THE SHIFTING AND INCIDENCE OF TAXATION

BY
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PART II
THE DOCTRINE OF INCIDENCE

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Content

CHAPTER I—General Principles

The problem of the shifting of taxation is primarily a question of prices. To solve it is to discover whether, and to what extent, the imposition of a tax effects changes in the revenues and the expenses of individuals; in other words, to ascertain which of the two parties to every economic transaction—the buyer and the seller—bears the burden of the tax. This is obviously not the same as saying that we are dealing only with the relations between the producer and consumer. The vendor may, indeed, be a producer; but he may also be an owner who has acquired the commodity without producing it. Whatever these relations may be, the essence of the inquiry is: Are prices raised, and if so, to what extent are they raised? Whether we deal with the prices of consumable commodities, of capital, or of labor, this is always the nature of the problem.

It is readily perceived, therefore, that the theory of the shifting of taxation is a part of the wider theory of value, and that a comprehension of the facts of incidence depends on an application of these laws of value. But the laws of value, as is now well recognized, deal primarily with the more or less subtle changes caused in the supply of, or in the demand for, commodities. Even the cost of production, which plays so fundamental a part in economic progress, affects price through the medium of changes in the relations of supply and demand. Our concern, then, will be not only to mention those general laws of value which are of especial significance to the subject under discussion, but also to call attention to the varying conditions under which these laws work themselves out. In other words, we have to deal not alone with the "pure theory," but also with those phenomena of friction which impede the action of the general laws and are of fundamental importance in any application of the doctrine to the affairs of real life.

If we take the simplest case of a tax imposed on some commodity, the ordinary result may be pictured somewhat as follows:—

The tax must evidently at first be regarded as an increase in the cost of production. For the time being, and until the old stock is exhausted, those who produced before the new tax was imposed are benefited to the extent of the ultimate rise in price. But as soon as this interval has elapsed, all producers are on the same footing. Since the tax is an addition to the cost of producing the article, they will seek to recompense themselves by raising the price. Unless they succeed in this, their profits will be curtailed and the production of the article will diminish. For one of two results must ensue: either producers will gradually transfer their capital to untaxed industries, or, even if the transfer of capital is impossible because it is firmly fixed in the industry, production will be curtailed by the crowding out of those who were previously on the very margin of profitable production, while the tax will prevent the influx of any new capital. In either case, then, in the long run, the supply will decrease; and this diminution, provided the commodity continue to be produced at all, will involve an increase of price. The consumer will, therefore, bear the burden of the tax.

This seems to be a very simple process. Not a few have even supposed that this description exhausts the study of incidence. The extent, however, to which this is actually true, and therefore the extent to which such a tax will be shifted to the consumer, depends on a number of important considerations, inattention to which will vitiate not only any theoretical conclusions as such, but also their application to the facts of every-day life.

In the application of the general law of value to taxation the chief considerations are as follows:—

1. Is the commodity: durable or perishable?

2. Is the commodity subject to the law of monopoly or that of competition?

3. Is the tax general or exclusive?

4. Is there complete mobility of capital?

5. Is the demand for the commodity elastic?

6. To what extent do differential advantages of production affect the supply?

7. Is the article supplied at a constant, an increasing or a diminishing cost?

8. Is the tax imposed on margin or on surplus?

9. Is the tax large or small?

10. Is the tax proportional or graduated?

11. Is the commodity a final good or merely an intermediate good?

These considerations may now be treated in order.

I. *Is the Commodity Durable or Perishable*?

On this distinction depend the phenomena of what is called the capitalization or the amortization of taxation. This principle may be expressed as follows:—

When a special tax is imposed on any one class of commodities to the exclusion of all others, the tax will, under certain conditions, fall entirely on the original owner of the commodity—that is, on the one who owned it before the tax was imposed—and not on the future purchaser; for the tax will be discounted through a depreciation of the capital value of the article by a sum equal to the capitalized value of the tax. For instance, if the ordinary return on investments is five per cent, and if a tax of one per cent is imposed on all railway bonds, the price of these bonds will fall from par to eighty. The new purchaser will really not bear the weight of the tax; for although his net return on each bond of a hundred dollars will be only four dollars, he will still make five per cent on his investment. Four per cent of one hundred is the same as five per cent of eighty. In the same way, when unequal taxes are levied on different classes of commodities, the excess of the tax on the overtaxed commodity above the general rate will be capitalized, so as virtually to exempt future owners from this differential burden. The tax, then, will fall on the original owner, whose property will be diminished in value by the capitalized equivalent of the excess of taxation. On the contrary, when a special tax is levied on such commodities at a lower rate than that already imposed on other classes, the deficiency in the tax will be capitalized in a sum which will be added to the value of the property in the hands of the original owner. To use our preceding illustration, let it be assumed that all railway bonds are taxed one per cent and sell at eighty. If the tax on the bonds of a single railway company is for some reason permanently reduced to one-half of one per cent, these particular bonds will rise in price to ninety. In this case the original owner, and not the purchaser, will benefit by the reduction or the remission of taxation, just as in the preceding case the original owner, and not the purchaser, suffered from the tax. Where the value of the commodity diminishes, the term "amortization of taxation" seems suitable; where the value of the commodity increases, the phrase "capitalization of taxation" is preferable. Both phenomena show the results of the working out of the same principle.

The question now arises: Under what conditions will this phenomenon appear? In answering this question due importance must be assigned to the following five conditions:—

A. The tax must be an exclusive or an unequal tax.

B. The tax must be levied on a commodity which has a capital value and is capable of having an (annual) rental value.

C. The tax must be levied on a commodity of so protracted a consumption period that several annual payments are expected to be made.

D. The tax must not be susceptible of being shifted to the consumer by the fact that the commodity is used in further production.

E. The general relations of demand and supply must remain in other respects the same.

In the first place, it is clearly necessary to assume inequality of taxation. If there is no excess, there is nothing to be capitalized. The theory applies only to taxes which are exclusive, or which exceed other taxes by a definite amount. Inequality of taxation is the cornerstone of capitalization.

Secondly, the commodity must have a capital value which is susceptible of diminution. This would, for instance, hold true of land; in fact, we have seen that the whole theory arose from a consideration of the land tax.[1] It is equally true, however, of any other commodity whose market value is nothing but the capitalized rental value, the capitalization being fixed at so many years' purchase. But the principle cannot apply to taxes on income in general, or to taxes on wages, or to poll taxes, because in these, and in all similar cases, there is no capital value that is subject to amortization or capitalization.

Thirdly, the commodity in question must be relatively durable in character. This consideration is of such cardinal importance that we have put it at the heading of this whole section. When we speak of a tax, we may mean either a single payment or a more permanent annual payment. If the tax consists of one payment only, as in the case of the federal so-called direct tax during the Civil War, there is no opportunity for capitalization. Again, if the commodity is of so ephemeral a nature that it will be consumed before the tax hits it a second time, there can obviously be no capitalization. This is the

[1] See above, pp. 137 et seq.

case with the so-called indirect taxes on commodities. If a tax is imposed on a barrel of flour, it will ordinarily be shifted to the consumer. But if the commodity is so durable that it may be subject to repeated taxes, and if the taxes are levied at about the same rate from year to year, the anticipated annual payments may be lumped together in such a way as to cause a change in the capital value of the thing taxed. If the special tax covers ten years of the consumption period of a house, the imposition of the tax on houses depreciates the value of the house by the present worth of a ten-year annuity. If the commodity yields a perpetual rental or use—as in the case of a piece of land or of a perpetual bond—a special tax or an unequal tax on this land or bond depreciates its value by the present rate of a perpetual annuity. The more durable the commodity, the greater the chance of capitalization.

Fourthly, the principle will not apply if the tax is imposed on a commodity which is to be used in further production, where the tax will simply raise the price of the product, instead of lessening the value of the principal or source of the product. Thus an exclusive tax on iron used for making tools may result in an increased price of iron tools and may be shifted onward to the consumer. If by the shifting of a tax we mean its transfer forward to some one else, capitalization is the opposite of shifting. If a tax is shifted onward, it cannot be capitalized; if it is capitalized, it cannot be shifted onward. Capitalization implies a depreciation of the capital value; and this is possible only when the tax rests on the initial possessor—that is, when it is not shifted onward to any one else.

On the other hand, if we extend our conception of shifting to include the process of shifting backward, as well as that of shifting forward, we might call capitalization a kind of shifting. For, as we have just seen, the new purchaser who continues to pay the tax from year to year does not bear it, but in one sense shifts it back upon the initial possessor. He pays the tax indeed; but he has already deducted from the purchase price a sum equal to all the future taxes which he expects to be called upon to pay. The difference between his case and that of a dealer who shifts a tax on commodities back to the producer instead of forward to the consumer is that, in the latter case, the tax is levied only once on a commodity destined to immediate consumption, while in the former case a whole series of payments is levied on a durable commodity. In the one case we have the shifting back of a single tax; in the other case we have the shifting back of a whole series of taxes. For capitalization implies a change in price equal to the capital value of all anticipated payments.

Finally attention must be called to the fact that the principle sometimes seems to the careless observer to be robbed of practical importance, as in the case of special taxes on property or on profits, where the capital value of this class of commodities for any reason fluctuates in price. For example, if a special tax were levied on government securities it might nevertheless happen that, for some reason, general confidence in government bonds might increase to such an extent as to counterbalance the decreased returns from the investment. In such a case, although there would obviously be a capitalization of the tax, the process would be obscured, and there would be no final diminution of capital value. Again, in the case of a special tax on land, the value of land as an investment might nevertheless for some reason increase. This also would impair the easy recognition of the principle; the decrease in price due to capitalization of the tax would be counteracted by the increase of price due to changes in demand. Yet, although the price has remained the same, capitalization has obviously taken place; for had no tax been imposed, the price of the bonds or of the land would have risen instead of remaining stationary. The process of capitalization always results in actual diminution of capital value, if by value we mean the price as fixed by the equation of demand and supply. In the absence of disturbing causes which suddenly change this equation, the process is naturally a simpler one. But in every case, subject to the conditions laid down above, it remains true that the increase of an exclusive tax results in a partial confiscation, and that its decrease is tantamount to a free gift.

With all these qualifications, the capitalization of taxation remains an important topic in the study of incidence. Its cause is inequality; its result is confiscation or gratuity.

2. *Is the Commodity subject to the Law of Monopoly or to the Law of Competition?*

From the point of view of pure theory, this distinction is vital; indeed, the most recent formulation of the law of value makes a sharp line of demarcation between the regime of monopoly and that of competition. In the domain of practical life, also, the distinction is of great importance, for the number of commodities subject to the regime of monopoly in modern times is great and growing. It is, indeed, true that the cases of a natural monopoly are perhaps not more numerous in modern times. Not only, however, do we find more and more legal monopolies, through the protection of industries by patents and copyrights, but it is a familiar fact that there has been a great increase in the number and significance of the so-called economic monopolies,—those industries where through the working out of economic law the tendency is toward an ever greater concentration of capital, gradually shutting out the existence of competition, until finally we reach the stage of complete monopoly. The familiar examples of this are, first, the so-called municipal monopolies,—gas, water, electric light, street railway business; secondly, occupations like the railroad and express, the telegraph, the telephone; and thirdly, the host of modern enterprises which are assuming the form of trusts.

