TABLE VII

BUSINESS PROPERTIES PAYING HIGHER TAXES UNDER GRADED TAX, 1960

Property	*Graded Tax*	*Flat Rate Tax*	*Tax Increase*
200 Fifth Avenue	$30,210.50	$21,600.00	$8,610.50
212 Fifth Avenue	4,184.70	2,902.50	1,282.20
225 Fifth Avenue	5,920.00	3,894.00	2,026.00
226–28 Fifth Avenue	6,972.65	5,007.25	1,965.40
237–39 Fifth Avenue	7,252,00	5,112.50	2,139.50
256 Fifth Avenue	18,315.00	12,750.00	5,565.00
310 Fifth Avenue	29,674.00	21,807.50	7,866.50
319–21 Fifth Avenue	15,605.12	11,648.50	3,056.62
514 Grant Street	2,221.85	1,620.00	601.85
631 Smithfield Street	2,244.05	1,597.50	646.55
520–22 Wood Street	3,552.00	2,550.00	1,002.00
230–34 Diamond Street	5,476.00	3,950.00	1,526.00
311 Fourth Avenue	3,953.30	2,985.00	970.30
627 Liberty Avenue	3,071.00	2,200.00	871.00
901 Penn Avenue	2,294.00	1,800.00	494.00
3702 Forbes Avenue	940.72	688.12	252.60
5836–42 Forbes Avenue	1,726.60	1,341.62	384.98
6001 Penn Avenue	10,915.00	7,900.00	3,015.00
502 Federal Street	1,184.00	900.00	284.00
504–06 Federal Street	2,166.16	1,698.00	468.16

TABLE VIII

OTHER DOWNTOWN BUILDINGS HAVING TAX SAVINGS

Commonwealth Building
Plaza Building
Jones Law Building
Manor Building
Century Building
Bessemer Building
House Building

OTHER DOWNTOWN BUILDINGS HAVING GREATER BUILDING VALUE

Penn-Sheraton Hotel	Commerce Building
Federal Reserve Bank Building	Keystone Building
Oliver Building	Empire Building
Keenan Building	Peoples Bank Building
Frick Building	Berger Building
Clark Building	Stanley Theatre
Gimbels Store	Roosevelt Hotel
Joseph Horne Company Store	Harris Theatre
First National Bank Building	McCann Store Building

(Above properties show no net tax savings, but higher land taxes are largely offset by lower building taxes on major portion of the real estate assessment.)

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Pittsburgh's Experience with the Graded Tax Plan

By Percy R. Williams

I

Purposes and Limitations of the Graded Tax Law

Having recorded the history of the graded tax movement in Pittsburgh, we now face the task of examining the plan as it is actually operating. An attempt will be made to discover just what economic and fiscal changes (if any), for better or worse, have been brought about by the enactment of the law.

What the sponsors of the plan hoped to accomplish by this legislation was made clear in the campaigning for it. Have these hopes been realized? Many public officials, civic leaders and newspaper editors, from time to time, have expressed their judgment of the graded tax and have borne eloquent and impressive testimony as to its virtues. But of course not all citizens or officials have concurred in this judgment; even some advocates of the basic principle of land-value taxation, in Pittsburgh and elsewhere, have expressed some doubts or dissatisfaction with regard to how the experiment is working.[1] The fact that the plan has been in uninterrupted operation for more than forty-five years and there is no apparent disposition to overthrow it may indicate that the graded tax plan does represent a sound forward step in economics and taxation—or that its opponents are paralyzed by inertia.

Because the plan is no longer new and many persons in Pittsburgh are probably unaware of the system prior to 1913, the ordinary citizen of the city, if questioned, is apt to reveal little, if any, knowledge of the subject. In view of these facts, it appears to be useful to investigate Pittsburgh's

[1] Walter W. Pollock and Karl W. H. Scholz, *The Science and Practice of Urban Land Valuation* (Philadelphia: Manufacturers Appraisal Company, 1926), pp. 247–52: "The verdict as to the effect of the Pittsburgh law must, at the present time, be one of uncertainty." J. P. Watson, *The City Real Estate Tax in Pittsburgh* (Bureau of Business Research, University of Pittsburgh, 1934), pp. 19–33: "The graded tax, really meant to be a classified property income tax, affects the valuation and, therefore, tends more or less to defeat itself." These critical studies of the Pittsburgh graded tax appeared, in the first case, when the graded tax had just come into full operation, and the other in the depression year of 1934. Both were interested in whether the graded tax, then comparatively new, was operating as intended. The analyses studied chiefly comparative assessed land and building valuations in this earlier period and the estimated cost of new buildings erected in that period. Mr. Pollock, a professional land appraiser, and Dr. Scholz, an economist, sought to show the importance of scientific appraisals of real estate values, whatever the tax system might be. They concluded that in Pittsburgh buildings were probably overassessed because insufficient depreciation was allowed on older buildings. Dr. Watson, on the other hand, apparently assumed that the assessments were fairly representative of true value for both land and buildings. He advanced the novel theory that the lower tax rate on buildings tended to increase the market value of buildings.

experience with the graded tax. I propose to contrast the old and the new tax systems, undertake to establish the situation existing prior to 1913 and to measure, as far as possible, any notable changes that may have since occurred. This will include an effort to indicate just how a portion of the real estate tax burden has been shifted from one source to another, what the general or individual tax levy would be under today's conditions if the old tax system had been retained as the basis of tax billing for the city, and what effects may be imputed to each system.

The graded tax plan may be described as an experiment with incentive taxation. Of course, the primary purpose of any tax imposed is to raise the necessary revenue with which to provide public services. But now it seems to be generally recognized that taxes also affect economic conditions.[2] Therefore specific taxation or exemption from taxation is often deliberately proposed or enacted to achieve an economic result beyond the raising of public revenue. The graded tax plan is a conspicuous example of the employment of taxation as an instrument to bring about certain economic and social changes.

The advocates and defenders of this particular tax reform had these definite purposes in mind: (1) to encourage private improvements of all kinds through fuller development and redevelopment of urban land; (2) to check land monopoly and land speculation that hinder the highest and best use of land; (3) to collect a larger share of the "unearned increment" of land values for public revenue as a matter of justice and equity; and (4) to reduce the tax burden on improved real estate, particularly for the benefit of home owners but also including many other real estate owners, and indirectly their tenants.[3]

The fact that the graded tax plan was so ardently advocated by its prin-

[2] "The taxing power is among the most powerful and far-reaching of the attributes of sovereignty. Even when applied only for the purpose of securing government income, its indirect effects may be, indeed certainly will be, very great. When consciously used for the accomplishment of other ends its power can scarcely be exaggerated." Fred Rogers Fairchild, *Elementary Economics* (New York: The Macmillan Company, 1930), p. 372.

