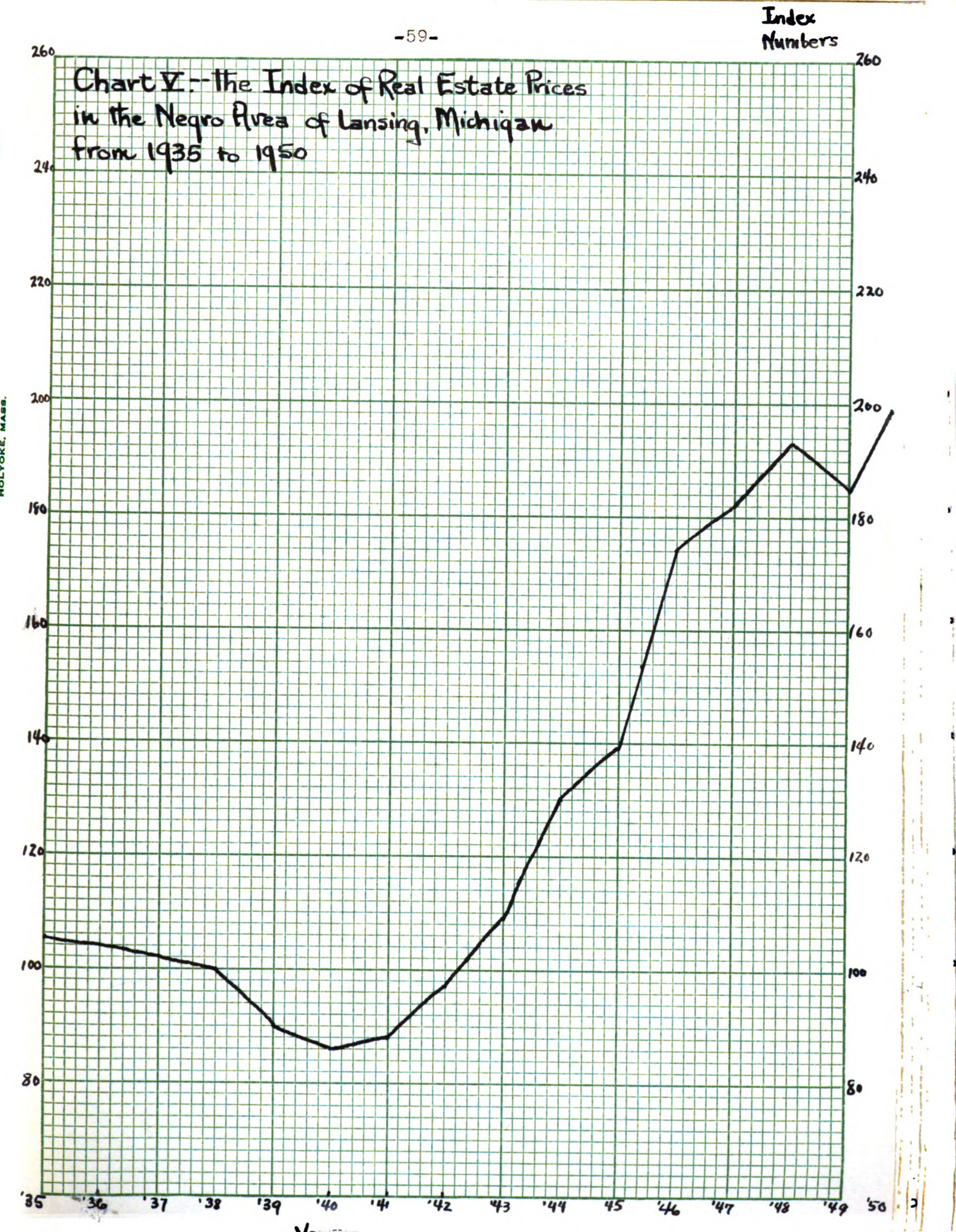
	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
1935	100	99	99	96	90	88	89	109	123	160	162	192	168	252	213	
1936		100	97	95	81	88	94	87	100	153	182	203	206	212	195	
1937			100	99	89	80	71	96		137	151		187			
1938				100	92	94	95	99	98	155	167	200	200			
1939					100	89	97	130		139	174	194	285	271		
1940						100	94	113	109	147	135	162	169	239	183	
1941							100	89	121	142	142	205	185	188		
1942								100	109	128	132	171	194	165	199	200
1943									100	108	120	154	164	144		
1944										100	102	131	145	153	183	
1945											100	118	125	146	97	122
1946												100	101	106	109	80
1947													100	105	98	129
1948														100	82	
1949																
1950																

Table II-N.-- LINK-RELATIVES COMPUTED FROM THE FIFTEEN SERIES SHOWN IN TABLE I-N WITH THE NUMBER OF LISTINGS UPON WHICH EACH LINK-RELATIVE IS BASED IN PARENTHESIS.

	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
		(20)	(5)	(16)	(7)	(18)	(9)	(2)	(2)	(8)	(7)	(3)	(6)	(2)	(2)	
1935		99	100	96	94	88	101	123	113	130	101	119	87	151	84	
			(13)	(22)	(12)	(16)	(17)	(4)	(5)	(7)	(8)	(3)	(5)	(3)	(3)	
1936			97	96	85	109	107	93	115	153	119	112	101	103	92	
				(4)	(4)	(5)	(3)	(2)		(3)	(3)		(2)			
1937				99	90	90	89	135		143	110		124			
					(8)	(10)	(8)	(3)	(1)	(3)	(3)	(3)	(1)			
1938					92	102	101	104	99	158	108	120	100			
						(5)	(4)	(3)		(3)	(4)	(2)	(2)	(1)		
1939						89	109	134		107	125	112	147	95		
							(7)	(4)	(3)	(2)	(2)	(2)	(2)	(3)	(1)	
1940							94	120	97	135	92	120	104	141	77	
								(5)	(2)	(4)	(7)	(4)	(1)	(5)		
1941								89	136	117	100	144	90	102		
									(2)	(2)	(3)	(4)	(2)	(4)	(2)	(1)
1942									109	117	103	130	113	85	121	101
										(3)	(1)	(3)	(2)	(4)		
1943										108	111	128	106	88		
											(9)	(14)	(8)	(9)	(1)	
1944											102	128	111	105	120	
												(7)	(7)	(2)	(1)	(1)
1945												118	106	117	67	126
													(6)	(5)	(5)	(1)
1946													101	105	103	74
														(4)	(2)	(1)
1947														105	93	132
															(1)	
1948															82	
1949																
1950																

Table III-N.-- BASED UPON THE LINK-RELATIVES AND WEIGHTS IN TABLE II-N. IT SHOWS THE SUM OF THE WEIGHTS, THE COMPUTED WEIGHTED MEANS, THE WEIGHTED MEANS CHAINED, AND THE INDEX NUMBERS CONVERTED FROM A 1935 TO A 1935-1939 BASE.

	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
SUM OF WEIGHTS		20	18	42	31	54	48	23	15	35	47	45	44	42	18	4
WEIGHTED MEANS	100	99	98	98	89	97	102	110	112	119	107	125	105	106	96	108
WEIGHTED MEANS CHAINED (1935=100)	100	99	97	95	85	82	84	92	103	123	132	165	173	183	175	189
BASE CHANGED TO 1935-1939=100	105	104	102	100	90	86	88	97	109	130	139	174	182	193	185	199


Index Numbers
Chart V:--The Index of Real Estate Prices in the Negro Area of Lansing, Michigan from 1935 to 1950
260
240
220
200
180
160
140
120
100
80
'35
'36
'37
'38
'39
'40
'41
'42
'43
'44
45
'46
'47
'48
'49
'50
Years

THE EAST LANSING

AREA INDEX

Table I-EL.-- FIFTEEN SERIES OF INDICES OF REAL ESTATE VALUES IN THE EAST LANSING AREA WHICH ARE COMBINED TO FORM THE FINAL INDEX.

	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
1935	100	99	102	91	98	89	102	113	113		173	177		215	150	
1936		100	99	105	98	97	125	108	120	137	142		234	182	230	262
1937			100	92	102	88	85	105	94	131		172	190	195		174
1938				100	91	103	113		94		162		206		196	
1939					100	101		102	110	125	156			156	90	
1940						100	100	104		165	165	139	198		212	
1941							100		103	125	138		210			
1942								100	99	105	144	174	167	200	176	191
1943									100	102	130	171	192	195	198	172
1944										100	107	129	157	164	168	
1945											100	129	142	134	166	191
1946												100	109	115	122	145
1947													100	103	98	106
1948														100	92	111
1949															100	100
1950																

Table II-EL.-- LINK-RELATIVES COMPUTED FROM THE FIFTEEN SERIES SHOWN IN TABLE I-EL WITH THE NUMBER OF LISTINGS UPON WHICH EACH LINK-RELATIVE IS BASED IN PARENTHESIS.

