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A New View of an Old Tax[1]

Effects of a Graded Tax When Applied to a Third-Class Pennsylvania City

By GEORGE G. SAUSE, JR.

THE "OLD TAX" mentioned in the title refers to the graded real estate tax now used in Pittsburgh and Scranton, Pennsylvania, and in certain other areas outside the State. The theory behind this tax has been presented many times and is probably known to most readers of the *American Journal of Economics and Sociology*. Therefore no more than a brief review of the main arguments should be necessary in this article.

Readers of this *Journal* are also aware that the 1951 session of the Pennsylvania legislature made this type of taxation available to cities of the third class (population 10,000–135,000).[2] So far none of these cities has adopted the graded tax system—among the reasons seem to be a lack of information concerning its effects and a fear of the unknown. The purpose of this paper is to examine the probable effect of the tax on third-class cities in Pennsylvania, and to see what problems might arise in the process of changing from a uniform tax to a graded tax. This is the "new view" of the title.

Review of the Theory Behind the Graded Tax

THE THEORY OF THE GRADED TAX is simple. A distinction is made between natural wealth (land) and wealth that is created by man (improvements). This distinction is important because the amount of land is fixed, while the number and the quality of the improvements are determined by the labor, thrift, and enterprise of man.

Under a graded tax system, this distinction is recognized and the tax burden on improvements is reduced in order to lessen the barriers facing a potential builder. The loss of revenue is then balanced by an increased tax on land. An equivalent reallocation of the tax burden could be accomplished by lowering the assessment on buildings as has been done in Canada. Graded assessments may have certain advantages from an administrative point of view; however, Pennsylvania has chosen to keep assessments uniform while the burden is shifted by grading the tax rates.

Those familiar with the theories of Henry George will recognize this as

[1] Adapted from an address before the John H. Allen Tax Conference held at Lafayette College, Easton, Pa., Dec. 2, 1953.

[2] *Cf.* W. Lissner, "Pennsylvania's New Optional Graded Tax Law," *Am. J. Econ. Sociol.,* 11 (1951), pp. 41–2.

a compromise between the conventional real estate tax and his plan for the collection of economic rent through taxation. Much of George's reasoning, therefore, applies to the graded tax and this portion is summarized in the succeeding paragraphs.

It is claimed development is stimulated in two ways if the tax burden is placed on land instead of improvements. First, the price of land is reduced, thus easing the capital requirements of potential developers. This statement is based on the tax capitalization principle which holds that the value of a parcel of land is equal to the sum of its estimated future net returns discounted at the current rate of interest. Increasing the tax on land reduces the estimated net return and so lowers its present-day value. It may be argued that if the graded tax is successful in encouraging building operations the demand for land will increase and therefore in time the return will rise, but in that case the objective would already have been achieved.

In addition, when compared to the present uniform tax, there is the more direct encouragement of reduced taxes on all improvements. The graded tax does not go as far as George advocated since he proposed the exemption of all improvements, but it does reduce the burden which our present system imposes on anyone who has initiative to improve his property.

In summary, we may say that the effect of shifting the tax burden from improvements to land is to increase the pressure on the owner to use his land as productively as possible since, on the one hand, he must pay high taxes on it whether he uses it to the full, makes a limited use of it, or allows it to lie idle, while, on the other hand, the tax "penalty" which is now imposed on developers is reduced. The graded tax is, therefore, a factor working for the improvement of idle land and also of depressed or blighted areas.

A number of comments can be made concerning these arguments. Some will claim that this is unjust since it imposes a hardship on people who own a great deal of unimproved or underdeveloped land within the city.

The defenders of the graded tax do not deny that this hardship will exist, but they point out that this is just another term for the pressure placed on the owner of idle land which was cited as an objective of the tax. We shall examine the extent of this hardship in a later section.

This brings us to a consideration of the ethical basis of the graded tax. The arguments concerning this may be summarized as follows:

Land is valuable because of the geological properties with which nature has endowed it or, in the case of urban land, because of its desirable loca-

tion. This location value, in turn, is community-created since a business site is valuable only because of the community which has grown up about it. Therefore, it is claimed the community and not the individual has a right to the income from this land. Community collection of this value is to be accomplished by taxation.