[3] "A tax imposed on a dwelling tends to be borne by the occupier. If the owner is also the occupier, the situation is simple enough; the burden clearly must be borne by him. But if, as is commonly the case, the dwelling is let and is built with the expectation of letting, the burden is likely to be shifted to the occupier (tenant) in the shape of higher rent. The building will not be put up unless the owner has reason to believe that the rents will yield him the current return on investment, and will yield that return net; that is, after payment of all expenses. Taxes are reckoned by him among the expenses. . . . A remission of taxes would not necessarily lower rents at once; this consequence would ensue only after the greater return to the owners had stimulated an increase in the supply of houses." F. W. Taussig, *Principles of Economics* (New York: The Macmillan Company, 1912), p. 518.

cipal sponsors,[4] and at the same time bitterly opposed by some of its critics,[5] tends to indicate that something of real importance was involved in the debates. Even if a careful analysis indicates that the measures adopted in 1911 and 1913 represented only a moderate tax reform of rather limited application, the new principle of taxation that was involved in this legislation was evidently of sufficient consequence to arouse keen interest on both sides.

Recognizing that social progress usually is made by a series of steps, especially in an experimental stage, the sponsors of the graded tax decided not to demand all that might be desirable but to propose a compromise that they believed could be enacted into law without delay. They were convinced that in actual operation this compromise plan would accomplish a sufficient change in the local tax system to demonstrate the value and soundness of the principle and to produce concrete benefits that could be seen and measured, and thus serve as a guide to future action.

Because Pittsburgh's graded tax, though very significant in principle, constitutes no radical departure from conventional methods of taxing real estate in American cities generally, it is somewhat more difficult to discover just what has happened in this city and also to identify definitely cause and effect in any such consequence. The task is further complicated by the great social and economic changes that have taken place in the United States since 1913.

Many students of economics and taxation favor the complete exemption of all improvements in or on the land (and other natural resources) from taxation. It is fair to assume that the sponsors of the Pittsburgh plan were strongly inclined in that direction. In other parts of the world (notably Australia and New Zealand), many municipalities have shifted local taxes completely (and at one step) from improvements to land.[6] Students have

[4] "A statute so pre-eminently fair and so thoroughly in accord with enlightened modern ideas of taxation that it has been favorably commented upon from one end of the United States to the other. . . . It is endorsed by and is clearly in the interest of the vast majority of the public." *Pittsburgh Press*, editorial, June 11, 1915.

[5] "The main purpose of this act is to compel property owners to either sell or improve. This presupposes a general condition of property holders refusing either to sell or improve. This is not true in Pittsburgh—on the contrary, it is quite an exception.

"The selling and improving of property is controlled by the law of supply and demand, and that will be the controlling motive regardless of taxes.

"It takes the tax off those best able and puts it upon those least able to pay. The higher tax on land means ultimate confiscation by the municipality.

"In the downtown district from which the great bulk of revenue is derived, only the owner of the skyscraper is benefited by the act. The owner of an ordinary, in fact, a very fair-sized building is penalized, and the owner of land only is penalized." Anonymous leaflet published in 1915 by advocates of repeal.

[6] H. Bronson Cowan, *A Graphic Summary of Municipal Improvement and Finance*, International Research Committee on Real Estate Taxation (New York: Harper & Bros., 1958).

cited special reasons why this proved to be quite feasible there. But such a drastic change appeared to be more than the Pittsburgh land taxers felt it would be practicable to seek when the issue was presented to the Pennsylvania Legislature in 1913. Municipal home rule in taxation was not then constitutional in this state.[7] So the demand was made only for lower taxes on improvements and higher taxes on land values, with specific mandatory ratios stipulated in the law, leaving any further steps for future determination. The limited goal was adopted in order that something of value might be accomplished at once to meet the needs for immediate reform.

How far has Pittsburgh gone with this experiment? Is there any serious defect in the method that was adopted in 1913? And has anything occurred in the interval since 1913 to affect significantly the operation of the plan as it was then conceived?

Pittsburgh has gone just as far as the act of 1913 authorized the city to go in shifting taxes from improvements to land. But there have been some very significant changes in the fiscal situation in the years that have elapsed since the adoption of the graded tax. Most important of these are the changing ratio between land and building values and the sharp increase in the general tax levy.[8]

As long as buildings are taxable, the specified shifting of a part of the burden from buildings to land will be influenced by the relation of total land values to total building values. This is true because the law does not require any specific reduction in the building tax rate but does require that the building tax rate (whether higher or lower) shall be at any time just exactly one-half of the land tax rate.

[7] Pennsylvania State Constitution, Article XV, Cities and City Charters, was amended by popular vote Nov. 7, 1922, to permit the Legislature to grant home-rule powers to all cities by specific legislation. This power has since been granted by several acts of the Legislature as issues arose and has beeen exercised by the cities on various occasions.

[8] In 1914 land values as assessed comprised 63 per cent and building values comprised only 37 per cent of the total city assessment. But in 1960 assessed land values comprised only 35.3 per cent and building values 64.7 per cent of the total city valuation—almost an exact reversal of the situation prevailing in 1914. A similar trend is found in other American cities.

The following figures from the Controller's annual reports of the City of Pittsburgh show how the annual real estate tax levy has increased in the period from 1913 to 1960:

1913—	$ 7,027,039.06
1914—	7,713,118.09
1915—	7,960,231.15
1925—	15,033,990.31
1930—	22,648,581.94
1945—	17,660,700.58
1960—	30,089,399.87

If the total city revenue required increases several times over the original budget that was needed in 1914, it is obvious that the building tax rate must be increased along with the land tax rate even though the former remains only half as much as the latter.

The situation is slightly complicated and requires some analysis because of various factors that enter into the picture. Some of these were anticipated when the law was enacted; others could not possibly have been foreseen. For since 1913 we have witnessed two world wars, the great depression of modern times, and in more recent years an era of great inflation, high production and high taxes.

II

Higher Cost of Government Affects Tax Rates

HIGHER MUNICIPAL TAXES are the result of rising price levels[9] and some expansion of governmental activities and services. The total assessed land and building valuations may rise or fall for various reasons.

Land values are affected from time to time by such factors as general booms and depressions, increase or decline in population, decentralization of trade and industry, higher or lower tax rates, etc. Total assessed land values may also be reduced by the transfer of valuable land from the taxable to the exempt list by putting it to uses specified by law.[10] Building values are constantly changing as new buildings are erected and old are razed or renovated. Buildings are constantly subject to depreciation because of physical deterioration or neighborhood deterioration. But one of the greater factors affecting building values in recent years has been the sharp increase in the cost of labor and materials required for new construction, a

[9] The following may be indicative. Its statistical shortcomings are apparent. *Employment, Growth and Price Levels,* Joint Economic Committee, U. S. Congress, 1959, Years 1800–1958 (1851–59 = 100), Consumer Price Index. 1913—113. 1920—229. 1930—191. 1933—148. 1940—160. 1950—275. 1958—330.