	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
		(5)	(6)	(2)	(1)	(4)	(4)	(4)	(1)		(1)	(3)		(2)	(2)	
1935		99	103	89	108	91	105	111	100		153	102		121	70	
			(10)	(4)	(4)	(5)	(1)	(2)	(2)	(5)	(2)		(1)	(2)	(1)	(1)
1936			99	106	93	99	129	86	111	114	104		165	78	126	114
				(3)	(2)	(2)	(2)	(3)	(1)	(1)		(3)	(2)	(1)	(1)	(2)
1937				92	111	86	97	123	89	140		131	110	103	102	88
					(7)	(3)	(2)		(1)		(4)		(2)		(2)	
1938					91	113	110		82		173		127		95	
						(5)		(2)	(2)	(3)	(4)			(1)	(2)	
1939						101		101	108	114	135			156	90	
							(1)	(3)		(4)	(2)	(1)	(4)	(1)	(3)	(1)
1940							100	104		139	100	89	142	128	84	91
									(2)	(5)	(2)		(1)			
1941									103	121	110		152			
									(11)	(3)	(4)	(3)	(4)	(7)	(6)	(3)
1942									99	106	137	121	96	120	88	109
										(6)	(10)	(8)	(6)	(4)	(10)	(1)
1943										102	127	132	112	102	102	86
											(7)	(3)	(6)	(8)	(8)	
1944											107	121	122	104	103	
												(11)	(11)	(4)	(6)	(2)
1945												129	110	94	124	115
													(10)	(10)	(5)	(1)
1946													109	105	106	119
														(7)	(3)	(3)
1947														103	95	108
															(8)	(2)
1948															92	121
																(1)
1949																100
1950																

Table III-EL.-- BASED UPON THE LINK-RELATIVES AND WEIGHTS IN TABLE II-EL. IT SHOWS THE SUM OF THE WEIGHTS, THE COMPUTED WEIGHTED MEANS, THE WEIGHTED MEANS CHAINED, AND THE INDEX NUMBERS CONVERTED FROM A 1935 TO A 1935-1939 BASE.

	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950
SUM OF WEIGHTS		5	16	9	14	19	10	14	20	27	36	32	47	47	57	17
WEIGHTED MEANS	100	99	101	98	96	99	105	106	100	119	126	125	116	107	99	106
WEIGHTED MEANS CHAINED (1935=100)	100	99	100	98	94	92	97	103	103	123	160	200	232	248	246	261
BASE CHANGED TO 1935-1939=100	102	101	102	100	96	94	99	105	105	126	164	204	237	253	251	267

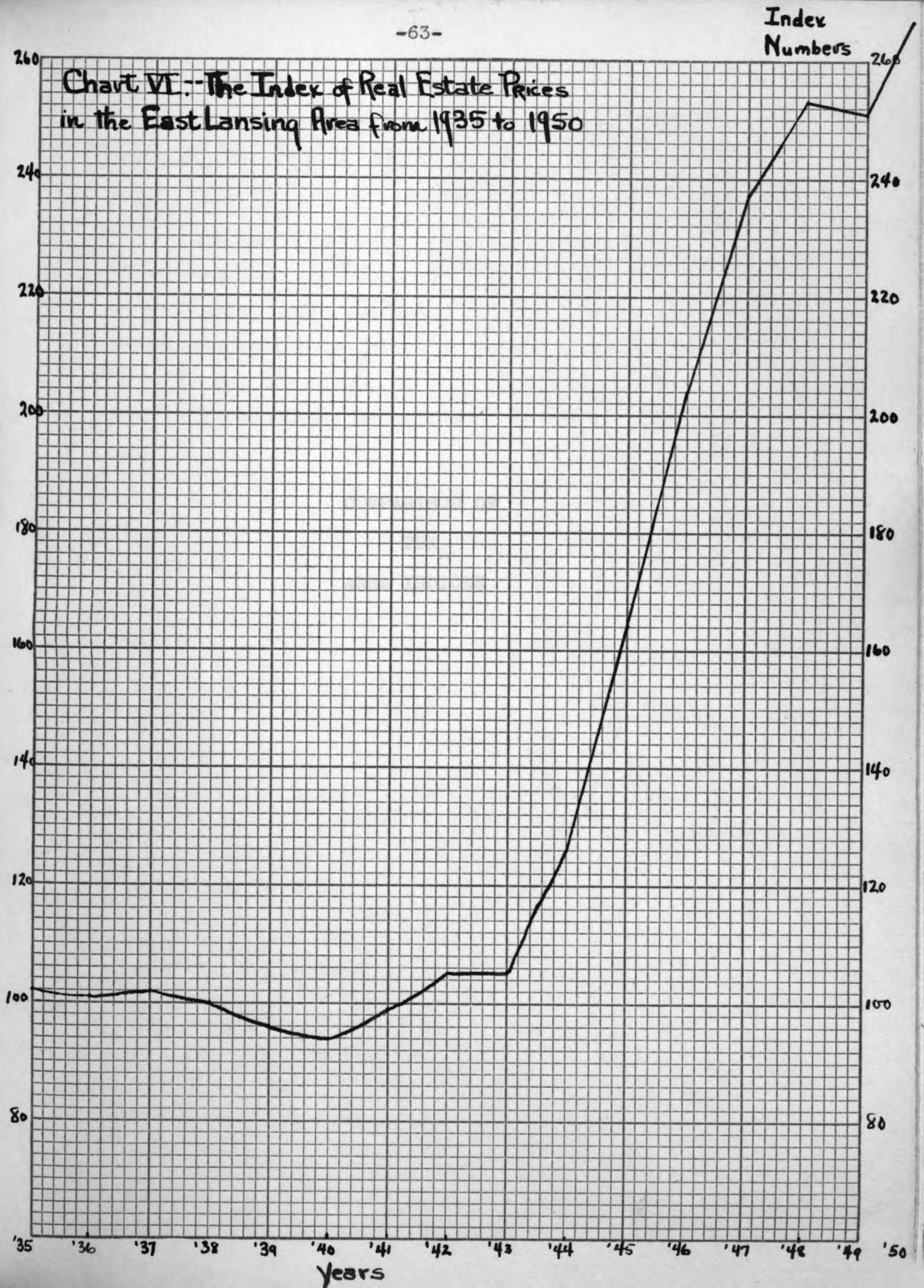


Chart VI.--The Index of Real Estate Prices in the East Lansing Area from 1935 to 1950
Index Numbers
260
240
220
200
180
160
140
120
100
80
'35
'36
'37
'38
'39
'40
'41
'42
'43
'44
'45
'46
'47
'48
'49
'50
Years

COMPARISON OF

THE

ARMA INDICES

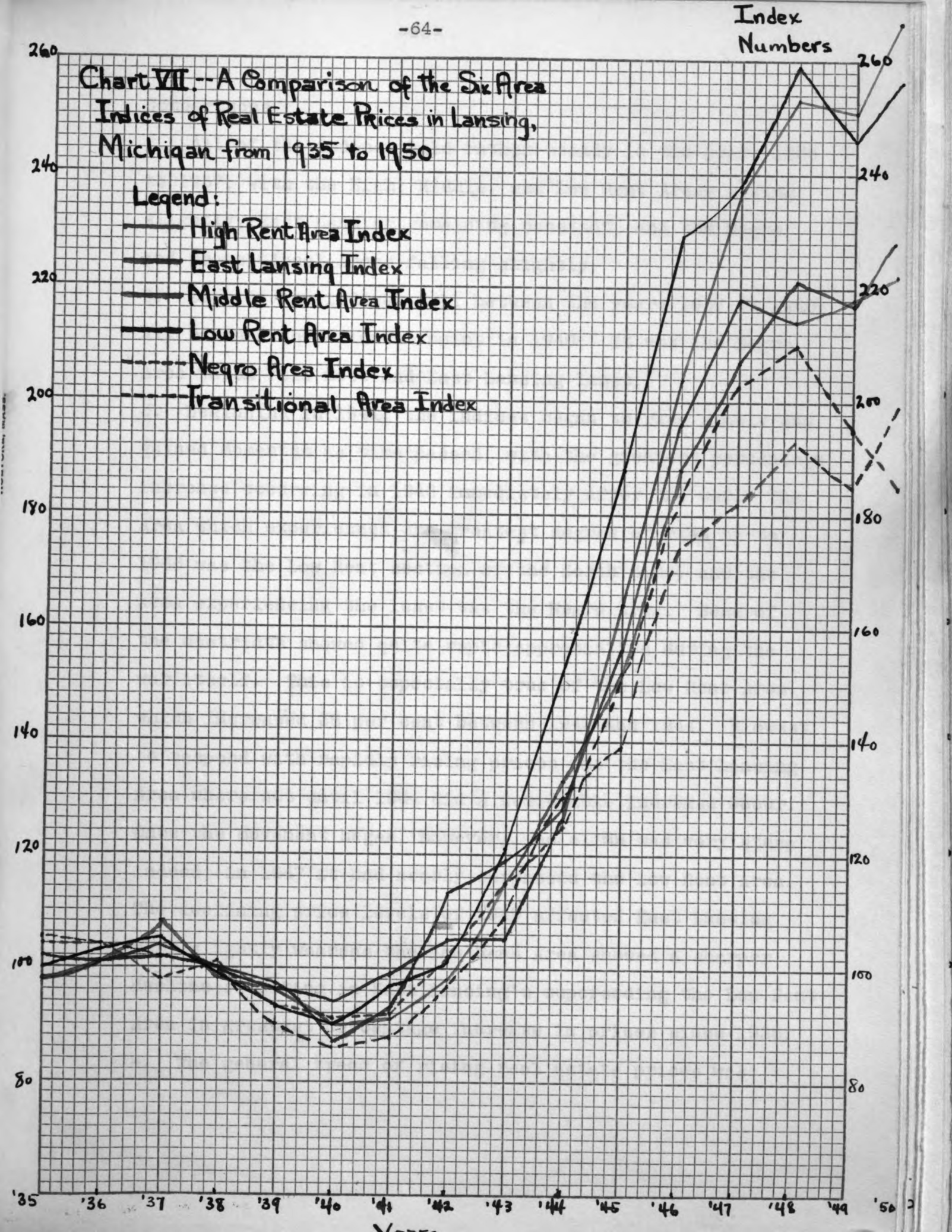


Chart VII.--A Comparison of the Six Area Indices of Real Estate Prices in Lansing, Michigan from 1935 to 1950
Legend:
High Rent Area Index
East Lansing Index
Middle Rent Area Index
Low Rent Area Index
Negro Area Index
Transitional Area Index
Index Numbers
260
240
220
200
180
160
140
120
100
80
'35
'36
'37
'38
'39
'40
'41
'42
'43
'44
'45
'46
'47
'48
'49
'50
Years

Comparisons

1. All of the indices held rather steady in the years 1935 to 1937, with the High, Middle, and Low Rent Areas rising slightly, East Lansing remaining constant, and the Negro and Transitional Areas falling slightly.