On the other hand, buildings are the result of human effort and thrift and the individual therefore has a valid claim to income arising from them.

The usual counter to this argument is to admit the validity of the tax if it had been imposed as soon as land values began to arise. However, at this late date many people have used legitimately-earned dollars to purchase land. If we now impose a penalty tax on this property, we are depriving such an investor of wealth which he has earned as honestly as the man who has invested his savings in buildings or any other non-land form of wealth. Thus, it can be claimed that a change is not equitable but instead works an injustice on the present owners of land.

This is not a conclusive argument against the use of a graded tax, since it could be used with equal validity against any change in the tax system. However, it is a good reason for proceeding cautiously and only after studying the effects on individual taxpayers.

Effect on a Third-Class City

IN STUDYING THE EFFECTS of the graded tax, Easton, Pennsylvania, is used as an example. With a population of approximately 35,000 this is one of the medium sized third-class cities. Furthermore, it boasts of an equitable system of assessment, with land and buildings valued separately.

In 1953, the assessed value of Easton's real estate totalled $41,849,278, which, with a tax rate of 16½ mills on the dollar, produced a revenue of $690,513.09. Of the total assessed value, $12,073,915 is accounted for by land and $29,776,363 by buildings. The value of the buildings is thus approximately 2½ times the value of the land—2.466 to be precise. Applying the graded tax and using the rounded figure of 2½, it can be seen that 2½ mills must be added to the rate on land for every mill subtracted from the rate on buildings if the same revenue is to be produced for the city. Therefore the rates might be 16½ mills on land and buildings; 15½ on buildings, 19 on land; 14½ on buildings, 21½ on land; and so on until the tax on buildings is eliminated and the rate upon land equals 57¾ mills. This last case, incidentally, is impossible because of the tax limit imposed by the state. We should note, however, that the degree of gradation may be as large or as small as the city desires as long as the state's imposed limit is not exceeded.

From the above figures, it can be seen that for this city (and other third-class cities are in a similar position) the rate on land mounts very rapidly for each small reduction in the rate on buildings. This is a condition that was not faced by Pittsburgh and Scranton, nor by the cities of Western Canada. In 1915, when Pittsburgh and Scranton adopted the graded tax, land and building assessments were about equal, so that every mill added to the rate applied to land brought about an equal reduction in the rate applied to buildings. In Western Canada, the change from a uniform tax was made about 1910 in the midst of a land boom. In cities using the graded tax, the total assessment value rose so rapidly that the tax burden on improvements could be reduced without increasing the rate on land.

Because of the high ratio of building to land value, the transitional period in third-class cities will be more difficult and hardship to individual landowners might result if the rate on land is raised enough to cause a substantial reduction in the rate on buildings.

One further problem must be considered. The tax limit for Pennsylvania cities of the third class is 15 mills excluding debt service. Since most cities are close to this limit at the present time, they can not achieve a substantial reduction of the rate on buildings without raising that on land above the legal limit. Thus, Easton can reduce the tax on buildings by no more than 3 mills, resulting in the graded tax rates of 13½ mills on buildings and 24 mills on land. The excess over the legal limit is accounted for by debt service, so we are faced with the peculiar condition that the size of the municipal debt controls the degree of gradation.

This calls for legislative action raising the tax limit on land if the previous act authorizing the graded tax is to be effective.

The theory of the tax may be examined more closely by applying the graded tax to individual properties and noting the effect. First, a comparison of a vacant lot and an improved property in the residential area. These two properties are on opposite sides of the same street. Under the present uniform tax system the following tax data apply.[3]

	Assessed Value of Land	Assessed Value of Buildings	Tax at 16½ Mills
Improved Property ...	$2,301	$7,699	$165.00
Vacant Lot	2,301	———	37.97

Thus, anyone building on the vacant lot must face a tax increase of

[3] All examples are based on the assumption that assessments are uniform. This is a reasonable assumption in the case of Easton which uses a foot-front and depth formula. Assessments are approximately 60 per cent of market value.

about $127.03, the exact amount depending upon the value of the structure erected, which, in turn, is limited by zoning regulations.