[10] Total Valuation of Tax-Exempt Real Estate, City of Pittsburgh, from City Assessment Records for Year 1960:

Land	$138,099,640
Buildings	263,876,963
Total	$401,976,603

Included in the above total of exempt property is the following residential property, from which the city derives an annual revenue in lieu of taxes but which is not included in the taxable assessment rolls:

Total Valuation of Public Housing Properties

Land	$ 4,591,086
Buildings	15,549.474
Total	$20,140,560

factor which also has a very significant influence on the replacement cost of older buildings and hence upon the market value as reflected also in assessments.[11]

A complete table of the municipal tax rates and of the total assessed land and building valuations (upon which these rates were based) has been compiled. (See Tables I and II in the appendix.) These figures provide a basis for an understanding, or for an interpretation, of what has happened since 1913.

It can be seen that land and building tax rates were simultaneously adjusted upward and downward between the years 1913 and 1925 until a ratio of 2 to 1 was reached by a series of 10 per cent steps. This ratio has continued ever since.

Some misunderstanding has resulted because some observers have apparently been confused as to the exact operation of the law. They have assumed that a 50 per cent building tax rate implies a 50 per cent reduction in the building tax rate. This is not now and was never true, because the land tax rate was simultaneously increased, as will be seen in Table I. So the reduction would necessarily be less than 50 per cent. This meant that when total land and building values were approximately equal, the land tax rate was about one-third higher by reason of the graded tax; the building tax rate was one-third lower.

But even this assumes that the assessed valuations of land and of buildings, which had reached a point where their totals were approximately equal,[12] would remain so. However, there were good reasons to expect that the assessed valuation of buildings would increase more than the assessed valuation of land.[13] And this has been the constant tendency, so

[11] A sensational increase in building construction costs since 1913—greatly in excess of the increase in the general price level—is reflected in the *Engineering News Record* index, based on annual averages: 1913—100. 1920—207. 1930—185. 1933—148. 1940—203. 1950—375. 1955—478. 1958—527. 1959—595.

[12] It will be seen from Table II that land and building valuations were approximately equal in 1929 (building values having been much less than land values in the earlier years) but that since 1930 assessed building valuations have tended to exceed assessed land valuations, and that since 1940 the proportion of building to land values has grown steadily.

[13] In a prosperous city like Pittsburgh, new and better buildings are constantly being erected and added to the assessment rolls. Of course, there are many old buildings that are deteriorating in value, and some of these are razed from time to time to make way for new buildings or for parking lots. But rising costs of labor and material since 1913 have caused *appreciation* in nearly all cases to be more rapid than physical and economic (obsolescence) depreciation combined. (See Robert W. Semenow, *Questions and Answers in Real Estate* [Englewood Cliffs, N. J.: Prentice-Hall, 1957], p. 405.) On the other hand it is generally recognized by economists that a higher tax on land tends to reduce the market value of land. This will be reflected in lower assessed valuations, especially when population and trade within the city limits are not expanding as the result of changing social and economic conditions.

that today the total building valuation is very much in excess of the total land valuation. This means that less than the estimated one-third reduction in the building tax rate now prevails and is likely to prevail under the terms of the existing law and with the probable trends in the value of urban land and buildings.

So, as of 1960, we find that the total building valuation is substantially higher than the total land valuation. As a result, the land tax rate shows an increase of 48 per cent by reason of the graded tax, while the building tax rate shows a decrease of only 23 per cent as compared with the flat rate that would be required to raise the same revenue if the graded tax plan were not in effect.

But, as everyone knows, there has been a tremendous increase in the cost of living and hence in the cost of government since 1913.[14] This has been most conspicuous in the case of the federal government with its huge expenditures for war and national defense. But a situation somewhat similar is found in virtually all state and local governments, brought about by rising costs and expansion of services to deal with new problems of our modern society. Pittsburgh, of course, has had to meet the same conditions as other municipalities and thus requires much greater revenue than was needed forty-five years ago.

This has affected both land and building tax rates, since both classes of properties must bear the proportionate share of the total real estate tax burden that the act of 1913 stipulates, whether that total be greater or less than was true at the time the system was introduced. So it will be seen that both tax rates are definitely higher than in 1913. Owing to the growth of the total tax budget, land taxes increased much more than might have been anticipated. And on the other hand, the lower tax ratio on buildings was not great enough to offset the requirements of the expanded tax budget; it merely prevented the building tax rate from rising nearly so high as the land tax rate. So from the viewpoint of municipal history, there has been an absolute increase in the building rate rather than a reduction.

But we are concerned primarily with present conditions and present

[14] "The cost of government is rising even faster than the cost of living. *Tax Foundation, Inc.*, a private group, reports that federal, state and local government spending more than doubled between 1950 and 1960. Ten years ago, governmental spending totaled $70,334,000,000. Last year, the figure was 153 billion dollars. And in fiscal 1961, it will be almost 161 billion dollars, the foundation said yesterday in its biennial publication." *Pittsburgh Press*, Feb. 27, 1961. For the City of Pittsburgh, in 1914 the real state tax per capita of population was $12.38. By 1960 it had risen to $50.09, reflecting a marked increase in the cost of municipal government. These figures combine land and building taxes to compare the general real estate tax burden in the period during which the graded tax has been in operation.

needs. If the graded tax law of 1913 were being put into effect for the first time in 1960, the reduction in the building tax would be very apparent to all. And if by chance the graded tax law were now to be repealed, the resulting increase in the building tax would be very apparent and would be felt by a majority of the real estate owners. So from the practical basis of the present day, the lower building tax rate brought about by the graded tax plan is a very real reduction. Certainly it represents a real saving in taxes to most taxpayers. This is generally recognized.

But the historical table of rates and valuations is significant because it gives an understanding of the fiscal revolution that has taken place in American cities, including Pittsburgh, since 1913. It also reflects the almost universal tendency for building values to grow much more than land values.[15] And it is also evident that the tax problem is not so simple as it was in 1913.

III

Tax Savings for Many Owners

ONE OUTSTANDING FACT that is not disputed by those familiar with the graded tax plan is that the act of 1913 has brought about a definite shifting or transfer of a substantial portion of the tax burden from one class of property to another, and consequently from one group of taxpayers to another. And this is something that can be accurately measured by simply taking into account the total tax revenue required in any year from real estate as a whole, then referring to the official records showing total assessed land and building valuations, and calculating the rate of tax that would be required to raise the same revenue if a uniform rate were to be applied to all taxable real estate (as was the case prior to 1914). This rate can be compared with the taxes now actually paid on land and buildings at the differential rates. Following this method, some interesting facts and figures are revealed.

[15] "The proportion of land values to the total assessed value of real estate was about 60 per cent prior to 1910 and has declined since to between 30 per cent and 40 per cent. Exact figures are not obtainable, but we have recent figures for seven states which, together, account for over half the assessed value of real estate in the country. These states and the ratios of the assessed value of land in them to total assessed value of real estate are as follows:

California	41 per cent
Indiana	41 "
Illinois	40 "
New York	38 "
New Jersey	29 "
Massachusetts	28 "
Ohio	26 "

"The vast increase in the assessed value of buildings is due largely to the increased cost of building materials and labor." Lawson Purdy in *Land Value Taxation Around the World* (New York: Robert Schalkenbach Foundation, 1955), p. 83.