The fundamental difference between the regime of monopoly and that of competition is, that in the former case price is not fixed by the cost of any marginal product. The important consideration here is that a monopolist fixes the price at the point that will yield the largest net return, and that he will limit the production to such an amount as will afford him this maximum monopoly revenue. He differs from the producer under competitive conditions in that he controls the supply. From this fact result such important differences in the law of shifting that in almost every succeeding statement of principle it will be necessary to distinguish between the conditions of monopoly and those of competition.

3. *Is the Tax General or Exclusive?*

In almost all the writings on incidence, the particular tax under discussion is assumed to be special or exclusive. For purposes of pure theory, this assumption is legitimate, nay even necessary; for it is only through isolation that we can get a clear picture of the working of any single force. But it has not infrequently happened that results, laboriously attained as hypothetically true, have been at once applied to conditions under which the hypothesis is no longer valid. We may, for example, study the effects of a particular tax, like that on houses, and reach conclusions which are correct on the assumption that the tax is the only one; but in actual life, the house tax may be only one of a series of taxes, and this fact may at once invalidate our nicely calculated results. Other things being equal, the more general a tax, the narrower the taxless field to which the persons concerned can migrate; the less general the tax, the greater the chance that the tax will be shifted.

4. *Is there Complete Mobility of Capital?*

The ordinary theory is that when capital does not find its usual remuneration in one occupation, it will be transferred to another industry where the chances are better. In general, this hypothesis is valid, because it is based on the principle of least effort. The economic man may be assumed to endeavor to secure the greatest returns with the smallest outlay. He will transfer his capital from place to place, or from occupation to occupation, according to his opinion of the chances of profit.

At the same time, there may be obstacles to immediate transfer. Thus, where capital is firmly fixed, the owner may lose more by attempting to change it than he would gain by the transfer. If the capital is unremuneratively invested in a given industry, there will be no fresh accessions of capital to it; and, as the other industries prosper, the relative diminution of capital in the first industry will, in the long run, be equivalent to a transfer of capital from it to the more prosperous occupation. But, in any given business, at any given moment, there may be all degrees in the rate of transfer, in the degree of mobility. At the one extreme lies the stock exchange business, where the mobility is almost complete; at the other extreme lie those forms of agriculture in which capital devoted to improvements is almost entirely irremovable.

In addition to this cause of comparative immobility, we may mention minor reasons, such as the ignorance of the capitalist, the risk connected with the transfer, social considerations and legal obstacles.[1] Whatever the reasons, it is obvious that when a tax is imposed

[1] See below, p. 267.

on capital in any industry, the smaller the degree of mobility, the less is the prospect of shifting, and the slower will be the process.

5. *Is the Demand for the Commodity Elastic?*

In the general proposition laid down above,[1] no reference was made to the conditions of the demand: it was assumed that demand would remain constant. But this assumption is obviously not the only possible one. In order fully to consider the changes in price caused by a tax, we must therefore regard the situation more closely from the point of view of the effective demand.

We speak of the demand for a commodity as elastic, when a change in price produces an alteration in demand. In such a case if the price goes up, the demand falls off; if the price goes down, the demand increases. There are as many degrees of elasticity in the demand for various commodities as there are variations in human wants and in the ability of men to satisfy those wants. On the other hand, if the demand for a commodity is not variable, the inelasticity may assume two forms. The demand may be inelastic in the sense of being constant, so that it always remains the same; or it may be inelastic in the sense that any attempted increase completely destroys the demand. We shall thus have to consider three possible cases, taking up first, under the heads A and B, the two forms of inelastic demand.

A. If the tax is levied on a commodity which the consumers must have and which they are willing to pay for at any expense, the demand will not decrease. With such an invariable demand the price of the commodity will rise by just the amount of the tax. The consumer will thus bear the whole burden. Practically, this is true of only a few commodities. In a large number of instances, however, prices may rise considerably without greatly affecting the demand. Such would be the case to some extent, at least, with absolute necessaries as well as with high-priced luxuries. The demand for the former is not apt greatly to diminish unless people starve. The effect of a tax on such commodities would rather cause a diminution in the more elastic demand for comforts, or in that for the less absolute necessaries. But the demand for absolute necessaries depends chiefly on the size of

[1] p. 180.

the population, not on the price of the article. In the class of high-priced luxuries, again, a tax, unless it be utterly exorbitant, is not likely to restrict consumption to any very great degree. Those who are generally willing to buy such luxuries are not quite so likely to be held back by any probable increase of price as the purchasers with a slightly lower standard of life. It may, in fact, be laid down as a general rule that in the case of necessaries, as well as in that of expensive luxuries, great alterations of price go hand in hand with slight variations in demand; while in the case of moderate comforts, small changes of price are accompanied by considerable variation in demand.[1] In the former case, then, that of absolute necessaries and some expensive luxuries, under the imposition of exclusive taxes there will be less migration of capital from the industries concerned because profits tend to remain constant. The tax will, in the extreme case, be shifted in its entirety to the consumer.[2]

What is only partly true, however, in actual life, of absolute necessaries and expensive luxuries, applies in a far greater degree to what are called complementary goods. For even in the case of luxuries there are generally some purchasers at the margin of doubt, who will be dissuaded from buying, and who will be tempted to substitute some other commodity if the price of the article rises. When, however, as frequently happens in industrial enterprises, we have two or more commodities which have to be joined in production to accomplish a desired result, the one supplements the other, and cannot be

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[1] Most writers, like Walras, *Éléments d'Economie Politique Pure*, 2d ed., p. 519, fail to make this distinction, and contrast luxuries in general with necessities in general. Yet Cournot had already called attention to the similarity between great luxuries and indispensable necessaries in his *Principes Mathématiques,* pp. 162, 163, and in his *Principes de la Théorie des Richesses,* p. 306.

[2] *Pantaleoni, Traslazione*, pp. 115, 116, asserts that when the limit of effective demand has not been reached, the tax will be divided between the producer and the consumer. His argument is that, since the producer's profits are decreased, he will transfer his capital to other industries. This great addition of capital will decrease profits all around, in the taxed as well as in the untaxed industries. Thus, the producer will get less profit than before.

This seems to be a mistake. It is, on the contrary, difficult to see why any capital should be transferred. So long as the limit of effective demand is not reached, the producers will not have their profits curtailed, because they can increase the price by the tax. Pantaleoni's argument thus appears to be defective.

disused without serious loss. Familiar illustrations of such complementary goods are pen, ink and paper; needle and thread; cart and horse; bow and arrow.[1] Almost every industry on a large scale has its gradations of such complementary goods. Even here, of course, there is no insuperable bar to the use of substitutes. But the price of the complementary goods must rise far higher than would be the case with an ordinary commodity, before the purchaser will be driven to accept a substitute. Where a tax is imposed on one of two or more complementary goods, while the other is exempt, we come very near to the conditions of inelastic demand. A tax on one of two complementary goods will thus tend to be wholly shifted to the consumer.

B. We take up next the other case of an inelastic demand, that, namely, where the price of a commodity before the imposition of a tax has already reached the limit of the effective demand, and where an attempt to increase the price by any portion of the tax would totally annihilate the demand. Although such cases are exceedingly rare in practical life, and represent a theoretical possibility rather than an actual fact, they deserve at least a passing mention. The commodity must be sold at the accustomed price, or not at all; the price cannot rise. In such a case the tax cannot be shifted: the whole weight of the tax will fall on the producer. This will, in the long run, involve a decrease in production. The old producers will lose, and no new capital will be invested. Even if the supply is diminished, however, the price cannot increase; for, by the supposition, consumers will prefer to forego consumption rather than pay a higher price. The net result will be a cessation of production with an intermediate loss to the owners of fixed capital in the business. Under no circumstances can such a tax be shifted.

C. If, thirdly, the demand is elastic, as in the case of minor luxuries and of all comforts,—that is, of the general mass of commodities,—in the sense that the old price before the imposition of the tax falls below what some of the consumers will in an extremity be willing to pay, while the new price, including the tax, exceeds what a part of the consumers can afford to pay, the tax will be divided between the consumer and the producer. The proportions in which this division will take place will depend, so far as this element is con-

[1] Cf. The *Positive Theory of Capital*, by E. von Böhm-Bawerk, book iii, chap. ix.

cerned, chiefly on the elasticity of the demand. The more persistent the demand, the greater is the proportion of the tax which the producer will be able to add to the price; the more sensitive the demand, the smaller the sum by which he will find it profitable to increase the price. In other words, the greater the elasticity of the demand, the more favorable—other things being equal—will be the situation of the consumer.

All changes in price, however, depend ultimately on the relations between demand and supply. Having just discussed the variations due to the elasticity of demand, what shall we say about those due to the elasticity of the supply?

At the very outset, we may mention those comparatively insignificant cases in which no increase of the supply is possible. This would be true of old works of art, of choice wines of a particular vintage and of similar articles. No matter what the inducement may be, the supply is inelastic, since it cannot respond to any increase in the demand. Under such circumstances, the extent to which the tax will be shifted to the consumer will depend on the conditions mentioned above under A and C.

In ordinary cases, however, the supply possesses some degree of elasticity; but the conditions affecting elasticity of supply are somewhat more complicated than those affecting elasticity of demand. It may, however, be laid down as a general rule that the elasticity of supply depends on two considerations: first, the extent to which differential advantages of production affect the supply of the commodity; and secondly, the ratio of product to cost, or the law of return to which the industry is subject. When it is said that the elasticity of supply "depends on" these considerations, no attempt is made to prejudge the question whether it varies directly or inversely with these conditions. It is this problem to which we shall now address ourselves under the sixth and seventh heads of this chapter.

6. *To what Extent do Differential Advantages of Production affect the Supply?*

The distinction here drawn is between those cases where all portions of the supply of a given commodity are produced at practically the same cost, and those cases where a part of the supply is produced at a certain cost, and another part at a different cost. The nature of this distinction demands attention before we proceed to the discussion of incidence.

Ordinarily producers differ either in ability or in opportunity. While all similar units in the supply of a given commodity sell at the same price, the superior skill of some employers, or the more favorable situation of some factories, or the more fortunate combination of external causes, enables some capitalists to produce more cheaply than others. If, now, we assume static conditions; if, in other words, we assume that both demand and supply remain stationary, that there is no change in population, and no alteration in the methods of industry,—under such conditions it is clear that the normal value of the articles will be fixed, not by the average cost of production, but by the cost of producing the most expensive unit. In other words, normal value will then tend to equal the highest cost of production. So long as the demand is sufficient to call into existence commodities produced at different costs, and so long as there is no alteration in relative supply and demand, the price will be fixed by the greatest cost; and those who produce more cheaply will benefit accordingly. As the price is fixed by the cost of producing the most expensive portion of the supply, the difference between the lowest cost and actual price, in any given case,—that is, the difference between the cost of producing the article under the most disadvantageous circumstances and that of producing it under the more favorable conditions,—constitutes the producer's surplus or profits.