2. Each of the indices fell between the years 1937 to 1940; all reached their lowest point in 1940. It was the Negro Area which fell most and East Lansing least.

3. Beginning in 1941, the indices began to rise slowly and gained momentum as time passed, with the greatest percentage increase occurring in 1946 immediately after the war. The area which experienced the greatest degree of rise up to 1946 was the Low Rent section of the North Side, and the area experiencing the least was the Negro Area. Some of the districts showed quite rapid appreciation during the war itself. This is especially true of the Low Rent Area which increased 38 per cent between 1943 and 1944. Slowest to respond with rapidly rising prices was the East Lansing Area where not until 1944 did a noticeable increase occur. Once the movement began, however, the climb was very steep indeed; in 1947 it had nearly surpassed the Low Rent Area. The declining price levels of 1949 affected East Lansing very slightly whereas the Low Rent Area showed a sharper decline resulting in East Lansing's superseding the Low Rent Area in greatest percentage increase in prices since 1935.

4. The general trend of rising real estate prices was

broken in 1949 with every section experiencing a decline in prices except the Middle Rent Area which had experienced its decline a year earlier. The areas experiencing the greatest percentage decline were the Low Rent with thirteen per cent and the Transitional with fifteen per cent. The East Lansing Area experienced a decline of only two per cent.

5. With one exception the price indices have reestablished their upward paths in the first quarter of 1950, with East Lansing the highest, prices being 167 per cent above its 1935-1939 average, and with the Low Rent Area of North Lansing being a close second with a 156 per cent increase. The Middle and High Rent Areas fell in the middle range of the six indices, both having about a 124 per cent increase. The Negro and Transitional Areas stand in the lowest position in respect to price increases. In 1950, the Negro Area real estate prices averaged just about double their 1935-1939 base, while the Transitional was about 84 per cent above prewar prices.

6. The one exception to rising prices in 1950 was the Transitional Area; it continued the decline, which began in 1949. This could under ordinary conditions, be interpreted as a danger sign. Theoretically, it might be reasoned that the first indication of a falling market would be experienced in the least desirable residential area.[1]

---

1 It should also be the last area to experience an increase in price. This is born out by the data. Real estate prices first began to rise in 1941. The increases in price were as follows: East Lansing area-5 per cent, Negro Area-2 per cent, Low Rent area-7 per cent, Middle Rent area-6 per cent, High Rent area-1 per cent, and Transitional area-1 per cent.

When supply is very scarce, every type of housing unit will be taken even at inflated prices, but as supply begins to catch up with demand, as new homes are built and the filtering process begins to operate, the least desirable homes will be discarded first and become difficult to sell or rent; this would be reflected in the price of properties in this area. The Transitional Area Index might well be the one to watch as an indicator of coming events in the real estate market, assuming, of course, that there are no sudden interrupting influences, such as war, on the factors which affect real estate prices. In other words, it seems quite plausible that had it not been for the present international situation, real estate prices would probably be leveling off in the Lansing area.

7. During the war years, 1941-1945, real estate prices rose an average of about 60 per cent for the whole of Lansing and about 70 per cent in the post-war years, 1946-1950.

The rapid rise of real estate prices in the Low Rent Area during the war was probably attributable to the influx of war workers. Often unable to rent, these war workers were forced to buy. Their income level and their uncertainty of employment tenure meant that they were in the market for low-priced housing. This may explain why percentage-wise, this type of housing increased the most in price.

The East Lansing Area deviates from the other areas in several interesting respects as has been brought

out previously; (1) it remained more constant than any of the others through the period 1935-1943, (2) it started its upward trend somewhat later, (3) its increase, once begun, was most rapid of all, (4) while the indices of the other areas were falling in 1949, it remained almost constant.

What could account for these peculiar movements? The East Lansing Area would be affected approximately the same as the other areas in respect to construction costs and the general price level, and it is doubtful that relative changes in building activity would be significantly different between Lansing and East Lansing. When one realizes, however, that the economic base of a community is very important in determining the population and income of an area, and therefore, the demand for housing, a possible explanation of the differences arises. The major employment source of East Lansing is Michigan State College, and it is very likely that the growth of this institution is very important in causing the peculiar movement of prices in East Lansing. Another factor important in recent years is that East Lansing has gained great social prestige for the high income groups of Lansing.

Over the span of years considered, the Negro Area has appreciated in value less than any of the other areas. There are a number of possible explanations for this: (1) When the Negro area was delineated, areas were included

which in the years covered by the index had not yet passed into Negro use. When some of these sections did begin to be infiltrated by a Negro clientele, there was undoubtedly a temporary depreciation in value, which was out of accord with the market as a whole and which was reflected in the Negro Area index; (2) In many cities the Negro area is rigidly defined and its expansion almost entirely prevented. If this is true, and if the Negro population is increasing, bidding in the market for the limited supply is bound to drive the prices up to abnormal heights. In Lansing, the Negro population has been successful in entering new sections of the city and thus have avoided this process; (3) Many houses in the Negro residential area are very old and perhaps were not kept in as good repair by their owners and white renters as is true in other areas. Thus they have depreciated at more than a normal rate.

Chapter V

COMPARISONS WITH AND ANALYSIS OF FACTORS INFLUENCING REAL ESTATE PRICES

THE GENERAL PRICE LEVEL AND HOUSING PRICES

Price changes can occur as a result of at least three different influences: (1) changes in the relationship between supply and demand functions, (2) changes in production cost, and (3) changes in the value of the monetary unit. This taxonomy is a rather arbitrary one because in reality all of these factors are interrelated and could be classified under the first heading. A variation in the cost of production is really one aspect of the supply function, and it may occur also as a result of changes in the price level.

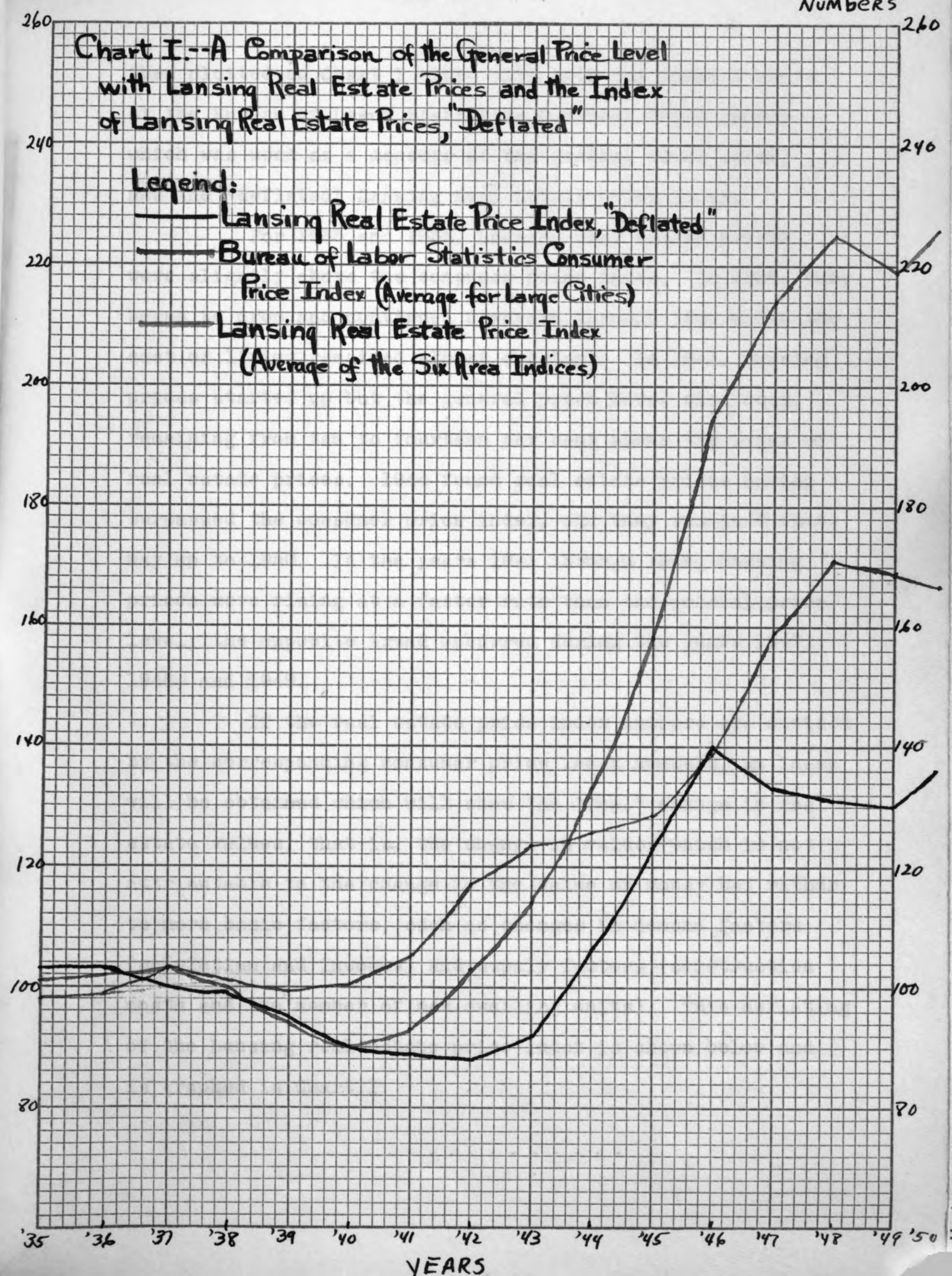
Certainly if the supply and demand relationships were to remain constant, one would expect real estate prices to follow closely the path of the general price level. Any deviation from this path would have to be explained by other factors, or, to put it another way, if one is to study the influence of other factors upon real estate prices, the effect of the changing price level must be removed.