In Pittsburgh the graded tax means that for the year 1960 the total taxes on buildings are approximately $5,000,000 less than the amount that would have been levied on buildings that year under the old flat or uniform rate system, were it still in effect. If the old system were in use today, a flat rate of 25 mills, or $25 per $1,000 of valuation, would produce approximately the same amount of revenue.[16]

Thus it is possible in any individual case to determine by mathematical calculation exactly how much each taxpayer gains or loses in tax dollars. A study of the actual tax situation in Pittsburgh clearly indicates that the great majority of real estate owners are saving money in taxes through the graded tax law. It follows, of course, that the owners of vacant or under-improved land are paying higher taxes, as contemplated by the sponsors of the law. Where land values are very high, as in the downtown "Golden Triangle" and in some other important shopping centers, most of the properties (including some with very substantial improvements) now pay more. But in the residential areas a large majority pay less taxes.

A significant change is to be noted in the calculation of tax savings to individual owners. In earlier years anyone having improvements equal in value to the value of the land on which they were erected would have realized a saving in taxes. But the ratio between land and building values has been materially altered in recent years. There has been a rapid rise of building values, because many new buildings have been erected and especially because the costs of labor and material have multiplied.

The ratio of building valuations to land valuations is now 183 and is continuing to grow. So it is necessary to have a building value almost double the land value in order to achieve a substantial net saving in taxes.

Such a preponderance of building value is rarely found in the case of properties situated in the heart of the downtown business district. But in most other areas, building values greatly exceed land values. And this is especially true since buildings now have a much higher market value chiefly because of the great increase in construction costs of new buildings, which also means a higher cost of reproduction or replacement in the case of older buildings.

Our study shows that most taxpayers are still tax savers under the graded plan. But in high land-value districts many instances will be found where the new ratio between total land and building values has resulted in a change of status. The ordinary downtown business building is either of less value than its site or its value is not much in excess of it. Hence most

[16] Total Taxable Real Estate Valuation, 1960—$1,201,801,924 @ rate of 25 mills = $30,045,048.10.

of these properties fall below the ratio required to break even or to save in net taxes paid.[17] (See Table VII in the appendix.)

Yet a survey of a number of typical cases (see Tables III, IV, V and VI) shows large annual savings in taxes paid by various office buildings, hotels, manufacturing plants, warehouses, apartments and homes. The degree of the tax savings varies naturally with the size and type of building in relation to the value of the land upon which it stands.

Three of the newest and largest downtown office building properties show tax savings annually of $61,000, $51,000 and $36,000, respectively. The next group of three modern office buildings shows savings of $21,000, $15,000 and $14,000, respectively. All apartment buildings show large tax savings because their land sites are not of relatively high value. One of the newest apartment buildings had a tax saving in 1960 of $11,000. Manufacturing plants generally show very substantial tax savings.

But it is the home owner who emerges as the chief direct beneficiary of the graded tax. This is widely recognized as one of the principal reasons why this plan has popular support. Only in rare instances do we find a home owner paying a higher tax under the graded tax. The typical home owner's investment is largely in building rather than land, it being quite common for the assessed value of the house to be as much as five times the value of the site, and often this ratio is exceeded.

IV

Special Incentive to Manufacturers

EVERY MODERN COMMUNITY is interested in the competition for new industries and in encouraging the expansion of the industries which it now has. So it is important to observe that manufacturers have received very generous consideration under the Pittsburgh tax plan.

The City of Pittsburgh, under a special act of the Legislature passed in 1911, exempts entirely from taxation all machinery attached to and formerly considered to be part of real estate. If not thus specifically exempted, such machinery would be subject to the regular tax rate on buildings.

These machinery values do not appear on the city assessment books.

[17] A survey made by the City Board of Assessors in 1925, the year the graded tax law became fully effective, revealed that in the 13th ward, a typical residential section having many middle-class homes, 76 per cent of all property owners (including those owning commercial properties or vacant lots) benefited by lower taxes under the graded tax. At the same time, a survey of the Golden Triangle (the downtown commercial district included in the 1st and 2d wards) showed that out of a total of 1,191 properties then listed on the assessment rolls, only 95, or about 8 per cent, paid lower taxes because of the graded tax law. This is the section having the highest land values in the city, where any system of land-value taxation would naturally fall the heaviest.

But because machinery is appraised by the County of Allegheny for tax purposes, it is known that the total machinery exemption within the city now amounts to 78 million dollars. This means an additional tax saving to manufacturers of about three million dollars annually, since it applies both to city and school taxes.

V

Has the Graded Tax Achieved its Purposes?

THIS STUDY has already revealed that many real estate owners and most home owners are enjoying the benefits of substantial annual tax savings because of the graded tax plan. Yet if one regards the reduction of taxes on buildings as the principal purpose of the graded tax plan, one is likely to conclude that the plan has not been highly successful. This is due in part to the limitations of the present law, in part to fluctuating land and building values, but in larger measure to the growing demands for a greater aggregate public revenue.

While five million dollars in taxes has actually been shifted or transferred from buildings to land, building taxes are, in fact, much higher today than when the graded tax plan was adopted.[18] The reason for this, of course, is that the steadily increasing cost of government has absorbed the tax savings to the owners of buildings. One can only say that were it not for the graded tax plan, the present building taxes would be much higher than they are. But it cannot be said that taxes on buildings are actually low in Pittsburgh, though they are somewhat lower than in many other cities.[19] In this respect, the sponsors of the graded tax law, as well as its beneficiaries, are disappointed. It had, of course, been hoped that there would be a large reduction in building taxes, perhaps even as much as the 40 per cent which the sponsors forecast in 1913.

It will be recalled that one of the major purposes of the graded tax plan was to encourage private improvements of all kinds—in other words, to stimulate building to the fullest possible degree. Lower taxes on buildings would certainly tend to have this effect. But the reduction of building taxes was not, in fact, the principal purpose of the graded tax plan. Higher taxes on land were the major goal.[20] If we accept this premise, the graded

[18] The city building tax rate in 1913 was only $8.90 per $1,000 valuation. In 1960 (due to rising costs) it was $18.50 per $1,000 valuation even though the building tax rate is set annually at only one-half of the land tax rate.

[19] For example, the real estate tax rate per $1,000 valuation (applied to buildings) is as follows in these typical cities: Cleveland, Ohio, $36.00; Dayton, Ohio, 35.20; Cincinnati, Ohio, $34.72; Toledo, Ohio, $30.50; Albany, N.Y., $25.40; Rochester, N.Y., $24.30; Baltimore, Md., $36.00; Washington, D.C., $23.00; Detroit, Mich., $25.25; Pittsburgh, Pa., $18.50.