Under conditions of actual life, however, this assumption is inadmissible. The real conditions are dynamic, not static. There is a continual movement going on, not only from the side of demand, through changes in the population as well as in the wants of the purchasers, but also from the side of supply, through alterations in industry. Under such changing conditions of actual life, the conditions are somewhat more complex.

The ordinary course of competitive industry may be portrayed as follows. At any given moment, the commodity is supplied by a number of producers, and sells in the market at a fixed price. The more efficient producer, or perhaps some newcomer in the field with more capital or with improved machines or with better facilities for marketing the product, endeavors to capture a larger part of the market by putting out an increased supply at a somewhat lower cost of production. The mere fact of this increase of supply will tend to depress the price; and although his percentage of profit may be smaller than it would have been at the old price, he expects larger total profits because of his ability to sell more than before. The increase of supply, at lower price, must manifestly injure the less efficient producer at the margin of profitable production. In every business, there are always some producers who are able just to "make both ends meet." Their machinery is antiquated, their capital has been depleted, their business activity and knowledge are no longer what they should be, and their former profits, if there ever were any, have now vanished. They may continue for a time to struggle along, hoping against hope, and may live on their capital, being content to bridge over the next few years without profit; or, if they have invested heavily in unsalable buildings and machinery, they may deceive themselves by a fallacious system of book-keeping, and through a neglect to charge up the items of depreciation of stock or machinery, may figure out a nominal profit; or, finally, if their buildings occupy a good site, they may count as profit what is really to be apportioned to rent, and their gains will accordingly accrue to them not as entrepreneurs, but as landowners. But in every case the day of reckoning is sure to come. Sooner or later the producer will find that he is getting no return on his industrial capital. He will cease producing that particular commodity; and his place will be taken by some more efficient entrepreneur.

All industrial progress consists of a continual change at the top and at the bottom of the line of producers. Fresh capital is continually coming in; the discouraged are continually stepping out. Normal value, under dynamic conditions, therefore tends in the direction of cost of production under the most favorable, not under the least favorable, conditions; it tends towards lowest cost, not highest cost. The market price at any given moment is indeed, as before—that is, exactly as under the hypothesis of static conditions—fixed at the point of highest cost; for at any given moment there is always some unlucky producer under competitive conditions who furnishes a part of the supply at cost. Next year he will be crowded out, and his place will be taken by some one who can produce at lower cost. What under static conditions was a part of the necessary supply becomes under dynamic conditions a part of the actual, but temporary, supply.

In practical life, therefore, competitive profits are dynamic in their nature. They exist only because at any given moment some entrepreneurs can produce at a lower cost than those on the margin, or no-profit level; but this margin, or no-profit level, is itself continually changing, and, under normal conditions of progress, is continually receding. A large class of commodities—in fact, all competitive articles—are, then, produced under such conditions that the profits represent the result of differential advantages of production. These differences may be summed up under four heads: differences of situation with reference to the market, differences in the possession of improved machines or processes, differences in the personal abilities of the producers and differences in opportunity or luck.

Whenever all the articles in a given class are produced at the same cost, in fact, the resulting profits are monopoly profits and not competitive profits. Not only does profitable production at the same cost imply monopoly, but monopoly necessarily means production at identical cost. Let us consider the last statement first.

A monopoly may be in the hands of either a single producer or a combination of producers. If there is only a single monopolist, there can obviously be only a single cost for the supply. If there is a combination of producers, the same conclusion does not, at first blush, seem to follow. There may be a combination, as a trust or pool, where the original differences of business ability or of opportunity among the producers subsist after the formation of the trust. The mere fact, however, that the least favorably situated producer enters the trust shows that prices are no longer fixed at the point of marginal cost, for otherwise he could not secure any profits. As a matter of fact, the ordinary agreement in a trust or pool provides for a lumping together of the expenses and the receipts of all members of the combination, and for an apportionment of profits according to a fixed percentage. Thus, although there is technically no production of all the units of the supply at identical cost, economically and so far as concerns the relation of the producers to each other the various parts of the supply may be said to be virtually produced at the same cost.

In the second place, profitable production at the same cost implies, in the long run, a monopoly. It may conceivably happen that in a regime of competition all the producers at a particular moment are men of precisely the same abilities, and subject to the same conditions. In this possible case—which is apt to be true only of newly started industries—there would, indeed, be only one identical cost for all units of the supply. There could then, however, not be any permanent profits to all the producers, because prices could not permanently remain above the mere cost of production. If there were profits to all the producers, competition would induce one of them to lower the price in the hope of securing larger profits through greater sales; or, if he did not do so, some new producer would enter the field and cut prices. The only way in which prices could be permanently kept at the old figures would be through some control of the supply. As soon as this condition came to pass, however, we should no longer have free competition, but should be in the presence of some form of monopoly. Thus not only does monopoly imply production at the same cost, but production at the same cost involves some form of monopoly.[1] Competitive profits, on the other hand, as we have seen, imply varying costs of production.

In some competitive industries, however, the differential advantages are far greater than in others. Obviously, when these differential advantages are great, profits are high for the more efficient producer; when they are small, there is only a slight margin of profit. The older the industry, or the simpler the conditions of production, the smaller is likely to be the margin of profit. Furthermore, it must be remembered that where there are great differential advantages of production, profits are high because of the margin between the lowest cost of the most efficient producer and the price fixed by the supply of the least efficient producer. In case there are no differential advantages of production—which, as we have seen, tends to be true only of monopoly—profits are high because of the complete control of supply. The existence of profits depends here not upon any competitor, but

[1] Pantaleoni, Traslazione dei Tributi, who bases his treatment of the taxation of profits on what appears to be an exaggerated distinction between ordinary profits and surplus profits, fails to recognize the fact that industries in which all the articles are produced at the same cost are necessarily monopolies. Graziani, Instituzioni di Scienza delle Finanze, pp. 342-344, seems unhesitatingly to follow Pantaleoni in these points.

upon the conditions of maximum monopoly revenue—that is, upon the elasticity of the demand and the ratio of product to cost.

Let us proceed now to discuss the influence of these conditions upon the incidence of taxation in industries subject to the law of competition.

The fact that high profits or moderate profits accrue to the more favorably situated producer depends, as has just been seen, upon the differences in the cost of producing the various parts of the actual supply of a commodity.[1] If all the increments of the supply are produced at a cost which varies but little from the market price, not only will all profits be small, but any appreciable increase of cost due to the imposition of a tax will tend, ordinarily, to bring about a diminution in the amount produced, because it will trench on the narrow margin between cost and price. A tax will be likely, therefore, by limiting the supply, to raise price. Under such conditions, the consumer will tend to bear more of the burden.

On the other hand, if the margin between cost and price is considerable, and if the more favorably situated producers earn large profits, a tax will bring about a relatively smaller decrease in supply, and the augmentation of price to the consumer will tend to be less. In such cases, since the margin between the price and the cost for the most favorably situated producer is so great, the influence of the law of increasing cost, referred to in the next section,[2] will not be felt to such a degree at first; that is, there is greater likelihood that the more capable producers will be able to fill the gap caused by the cessation of production on the part of the less efficient producers. There may even be no decrease at all in the supply, the only difference being that the level of marginal cost is now, with a part of the tax added, a little higher than before. The effect of a tax may then be to ruin the

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[1] Professor Carver, in his interesting article on "The Shifting of Taxes" which was published in *The Yale Review*, v (1896), p. 266, calls attention to this point. He puts the conclusion in somewhat different language, in saying that " the elasticity of the production or supply depends upon the extent to which rent enters into the production of the article in question." By rent he obviously means the result of differential advantages of production. Professor Carver's statement is to be criticised, however, because of his inattention to the other point which affects elasticity of supply—namely, the ratio of product to cost—which is discussed below.

[2] Below, p. 202.

less efficient producers, although the more favored producers will no doubt also have their profits somewhat curtailed; but a smaller part of the tax than before will be shifted to the consumer.

It was stated above[1] that the elasticity of supply depends not only upon the extent to which differential advantages of production enter into the supply, but also on the ratio of product to cost. Having discussed the first condition, we come now to the second.

7. *Is the Article supplied at a Constant, an Increasing or a Diminishing Cost?*

It is well known that in certain occupations, or under given conditions, every successive application of capital or labor gives returns of approximately constant amount. The product is then in exact ratio to the amount of capital or labor applied, and the industry is said to be subject to the law of constant returns. The normal value of an article which is thus reproducible at a fixed cost tends to be equal to the cost of production.

In certain occupations, however, every successive application of capital gives returns, not of the same, but of a continually smaller amount. The industry is then said to be subject to the law of diminishing returns, or of increasing cost. This condition is normally true of agriculture, and forms the basis of the Ricardian law of rent. How far it is applicable to industry in general after a certain stage of profitableness has been passed, we shall see in a moment. On the other hand, the industry may obey, up to a certain point, the law of increasing returns or of diminishing cost. For instance, where in any industry the proportion of fixed or constant expenses to total expenses is large, a considerable increase of production can often be made without a corresponding increase of cost. Successive applications of capital and labor thus tend to produce returns which are, to a certain point, increasingly greater in amount. The product is not proportional, but progressive.

Although this conception of the laws of constant, increasing and diminishing returns is an old one, their application to the facts of actual life is often misunderstood. The law of constant returns is

[1] See p. 192.

generally assumed to be the normal law, while the laws of increasing and diminishing returns are supposed to be the exceptions. A more careful consideration, however, shows that in ordinary competitive enterprises the law of diminishing returns is the normal law. This has usually been recognized as true of agriculture; but it is equally true of other occupations. In order to show this clearly, let us examine somewhat more closely what is the real import of the laws of diminishing and of increasing returns.

The action of the law of diminishing returns manifests itself in two ways. The fact that after a certain point has been reached production does not respond proportionately to the energy applied, and that every new "dose" of capital and labor gives less and less returns, is familiar to all engaged in ordinary agricultural operations. The soil may be prevented from deterioration by the skilful use of manures; it may even be improved through the discovery of newer methods of cultivation; but the point must soon come when the increase of production will be overtaken by the increased application of capital and labor, and when the returns, as compared to the expenditure of capital and labor, will diminish. The second way in which the law may work itself out is generally illustrated by a mine. Here, although the returns may seem to be constant from year to year, the capital itself which yields the returns is being slowly consumed. At the end of a given period, not only will the returns themselves abruptly stop, but the possibility of securing additional returns in the future will also have disappeared. We must, therefore, abstract from each recurring return a sum which, when capitalized at the rate of production, will ultimately amount to the total original capital. Translated into ordinary business language, we must allow for depreciation of stock or plant—a depreciation which, when continued long enough, will entirely consume the initial capital. In the first case of diminishing returns, then, typified by agricultural land, the actual produce becomes yearly less; in the second case, illustrated by mining or badly conducted forestry, the nominal produce may remain the same, but the actual return on the investment of capital becomes continually smaller. In both cases, therefore, the cost is a proportionately increasing one.