Rather than attempt to compare the general price level with all six indices of real estate prices, an average of the six indices is used. This averaging process is shown in Table I. The resulting index numbers were

Table I.-- INDEX NUMBERS OF THE SIX AREA INDICES AVERAGED AND USED TO FORM ONE COMPOSITE INDEX FOR LANSING AS A WHOLE AND THE INDEX NUMBERS OF THE BUREAU OF LABOR STATISTICS CONSUMER PRICE INDEX (AVERAGE FOR LARGE CITIES.)

Year	High Rent Area	Middle Rent Area	Low Rent Area	Transitional Area	Negro Area	East Lansing Area	Final Index (average of 6 indices)	Consumer Price Index No.
1935	98	93	100	104	105	102	101	98.1
1936	101	101	103	104	104	101	102	99.1
1937	108	104	105	98	102	102	103	102.7
1938	98	100	99	101	100	100	100	100.8
1939	96	97	93	93	90	96	94	99.4
1940	90	87	90	91	86	94	90	100.2
1941	91	93	97	92	88	99	93	105.2
1942	98	113	101	102	97	105	103	116.5
1943	115	119	121	115	109	105	114	123.6
1944	133	128	159	125	130	126	133	125.5
1945	152	156	188	152	139	164	158	128.4
1946	188	196	229	178	174	204	195	139.3
1947	207	218	238	203	182	237	214	159.2
1948	221	214	259	210	193	253	225	171.2
1949	217	218	246	195	185	251	219	169.1
1950	228	224	256	185	199	267	226	166.8

1935-39 = 100


Index Numbers
Chart I.--A Comparison of the General Price Level with Lansing Real Estate Prices and the Index of Lansing Real Estate Prices, "Deflated"
Legend:
Lansing Real Estate Price Index, "Deflated"
Bureau of Labor Statistics Consumer Price Index (Average for Large Cities)
Lansing Real Estate Price Index (Average of the Six Area Indices)
260
240
220
200
180
160
140
120
100
80
'35
'36
'37
'38
'39
'40
'41
'42
'43
'44
'45
'46
'47
'48
'49
'50
YEARS

then plotted on Chart I along with both the index numbers of the Bureau of Labor Statistics Consumer Price Index, which was used as a measure of the general price level, and the "deflated" Lansing Real Estate Price Index.

For 1935 and 1936, Lansing real estate prices were slightly above the consumer price index. In 1938, they began to drop and continued downward through 1940 while the cost of living remained almost constant. In 1941, housing prices started up but the general price level also rose, remaining from ten to fourteen per cent above the index of real estate prices. 1944 found real estate prices having surpassed the consumer price index, and they remained that way up to 1950. In the years 1941 through 1946, housing prices were rising at a faster rate than the general price level; the opposite trend occurred during the years 1947, 1948, and 1949.

If the real estate price index numbers are divided by the corresponding consumer price index numbers, an index will be obtained which will show the "real" change in real estate values; that is, the change in values which is not attributable to the change in the value of money but rather to more basic factors, such as changes in demand factors (population and incomes) and supply factors (construction costs and the number of new dwelling units). This deflating of the Lansing real estate price index is shown below and is graphed in Chart I.

YEAR	LANSING R.E. PRICE INDEX	B. of L. CONSUMER PRICE INDEX	"DEFLATED" LANSING R.E. PRICE INDEX
1935	101	98.1	103
1936	102	99.1	103
1937	103	102.7	100
1938	100	100.8	99
1939	94	99.4	95
1940	90	100.2	90
1941	93	105.2	89
1942	105	116.5	88
1943	114	123.6	92
1944	133	125.5	106
1945	158	128.4	123
1946	195	139.3	140
1947	214	159.2	133
1948	225	171.2	131
1949	219	169.1	130
1950	226	166.8 1983	135 /27

The graph shows (see page 72) that in terms of a constant monetary unit, real estate values fell slowly but constantly through the year 1942 and rose sharply from 1943 through 1946. From the 1946 peak, the "deflated" index has declined steadily through 1949. However, the fundamental value of real estate is still well above the normal 1935-1939 level.

The evidence indicates that the increase in prices of real estate since 1946, until the beginning of 1950, was due to the inflation of the dollar. In other words, had the price level remained constant at the 1946 level, supply and demand conditions in the Lansing market were such as to cause actual decreases in real estate prices. In 1950, however, the relationship again reversed itself, with real estate prices advancing at a faster rate than the general price level.

CONSTRUCTION COSTS AND HOUSING PRICES

Let us now compare the "deflated" index of real estate prices with some other factors in order to determine the relationships between these variables.

A relationship would be expected between construction costs and real estate prices. According to economic theory, the construction cost of a piece of property should form the normal price around which prices of new real estate fluctuate. If perfect competitive conditions exist in the market, housing prices should approximate construction costs quite closely even in the short period. Quite obviously, many of the conditions necessary for quick adjustment to the normal price do not exist. The demand for real estate in a particular locality depends upon population shifts and incomes, both of which are capable of rather violent and sudden changes. On the other hand, being a durable product and taking some time to produce, the supply of new housing remains relatively stable. One writer has stated the relation between new and used real estate in the following terms:[1]

> The normal price of a second hand, reproducible, durable good is related to the value of the new good in the following manner: (1) it can not exceed cost of production, and (2) the demand schedule for the second hand good reflects both the smaller number of services embodied in it as compared to the new article and the fact that

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1 William M. Hoad, Real Estate Prices, Unpublished Doctoral Dissertation, University of Michigan, 1942, p. 5. It might be more accurate to state that it cannot exceed costof reproduction including risks of price rises and allowances for owner's time in planning and building plus housing costs during the building period.

> each successive service is a little less desirable as the good grows older...

Another complicating factor which upsets the theoretical relationship existing between construction costs and real estate prices is that in addition to the construction cost of the house, a real estate transaction involves the purchasing of a non-reproducible item, namely, the lot on which the building rests. Therefore, decreasing building values may be partially offset by increasing lot prices.

From what has been written up to this point, one would expect: (1) fairly close relationship between construction costs and real estate prices in the long run, with construction costs gaining relative to real estate prices as time passes, expecially since the houses considered in this index tend to be older, (2) that normally the price would not exceed construction costs, and (3) that some short run deviations occur and should be explainable in terms of the adjustment or lack of adjustment that exists between supply and demand.

There are several indices of construction costs available. The Boeckh index of construction costs for residential frame dwellings for the Detroit area seems the most appropriate for our purpose. The Engineering News Record gave the following description:[2]

> Current indexes are calculated upon an actual survey at source of local construction cost conditions. Material prices used are those

2 "Construction Costs for 1950", Engineering News Record, March 23, 1950, p. 153.

> paid by contractors to material dealers. Labor rates are current rates paid by contractors--certain corrections being made in certain areas for labor efficiency and labor shortage. Index includes construction overhead, sales taxes, compensation insurance and social security. The indexes have been primarily engineered to use as local cost conversion factors to construction cost data released by the Boeckh organization. Complete index formula is available in published form in "Boeckhs Index Calculator Tables."

Table 2 shows the Boeckh index numbers converted to a 1935-39 base, deflated and then plotted in Chart 2 along with the "deflated" Lansing real estate index.