[20] "The high prices of land and correspondingly high rents are the chief obstacles to Pittsburgh's progress. . . . Enormous speculative values of land were created and Pittsburgh boomed in real estate as it had in steel. . . . A few individuals place and

tax plan has been a success. And, of course, the steadily increasing cost of government has contributed very materially to the achievement of this purpose.[21]

Since the advocates of land-value taxation desire to have the maximum amount of economic rent appropriated for the public benefit, the sharp increase in land taxes in Pittsburgh, for whatever reason, may be regarded with satisfaction. For the higher the land tax, the greater is the check on land monopoly and land speculation. A high land tax is a powerful influence to encourage, if not actually to require, the highest and best use of the land.[22] An even fairly high building tax rate might not prevent such development under these circumstances.

While it is difficult to calculate economic rent precisely, the available figures indicate that approximately one-half of the economic rent in this community is now being collected in the form of local taxes.[23] It may be unfortunate that despite such a large levy on land values the requirements for public revenue are such that it is still necessary to levy a very substantial

hold land prices at a figure which prevents the profitable use of the land by others. . . . The proposed tax plan would not destroy any real value of land, but rather establish a value which would be stable." *Civic Bulletin,* Pittsburgh Civic Commission, January, 1912.

[21] Total combined tax rates on land and buildings in Pittsburgh for all three units of local government for the year 1960:

Unit	*Land*	*Buildings*
City	37.00 mills	18.50 mills
School District	16.00 "	16.00 "
County	11.00 "	11.00 "
Total Tax Rate	64.00 "	45.50 "

[22] "Taxes on the value of land not only do not check production but they tend to increase production, by destroying speculative rent. How speculative rent checks production may be seen . . . in the valuable land withheld from use." Henry George, *Progress and Poverty* (New York: Robert Schalkenbach Foundation, 1942), p. 413.

[23] Economic Rent and Taxes, City of Pittsburgh, Year 1960:

Estimated Market Value of All Taxable Land	$600,000,000
Estimated Economic Rent (after Land Taxes) @ 5%	30,000,000
Economic Rent Collected by All Local Land Taxes	27,136,000
Total Economic Rent	$ 57,136,000

(Estimate based on Total Assessed Land Valuation for 1960 of $424,000,000)
Total Land Tax Levied, 6.4% = $27,136,000
$27,136,000 = 47.49% of total economic rent of Pittsburgh

"The economic or ground rent is the residual rent attributed to the earnings of the land itself after fair allowance has been made for the chargeable expenses of the improvements and the fair rate of interest allowed for the money invested in the improvements." Robert W. Semenow, *op. cit.*, p. 409.

"Economic rent is a net income from the use of land, distinct from all income from labor and the use of capital." Fred Rogers Fairchild, *Elementary Economics,* (New York: The Macmillan Company, 1930), p. 101.

tax on buildings. Had the cost of government remained low as in 1914, it would have been rather an easy matter to transfer all the municipal tax to land values and to exempt improvements completely.[24]

So even though there has been no radical departure (except in principle) from conventional tax methods, the Pittsburgh tax plan has become of greater significance than ever before because such a large proportion of the economic rent is being collected now in taxes—enough, in fact, to produce some important economic benefits.

VI

The Problem of Assessing Land and Building Values

IN ORDER TO TAX any property according to its value, it is first necessary to place a value on it. So the valuation of real estate for tax purposes is one of the important functions of all local governments. All students of existing valuation practices throughout the United States agree that almost everywhere there is much room for improvement in methods of assessment. Standards of valuation are certainly far from uniform. And when there are glaring inequalities of assessment within the limits of the municipality that levies the local taxes, the individual taxpayer suffers an injustice and is certainly entitled to a remedy. Many cities and counties are becoming aware of this situation and the inequalities involved and are taking steps to make a revaluation of all taxable properties to bring assessments more nearly in line with changing real estate values.

In Pittsburgh it is, of course, essential that the assessors make separate valuations of land and buildings. Most of the large American cities and many smaller ones already do this as a matter of good appraisal practice.[25] But it is only under a system of differential rates, as in Pittsburgh, that the separate valuation of land and buildings becomes a matter of real importance.

The City of Pittsburgh has assessed and reported separate total valuations for the land and buildings since 1914, when the graded tax first became effective. Having adopted a policy of concentrating more of the tax burden

[24] In 1914, with a real estate tax levy of only $6,905,572 (on land and buildings combined), a land tax rate of only 14.38 mills would have been sufficient for city revenue, with no tax whatever on buildings.

For 1960, with a real estate tax levy of $30,089,399.87, a land tax rate of 70.75 mills would be required for city revenue alone in order to exempt buildings completely from city taxation.

[25] "A primary requisite of all standardized assessment systems is separate valuation of land and improvements. Entirely different techniques have been developed for the wholesale appraisal of these two major divisions of real property." *Assessment Principles and Terminology* (Chicago: National Association of Assessing Officers, Public Administration Service, 1937), p. 53.

on land, city officials have always been conscious of the importance of establishing and maintaining a reliable system of land valuation. And, of course, the valuation of buildings for tax purposes could not, in fairness to all taxpayers, be neglected.

Changing conditions require that assessors be alert to make frequent revision of assessed valuations. It is not enough merely to add new buildings to the rolls or eliminate old structures that have been razed. The market value, and hence the assessed value, of both land and buildings is subject to frequent changes, both upward and downward. In Pittsburgh in 1957 Mayor David L. Lawrence launched a campaign for a more realistic appraisal of both land and buildings in order to make sure that all taxpayers were fairly assessed and that nothing was permitted to hinder the proper functioning of the graded tax plan. The aim was to induce the Assessment Board, which is not directly responsible to the Mayor or the City Council, to assess real estate of both classes at its full market value as the laws of Pennsylvania stipulate. The assessment figures for the triennial assessment of 1960 indicate that some progress is being made.[26] But this needed reform will probably be achieved only by steps, owing to the labor and expense required to make a complete revaluation of all properties in both the city and county at one time.

Looking backward, Pittsburgh has made a great deal of progress since the early days in its system of determining the assessed valuation of real estate. It was one of the first cities to establish the separate assessment of land and buildings. Between 1922 and 1942 the City of Pittsburgh, functioning through a City Board of Assessors created by the city charter (appointed by the Mayor and confirmed by Council), succeeded in establishing a fairly high standard of evaluation for both land and buildings. Particular attention was given to obtaining a full assessment of the more valuable land within the city. But probably a 100 per cent assessment of either class of property was not quite reached when the depression of the early Nineteen Thirties developed. The depression resulted in such sharp declines in real estate values in the market that it was found that much real property was actually assessed at more than its current market value. Downward revision then became necessary in Pittsburgh as in virtually all other American cities. This downward adjustment took place slowly, through the processing of a great number of appeals from individual taxpayers, and extended over a period of at least ten years.

[26] In making the triennial assessment for the year 1960, the Assessment Board increased the total assessed valuation of land more than nineteen million dollars, or the equivalent of 4.8 per cent. This was achieved by the upward revision of land valuations in certain areas where underassessments were discovered. The board is continuing gradually to revise land valuations upward in all sections of the country.