When we take up the law of diminishing cost or increasing returns, we likewise find that it assumes two forms in ordinary industry. The one great cause of increasing returns is what may be termed concentration; the other may be termed natural selection. How do these operate?

The economies of production, due to the concentration of smaller enterprises into a large concern, have been made familiar in recent years. In all enterprises where the investment of capital is considerable, the proportion of constant expenses to variable expenses is apt to be large. Some expenses necessarily grow with every increase of business; other expenses remain the same, whether the business is large or small. In fact, certain expenses will be actually smaller with large transactions concentrated into one hand, than with an equal amount of transactions distributed through a variety of producers. Up to a certain point, then, it is possible that an increase of capital and labor will give more than proportionate returns. We say, up to a certain point,—because we must assume that here also a time must come when the law of diminishing cost loses its efficacy; for we should otherwise get the absurd result of production without any cost at all.

But concentration is not the only cause of increasing returns. There is, under competitive conditions, as we pointed out above, a continual tendency for the less efficient producer to be crowded out by the more efficient. The marginal producer—he who is just able to keep his head above water—is, under ordinary conditions of industrial progress, thrown back into the ocean of failure and despair; his place is taken by a more successful competitor, a new marginal producer who, for a time, continues to exist because he can produce more cheaply, but who is himself soon forced to succumb. This continual weeding out, to change the metaphor, of the unfortunate or the incompetent is equivalent to the process of natural selection. The community gains, because it enjoys the services of the more efficient producer; and this greater efficiency shows itself in the increasing ratio of output to every new investment of capital. Thus, where industry is not stationary or retrograding, the natural selection of entrepreneurs means production at a diminishing cost.

If we attempt now to analyze the facts of actual business life, we shall find that the forces which make for diminishing returns and those which make for increasing returns are combined in different proportions in various enterprises. Upon the extent to which they are combined depends the trend toward monopoly or toward competition.

Suppose, for instance, that in any enterprise the economies resulting from concentration, and the lower cost due to natural selection of the producers, are just about counterbalanced by the difficulties of securing additional room for production, or by drawbacks connected with the marketing of an increased output. In such a case, where the forces making for increasing returns and those making for decreasing returns are evenly balanced, the result will be production according to the law of constant returns. Under such conditions, however, there is no obvious reason why the more efficient producer will not be able to increase his output and thus gradually to crowd out his less efficient competitors until he secures a monopoly. Although he produces at constant cost, and his percentage of profit remains the same, his total profits will grow with the increase of production. There is no rigid limit to the increase of output; the more efficient the producer, the greater the ease with which he will be able to command sufficient additional capital to expand his business. The law of constant cost, therefore, presupposes an industry on the high road to monopoly.

Suppose again that, instead of being subject to the action of the law of constant returns, the industry obeys the law of increasing returns or diminishing cost. Here it is plain that the trend will be still more strongly toward monopoly. Unless the returns are unequally increasing, so that the less favorably situated producer can still hold his own with the more fortunate producer, and thus continue to furnish an actual part of the supply, the more efficient producer will quickly—more quickly than in the preceding case—gain control of the market. When the conditions are such as to realize the economies of natural selection, the tendency toward monopoly is a strong one. When the economies of natural selection are joined to those of concentration, the tendency toward monopoly is accelerated. It is precisely because in modern times the forces working toward diminishing returns have, in so many instances, been overtaken by man's mastery over nature that we notice the well-defined movement toward trusts, pools and combinations.

It is plain, then, that the law of constant returns, and still more the law of increasing returns or diminishing cost, is unfavorable to the persistence of competition. The normal law of competitive industry, under static conditions, is the law of diminishing returns or increasing cost; and even under conditions of actual life—that is, under dynamic conditions—a competitive industry may be said to obey the law of constant or of increasing returns only during a period of transition. Constant returns and, to a still greater extent, increasing returns or diminishing cost, tend toward monopoly. It is only at a given time, and in a given industry which is in the process, slow or fast, of being monopolized, that the laws of constant or of diminishing cost can prevail. When once the complete monopoly has been reached, the industry may obey the law of diminishing, constant or increasing cost according to the conditions of the particular case. But the chances of the continuance of the monopoly will be more secure when it obeys the law of constant cost rather than of increasing cost or diminishing returns; and they will be still more secure when the monopoly obeys the law of diminishing cost or increasing returns.

If we now extend this analysis to the subject of incidence of taxation, we shall see that the action of the laws of diminishing and increasing returns differs according as we deal with cases of competition or of monopoly. The elasticity of the supply is affected in opposite ways by the ratio of product to cost, according as the industry obeys the law of monopoly price or of competitive price. Let us proceed to show this in detail, taking up first the case of monopoly.

If a monopolized industry is subject to the law of constant returns so that the cost of production is the same for all, irrespective of the quantities produced, the first tendency of the producer will be to add the entire tax to the price. But as this would, in the normal condition of an elastic demand, decrease sales he will increase the price by something less than the full amount of the tax. If the demand falls off greatly with every increase of price—or, in other words, if the margin of effective demand is small—the price, as we have seen, will be increased by much less than the amount of the tax, and the producer will suffer most of the loss. Conversely, if the demand is not so elastic,—if an increase of price will produce only a small decrease of demand,—a larger proportion of the tax will be added, and the consumer will suffer more than the producer.[1] But so long as there is a given decrease of the demand, the increase of price will bear a given

[1] For a formal proof of this see below, pp. 276-278. Cf. above, p. 191.

proportion to the amount of the tax. The producer will find his greatest profits—even if now reduced below their old level—at a given point of smaller sales at a higher price.

If, however, an industry obeys the law of increasing returns or diminishing cost—where each increment in the amount produced costs less than the last—the tendency of the producer, in the face of an elastic demand, will be to add less of the tax to the price than in the preceding case of constant returns. For, as soon as he adds any given part of the tax to the price, he will normally decrease consumption. But, if he produces less, each unit will, on the supposition that he has been producing under conditions of increasing returns, cost him, exclusive of the tax, more than before. The less he produces, the greater will be his percentage of cost. The attempt to add more than a given part of the tax to the price will be doubly disastrous to him; for not only will his sales fall off, but his percentage of cost will increase on the actual sales that he still makes. In the preceding case of constant cost the producer who has advanced the tax will increase his price only to that point where the smaller sales are compensated by the higher price, so that his net profits will still be at the maximum. But under the regime of increasing returns or diminishing cost, the point at which price will find its level is a little lower down on the scale; for since every curtailment of the market means to him not only reduced sales but a higher percentage of expenses, he will seek to restrict the output as little as possible, in order that the proportion of net receipts to gross receipts may remain at its highest point.

The producer will thus find it profitable to bear more of the tax himself than in the preceding case of constant cost. The extent to which he will bear a greater portion of the tax will depend, given a certain intensity of demand, on the degree to which cost increases with restriction of output. The more his percentage of expense grows, the less will he be tempted to advance the price. If a high tax, for instance, be imposed on the passenger tickets of a railway, subject to the law of increasing returns, where the most profitable business happens to be the passenger traffic and where an increase of fares would mean a perceptible falling off in travel, the resulting abandonment of several passenger trains a day would mean a considerable increase of the percentage of fixed to operating expenses, and therefore a great fall of profits. The railway will therefore add as little as possible of the tax to the fare. The less important the passenger traffic, the weaker will, of course, be the action of the law of increasing returns, and the greater will be the inducement for the railway to add more of the tax to the fare. Under ordinary conditions, therefore, in the case of a tax on a monopolistic industry subject to the law of increasing returns or diminishing cost, the tendency is that the consumer will suffer less than in the case of an industry subject to the law of constant cost.

On the other hand, if the monopoly obeys the law of diminishing returns or increasing cost—where each additional increment of production costs more than the last—the producer will be likely to add more of the tax to the price than in the case of constant or increasing returns. For although the increase of price consequent upon the imposition of any part of the tax will decrease consumption, each unit of this smaller output will, on the hypothesis that he has been producing under conditions of diminishing returns, cost the producer, exclusive of the tax, less than before. His inclination to pay less of the tax himself will be strengthened by the fact that, although the sale of fewer articles at the higher price may cause a reduction in his gross receipts, the percentage of profit on the smaller output will be greater, and will thus yield him higher net receipts. The extent, again, to which the producer will add more of the tax to the price than in the case of constant cost depends on the rapidity with which the percentage of cost increases with every unit of output.

So much for the regime of monopoly. On the contrary, when we deal with industries subject to competitive conditions, the relations are just the reverse. We have seen[1] that the normal law, in the case of competition, is that of diminishing returns, and that competitive industries obey the laws of constant or of increasing returns only in cases of transition. But for the sake of uniformity we may here again, as in the former case of monopoly, take the law of constant returns as the starting-point of our analysis.

The great distinction between competition and monopoly is that under conditions of competition, although the price of a commodity continually tends toward the point of lowest cost, it is fixed at any given moment at the point of marginal or of highest cost; while under

[1] Above, pp. 202-203.

conditions of monopoly there is no marginal cost, because there is no marginal producer. The application to the problem of incidence of taxation is obvious. If the competitive industry obeys the law of constant cost, the extent to which a tax will increase the price depends, other things being equal, primarily on the nature of the demand curve. The more persistent the demand, the greater, as we have seen, is the proportion of the tax which the producers will be able to add to the price. If a competitive industry, however, obeys the law of increasing returns or diminishing cost, which as we have learned is true only of periods of transition, the tendency of the producer will be to add more of the tax to the price than in the case of constant returns. For any increase of price due to the tax will tend to decrease consumption. If he produces less, however, each unit will, under the assumption that he has been producing under conditions of increasing returns, cost the producer, exclusive of the tax, more than before. But if he remains a marginal producer, the price must finally find its level at this point of higher cost to the marginal producer. In other words, the price will tend to rise to a point higher than in the case of constant returns. Of course, if he does not continue to compete, but is crowded out by the abler producer, who can more easily capture the market under conditions of increasing returns, this result does not necessarily follow. It may happen, for instance, that the more favored producer will take advantage of the tax to drive the old marginal producer out by adding only a small part of the tax to the price, hoping to recoup himself by an ultimate monopoly; and then, when he secures a monopoly, he may put the price up again. But granting a continuance of the competitive conditions, with the old marginal producer still supplying his share of the output, the addition to the price, as long as the competition lasts, will tend to be greater than in the case of constant returns. It must continually be borne in mind that under the regime of competition price always equals marginal cost; whatever increases this marginal cost increases price. The action of the law of increasing returns tends to augment the marginal cost for the smaller output which results from the imposition of a tax; therefore it tends to increase the price.