Compare this situation with that produced by a graded tax of 24 mills on land and 13½ mills on buildings as shown below:

	Uniform Tax at 16½ Mills	Graded Tax at 24 Mills on Land, 13½ Mills on Buildings
Improved Property ..	$165.00	$159.16
Vacant Lot	37.97	55.22

Pressure to use the ground profitably or to sell it has been increased and the tax increase resulting from development has been reduced to $103.94. Following accepted economic theory, we may assume that this change will cause certain marginal sellers to dispose of their lots to developers who had previously been wavering on the question of building.

The amount of development which would be caused by this tax change cannot be determined. However, we can say that it would depend upon the size of the tax change which, it must be admitted, is small. For the vacant lot whose market value is about $3,800,[4] there is a tax increase of $17.25 which capitalized at 5 per cent would reduce the value by $345.00. For the improved property, there is a tax reduction of $5.86 on a residence worth about $13,000.

The failure to exert more pressure is explained in part by the state tax limitation previously mentioned. It is further explained by the fact that school and county taxes, which may not be graded, are levied separately from city taxes in Pennsylvania. Since school rates are often higher than city rates (18½ mills compared with 16½ mills in Easton) and county rates are substantial (9 mills in Easton), it is apparent that only a small portion of the total real estate tax is subject to the graded tax legislation. We may, therefore, conclude that the graded tax stimulates development, but that it would be more effective if the tax limit were raised and if it were applied to school and county taxes also.

This same comparison may be applied to other types of properties. Using a parking lot and a wholesale warehouse which face each other in the central city area, we find:

	Assessed Value of Land	Assessed Value of Buildings	Uniform Tax at 16½ Mills	Graded Tax— 24 Mills on Land 13½ Mills on Buildings
Parking Lot	$14,078	$ 172	$235.13	$340.19
Warehouse	14,078	36,622	836.53	832.27

[4] This and later market valuations are based on the assessment figure which averages 60 per cent of market value.

Here the number of dollars involved is larger but the conclusion is the same. Development is stimulated by reducing the size of the tax penalty which occurs when development takes place. In this case, an increase of $601.40 is reduced to $492.08.

A similar result is obtained when we compare facing properties in the business center, one of which has a low dilapidated building, and the other a modern four-story furniture store. Their tax data follow:

	Assessed Value of Land	Assessed Value of Buildings	Uniform Tax at 16½ Mills	Graded Tax— 24 Mills on Land 13½ Mills on Buildings
Property with run-down bldg. ...	$11,402	$5,598	$280.50	$349.22
Property with mod-ern bldg.	10,661	39,339	825.00	786.94

Once more the graded tax reduces the "penalty" which must be paid when land is developed. In a mature city such as Easton, these "blighted" areas provide more opportunity for improvement than do vacant lots and open spaces. However, all third-class cities are not in this category.

In all these cases the graded tax would stimulate development but other factors, such as cost of construction, labor supply, and the availability of markets must not be overlooked. These factors, however, are the same under a uniform or graded tax system. Therefore, the graded tax will contribute a factor which may be decisive in marginal cases.

Transitional Problems

WE HAVE ALREADY MENTIONED the usual criticism of placing more of the tax burden on land. Namely, it would be a fine idea if it had been done before land became valuable, but at this late date we find that the present owners have paid for this value with legitimately-earned dollars. This criticism might apply to any change in the taxing system and thus freeze the present pattern into all future systems. To avoid this freezing and provide for improvements, we must permit some "inequities" of this nature to take place but should be careful to make the burden small enough to avoid imposing a hardship on the owners.

In the case of the graded tax, the question arises as to whether the shift in tax burdens is large enough to cause hardship to present owners. In the three examples just cited the small size of the tax shift was emphasized.

While this causes the influence favoring development to be small, it also has the advantage of reducing the transitional problem since the size of the tax shift in those cases is not large enough to be called a hardship. The same conclusion is reached if we look at the data for sixty-two properties grouped together according to use and, in residential properties, according to assessed valuation (Table 1). These examples were chosen from a study made of over two hundred properties which were selected as representative of the city.

TABLE 1. Comparison of Revenues from Taxing Systems.[1] City of Easton, Northampton County, Pa. (Present tax rate = 16½ Mills).