Since 1942 the City of Pittsburgh has had no direct control over the assessment of land and buildings, even though most Pennsylvania cities still retain control through their own city assessors and are thus in the more fortunate position of being independent of any county board. But in the name of economy and efficiency and after a long period of discussion and agitation, it was concluded that one real estate assessment by a county board, covering the entire county, would avoid some duplication of work. The courts rejected as unconstitutional an alternative plan, proposed by city officials, which had passed the State Legislature in 1937 and had been signed by Governor George H. Earle, the sponsor of this bill having been Senator Bernard B. McGinnis. The appeal to the court was taken on the ground that if two separate assessing bodies were authorized to make assessments in certain areas of the county, there would be a tendency to produce a result that would not be uniform throughout the entire area. So the City Board, despite a good record of performance on a small budget, was abolished by act of the Legislature and its functions transferred in January, 1942, to the Assessment Board of Allegheny County appointed by the County Commisisoners.

VII

Do Assessments Support or Obstruct the Graded Tax Plan?

OCCASIONALLY QUESTIONS have been raised as to whether or not the purpose of the graded tax plan is being nullified to a greater or lesser degree by prevailing practices in fixing assessed valuations of land and buildings. This, of course, would be posssible, as assessors do exercise considerable power.

The fact is cited that the total assessed building valuations in Pittsburgh have greatly increased during the period that the graded tax has been in operation. Hence there has not been nearly so great a shift of the total tax burden from buildings to land as some may have anticipated. It is alleged or implied that this is due to faulty administration of the law on the part of the assessors, though it should be apparent that there are other reasons that would fully account for the large increase in the total of assessed building valuations.

We have only to look at the situation throughout the United States as reflected in statistical reports to see that building valuations are growing rapidly almost everywhere and are tending greatly to exceed land valuations. This is doubtless the major factor and reflects the great increase in recent years in the cost of labor and materials required for building. The market value of all buildings is, of course, largely based upon the cost of production, or of reproduction in the case of older buildings, with due allowance for actual depreciation. And in periods when there is a scarcity of housing or of business buildings, the law of supply and demand tends to produce higher rents and higher market prices. And assessed values naturally reflect these conditions.

A second important consideration that some may have overlooked is that lower tax rates on buildings and higher rates on land tend to stimulate building. And as more and better buildings have been erected during the years that the graded tax has been in effect, these buildings have been added to the tax rolls to an amount that much more than offsets the depreciation in value of older buildings still standing, plus the loss in value due to the razing of old buildings to make way for new. And the new buildings that have been added to the rolls were much more costly to construct than the ones that they may have replaced.

Yet the question still remains: Are buildings overassessed or underassessed today in Pittsburgh? Our study indicates that despite the great increase in the total assessed valuation of buildings during the graded tax era, buildings are underassessed rather than overassessed. That is to say, the average assessed valuation of buildings is not only much below their market value but is also proportionately lower than the average assessed valuation of land within the city.[27]

Another point very closely related to the one that has been under discussion is the criticism that total assessed land valuations have not increased

[27] The Pennsylvania State Tax Equalization Board's survey of assessments indicates that the assessed valuation of Pittsburgh's real estate is only 55.1 per cent of current market value as of 1959, but does not make any distinction between land and building values in its analysis of real estate sales and other pertinent data.

While an analysis of every sale, involving many thousands of properties, has not been feasible and therefore exact calculations were not arrived at, our study points to the probability that on the average building assessments within the City of Pittsburgh are approximately 45 per cent of fair market value at present (though not on a uniform basis throughout) and that land assessments within the city would average approximately 70 per cent of fair market value (ranging from 25 per cent to 100 per cent, and above 100 per cent of market value in isolated instances).

Building permits are issued for new construction, alterations, and remodeling work. Although the costs estimated at the time the permits are issued are almost always conservative, Pittsburgh's records show that between 1943 and 1956 permits have been issued for work estimated to cost $389,089,690, whereas during the same period of time the assessed value of buildings, *both taxable and exempt*, gained only $186,668,049. This is clear evidence that buildings are relatively underassessed for tax purposes.

Further, many sales of residential properties (where the land value is small as compared with the building value) show that the selling prices are greatly in excess of the combined assessed valuation. In the case of commercial structures, assessed values of buildings recorded at much below estimated cost of construction serve to indicate that buildings in the downtown district are also assessed at much less than present full value, especially in view of the fact that building permit estimates would probably average only between 70 and 80 per cent of actual cost of construction.

commensurately with the increase in building valuations but, on the contrary, have actually shown some decline in the forty-five-year period. What is the answer to this objection?

Here again we must conclude from our observations that the responsibility for this situation is not primarily one of assessing or administration. There are some serious inequalities still existing in land assessments which are chiefly due to a tendency to undervalue land in the newer sections of the city and to maintain a higher ratio of assessment to market value in the older sections of the city. Because of changing conditions and the lag that so often occurs in the revision of valuations, land assessments are found in some instances to be above market value. A number of properties in high land-value districts have sold from time to time during the past thirty years for prices less than the assessed valuation. This is not generally true throughout the city, but it is clear that the average value of land in Pittsburgh has not shown much actual increase as reflected in market prices. Newly developed areas have increased substantially in value while older areas have declined.

On the whole, we would conclude that land values are assessed somewhat below prevailing market values. But as the ratio for land assessments is higher than the ratio generally followed for building assessments, the conclusion must be that assessment policies in Pittsburgh (though not entirely fair and impartial) tend to favor buildings rather than land, and hence to supplement, rather than to detract from, the purpose of the graded tax plan.

VIII

How Much Can Building Taxes Be Reduced?

IT HAS BEEN SAID by some proponents of land-value taxation that Pittsburgh's graded tax law does not go far enough to achieve the ends desired. This perhaps is the real crux of the matter. And the answer to this question will depend not only upon the facts disclosed by our research but also upon the criterion on which our judgment is to be based.

If the end sought is the complete exemption of improvements from taxation, then, as our study clearly shows, only a little progress has been made. Certainly not enough to constitute a demonstration of what would happen if there were complete exemption. But it is enough to show how a city may make an effective approach toward untaxing improvements. The steps that have been taken in Pittsburgh are real steps and have not been self-defeating.[28]

[28] "Pittsburgh is indebted to Percy R. Williams, a member of the City Board of Assessors, for what is perhaps the ablest and most complete analysis of the operation of the graded tax law that has been published. Mr. Williams' article published in the current

The original sponsors of the graded tax law included persons who strongly favored a complete shift of municipal taxes from improvements to land; others were committed only to what was actually set forth in the text of the law. The sponsors believed that the law as drafted would be a big forward step and might lead to further steps in the same direction. They did not, of course, foresee the great appreciation of building values that had occurred as the result of changing economic conditions on a nation-wide scale. But it is reasonable to think that they anticipated a growth of building values by reason of the added stimulus to new building afforded by the new tax plan, and that they anticipated some tendency to a decline in land values because of the tendency of higher land taxes to check land monopoly and land speculation.