If the competitive industry, on the other hand, obeys, as is usually the case, the law of diminishing returns or increasing cost—where each increment in the amount produced costs more than the last—the producer will be likely to add less of the tax to the price than in the case of constant or diminishing cost. For although the increase of price consequent upon the imposition of any part of the tax will decrease consumption, each unit of this smaller output will, on the hypothesis that he has been producing under conditions of diminishing returns, cost the producer less than before. Since price is fixed, under competitive conditions, at any given moment at the point of greatest cost, and since the cost to the marginal producer who remains a competitor is reduced, the price will now be a little lower than in the case of constant returns, and still lower than in the case of increasing returns. In all these cases—whether of competition or of monopoly, whether of constant, of increasing or of diminishing cost—the important point remains, as before, the elasticity of the demand. But given a certain elasticity of demand, we see that in the case of monopoly the tendency is that less of the tax will be shifted to the consumer when the industry obeys the law of diminishing cost or increasing returns, and that more will be shifted when it obeys the law of increasing cost or diminishing returns; but that in the case of competition the facts are reversed, and that more of the tax will be shifted to the consumer when the industry obeys the law of diminishing cost or increasing returns, and that less will be shifted when it obeys the law of increasing cost or diminishing returns.[1]

Box

The argument in the text may be illustrated by diagrams. Take first the case of competition. In Fig. 1, let *DD*' be the demand curve. Let *OX* be the amount of product; let *OY* be the line of price; let *OL* be the marginal cost before the tax, corresponding to the supply curve *S'S*; let *LC* be the amount of tax added to the price under the law of constant returns, so that the price after the imposition of the tax is *OC*, corresponding to the new position of the supply curve *TT*'. If *OM* is the amount produced at the original price *OL*, giving gross receipts of *OLSM*, the amount produced after the price has been raised to *OC* will be *OM*', giving gross receipts of *OCT'M*'.

If the industry obeys the law of diminishing cost, as in Fig. 2, the line S"S will be curved downward. Before the tax is imposed, the quantity *OM* will, as before, be sold at the price *OL* or *MS*. But after the tax is imposed, equilibrium will be attained when the new supply curve *TT*" intersects *DD*', which will in this case be somewhat

[1] See Box

to the left of the old point of intersection; so that now the quantity OM" will be sold at the price M" T" or OE, which is higher than OC.

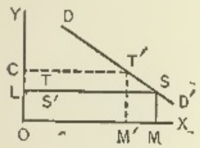

Fig. 1.
Constant Returns.

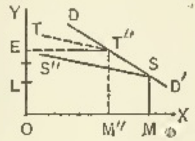

Fig. 2.
Increasing Returns
or Diminishing Cost.

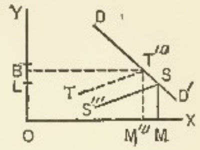

Fig. 3.
Diminishing Returns
or Increasing Cost.

If the industry obeys the law of increasing cost, as in Fig. 3, the line *S'''S* will be curved upward. Now, after the imposition of the tax, the price will be fixed at the point *T'''*, so that the quantity *OM'''* will be sold at the price *M'''T'''*, or *OB*, which is lower than *OC*.

The extent to which in any case the new price, after the imposition of the tax, exceeds the old price *OL* depends primarily upon the elasticity of the demand, that is, the sharpness of the curve *DD*'; but starting out from this increase of price under the law of constant cost, diminishing cost adds more to the price, increasing cost adds less to the price.

Under conditions of monopoly, however, price is fixed not at marginal cost, but at the point of maximum monopoly returns. This depends upon the margin between cost and price.

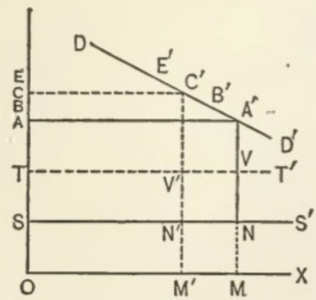

Fig. 1.
Constant Returns.

In Fig. I, where we have the law of constant cost, let everything be as before, except that *OS* is the cost per unit, the line *SS'* the line of constant cost. Given the demand curve *DD'*, the monopolist will find the point of maximum net returns at a price OA, with an output *OM*. His monopoly profits will be represented by *AA'NS*. If a tax *ST* is now imposed, the monopolist will find it to his advantage to raise the price to *C*, with an output *OM'*, his greatest net profits now being *CC'V'T*, a larger parallelogram than any other that can be constructed on the new cost line *TT'*.

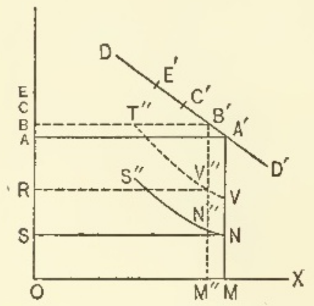

Fig. 2.
Increasing Returns or Diminishing Cost.

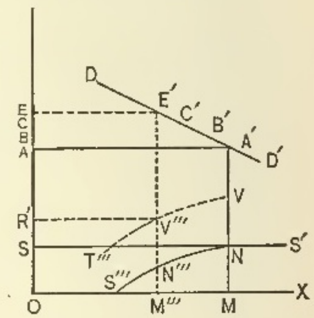

Fig. 3.
Diminishing Returns or Increasing Cost.

In Fig. 2 we have the law of increasing returns or diminishing cost. Since cost diminishes with output, the curve *S"N* is a descending one. We assume, as before, that, given the demand curve *DD'*, the monopolist will find his maximum net returns at price *OA*, with an output *OM*. This assumes that after the point *N* has been reached, the cost will not diminish farther, for there is always some limit to the law of increasing returns. At this point the monopoly profits are represented by *AA'NS*. If the same tax as before is imposed, the monopolist will now find it to his advantage to raise the price only to *B*, with an output *OM"*. For his greatest net profits will now be *BB'V"R*, a larger parallelogram than any other that can be constructed on a base intersecting the new (curved) cost line T"V,

In Fig. 3 we have the law of diminishing returns or increasing cost. Since cost increases with output, the curve *S"'N* is an ascending one. We assume, as before, that the monopolist will find his maximum net returns at price *OA*, with an output *OM*, and with monopoly profits represented by *AA'NS*. If the same tax as before is imposed, the monopolist will now find it to his advantage to raise the price to *E*, with an output *OM'"*. For his greatest net profits will now be *EE'V"R'*, a larger parallelogram than any other that can be constructed on the base intersecting the new (curved) cost line T"'V.

The above reasoning can also be illustrated arithmetically. Let *OS* represent a cost of 1, and *ST* a tax of one hundred per cent or also 1. Let OM represent an output of four units, *OM'* of three and one-half, *OM"* of three, *OM'"* of two and one-half. Let the distance from *A* to *B*, *B* to *C*, and *C* to *E*, be one-fourth. Let *OA* be a price 3, so that *OB* is 3¼, *OC* is 3½, and *OE* is 3¾. SA will then be 2, SB 2¼, SC 2½, SE 2¾. Under the law of constant cost, before a tax is imposed, monopoly profits will then be:—

At price E	2.75 x 2.50 =	6.875
At price C	2.50 x 3 =	7.50
At price B	2.25 x 3.5 =	7.875
At price A	2 x 4 =	8

that is, the monopolist will prefer price A.

If a tax of *ST* or 1 is imposed, monopoly profits will be:—

At price E	1.75 x 2.50 =	4.375
At price C	1.50 x 3 =	4.50
At price B	1.25 x 3.50 =	4.375
At price A	1 x 4 =	4

that is, the monopolist will prefer the price *C.*

If the industry obeys the law of diminishing cost or increasing returns, the surplus of price over cost will no longer be as before 2, 2¼, 2½ and 2 ¾ , but, let us say, 2, 2.20, 2.35, and 2.40; that is, with every unit of smaller output, the cost will be progressively greater, and the surplus of price over cost will be progressively less. Thus, before the tax is imposed, monopoly profits will be:—

At price E	2.40 x 2.50 =	6
At price C	2.35 x 3 =	7.05
At price B	2.20 x 3.50 =	7.70
At price A	2 x 4 =	8

that is, the monopolist will, as before, prefer price A.

After the imposition of the tax, monopoly profits will be:—

At price E	1.40 x 2.50 =	3.50
At price C	1,35 x 3 =	4.05
At price B	1.20 x 3.50 =	4.20
At price A	1 x 4 =	4

that is, the monopolist will now prefer price B, which is lower than price C.

Finally, if the industry obeys the law of increasing cost or diminishing returns, with every unit of smaller output the cost will be progressively less, and the surplus of price over cost will be progressively greater; instead of the surplus being as before 2, 2\, 2\, and 2%, it will be, let us say, 2, 2.27, 2.55, and 2.90. Then,, before the tax is imposed, monopoly profits will be:—

At price E	2.90 x 2.50 =	7.25
At price C	2.55 x 3 =	7.65
At price B	2.27 x 3.50 =	7.945
At price A	2 x 4 =	8

that is, the monopolist will, as before, prefer price A.

After the imposition of the tax, monopoly profits will be:—

At price E	1.90 x 2.50 =	4.75
At price C	1.55 x 3 =	4.65
At price B	1.27 x 3.50=	4.445
At price A	1 x 4 =	4

that is, the monopolist will now prefer price E which is higher than price C.

In the first edition of this work (pp. 151, 152) the reasoning was applied only to cases of competition. Professor Marshall, likewise, in his interesting discussion (*Principles of Economics*, book v, chap, xii, ¬ß 4, p. 524 of 3d ed.) deals only with cases of competition. In the following chapter, where he treats of monopolies, he does not specifically discuss the action of the law of increasing and diminishing cost. On the other hand. Professor Edgeworth fails to make the distinction between the cases of monopoly and of competition. In the case of competition, he agrees with the view here presented (cf. Economic Journal, vii, pp. 69, 70); but he thinks that the result is the same in the case of monopoly (ibid., pp. 236, 237, and p. 406, note 4). Professor Edgeworth's demonstration, like the statement of Cournot, rests upon an assumed mathematical proof, the accuracy of which must be left to those versed in the higher mathematics.

This is, on the whole, a comforting doctrine to the consumer, because, as we have seen, the condition most favorable to a monopoly is that of decreasing cost or increasing returns, and the condition most favorable to competition is that of increasing cost or diminishing returns; and in each of these cases the tendency is, as we now know, that less of the tax will be shifted to the consumer than under any other proportions in the ratio of product to cost.

Combining the conclusions reached under divisions 6 and 7 of this chapter,[1] it is evident that elasticity of supply—by which we mean the responsiveness of the quantity produced to fluctuations in price—depends on a combination of two factors: the degree to which differential advantages of production exist, and the ratio of product to cost. The influence of this ratio of product to cost is, as we have seen, different in the case of monopoly from its influence under conditions of competition. In both cases, however, the greater the chance that the imposition of a tax will cause a diminution of supply, the less favorable will be the situation of the consumer; the smaller the prospect of a decrease in the supply, the more favorable will be his position.