Classification	Number of Properties	Assessment			Tax—Present System
		Land	Buildings	Total	
Industry	6	$ 20,004	$ 461,796	$ 481,800	$ 7,949.70
Vacant Lot	1	1,082	......	1,082	17.85
Parking Lot	1	14,078	172	14,250	235.13
Business	11	516,228	759,572	1,275,800	21,050.70
Apartment Bldgs.	2	24,635	66,865	91,500	1,509.75
Residences[2]					
(under $2,000) ...	4	928	3,772	4,700	77.55
($2 to $4,000)	12	8,264	27,184	35,448	584.90
($4 to $6,000)	9	10,897	32,907	43,804	722.76
($6 to $9,900)	9	15,420	52,230	67,650	1,116.22
($10 to $13,000) ..	4	8,878	35,372	44,250	730.13
(Over $13,000) ...	3	29,520	55,480	85,000	1,402.50
		$649,934	$1,495,350	$2,145,284	$35,397.19

Classification	Number of Properties	Tax-Graded System			Tax Increase or (Decrease)	Per Cent Increase or (Decrease)
		Land 24 Mills	Buildings 13½ Mills	Total		
Industry	6	$ 480.10	$ 6,234.24	$ 6,714.34	$(1,235.36)	(15.5)
Vacant Lot	1	25.97	....	25.97	8.12	45.5
Parking Lot	1	337.87	2.32	340.19	105.06	44.7
Business	11	12,389.47	10,254.23	22,643.70	1,593.00	7.6
Apartment Bldgs.	2	591.24	902.68	1,493.92	(15.83)	(1.1)
Residences[2]						
(under $2,000)	4	22.27	50.92	73.19	(4.36)	(5.6)
($2 to $4,000)	12	198.33	367.01	565.34	(19.56)	(3.3)
($4 to $6,000)	9	261.53	444.24	705.77	(16.99)	(2.4)
($6 to $9,900)	9	370.08	705.09	1,075.17	(41.05)	(3.7)
($10–$13,000)	4	213.07	477.53	690.60	(39.53)	(5.4)
(Over $13,000)	3	708.48	748.98	1,457.46	54.96	3.9
		$15,598.41	$20,187.24	$35,785.65	$ 388.46[3]	

[1] This is a summary for 62 properties selected to represent all sections of the city and all types of properties.
[2] The residential properties (private dwellings) are broken into six classes, according to the size of the assessment.
[3] Net increase.

From this table it is seen that vacant lots and parking areas would ex-

perience a big tax increase percentagewise but these are extreme cases of underdeveloped land. Even here it can hardly be claimed that hardship is created. The owner of the vacant lot with a market value of approximately $1,800 will pay an extra $8.12 in annual taxes. The parking lot owner would pay an added $105.06 but his property is worth in excess of $20,000. No other classification experiences a large percentage increase. Business, which covers the downtown office and commercial buildings, has an average increase of 7½ per cent. This average could be misleading since some well-developed business properties would receive a tax cut. Other properties that have not been as intensively developed will experience little or no change, while still others would sustain a tax increase in excess of the average. This latter group included, in the main, relatively underdeveloped properties such as service stations and one-story buildings on valuable central locations. Run-down or blighted properties also fall into this group which thus covers the properties which should be more intensively developed.

There is one apparent exception. One of the city's leading department stores occupies a site that is, to all appearance, adequately developed, but the graded tax plan would cause a rise in city taxes. Closer inspection, however, reveals the fact that although the store has a high and well developed front section the rear portion is lower and the store does not make as intensive a use of the land as first appears to be the case. This same condition could probably be found in many other cases. However, in none of these cases can the increased tax burden be called a hardship.

All classes of residential properties assessed at less than $13,000 save on taxes and in the case of these more expensive homes, the increase is small. Again the average figures conceal certain differences. Some of the cheaper residences would experience a tax increase. This occurs where a large lawn—usually the vacant lot next door—is included in the property. However, these increases seldom amount to as much as $5.00 a year and can not be called a hardship.

Some other effects on residential property may be noted in passing. In encouraging building activity, lawns are discouraged which many may regret but we can not have both development and nondevelopment. Zoning and building regulations can prevent overcrowding and can insure that a certain portion of the land remains as an open space in residential areas. Furthermore in the residential sections, the increased tax caused by a larger lawn will be very modest. One other odd feature appeared. Easton contains a number of vacant lots twenty feet wide sandwiched be-

tween existing houses. These were once building lots but modern build-
ing codes make them useless for this purpose. The graded tax would now
apply a penalty rate to these lots designed to "encourage" development
even though the city's building code prohibits it. This may be called a
hardship case or at least an inequity. I believe a solution is possible if
the assessed value of the lot is calculated with this restriction in mind in-
stead of following the foot-front formula.