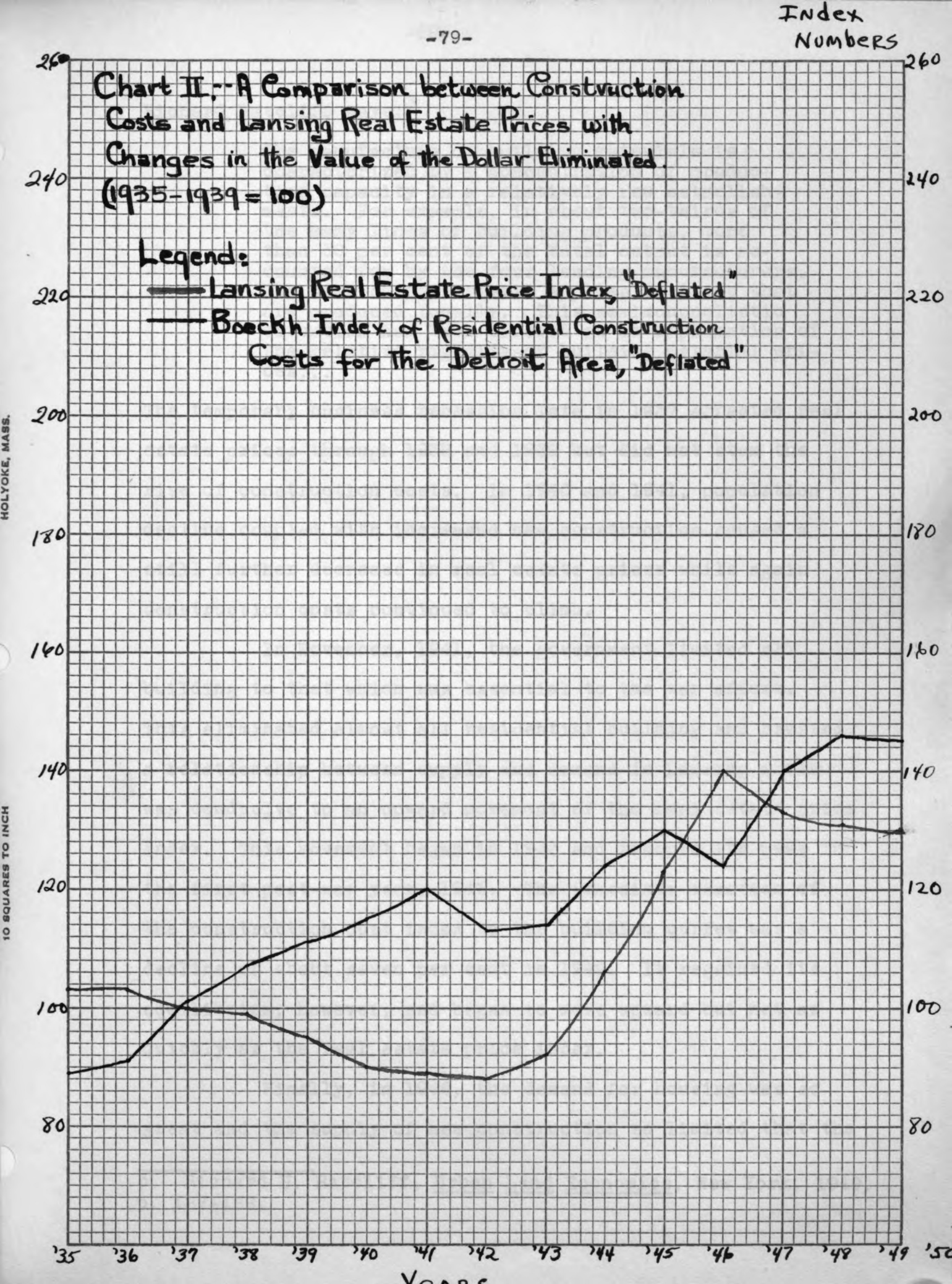
Observation of the two indices shows some positive correlation between them. In fact, if secular trend lines were drawn for the two indices, a relationship similar to that suggested by Hoad and discussed earlier would exist. There are also several variances from what would normally be expected. Most of the deviations can be explained in the following manner: After the changing price level has been eliminated, real estate prices for Lansing are determined largely by local phenomena such as population changes and income and show some sensitivity to these factors. Construction costs are determined by prevailing wage rates and cost of construction materials, which themselves, if sensitive to market forces at all, would be affected by national more than local conditions.

The gradual and almost uninterrupted climb of construction costs would indicate that the prices which go to make up the index are not very competitively determined.

Table II.

Year	126-29=100 Boeckh Index	1935-39=100 Boeckh Index	"Deflated" Boeckh Index
1935	78.1	87	89
1936	80.6	90	91
1937	93.9	104	101
1938	97.1	108	107
1939	98.8	110	111
1940	103.3	115	115
1941	113.4	126	120
1942	119.0	132	113
1943	126.7	141	114
1944	140.0	156	124
1945	149.9	167	130
1946	165.9	173	124
1947	201.2	224	140
1948	224.7	250	146
1949	221.0	246	145

Source: Taken from following issues of the Engineering News-Record, April 27, 1939, April 5, 1945 and March 23, 1950.



Richard Ratcliff says:[3]

> The manufacture of building materials is characterized by a concentration of productive capacity in a relatively few establishments. For example, in about two-thirds of the many lines of building products, more than 50 per cent of the total output is accounted for by the four leading manufacturers. The same characteristic applies to items that are produced locally. This semimonopolistic situation has been offered as an explanation of the relative rigidity of building material prices...

The temporary business recession late in 1937 affected real estate prices through 1938 and 1939 but did not stem the rise of construction costs. In 1940 and 1941, population decline coupled with increased new construction caused a still further decrease in real estate prices while again construction costs continued to climb.

In November, 1941, the government limited all building to that which was essential to the war effort. This eliminated almost all residential building and created a relationship between supply and demand in Lansing which was conducive to an upward movement of the real estate price index. This movement began in 1943 and reached its peak in the first post-war year, 1946. The immediate reaction of the construction cost index to the building curfew was a decline of about seven per cent in 1942. It regained its equilibrium, however, and began to move upward but not as quickly as the real estate price index.

Finally, in 1946, the demand for housing was so great and the supply of new construction so limited that the

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3 Richard U. Ratcliff, Urban Land Economics, New York, 1949, p. 187-188.

resulting pressure on real estate prices brought the index above the Boeckh Construction Cost Index. But this supremacy was short-lived because when price restrictions were removed in November, 1946, construction costs skyrocketed and overtook the deflated Lansing real estate price index, which itself had begun to fade slightly.

SUPPLY AND DEMAND AND HOUSING PRICES

After changes in real estate prices due to the depreciation of the dollar have been eliminated, the movements which the index exhibits should be explainable largely in terms of the adjustment between supply and demand. To get an adequate measure of these factors is very difficult; it is impossible to separate the rental from the home buying demand and somewhat inadvisable, even if possible, because changes in rental demand affect real estate prices indirectly; it is impossible also to get a satisfactory measure of effective demand. Figures on incomes are very meager, especially those measuring changes in incomes for the residents of Lansing over a period of time. Data regarding supply is also difficult to obtain and interpret. One should consider vacancies and new construction, but the only measure of new construction is the number of building permits issued, and the question arises as to whether one should count only those building permits issued for new dwelling units or include building permits issued for repair and additions. The measure of supply used in this chapter is simply the number of new residential dwelling units begun in Lansing in each year from 1935 to 1950. A discussion of the factors which influence and determine the potential demand for housing for a particular area follows.

The first obvious and crude measure of potential demand is the total population of an area. Changes in total population vary directly with changes in demand although in a rough fashion. A more refined measure is the number of families, for although there is a positive relationship between an increase or decrease in the population and an increase or decrease in the number of families, the changes are not necessarily directly proportionate. For example, migrants into the city may be single and not normally occupy a family dwelling unit.

Obviously not all families in a locality represent potential demand for new or vacant used housing. Many families already own their own home or rent a house. Thus an increase in the net demand must come from new families in the area. The source of new families may come from either of two sources, immigration or marriage.

Immigration has been a primary factor responsible for the rise of most cities. There is no information to show the proportion of single migrants as compared with those who come in family groups. The proportion undoubtedly varies among cities according to the type of employment available. It was assumed in this study that about one-fourth of the net immigration or emmigration from a city during normal times would be single. During the war, however, it was assumed that one-half were single. Married immigrants have a direct effect on housing demand, whereas single individuals

need only rooms immediately and represent a potential demander of housing only in the unforseeable future.

New families created by marriages are an important source of increase in the demand for housing. While some newlyweds do not occupy separate dwellings immediately but rather double up with relatives, most newly-formed families require separate quarters. Therefore, anyone attempting to measure housing demand should gather statistics on marriages in the locality, both the number of marriages in the recent past and data concerning trends and the correlation of these trends with other factors. For example, the marriage rate seems to be sensitive to changes in economic conditions, decreasing during the trough and increasing at the peaks of the business cycle. See Chart 3 for the trends in marriages and divorces for Lansing, Michigan, from 1935 to date.