It appeared in 1913 that it might be possible largely to shift the tax burden from buildings to land without requiring a very high land tax rate. It also appeared to be possible that there would be a constant downward trend in the building tax rate, at least until the law became fully effective in 1925, and that there would probably be no great increase in the building tax rate thereafter. But if so, they reckoned without allowance for the great increase in the cost of government that has occurred since 1913.

There were two very significant limitations to the scope of the graded tax law with regard to its effect in reducing building taxes paid by owners of Pittsburgh real estate.

First, the legislation applied only to cities of the second class and thus had no bearing on school districts or counties. It was simply a new tax policy for the City of Pittsburgh as a political subdivision and did not attempt to embrace overlapping political subdivisions that also have the right to levy taxes on real estate within the City of Pittsburgh. As the school district and the county government combined now raise tax revenues from Pittsburghers approximately equal to that raised by the city itself, the graded tax law therefore affects only about one-half of the total combined tax levy on Pittsburgh real estate.

Second, the law specifies that after 1925 the building tax rate shall always be exactly 50 per cent of the land tax rate, and the actual rates imposed from year to year shall depend upon the tax requirements of the

number of the 'National Municipal Review,' comprises a complete record of the tax system during the twelve years of the city's experience, and offers a modest and convincing appraisal of that experience. . . . Mr. Williams cites comparisons to show that all classes of improved real estate have benefited under the new tax law. . . . What owners of downtown office buildings save on their buildings is largely offset, Mr. Williams proves, by the higher tax upon the land upon which those buildings stand. But, of course, the graded tax law was not intended to save money to any group. It was passed to encourage building. Mr. Williams thinks it achieves that object." *Pittsburgh Sun*, editorial, Dec. 16, 1925.

city budget. Under the terms of the law, the land tax rate was gradually increased so that enough additional revenue would be derived from land values to permit a relatively lower building tax rate and maintain the fixed ratio of 2 to 1. This process could not result in much more than a reduction of one-third in the building tax rate, nor an increase of much more than one-third in the land tax rate. This situation would continue so long as total land and building valuations were approximately equal (as they were for a period of time). Now that building values are much higher than land values, the reduction in the building tax rate is in fact much less than one-third.

IX
Soundness of the Graded Tax Method

IT WOULD THUS APPEAR that the only valid criticism advanced by the friends of land-value taxation is that the graded tax law does not go far enough in the process of shifting taxes from improvements to land values. The Pittsburgh experiment was, of course, in the nature of a compromise between the proposal for an exclusive land-value tax and the retention of the conventional flat tax on all real estate (land and buildings alike). There was no commitment on the part of the State Legislature nor of the city government to go farther. But in view of the enthusiasm with which the tax-reform leaders and newspaper editors greeted the adoption and the successful defense of the graded tax plan, it may be assumed that they did feel that it constituted an important step in municipal tax reform.

Pittsburgh's long experience has proved the soundness of the graded tax method and has also shown how its adoption can be achieved through a gradual approach. If the results have been less than some expected, this would be due primarily to the limited scope of present legislation and not to any inherent defects in the method of approach. Nothing has occurred to defeat or to nullify the act of 1913.

Pittsburgh is not to be regarded as radically different from other great American cities. But it has recognized the importance of the land problem. And it has taken a significant step which tends to demonstrate the positive benefits to be derived from the taxation of land values.

Henry George Foundation of America,
Pittsburgh, Pa.

Appendix

TABLE I

CITY OF PITTSBURGH—MUNICIPAL TAX RATES, 1913—60

Year	*Land Rate*	*Building Rate*
1913	.0089	.0089
1914	.0094	.00846
1915	.0102	.00918
1916	.0126	.01088
1917	.0115	.0092
1918	.0145	.0116
1919	.0157	.01099
1920	.019	.0133
1921	.020	.0140
1922	.020	.0120
1923	.020	.0120
1924	.020	.0120
1925	.0195	.00975
1926	.0224	.0112
1927	.0224	.0112
1928	.025	.0125
1929	.025	.0125
1930	.026	.013
1931	.0255	.01275
1932	.0230	.0115
1933	.0206	.0103
1934	.0206	.0103
1935	.0206	.0103
1936	.0206	.0103
1937	.0206	.0103
1938	.0206	.0103
1939	.0206	.0103
1940	.023	.0115
1941	.023	.0115
1942	.0225	.01125
1943	.0225	.01125
1944	.025	.0125
1945	.025	.0125
1946	.028	.014
1947	.028	.014
1948	.028	.014
1949	.028	.014
1950	.028	.014
1951	.028	.014
1952	.033	.0165
1953	.032	.016
1954	.032	.016
1955	.032	.016
1956	.034	.017
1957	.033	.0165
1958	.033	.0165
1959	.037	.0185
1960	.037	.0185

TABLE II

ASSESSED VALUATION—LAND AND BUILDINGS—CITY OF PITTSBURGH

Year	*Land*	*Buildings*	*Total*
1914	$480,858,940	$282,069,870	$ 762,928,810
1915	480,191,010	290,833,300	771,024,310
1916	483,316,070	299,247,850	782,563,920
1917	482,149,040	310,793,800	792,942,840
1918	482,132,590	320,438,820	802,571,410
1919	480,131,130	325,889,600	806,020,730
1920	479,850,740	334,658,810	814,509,550
1921	480,461,700	349,386,420	829,848,120
1922	487,939,620	380,238,310	868,177,930
1923	532,688,420	396,176,380	928,864,800
1924	530,675,130	420,482,780	951,157,910
1925	547,475,280	441,354,840	988,830,120
1926	548,219,170	465,897,650	1,014,116,820
1927	554,616,950	505,396,600	1,060,013,550
1928	573,738,300	535,104,140	1,108,842,440
1929	574,589,080	562,017,070	1,136,606,150
1930	576,882,690	587,781,070	1,164,663,760
1931	590,968,170	617,201,910	1,208,170,080
1932	586,692,810	621,573,310	1,208,266,120
1933	586,380,100	625,257,730	1,211,637,830
1934	566,584,170	614,224,490	1,180,808,660
1935	562,365,560	609,719,210	1,172,084,770
1936	591,172,360	620,695,530*	1,211,867,890
1937	556,552,050	543,891,880**	1,100,143,930
1938	552,691,800	546,169,870	1,098,861,670
1939	551,239,420	547,532,170	1,098,771,590
1940	513,117,520	533,906,340	1,047,023,860
1941	504,089,300	532,013,980	1,036,103,280
1942	498,984,600	532,854,480	1,031,839,080
1943	471,359,772	572,650,892	1,044,010,664
1944	456,030,196	554,171,127	1,010,201,323
1945	430,707,673	549,619,688	980,327,361
1946	421,415,078	541,061,079	962,476,157
1947	419,182,075	542,280,329	961,462,404
1948	414,584,807	557,368,549	971,953,356
1949	413,682,935	567,399,829	981,082,764
1950	412,663,176	577,131,134	989,794,310
1951	412,528,625	605,357,129	1,017,885,754
1952	409,837,170	618,976,086	1,028,813,256
1953	414,326,522	650,846,910	1,065,173,432
1954	412,629,034	695,063,971	1,107,693,005
1955	411,613,575	701,224,268	1,112,837,843
1956	403,829,072	712,167,076	1,115,996,148
1957	407,382,041	723,109,910	1,130,491,951
1958	412,403,924	733,310,951	1,145,714,875
1959	405,182,700	744,505,304	1,149,688,004
1960	424,652,123	777,149,801	1,201,801,924

* Includes Public Utilities Valuations $41,019,540. ** Does not include same.