We may therefore sum up this part of the discussion that has been carried on under divisions 5, 6 and 7, as follows: The degree to which a tax on a particular commodity will be shifted to the consumer will vary inversely as the elasticity of the demand and directly as the elasticity of the supply. The elasticity of demand depends upon the extent to which the commodities in question are removed not only from the category of complementary goods, but also from that of absolute necessaries or of high-priced luxuries. The elasticity of supply depends upon the extent to which differential advantages affect the production, as well as upon the ratio of product to cost.

[1] See above, pp. 192 and 199.

This ratio of product to cost, again, influences the shifting of the tax in opposite ways in cases of monopoly and of competition respectively. It may be laid down as a general law that when the demand is more elastic than the supply, the consumer will bear a smaller part of the tax than when the supply is more elastic than the demand. Whether a tax will be shifted in its entirety, in part, or not at all, depends on the article itself, on the degree to which other articles may be substituted for it, on the size of the margin of profit, and on the degree to which monopoly enters into the nature of the industry on the product of which the tax is laid. For the working out of this law in practice, the reader is referred to the succeeding chapters of the present work. The effect of a bounty will naturally be the reverse of a tax.

These statements, so far as we disregard the limiting or opposing forces referred to in division 1 to 4 above,[1] contain the general law of shifting. We need still to discuss, however, a few considerations, limiting the general law, which are often of considerable practical influence in actual life.

8. *Is the Tax imposed on Margin or on Surplus*?

When we say that the price of a commodity under the law of competition is fixed by the cost of production, we refer to the cost of producing the most expensive portion of the actual supply. This must not, however, be misunderstood. As was already stated, the tendency of prices is to gravitate toward the cost of producing the least expensive, not the most expensive, part of the supply. Through the processes both of concentration and of natural selection, the least efficient producers are continually being crowded out, and the price of the product is continually being reduced—up to that point, at all events, were there is no possibility of further economies. But while the tendency is thus in the direction of lowest cost, the temporary equilibrium between demand and supply at any given moment adjusts itself at the point of highest cost. In any given season, when a commodity is sold, there is under competitive conditions a producer who just gets back his cost, because his cost is equal to the price at which the whole supply is sold. In this sense he is the marginal pro-

[1] See pp. 181, 186 and 187.

ducer, his product is the marginal product, and the price of the whole supply is fixed at the point of the cost of the marginal product.

It is clear, now, that if a tax is imposed it will increase the cost of this marginal product, and provided that the marginal producer continues to produce and to remain the marginal producer, the price of the whole supply will be raised by the amount of the tax. To the extent that the marginal producer is crowded out, a small^ proportion of the tax will be added to price.

It may happen, however, that the tax does not hit the marginal product at all. This may be due to two causes. In the first place, the tax may be imposed on product, but it may reach only other portions of the supply than the marginal portion. In the case of interstate or international competition, for example, one state may tax that part of the; supply produced within its borders, while the price may be fixed in the international market, where the most expensive increment of the supply comes from a country which imposes no tax. The tax assessed in the first state will thus not reach the marginal product, and will produce no effect on the price. Not until the tax is so high that the increased cost of this portion will relegate it to the position of the marginal product can the tax influence the price.

Secondly, a tax may not reach the marginal product, because it is not imposed on production at all. It may be imposed, not on production, but on the results of production. In order that any change may take place in price, there must be, as we have seen, some alteration in the supply. A tax on the marginal product would obviously at once tend to cause such an alteration in the supply. But if the tax is imposed on what accrues to the producer after all his expenses are deducted and his accounts closed, the tendency to an alteration in the supply will be diminished. The surplus above all expenses is either rent or profits. Economic rent and pure profits are the results of price, not conditions of price. A tax on surplus, therefore, would not reach the marginal product at all, and would not tend to cause any change of price. It is only through the slower and more indirect influence of a general fall in profits that any alteration, if at all, would take place. The greater the extent, therefore, to which the tax falls on surplus, instead of on margin, the smaller the chance of any shifting of the tax.

9. Is the Tax Large or Small?

From the point of view of pure theory it might seem immaterial what the rate of tax is; for however slight the charge might be, it would still be mathematically measurable. But in practical life individuals often observe the same principle that is expressed in the legal maxim de *minimis non curat lex*. A producer who is called upon to pay a very small tax which would, under ordinary conditions, be shifted to the consumer, may prefer to assume it himself rather than to run the risk of annoying his customer about what is after all a trifle. Or the price of the commodity may be fixed by custom, so that the producer will not dare to risk loss by any addition to the price. A good example of the first case is the small tax imposed by the United States in 1898 on parlorcar tickets. Rather than annoy the passengers, the companies have assumed the tax. An equally good example of the second case is the small additional tax imposed by the United States at the same time on certain brands of cigars and tobacco, which continued to sell at the same price after the imposition of the tax. As a former five-cent cigar or five-cent package of tobacco could not have been sold at five and a half or six cents, the only way in which the producer could escape the tax was through a deterioration of the article. How far competition would permit him to do this is uncertain. In all such cases the unit on which the tax is imposed is of importance.

On the other hand, it is equally true that a very small tax may, in certain cases, make little difference to the consumer. The elasticity of the demand may not be appreciably affected. Under such conditions a producer who would otherwise be tempted to bear the tax for fear of losing the trade will have no scruples in adding the tax to the price.

10. Is the Tax Proportional or Graduated?

The considerations hitherto advanced as to the normal consequences of the imposition of a tax depend on the hypothesis that the tax is proportional. Since a graduated tax is the rare exception rather than the rule in practical life, those conclusions are in general valid. But we occasionally find—with increasing frequency in modern democracies—that the rate of a given tax is graduated, instead of being proportional. In almost all such cases the rate is graduated upward, so that the tax is progressive; in very rare instances the rate decreases with the amount assessed, so that the tax is regressive.[1]

Where such a tax is assessed on surplus instead of on margin, our conclusions respecting the shifting of a tax require little, if any, modification. Whether inheritances, for instance, are taxed proportionally or progressively cannot alter the fact of the non-transference of the tax. But when a tax is imposed on the marginal product—for instance, on gross product or on gross receipts—it is obvious that a progressive rate may completely alter the normal conditions of profitableness. Under ordinary conditions, a proportional tax which reaches the marginal product tends to increase the price, as we have seen, by increasing the cost of this marginal product. But a progressive tax may be so arranged that it will increase the expenses of the more favorably situated producer far more than those of the one who has hitherto been the marginal producer. It depends upon the extent of the progression whether the former marginal producer now becomes the favored producer or not. It may easily happen that a progressive tax on product in general will not reach the margin at all. Where a proportional tax would exert a decided influence on cost, a progressive tax may exert, therefore, a far smaller influence. If a progressive tax be levied on the buyer instead of on the seller, the result may be just the reverse. In other words, the incidence of a graduated tax is often less predictable than the incidence of a proportional tax. In the remainder of this work, unless the contrary is definitely asserted, we shall always use the word "tax" in the sense of a proportional tax.

11. Is the Commodity taxed a Final Good or merely an Intermediate Good?

The entire discussion thus far has proceeded on the assumption that the commodity subject to the tax is disposed of by the owner, without considering whether the owner is the original producer or not. Without the phenomena of exchange, however, the conditions which affect the demand or supply cannot be present. Moreover, if the

[1] For a fuller discussion of these terms, see Seligman, *Progressive Taxation in Theory and Practice*. New York, 1894, pp. 8-12.

commodity subject to the tax has reached its final owner, to be consumed by him—no matter how protracted the period of consumption—there is no opportunity for setting in motion the forces that affect price. Once the tax has been shifted to the consumer, it will remain there. On the other hand, if the commodity is consumed productively, instead of unproductively, the user is no longer the ultimate consumer; the commodity in question is only an intermediate good, not a final good; and the whole case is reopened.

In studying the consequences, therefore, of any particular tax in its practical operation, we must bear in mind not only the normal theory, but the limiting conditions. In order the better to prepare ourselves for the study of their application, let us sum up these principles.[1]

1. The more durable the thing taxed, the larger will be the series of annual payments demanded by the tax, and the more disastrous will be the weight of future payments when shifted back upon the initial proprietor by future owners.

2. If the object is monopolized, the price is not fixed by any marginal product; hence the tax will not be shifted so easily as in the case of the increased cost of a marginal product.

3. The more general or the less exclusive the tax, the narrower the taxless field to which the producers concerned can migrate; hence the greater the incentive to bear the burden themselves.

4. If the capital is fixed, or if there is any obstacle to perfect mobility, the shifting will be slighter and tardier than otherwise.

5. If the demand is persistent, the producers will roll the tax upon the consumers through a rise in price. But if the demand is sensitive, the producers will bear more of the tax, or else some will migrate.

6. If different parts of the supply of a commodity are produced at greatly varying costs, the less efficient producers will be ruined by a tax which the abler producers can readily pay.

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[1] It sometimes happens that a review of an author's book puts the points made by him in a new light. So Professor Ross, in his account of the first edition of this work, brought together the various principles laid down therein but scattered through the different chapters. In so doing, he has greatly clarified the whole exposition. See his essay, "Seligman's Shifting and Incidence of Taxation," in the Annals of the American Academy of Political and Social Science, iii (1893), pp. 444-463. The statement in the text differs, however, in some important points from that of Professor Ross.

7. If the commodity is supplied at decreasing cost, the j' tendency is that where we have competition the consumer will be likely to suffer more than in the case of an industry subject to the law of constant or increasing cost; but that where we have monopoly, he will be likely to suffer less. Since the law of decreasing cost is more favorable to monopoly, it follows that a monopolist is less likely to shift a tax than is a producer under competitive conditions.

8. To the extent that a tax reaches the surplus rather than the margin, shifting will be less likely to result, since the marginal product is the price-fixer.

9. The smaller the tax, the less will be the disarrangement in the equilibrium of supply and demand, and the slighter will be the normal action that will produce or prevent shifting.

10. If the tax is graduated instead of proportional, the tendency toward shifting will be accentuated or weakened according to the rate of the progression or regression.

11. If the object is a final good, a tax once shifted to the consumer will stay there. But if it be a commodity used in further production, the whole case is reopened, and all the other conditions may come in to determine whether or not the tax shall be shifted to the second, the third or the final consumer.

CHAPTER II—Taxes on Agricultural Land

The assertion is frequently made that the American farmers are taxed out of all proportion to their ability to pay. This is due chiefly to the fact that they have to assume to a large extent the burdens of other taxpayers. Outside of the rural districts the great mass of personal property consists of intangible personalty, which, as a rule, escapes taxation almost completely. In the rural districts, on the other hand, the great mass of personalty consists of visible tangible property used by the agricultural communities. The country landowner, who is generally assessed also on his visible personalty, must thus pay, over and above his just proportion of the public dues, an additional share which ought to have been assumed by the owners of intangible personalty. What is a real property tax in the rest of the state becomes a general property tax for the farmer.[1]

The force of this contention is denied in the commonly accepted doctrine that the tax on the farmer's property is diffused throughout the community. The farmer, it is said, will add the tax to the prices of the products of his farm, and will in this manner recoup himself for his original outlay. The tax will thus be shifted, so runs the argument, from the producer to the consumer; since every one is a consumer, the tax will virtually fall on the community at large, and is hence a just and equal tax.