"Population growth by natural increase does not mean an immediate increase in housing need. The effect of births on housing requirements is not felt for some twenty to twenty-five years after the events, when the newcomers have attained marriageable age and begin to establish new family groups. This fact points to the importance of the age distribution of the population as a forecaster of future housing needs, for the number of persons who are to attain marriageable age during a given period will constitute an important part of the new demand for housing."[4] See the

4 Ibid., p. 93.

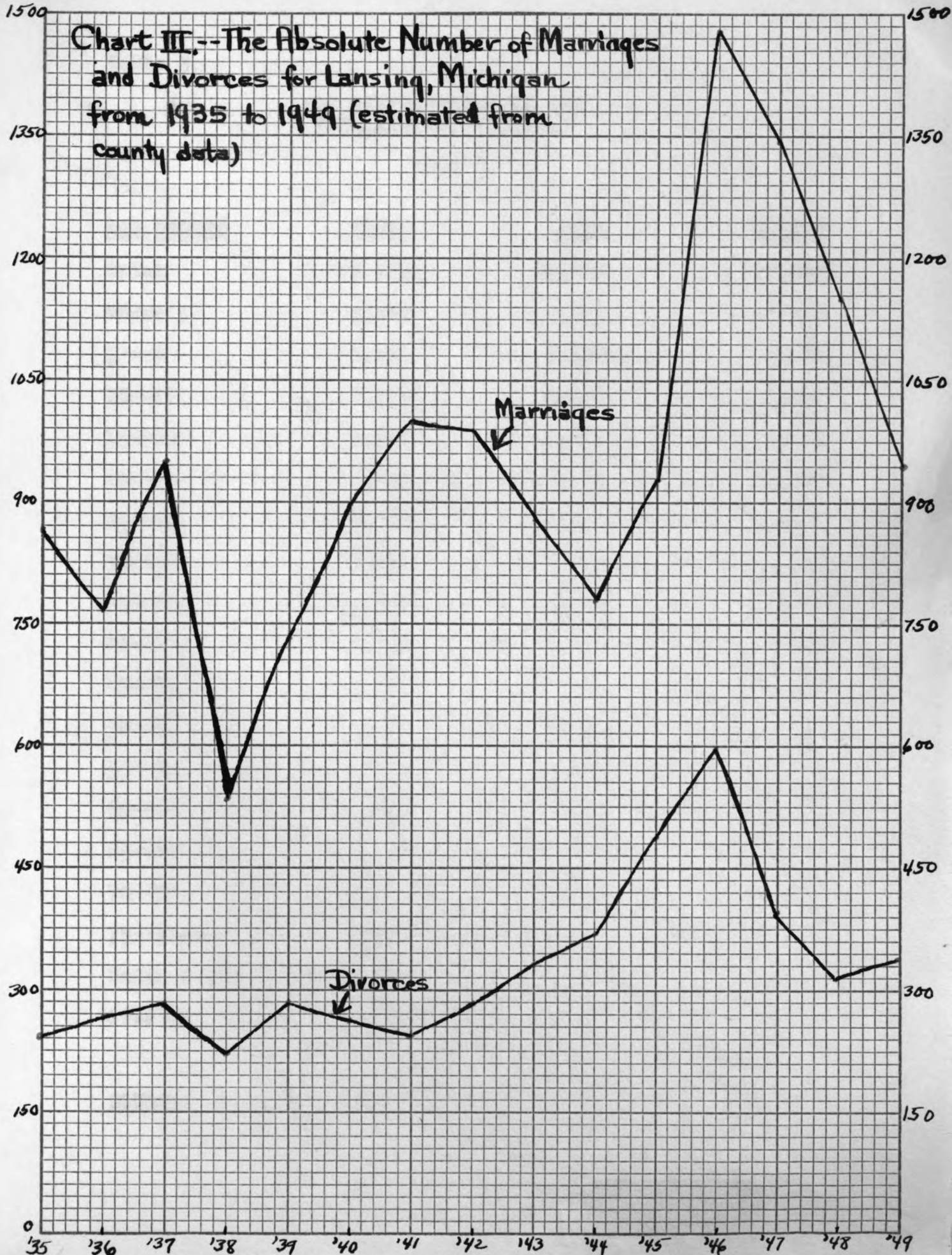


Table 3.

AGE DISTRIBUTION BY SEX
FOR LANSING, MICHIGAN

1940

AGE GROUPS	TOTAL	MALE	FEMALE
Total	78,753	38,443	40,310
Under 5	5,849	2,946	2,903
5---9	5,763	2,913	2,850
10--14	6,234	3,121	3,113
15--19	7,049	3,475	3,574
20--24	7,370	3,301	4,069
25--29	6,962	3,262	3,700
30--34	6,461	3,096	3,365
35--39	6,235	3,036	3,199
40--44	5,735	2,877	2,858
45--49	5,289	2,757	2,532
50--54	4,569	2,342	2,227
55--59	3,547	1,786	1,761
60--64	2,739	1,305	1,434
65--69	2,068	954	1,103
70--74	1,403	636	767
75--Above	1,480	625	855
Under 1 yr.	1,205	597	608
Over 21	52,444	25,370	27,074

SOURCE: U. S. Bureau of Census, Vol. 2, Table 32.

enclosed Table 3 for the age distribution for Lansing in 1940. This chart shows a relatively large number of individuals between the ages of 15 to 29 who would be likely to marry and form new families within the 10-year period of 1940-50.

The difference between births and deaths for each year give the population change due to natural causes. If the difference between this result and the total estimated population change for the year is computed, it is possible to estimate the net migration.

The importance of new marriages as a factor in increasing demand for housing has already been mentioned. Those influences which are dissolving families, namely divorce, death, and separation must also be considered and subtracted from the marriage factor in order to derive the net change. The trend in the divorce rate has been continuously upward. The divorce rate, like the marriage rate, is responsive to fluctuations in the business cycle; it declines during periods of economic stress, but the changes in the divorce rate are smaller in amplitude and shorter in duration than in the case of marriages.

Since death is more than four times as important as divorce in dissolving families, it is important that this factor be carefully considered.[5] The death of one of a married couple may give rise to a reduction in the quantity

5 Ibid., p. 91.

of demand for housing. In many cases, the survivor moves in with relations or takes up an existence in rented rooms. It was assumed in this study that one-fourth the number of deaths of any year should be subtracted from the net demand factor for that year.

In conclusion, a complete analysis of housing demand would concern itself with all factors which give rise to new families in a city, and it would discount for those factors which result in the dissolution of families. The major factors which create new families in a city are net immigration and marriages. Past immigration can be estimated by taking the change in the estimated population of a city for one year and subtracting from it the increase in population due to natural increase. The resulting figure gives one an estimate of immigration for the year; allowance must be made for single immigrants, and to get the figure in terms of families, it should be divided by the average family size.

An analysis of past increase in demand due to marriages can be made. Statistics on number of marriages are given for most cities and if not available, can be estimated from county figures. The breakup of families due to divorce and death must be taken into account and allowance made for them. Future predictions of the marriage variable can be based on studies of past trends in marriages and divorces and the underlying causes affecting them. An index of changes in housing demand based upon the above elements is employed

in this study. Many of the adjustments are arbitrary and inaccurate, but it does give a quantitative picture of the procedure for Lansing which can be compared with fluctuations in supply and prices of real estate. Tables IV and V show the factors which were considered, the adjustments made, and the final net addition to potential housing demand in each year.

Table VI brings together the measure of supply (number of new dwelling units started in each year) and demand (number of new families in each year) and the deflated real estate price index. Column 3 shows the ratio of demand to supply, that is, the number of potential demanders per unit of supply. This was calculated in order to facilitate comparison with movements in the real estate price index. Examination indicates the critical ratio to be about four. This means that, with minor exceptions, when the number of new families is more than four to each new dwelling unit, an increase in fundamental real estate prices results, and when less than four, a decrease in prices results. This is shown graphically in Chart 4. Here the scale was made equal to the ratio 4 so that if the hypothesis is correct, the real estate index will generally show an increase whenever the graph shows demand to be above supply and a decrease whenever the supply index exceeds the demand index in the same year. Observation of the chart indicates that this is usually the case; supply exceeded demand through the years 1937-1942, and fundamental real estate prices were constantly on the decrease. Likewise,

Table IV.

Year	(1) Estimated* Pop. for Lansing	(2) Number of Births	(3) Number of Deaths	(4) Natural Increase Col (2)-(3)	(5) Net Immigration or Emigration (1)-(4)	(6) Net Immigration* Adjusted for Single Persons	(7) No. of New Families
1935	79,960	1644	709	935	-2665	-1999	-497
1936	84,305	1590	818	772	+3573	+2680	-670
1937	84,292	1583	753	830	- 843	- 632	-158
1938	84,303	1767	736	1031	-1020	- 765	-191
1939	84,308	1687	801	886	- 881	- 661	-165
1940	78,745	1456	746	710	-6273	-3136	-784
1941	79,850	1608	730	878	+ 227	+ 113	+ 28
1942	73,480	1826	711	1115	-7485	-3742	-935
1943	76,785	1925	861	1064	+2241	+1120	+280
1944	76,113	1676	808	868	-1540	- 770	-192
1945	74,856	1557	748	809	-2066	-1033	-258
1946	80,586	1934	776	1208	+4522	+2261	+565
1947	84,688	2258	800	1458	+2644	+1983	+496
1948	91,067	2137	793	1344	+5035	+3776	+944
1949	91,850	2121	785	1336	- 553	- 415	-104

*Information on estimated population, births, deaths, county marriages and divorces was obtained from the Vital Statistics Department of the Michigan Department of Health.

Table V.