TABLE III

TAX SAVINGS, 1960
OFFICE BUILDINGS AND HOTELS

Property	*Flat Tax Rate*	*Graded Tax*	*Tax Savings*
United States Steel Building	$369,821.50	$308,376.87	$61,444.63
Gateway Centers Buildings 1-2-3	452,028.40	400,946.09	51,082.31
Alcoa Building	201,847.00	165,533.56	36,313.44
Gateway Center Building No. 4	183,080.25	150,708.77	32,371.48
Gulf Building	127,679.75	112,746.03	14,933.72
Grant Building	103,215.10	88,673.53	14,541.57
Koppers Building	117,210.00	102,558.08	14,651.92
Porter Building	84,300.00	73,482.00	10,818.00
Bell Telephone Company Building	117,205.00	95,704.20	21,500.80
Law and Finance Building	22,075.00	19,129.00	2,946.00
Investment Building	17,051.75	14,414.09	2,637.66
Union Bank Building	26,400.00	24,161.00	2,239.00
Remington-Rand Building	19,734.25	17,440.69	2,293.56
Commonwealth Building	25,533.37	24,184.50	1,348.87
Benedum-Trees Building	9,915.00	8,846.70	1,068.30
Hilton Hotel	173,338.75	146,455.25	26,883.50
Carleton House Hotel	116,852.25	105,765.00	11,087.25
Sherwyn Hotel	29,903.50	28,106.68	1,796.82
Pittsburgher Hotel	24,591.75	23,730.69	861.06
Fort Pitt Hotel	20,215.00	19,343.60	871.40

TABLE IV

TAX SAVINGS
MANUFACTURING PLANTS AND WAREHOUSES

Property	*Flat Tax Rate*	*Graded Tax*	*Tax Savings*
Jones & Laughlin Steel Corporation	$298,643.12	$272,008.64	$26,634.48
H. J. Heinz Company	166,426.75	135,088.30	31,338.45
Duquesne Brewing Company	58,487.00	45,702.22	12,784.78
Blaw-Knox Corporation	37,168.13	33,073.93	4,094.20
Rieck Dairy Company	30,717.88	26,560.36	4,157.52
Williams & Company, Inc.	23,786.93	14,785.02	9,001.91
Armstrong Cork Company	17,266.87	10,843.67	6,423.20
Joseph Horne Company Warehouse	32,217.50	26,183.05	6,034.45
Kroger Company Warehouse	28,566.25	25,516.13	3,050.12
Westinghouse Electric & Mfg. Co.	13,305.00	11,746.02	1,558.98
Federal Cold Storage Company	18,901.75	17,236.82	1,664.93
North Pole Ice Company	10,311.50	8,926.42	1,385.08
National Casket Company	11,797.25	10,537.41	1,259.84
Graybar Electric Company	10,119.00	9,138.63	980.37
Hubbard & Company	14,179.88	13,249.52	930.36
Galveston Corporation	8,232.50	7,340.80	891.70
Allis-Chalmers Company	23,343.75	22,824.37	519.38
Beatrice Foods Company	8,021.37	7,063.39	957.98
National Biscuit Company	2,049.50	1,878.86	170.64
Pittsburgh Tin Ware Mfg. Co.	2,231.25	2,017.42	213.83

TABLE V

TAX SAVINGS
APARTMENTS AND CLUBS

Property	*Flat Tax Rate*	*Graded Tax*	*Tax Savings*
Bigelow Apartments	$63,948.75	$54,642.52	$ 9,306.23
Park Plaza	56,159.38	45,136.30	11,023.08
University Square	31,474.42	25,306.22	6,168.20
Fairfax Apartments	22,875.00	18,315.00	4,560.00
Royal York Apartments	24,954.75	19,079.79	5,874.96
Noble Manor	35,014.75	30,904.25	4,110.50
Chatham Village	32,059.00	28,138.50	3,920.50
Park Mansions	17,615.00	14,962.80	2,652.20
Center Court Apartments	22,218.75	18,361.25	3,857.50
Negley Apartments	7,945.00	7,068.85	876.15
Royal Gardens	13,598.75	12,174.85	1,423.90
Fifth-Neville Apartments	9,523.70	8,026.13	1,497.57
Morewood-Fifth Apartments	15,776.25	14,311.60	1,464.65
Amberson Gardens	33,670.00	29,217.05	4,452.95
Royal Windsor Apartments	7,450.75	6,049.68	1,401.07
Ruskin Apartments	19,974.00	16,496.08	3,477.92
Forbes-Craig Apartments	8,468.00	6,691.82	1,776.18
University Club	13,728.00	11,973.94	1,754.06
Twentieth Century Club	7,696.26	6,154.95	1,541.31
King Edward Apartments	7,575.00	6,179.00	1,396.00

TABLE VI

TAX SAVINGS, 1960
HOMES

Property	*Ward*	*Flat Tax Rate*	*Graded Tax*	*Tax Savings*
1310 Beechwood Blvd.	(14)	$ 595.00	$ 529.10	$65.90
6865 Penham Place	(14)	427.50	371.85	55.65
5564 Aylesboro Ave.	(14)	1,927.00	1,871.46	55.54
1310 Inverness St.	(14)	618.75	573.50	42.25
510 Glen Arden Drive	(14)	375.00	333.00	42.00
1106 Goodman St.	(14)	237.50	181.30	56.20
450 S. Dallas Ave.	(14)	304.37	282.12	22.25
5558 Aylesboro Ave.	(14)	880.00	867.65	12.35
5529 Dunmoyle St.	(14)	366.37	357.23	9.14
5817 Wayne Road	(11)	355.00	331.15	23.85
904 Wellesley Road	(11)	225.00	203.50	21.50
4341 Andover Terrace	(5)	126.25	94.35	31.90
2535 Alliquippa St.	(5)	162.50	128.75	23.75
2051 Frankella Ave.	(13)	160.00	137.82	22.18
8357 Perchment St.	(13)	149.50	128.76	20.74
1313 Oakridge St.	(19)	117.50	98.05	19.45
535 Woodbourne Ave.	(19)	153.75	131.75	15.00
3009 Mt. Allister Road	(26)	201.00	169.83	31.17
109 Belplain St.	(29)	239.75	197.58	42.17
2005 Dowling Road	(29)	163.75	131.35	32.40