This argument is not a strong one, although, strange to say, its chief weakness has not hitherto been pointed out.

Even granting for the moment that the tax will be shifted in its entirety, by being added to the prices of agricultural products, it would fall on individuals only so far as they were consumers of these products. In other words, if this were the only tax, it would be a tax on consumption—that is, on expense.[2] Now, of all bases of taxation expenditure is undoubtedly the least equitable. What a man spends is no criterion of what he is able to contribute to the burdens of the

[1] Cf. the article on "The General Property Tax," in Seligman, *Essays in Taxation*, pp. 27-33.

[2] This was seen in the seventeenth century by Sir William Petty, who said: "A land tax resolves itself into an irregular excise upon consumption, that those bear it most who least complain." See above, p. 15.

state. It bears no fixed proportion to taxable capacity. Whatever other tests we may have of individual faculty—whether property, product or income—not one of these has any definite relation to expenditure. If one man has triple the property or income of another, but, whether through thrift or miserliness, spends only the same amount, it surely cannot be said that the taxable capacity of the latter is equal to that of the former, especially if the latter spends up to a very narrow margin of his revenue, as frequently occurs. In the one case there is available for future exigencies a reserve fund which is entirely lacking in the other, that completely alters its owner's obligations to the community. Moreover, it is a well-known fact that differences in expenditures are rarely so great as differences in property or income. A tax on consumption alone would, therefore, fall with increasingly crushing force on all those classes whose expenses swallow up almost their respective income, or perhaps even encroach on their capital. It is not, of course, here intended to argue against the advisability of taxes on consumption as a part, and, because of certain other advantages, even a desirable and necessary part, of a tax system. The above contention is directed against expenditure as the theoretical basis of all taxation. A tax on real estate alone is, according to this doctrine of incidence, a tax on expenditure. It reaches only the poorer classes of society, and exempts in ever increasing proportion the earnings or the property of the wealthy. So far as the farmers themselves belong to the poorer classes they would bear a disproportionate share of the burdens. Thus the single tax on real estate, if it were diffused throughout the community, would be most unjust and oppressive. In reality, however, there is no such general shifting: the tax on the rural landowner often tends to stay where it is put.

The question of the incidence of the land tax presents comparatively few difficulties. Since the time of Ricardo it has been treated frequently and, on the whole, with success. But it is remarkable that the writer who has discussed the subject with the greatest clearness and subtlety from the abstract point of view—the Spanish economist, Florez-Estrada—should have remained practically unknown to this day.[1] Nevertheless, both Florez-Estrada's and Ricardo's doctrines

[1] *Curso di Economia Politica*. Por Don Alvaro Florez-Estrada. London, 1828, 2 vols. The quotations are from the sixth edition, published in Madrid, 1848. An excel-

require some qualification in order to fit them to the actual conditions of every-day life.

Theoretically, there may be five different kinds of land taxes:—

1. A tax on economic rent.

2. A uniform tax according to the quantity or the quality of the land.

3. A tax on gross produce.

4. A tax on agricultural profits.

5. A tax on property or the selling value of the land.[1]

1. A Tax on Economic Rent

If land is taxed according to its pure rent, virtually all writers since Ricardo agree that the tax will fall wholly on the landowner, and that it cannot be shifted to any other class, whether tenant-farmer or consumer. Since land on the margin of cultivation pays no rent in the economic sense, and since the no-rent land fixes the price of all produce, a tax on rent cannot affect the price of agricultural produce, and therefore cannot be shifted. The point is so universally accepted as to require no further discussion.[2]

The further question as to how far the tax on rent may be regarded as a burden on the owner, has been discussed above in treating of the phenomenon of capitalization. It will be remembered that when the rate of the tax exceeds that of other taxes, the difference is not borne by the new purchaser, but is shifted back to the original owner. A

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lent French translation was made by L. Galibert, under the title *Cours Eclectique d'Economie Politique écrit en Espagnol*, and published in three volumes in Paris, 1833. Pantaleoni is the only writer who has referred to FlorezEstrada. But he makes little effort to qualify any of the conclusions.

[1] Florez-Estrada makes a slightly different division. Ibid., part iv, "Del Consumo de la Riqueza," cap. v, 'De la Contribucion sobre la propriedad territorial,' ii, p. 328; in the French translation, iii, p. 223.

[2] Ricardo, *Principles of Political Economy and Taxation*, chap. 10. We do not here enter upon the purely theoretical discussion as to the incidence of a tax not on rent in general, but on some particular kinds of rent. Abstractly, it would be possible to tax land suitable for raising a special kind of crop, and to exempt it as soon as it were used for some other kind of crop. Such a tax on rent would be akin to a tax on the profits of some particular occupation, as opposed to a tax on profits in general, and would tend to be shifted to the consumer. But such a tax on rent is hardly more than a theoretical possibility.

permanent tax on rent is thus not shifted to the consumer, nor does it rest on the landowner who has bought since the tax was imposed.

A tax on pure rent, however, is very rare. The more difficult questions arise when the tax is assessed so as to include not only the rent of the landowner but the profits of the tenant farmer, or, as the case would be in America, where landowner and farmer are one, where the tax is assessed according to the value of the property. For the market price of land is equal to the capitalized value of its economic rent plus the profits of agricultural capital.

Ricardo maintained that if a land tax is assessed on all land indiscriminately, or if it is proportioned to the quality of the land, it will always be a tax on produce, and will consequently raise prices to the consumer. This doctrine has generally been adopted by his successors. In reality, however, the matter is not so simple.

Let us consider the cases in turn, taking up next—

2. A Uniform Tax according to the Quantity or the Quality of the Land

In this case there are four possible results, namely: (1) not only the tax but a sum over and above the tax may be shifted to the consumer; (2) the exact amount of the tax may be shifted to the consumer; (3) the tax may be divided between the producer and the consumer; (4) the tax may fall entirely on the landowner.[1]

The first case would be that of a fixed tax of so much per acre without distinction of value, as was true in some of the American commonwealths in the eighteenth century, especially Vermont and North and South Carolina. Suppose that there are three tracts of land producing wheat of the same quality, but, as a result of differences in fertility, yielding respectively ten, twenty and thirty bushels to the acre; and suppose further that this quality of wheat is worth 50 cents a bushel. Tract A would thus yield $5.00 an acre, tract B $10.00 and tract C $15.00. If a tax of 50 cents an acre is imposed on all the land, the owner of tract A will have to obtain for his produce $5.50 or cease cultivating. But if the price of ten bushels is $5.50, the price of the twenty bushels produced on tract B will have to be $11.00, and that of the thirty bushels on tract C $16.50, since the price of the

[1] Cf. Florez-Estrada, op. cit.; French translation, iii, pp. 221 et seq.

bushel will always be fixed by the expenses of cultivation on tract A—that is, 55 cents. The owner of tract B will thus pay in taxes 50 cents more than before, but, assuming that the demand is constant, will obtain from the public $1.00 more than before, that is, he will make the consumer pay to him something more than the amount of the tax. Again, the owner of tract C will pay in taxes 50 cents more than before, but will obtain from the public $1.50 more than before. A uniform tax on quantity, therefore, inevitably takes out of the pockets of the consumers more than it puts into the hands of the tax collector.[1]

The second case occurs when the tax is not laid uniformly according to the quantity of land, but is graded at various rates per acre according to the quality of the land—as, for instance, in Kentucky and Connecticut during colonial times. Thus, if in the above case the tax per acre on grade A were 50 cents, on grade B $1.00 and on grade C $1.50, then not only would the price of wheat remain as before at 55 cents per bushel, but the amount of taxes paid by the landowners would exactly equal the increased price obtained from the consumers. Hence, whenever a land tax is graded so as to follow with precision the differential advantages of production, and where the land is cultivated intensively up to the point when the law of diminishing returns becomes effective, given a constant demand, the tax will be shifted entirely to the consumers, without causing them any additional loss. In practice, of course, such gradation of the tax has always been very rough, so that it is very unlikely that the exact amount of the tax will be shifted to the consumers.

The third case—that of a division of the tax between the producer and the consumer—arises when the graded acreage tax is imposed in such a manner that the progression of the tax exceeds the augmentation in price. If, for example, grade A were assessed at 50 cents, grade B at $1.25 and grade C at $2 per acre, the consumers would still have to pay more than before the imposition of the tax, but the owners of grades B and C would make less profits than before. The degree in which the landowner and the consumer would share the tax would depend, other things being equal, on the rate of the graduation or progression of the tax.

[1] Ricardo called attention to this in chapter xii of his *Principles*.

Finally, the fourth case—that of the tax resting entirely on the landowner—would occur on the supposition (which manifestly is purely hypothetical) that the lands of inferior quality were free of tax. For since such lands fix the price of wheat, the owners of better lands could not raise the price; and since the tax is imposed on acreage, the tax would simply represent a diminution of their revenue.

So much for the fixed tax per acre of land according to quantity or quality—a tax that is to-day virtually unknown in advanced communities.

3. A Tax on Gross Produce

The most familiar example of a land tax on gross produce is the tithe. The incidence of a land tax on gross produce has been most clearly discussed by John Stuart Mill[1] who at first followed Ricardo in holding that a tithe, because it is imposed on land of all qualities, reduces corn rents in equal proportions; but that in the same proportion as corn rent is reduced in quantity, the corn composing it is raised in value. The producer at the margin of cultivation, then, pays one-tenth of his produce in kind, but since all prices are fixed by his produce, his nine-tenths will sell for as much as the whole ten-tenths previously sold for. At first, therefore, a tithe would be shifted to the consumers.

As Senior has shown, however, this would be only the immediate, not the ultimate, effect.[2] The final result would be not an increase of price, but a diminution of production and therefore a deduction from rent. It would ultimately be a burden, not to the consumers, but to the producers; for the higher price of food and of raw material would tend to check the progress of the community, and to lower to that extent the demand for land. This point has been demonstrated so clearly by both Senior and Mill that it is not necessary to repeat their arguments, so familiar to all English-reading students. Moreover, von Thünen has pointed out that the question whether a land tax is shifted to the consumers depends largely upon the character of the population as consumers. In poor countries a land tax would not be shifted even in first instance to the consumers, because they could

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[1] This is true, however, only of the later editions, where Mill accepted the corrections of Senior. Cf. his *Principles of Political Economy*, book v, chap, iv, §§ 3. 4.

[2] *Political Economy*. By Nassau W. Senior. 6th ed., 1872, pp. 122-125.

not afford to pay more. Such a tax would, then, simply lead to a lowering of the standard of life of the consumers, and to a decrease in the prosperity of the producers.[1]

Finally, the validity of the doctrine that the tithe, even in its immediate result, is shifted to the consumer depends on the assumption that the tax is a universal tax, applicable to all the land. This is not necessarily true. To-day, for example, in England, owing to the process of commutation of tithe, only part of the land is still tithable, so that, as in the case of all partial taxes, the burden is borne by the producer and not by the consumer. Even if all the land were tithable, the presence of international competition, as will be shown later, would render the tithe virtually a partial tax and thus not susceptible of being shifted to the consumer. Wherever the tax on gross produce still exists in civilized countries, it can no longer be regarded as one that is necessarily shifted to the consumer.