Year	(8) Marriages for Ingham County	(9) Estimated* Marriages for Lansing	(10) Divorces for Ingham County	(11) Estimated* Divorces for Lansing	(12) Marriages- (1/2 No. of Divorces)	(13) Death Factor (1/4 No. of Deaths)	(14) New Net Demand Col (7)-(12) -(13)
1935	1262	858	350	238	739	177	+ 65
1936	1103	761	380	262	630	205	+1095
1937	1371	946	401	277	808	188	+ 462
1938	770	531	314	217	423	184	+ 48
1939	1062	733	400	276	595	200	+ 230
1940	1449	898	415	257	770	187	- 201
1941	1636	998	387	236	880	183	+ 725
1942	1616	986	450	275	849	178	- 264
1943	1412	861	543	331	696	215	+ 761
1944	1333	773	629	365	591	202	+ 197
1945	1672	954	843	481	714	187	+ 269
1946	2589	1476	1039	592	1180	194	+1551
1947	2437	1340	715	393	1144	200	+1440
1948	1939	1144	525	310	989	198	+1735
1949	1623	941	580	336	773	196	+ 473

*Marriages for Lansing estimated by finding percentage Lansing population is of county population and multiplying number of marriages for the county by this percentage. Same procedure used for finding the number of divorces.

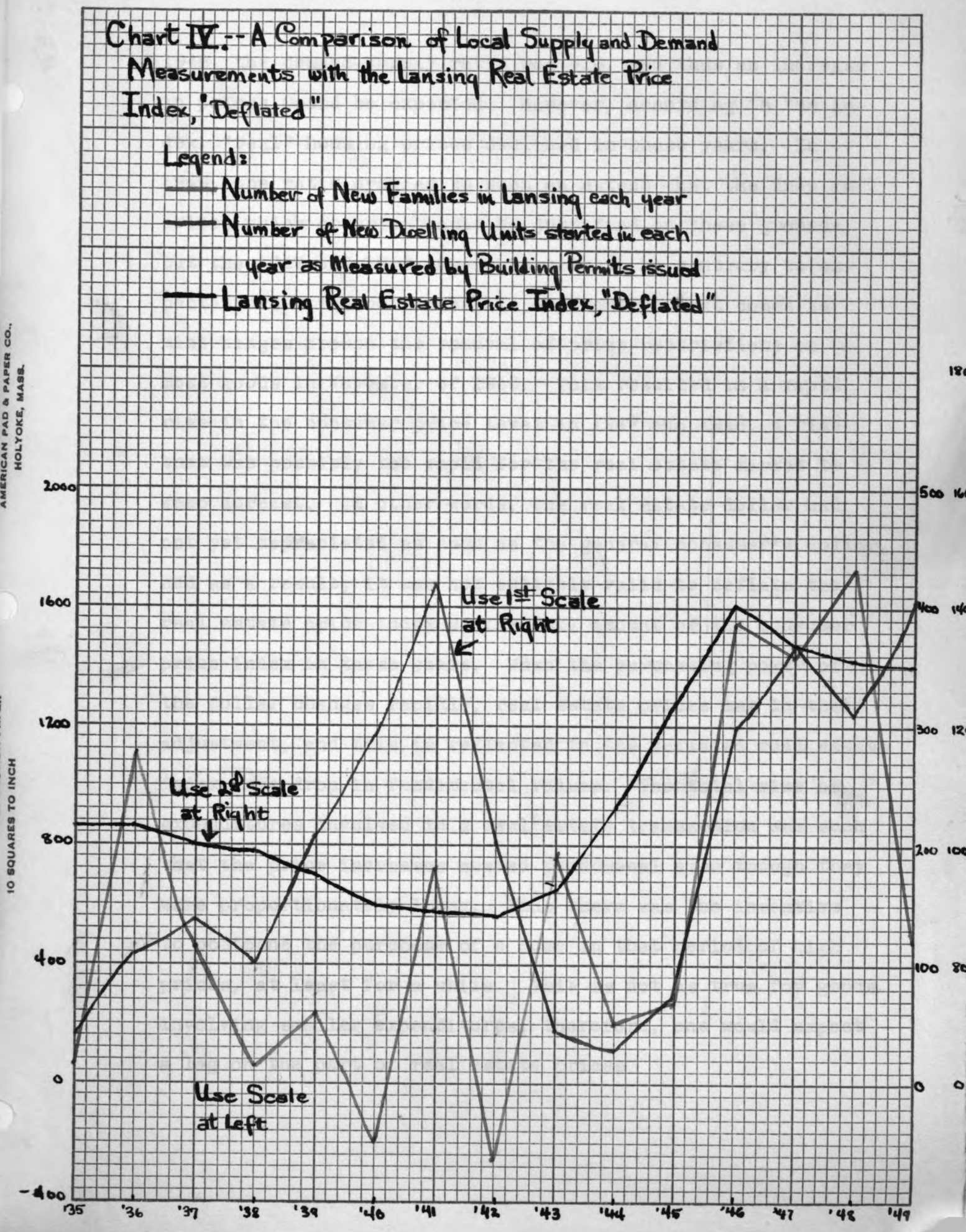
in 1943, the demand-supply ratio exceeded 4, in fact, shot up to 16.5, and real estate prices reversed themselves. Excepting 1945, when the ratio slipped to 3.6, this relationship existed through 1946. The slight drop below the critical ratio in 1945 was not sufficient to change the movement of prices, probably because of the backlog of demand from the years 1943 and 1944.

The significant exceptions to the rule of 4 are as follows: (1) In 1937, the demand-supply ratio was high, 10, indicating that prices should have risen. While failing to rise, they did remain constant. Two possible explanations for this reaction are: (a) There may have been a backlog of vacancies at the time which allowed for the absorption of the excess demand without too much pressure on facilities and no effect on prices, and (b) Late in 1937 there was a general business recession which affected incomes and employment and changed the ratio between effective demand and potential demand enough to make the critical ratio in this particular year higher. (2) The second exception deals with deflated price movements after 1946; these movements were downward, yet the supply and demand relationships in 1947 and 1948 do not justify such a drop. In 1947 the demand-supply ratio was just a hair under the critical ratio of 4, being 3.9. From this, one would expect prices to remain about constant, and with the large backlog of unsatisfied demand in 1946, even to rise. In

Table VI.

Year	No. of New Dwelling Unit Started in Each	Net New Demand in Each Year	Ratio of Demand to Supply Col (2)÷(1)	Deflated L. E. Price Index
1935	41	65	1.6	103
1936	109	1095	10.0	103
1937	139	462	3.3	100
1938	104	48	0.5	99
1939	208	230	1.1	95
1940	290	-201		90
1941	420	+725	1.7	89
1942	203	-264		88
1943	46	+761	16.5	92
1944	30	+197	6.6	106
1945	74	+269	3.6	123
1946	298	+1551	5.2	140
1947	367	+1440	3.9	133
1948	310	+1735	5.6	131
1949	405	+473	1.2	130
1950	446 (first 6 mo.)			135

Critical Ratio = 4.0



1948, the demand-supply ratio was 5.6, and thus an increase in prices would be expected. However, according to the index, "real" housing prices declined in these years. In 1949, the ratio dropped to such an extent that the drop in prices which occurred could be justified on these grounds, but the 1947 and 1948 movements seem to be contrary to expectations. The only possible explanation that comes to mind hinges around the removal of price restrictions on most goods in November of 1946. This resulted in a rapid rise in the consumer price level in 1947 and 1948, a rise that was possibly too rapid for the real estate market to keep abreast. In other words, the real estate dollar had not yet depreciated as much as the general consumer's dollar, and as a result, it was not entirely valid to deflate the real estate price index by the full amount of the consumer price index in these years. When the purchasing power of the dollar changes rapidly, real estate prices lag in their adjustment, and this is reflected in the deflated real estate index as a drop in fundamental values. The total size of expenditures involved in a real estate transaction was such that the price increases seemed phenomenal even though they were proportionately lower. Thus there was the incentive to postpone the purchase of a home in that period of high prices, at least for a while. This is not as true for goods involving smaller expenditures; therefore, one would expect a lag on the part of real estate prices.

The limitations of the quantities used in this analysis should again be emphasized. In addition to their other inadequacies, the supply and demand measurements show only successive year-to-year changes, whereas ideally, they should be cumulative in nature by adding the unsatisfied demand from the previous years.

Perhaps another shortcoming is that the quantities compared were all of the same year, that is, the real estate price change in any year was compared with the supply and demand of that same year. The same is true of the consumer price level; the real estate index was deflated by the consumer price index number of the same year. Again, this procedure may have been faulty in that there are undoubtedly lags and leads between these factors. Some superficial reflection was done on this point, but no constant relationship superior to the one used could be ascertained.

Finally, if the supply-demand ratio is to be used in predicting future price movements, much caution should be used, first because it is not a particularly sensitive measuring tool, and second, because there are many other factors, especially the general price level, which might counteract its influence.

CHAPTER VI.

CONCLUSION

The aim of this chapter is to indicate something of future trends in the Lansing real estate market. The focal point will be an attempt to predict the future course of housing prices. To accomplish this with any degree of success means examining each of the factors which influence prices of real estate, determining their future course and the degree to which changes in them affect real estate prices.

The really perplexing problem is the present international situation. The future course of international events will be greatly influenced by the emotions and values of the peoples of the world and their leaders and thus evades analysis, at least of the economic type. Because of this, the procedure will be to set up a number of models making in each case a different assumption as to the future course of international events. An attempt will then be made to analyze the Lansirg real estate market under the assumptions associated with each of the models.

First, let us be optimistic and assume that the Korean war will end quickly, within six months at the most, and that the ensuing peace allows this country to resume normal economic conditions, that is, conditions similar to 1949. There will be military spending but not a garrison state, freedom from most government controls, and approxi-

mately the same tax burden. In this economic environment, what would be the course of future real estate prices?