Finally, it may be noted that industry is the big gainer. The explana-
tion lies in the tendency of manufacturers to build expensive plants in out-
lying areas where land has little value. While it is not the purpose of the
graded tax to present a tax saving to any group, the new tax schedule
might be cited as tending to attract industry and encourage expansion.

Additional light is shed on the transitional problem by examining tax
data for the different areas. Data for the twelve wards in Easton are
shown in Table 2. Wards 1, 2, 4, and 5 cover the business district. Wards
9, 10, 11, and 12 are most distant from the central portion of the city.

This shows once again that the central or business districts would pay
more under a graded tax system. However, it may surprise many to see
that the wards most distant from the central city area would save the most.
This occurs despite the fact that these wards contain most of the city's
open space. However, the low value of land in these wards and the rela-
tively high value of the houses cause the tax reduction.

This has an important bearing on the annexation problem facing Easton
and other cities. A hasty conclusion might have been drawn that, because
of large open spaces, suburban areas would suffer from the graded tax if

TABLE 2. Tax Data for 12 Wards in Easton, Pa.

Wards	Assessed Value of Land	Assessed Value of Buildings	Ratio of Building to Ground Value
1	$ 2,281,284	$ 3,930,628	1.72
2	2,206,833	2,924,872	1.33
3	2,046,739	6,043,133	2.95
4	1,269,262	2,869,260	2.26
5	759,185	1,369,371	1.80
6	600,164	1,831,760	3.14
7	442,657	1,379,659	3.12
8	1,204,945	3,537,676	2.94
9	348,777	1,723,212	4.94
10	491,261	2,254,177	4.59
11	249,161	1,045,771	4.20
12	172,647	816,844	4.73
	$12,072,915	$29,776,363	

TABLE 2.   (Continued)

Wards	Tax at Uniform Rate of 16½ Mills	Tax at Graded Rate of 24 on Land, 13½ on Bldgs.	Increase or (Decrease)	Gain or (Loss) as % of Uniform Tax
1	$102,496.55	$107,814.30	$ 5,317.75	5.19
2	84,673.13	92,449.76	7,776.63	9.18
3	133,482.89	130,704.04	(2,778.85)	(2.08)
4	68,285.61	69,197.30	911.69	1.35
5	35,121.17	36,706.95	1,585.78	4.52
6	40,951.75	39,807.70	(1,144.05)	(2.79)
7	30,068.21	29,249.17	(819.04)	(2.72)
8	78,253.25	76,677.31	(1,575.94)	(2.01)
9	34,187.82	31,634.01	(2,553.81)	(7.47)
10	45,299.73	42,221.65	(3,078.08)	(6.79)
11	21,366.38	20,097.77	(1,268.61)	(5.93)
12	16,326.60	15,170.92	(1,155.68)	(7.08)
	$690,513.09	$691,730.88	$ 1,217.79	

they were annexed to the city. This evidence indicates the reverse—the more distant the area is from the city's center the greater the saving. However, a final conclusion can not be drawn until land and buildings in the suburbs are assessed separately so that a comparison can be made of uniform and graded tax burdens.

Summary of Conclusions

1. THE THEORY of the graded tax is sound when applied to Easton, Pennsylvania. It would stimulate development.
2. The magnitude of the stimulation is small because of the high building assessments compared with the small assessed value of land. This combined with the state tax limitation on third-class cities causes the gradation to be small. Additional influence would be exerted if county and school taxes could be graded.
3. The same factors which reduce the influence of the graded tax on development operate to minimize the problem of transition from a uniform tax. Little or no hardship would be caused.
4. Available evidence indicates that the graded tax would encourage rather than discourage annexation. However, the evidence is incomplete since the suburbs do not assess land and buildings separately.
5. Some detriments were noted. Lawns and open spaces are penalized and this could lead to overcrowding but can be avoided by zoning and building regulations.

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