The local factors would seem to indicate a slightly decreasing "real" price for Lansing real estate as a whole. Demand seems to be leveling off. There were slight increases in population in 1949 and 1950 but nothing to compare with the immigration and marriages of 1946, 1947, and 1948. Population increased by approximately 5,000 in 1946, 4,000 in 1947, and 5,500 in 1948, whereas the population increased but 800 in 1949, less than the 1336 change due to natural increase. Marriages in 1949 were also down, being 203 less than 1948, 399 less than 1947, and 535 less than 1946. This same trend seems to be continuing through 1950.

On the supply side, the construction of new dwelling units started in 1949, was the greatest number since 1941. An examination of the building permits issued for new dwelling units in the first six months of 1950 shows a total of 446, showing that this year has already surpassed any year covered by this study. It seems evident that the supply-demand ratio for Lansing this year will be well below the critical ratio,[1] and that the influence of these combined factors will pull housing prices down.

There are other factors counteracting this supply-

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1 For a discussion of the development and meaning of this concept, see Chapter V., p. 90.

demand influence. For example, incomes, as measured by the average weekly earnings in Michigan manufacturing industries for Ingham County, show a continually rising trend. The General Motors Corporation, which is a basic employment source for the area, and the UAW-CIO Union have signed a five-year contract continuing the "escalator" wage clause which attaches wages to the consumer price index and which establishes a floor below which wages cannot fall. Presumably, then, incomes and employment will stay high for sometime in this area and will tend to counteract the low supply-demand ratio to some degree, though not completely. Taken as a whole, local factors point toward slightly decreasing prices.

This somewhat depressing local influence on the market could easily be nullified by a rising general price level, and thus the probable course of this factor must be analyzed. The Bureau of Labor Statistics' Consumer Price Index rose rapidly from 1946 through 1948, then reversed its trend in 1949, and continued its slight fall through the first quarter of 1950. Indications were that conditions of supply were adjusting to demand, that the backlog of demand was being wiped out, and that the market was changing from a seller's to a buyer's one. In short, under the assumption of a normal peace time economy, it appears that the price level would level off and start a slight and slow decline, which would continue as conditions became more

normal.

In examining construction cost trends, the general assumption is that rising construction costs will have an adverse effect on the amount of new construction and thus might change the demand-supply relationship. In the March 23 issue of the Engineering News-Record, the following statement was made with regard to the outlook for construction costs in 1950.[2]

> The stability that marked prices and wages last year also promises to continue into 1950 along with ample production of materials and supply of labor to meet the volume of work in sight. The ENR cost indexes (which measure the movement of materials, prices and wage rates) should vary from their 1949 values not more than 5 per cent and could hold inside an even smaller range.

If this analysis is correct, construction costs should not interfere with the large volume of anticipated residential building.

To summarize, assuming a quick return to a peace time economy, the supply of new residential construction should be high relative to potential demand. Incomes and employment will remain high. The general price level is likely to fall slightly, while construction costs remain about constant. The conclusion is that Lansing real estate prices on the average will drop slightly in the immediate

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2 "The Outlook for Construction Costs in 1950", Engineering News-Record, March 23, 1950, p. 144.

future. In regard to specific areas, East Lansing values will probably hold up best, while those in the transitional area will fall most. Under this assumption, 1950 would be an excellent time to sell, whereas buyers should, perhaps, wait a short time. However, buyers would not be taking on too great a burden of debt, since incomes promise to remain high, while prices apparently will fall steadily but slowly. Long term debts should be avoided; a high down payment and high monthly payments would seem preferable.

What will happen to real estate prices, assuming that the war lasts longer, a year or two, and that after this time the situation is such as to require a relatively large military budget and some economic controls?

Under these conditions, much depends upon the nature of the economic controls installed. The natural pressure on the general price level would be strongly upward. The United States is already at practically full employment; shifting production from consumers goods to military supplies would mean a decrease in supply without a corresponding decrease in incomes and effective demand, and a very strong inflationary pressure would result. The degree to which this inflation is realized would depend upon the scope and success of price control and the degree to which the government taxes away the excess purchasing power of individuals and the excess profits of corporations and

controls bank credit. Gauging from the last war, the inflationary pressure would not be stopped completely. It is difficult to fix taxes at the necessary height; black markets spring up; and price control and rationing in one sphere simply divert the purchasing power to another area of goods with a consequent inflationary pressure in their values. At the beginning, purchasing power would probably be concentrated in those new durable goods (automobiles, television, electrical appliances and, perhaps, even new housing construction), which may be rationed or non-existent in the near future. The result would be that effective demand for used real estate would not immediately increase and might even experience a temporary decrease. The real estate indices for Lansing indicate that in 1941 and 1942, when the situation was somewhat similar, prices in most areas increased but at a slower rate than the Bureau of Labor Statistics' Consumer Price Index. However, after this initial period is over and some price control and rationing has been inaugurated, and after the stockpiles of these new goods have been exhausted, purchasing power is likely to turn to used real estate with sharply increasing prices resulting. This was true of the Lansing area beginning in 1943.

One would expect some change in the local demand-supply relationship. One of the first wartime restrictions is usually in the residential building field, a measure

which would drastically cut the supply of new dwelling units. The immediate effect on potential demand would likely be a decrease. Mobilization of men in the armed forces would mean in effect the dissolution of many families and a resulting decrease in demand. This tendency would be counteracted by the immigration of factory workers to man defense jobs, but this inward movement would not take place as quickly as the outward movement of men. Immediately, supply would decrease but demand would also; the ratio of demand to supply probably would rise slightly but not enough to affect real estate prices greatly. As time passed, supply would decrease even more, assuming continued controls, and demand would begin to increase. The demand-supply relationship would move up to a point beyond the critical ratio and thus an inflationary influence from these factors would result.

Construction costs, which though inconsequential because of restrictions on building, would remain high because of the government demand for labor and material. Increased down payment requirements and financing costs would dampen the market to a slight degree.

Although local supply and demand conditions are important elements in determining real estate prices, for the next few years at least, assuming war time conditions, the major factor apparently will be the general price level. There are conflicting opinions as to what will happen to

the general price level if the Korean situation remains localized. Many expect inflation, but at least one writer feels that there are counteracting forces which might prevent severe inflation. He states:[3]

> This is not at all like 1940 and 1941. Then, we were coming out of a long depression when demand for durable good had been subnormal. The volume of consumer credit was small. Very few people had anticipated a war. Now, we seem to be coming to the end of a business boom of several years duration. Consumer credit, at $19.1 billion at the end of May, is at the highest level on record. During the past three years consumer buying of durables has been stimulated several times by the warming up of the cold war. There isn't much room left for consumers to buy ahead against the possibility of war, for they have been mortgaging their incomes increasingly for several years. It is very doubtful that the volume of consumer credit outstanding will increase much further. If taxes are going to be higher, many consumers will hesitate to maintain even their present debt load...
>
> The chances are, unless this develops quickly into World War III, that the moderate increase in government spending for defense presently envisioned will serve primarily as a counter deflationary influence rather than as an inflationary influence. The downward pressure on the commodity price structure during the rest of this year and into early 1951 at least is likely to be so great that it will take more than a few billion dollars of additional government spending to offset it.

There is much to be said for Walters' analysis, but one should be acutely aware of the assumptions upon which it is based: (1) localized limited war, (2) "moderate increase in government spending for defense", and (3) increased taxes.

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3 Frank R. Walters, "What's Ahead for Prices?" The Magazine of Wall Street, July 15, 1950, pp. 410, 441.

To summarize, the future of real estate prices under this assumption depends upon many imponderables; (1) the size of the military budget, (2) the degree and kind of taxation, and (3) the scope and effectiveness of economic controls. However, it may be somewhat reasonable to expect slightly rising real estate prices in the immediate future, more rapidly increasing prices after controls on consumer goods have been thoroughly installed, and much more rapidly increasing prices directly after any complete demobilization. Under the conditions hypothicated in this case, the present would be a good time to buy real estate in Lansing. According to the information derived from comparing the area indices over similar periods of World War II, low priced housing would probably appreciate most in value and the East Lansing Area least during the mobilization period itself. Though all areas are likely to appreciate greatly after demobilization, if World War II is a reliable guide, East Lansing would appreciate most. And again over a long period of time, assuming a continued large enrollment at the college, it is the East Lansing Area which would best retain its value. There are two reasons for this: (1) the area is not as susceptible to general business changes as most areas, and (2) this area has acquired a high amenity value. Under the assumption of an all-out war, the influence would be much the same as in case two, but intensified. There would be severe infla-

tionary pressures at work on the general price level. Much would be contingent upon the effectiveness and degree of economic controls and the morale of the people. It is possible to imagine such a degree of fear having been generated toward atomic bombing that people would have no disposition for city living, in which case real estate values would fall drastically.

In conclusion, the limitations of this study should be reemphasized. All of the factors influencing real estate prices were not considered, and those which were considered were not adequately analyzed. The interactions between economic variables are so complex that it would be impossible to consider and analyze adequately all of the factors determining the price of any commodity. Predictions of future trends are based primarily upon what has happened in the past under similar conditions. This is dangerous because history never repeats itself exactly. This is an analysis of one local situation and cannot be generalized to other areas *per se*.

Since there are many limitations other than those explicitly mentioned above, it would not be advisable to invest heavily in real estate on the strength of the policy conclusions in this study alone. However, it is hoped that this study may prove of some assistance to interested persons when used in conjunction with their general knowledge and other information.

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