4, 5. *A Tax assessed according to Net Profits, or the Selling Value of the Property*

These two bases of the tax are, as has already been indicated, equivalent; for the selling price of agricultural land is nothing but the capitalized value of the net profits ordinarily derived from its use. Theoretically there may be two cases: either the land tax is a part of a wider system which taxes also all other net profits or all other capital or property; or the land tax is a single, exclusive tax, while other profits or other classes of property are exempt.

In the case of a general tax on profits, or that of a general property tax, it is difficult to see how the land tax can be shifted to the consumer. The theory of its complete shifting to the consumer assumes that the landholder at the margin of cultivation will otherwise abandon his farm, after the f imposition of the tax, and transfer his capital and labor to some other occupation. But to this argument it may be objected that, if all other profits or property are equally taxed, he will gain nothing by such a transfer. In fact, under a general tax there will be no inducement for him to abandon his farm. Since the supply will thus not be diminished, prices will consequently not rise. If, there-

[1] *Der isolierte Staat*. Von Johann Heinrich von Thünen. Erster Theil (2d ed., 1875), pp. 326-339.

fore, a tax on landed profits or landed property were simply a part of a general income tax or of a general property tax, there would be no shifting of the tax. It would tend to stay where it was placed in first instance.

It may be asserted, however, that our property tax is general only in name, since personal property, as has been indicated above, is virtually exempt from taxation outside of the rural districts. It may further be said that Ricardo and the other English authors discussed this form of the tax on the assumption that it was an exclusive tax. Nevertheless, it may be affirmed that, even on the assumption that the tax on agricultural profits or real estate is an exclusive tax, it does not necessarily follow that this will be shifted to the consumer.

Ricardo's theory would hold good only on two conditions: first, that there was absolute mobility of capital and labor; and second, that the community in question was so isolated that the farmers could fix the price of their own produce. In actual life, however, these conditions are far from being really existent.

The classical theory rests on the assumption that the owner of the worst land in cultivation will abandon the land rather than cultivate it at a loss; and that the decrease of supply will raise prices to the consumer. It is, however, incontrovertible that an increase of price often leads to a decrease of consumption, which again reacts upon the price, so that at best only a portion of the tax may be shifted to the consumer. This point has been fully explained in the chapter on general principles. Furthermore, it is in actual life frequently a difficult matter for producers to decrease the supply of agricultural products. To those acquainted with the conditions under which the cotton crop is grown in the Southern States of the American Union, this is a familiar matter. Although annual conventions of the cotton growers repeatedly resolve that the low price of cotton is due to overproduction, and that the supply should be curtailed, it seems practically impossible to reduce the cotton acreage. In order that any appreciable influence might be felt in the price, it would be necessary for whole tracts of the lands at the margin of cultivation to be abandoned, or to be used for some other purpose. Now this practically means wholesale ruin for immense classes, who have perhaps invested large sums in improving the land, which they consider fit for only that particular purpose. Rather than abandon the land they will often prefer to continue cultivation at less than the usual profits, for the no-rent land is that on which the cultivator gets just sufficient profits above the cost to enable him to live. In other words, the tax would often merely degrade the cultivators. Only when the tax is so exorbitantly high as to swallow up the whole rent, and all the agricultural profits, so as to leave the cultivator an inadequate margin for living expenses, will he abandon the land in such large quantities as to effect a material decrease of the supply. But such a tax is unusual in civilized communities. In other words, a tax on the landowner, if it be not extortionate, will simply reduce his profits. In proportion as the theory of the absolute mobility of capital from agriculture to commerce, or from one kind of agricultural investment to another, is attended with practical difficulties, the process of shifting the tax to the consumer will be impeded.

Secondly and more important, the Ricardian theory assumes a completely isolated community. In actual life, however, the market value of agricultural produce is fixed by the conditions of production in widely separated localities or countries. The imposition of a tax on the landowner of any one particular locality, therefore, cannot change the price of the product. The older theory seems to have overlooked the facts of international relations. If taxes precisely identical in character and amount were imposed by all countries on all farmers, then indeed, given the complete mobility of capital just discussed, the tax might be shifted to the consumer. But this is never the case. The Western farmer, the price of whose wheat is fixed in Liverpool by the conditions of production in countries thousands of miles distant, will not get a whit more for his products if his taxes are doubled. He, and he alone, must bear the burden of the tax.[1]

In fact, if the older theory were absolutely true, it would be virtually impossible to make the landowners or farmers suffer by any land tax, provided it were not levied expressly on pure economic rent. A country might then raise its entire revenue by imposing taxes on land alone, and would in no wise injure the agricultural interests. Yet all history has proved the error of this view. From the day of the exactions of the Oriental monarchs and of the later imperial Roman tax system to the mediaeval methods of Spain and the arbitrary land

[1] Cf. above, the discussion of general principles, p. 214.

tax of pre-revolutionary France, much of the misery of the agricultural classes must undoubtedly be attributed to the revenue system which burdened primarily the farmer. Implicit reliance on the Ricardian doctrine might justify every exaction on the farmer, but would inevitably react on agricultural prosperity.[1]

Our conclusion, hence, is that under actual conditions in America to-day the landowner may virtually be declared to pay in last instance the taxes that are imposed on his land. At all events, it is erroneous to assume any general shifting to the consumer. To the extent that our land tax is a part of a general property tax, it cannot possibly be shifted; to the extent that it is more or less an exclusive tax, it is even then apt to remain where it is first imposed—namely, on the landowner.

In England, where the farmer is almost universally the tenant and not the landowner, and where the rural tax or rate, as it is called, is levied according to rental value and imposed on the occupier, the question is primarily as to the incidence of the tax between the landowner and the tenant. It may be said that the tax will fall on the landowner in the case of pure competitive rents, and will be divided between the parties in the case of non-competitive rents. At any given time, when the tenant makes out his lease, he makes allowance for the rates which are collected from him. The rent which he is willing to give will vary with the tax which he is compelled to pay. To this extent, the burden falls wholly on the landowner. On the other hand, if, after the lease has been made out, a change is made in the rates, either by law or by the working of local causes, this increase necessarily falls on the tenant farmer who advances the tax. Still, this is not of much consequence in the long run, because the tenant will insist on an allowance for the increase when a new lease is taken. On the whole, therefore, it may be said that the tax on agricultural land falls on the landowner, whether the owner be the occupying farmer as in America, or whether owner and farmer are distinct personages as in England.

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[1] Cf. *De la Monnaie, du Crédit, et de l'impôt. Par Gustave du Puynode,* ii¬ª P-153-

This is true, however, only on the assumption that the rent is a true competitive rent. Thus, it has frequently happened in England that farmers have been charged a lower rent than the purely competitive or rack rent. In such cases, an increase in the local rates would fall on the tenant and not on the landlord. As Mr. Goschen puts it, "any increase in local burdens must fall on the margin between the actual rent and the rack rent, and so far diminish the advantage derived by the farmer from his actual rent being below a rack rent; until that margin were exhausted, it would naturally be useless for him to apply to his landlord to readjust his rent."[1] In the same way a remission of rates will inure to the advantage of the tenant.

On the other hand the recent depression of English agriculture has caused a change in the opposite direction. The remarkable fall in prices during the past twenty years has not only destroyed the margin between actual rents and economic or rack rents, but has, in many cases, created a margin on the other side. Although the farmer has been struggling to adjust his rent to lower prices, the process has been a slow one; and the fall in actual rents has not kept pace with the fall of economic rent due to these lower prices.[2] Under such conditions, a remission of rates would be of all the greater advantage to the tenant. In the case of non-competitive rents, then, the incidence of the tax is partly on the owner and partly on the tenant.

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[1] See the analysis in Goschen: "Draft Report to the Select Committee on Local Taxation of 1870," in his Reports and Speeches on Local Taxation, 1871, esp. pp, 165, 166.

[2] *Local Taxation and Finance.* By G. H. Blunden. London, 1895, p. 42.

CHAPTER III—Taxes on Urban Real Estate

In the case of city real estate it is necessary to make a distinction between the two components of the real estate tax, the ground tax and the building or house tax—the tax on the site and the tax on the structure; for they are governed by distinct principles. Strictly speaking, we should have drawn the same distinction in the case of the agricultural landowner. But in that case the distinction is unimportant, because—in America at all events—the tenant is, in almost all cases, the owner, and because the value of the farmer's buildings is generally of minor importance when compared with the value of his land. So far as this is not true, however, the principles now to be discussed apply there also.

In American cities, where the occupiers of houses are frequently not the owners, the real estate tax is levied on the owners of property; and the question of ultimate incidence concerns only the landlord and the tenant. In England, where local rates are levied with very few exceptions on the occupiers,[1] not the owners, and are proportional not to capital value but to rental value, the question is more complicated because of the peculiar divisions of ownership. Thus, not only is the occupier almost universally distinct from the owner of the building, but the owner of the building generally does not own the land. Furthermore, the building owner usually does not pay a ground

[1] The local rates in England are, theoretically, assessed on the occupier. Even for a long period before the Elizabethan poor law (43 Eliz., chap, ii), which is the basis of all English local taxation, it was the occupier, and not the owner, on whom fell the duty of relieving the poor. Cf. in general the history of local assessments in Castle, *On Rating*, chap, i, and a volume published by the Poor Law Commissioners in 1846 entitled *The Local Taxes of the United Kingdom.* However, under the Small Tenements Act of 1869 (32 and 33 Vict., chap. 41, §§ 3, 4) wherever the ratable value does not exceed £20 in London, £13 in Liverpool, £ 10 in Manchester or Birmingham or; £8 elsewhere, the owner may compound for the rate and may be assessed instead of the occupier. Furthermore, by the act of 1850 (13 and 14 Vict., chap. 99), whenever the tenancy is for less than three months, the occupier may deduct the rate from the rent. Under these two acts it has now become the practice for a part of the tenement house population, and even for the inmates of flats and apartments, to have the rates paid by the landlords. Nevertheless, in default of actual statistics, it may be said that in the English towns local taxes are paid in first instance generally by the occupiers.

rent to the original landowner, but pays only a leasehold ground rent, which changes from time to time, to the intermediary who has leased the land on a long rental and at a fixed ground rent from the original owner. In such a case the question of the incidence of rates concerns several parties,—the landowner, the leaseholder, the building owner and the occupier.[1] Such conditions, although rare, are not absolutely unknown even in American cities. Our study of the shiftings, if true at all, must be applicable equally to the simple American and the complex English conditions.

The urban real estate tax is either a pure land tax—for example, when laid on vacant lots—or a tax on both the land and the buildings. The latter is called in America the real estate tax, and on the continent the house tax; but both of these designations are, from the point of view of economics, incorrect. The continental term is wrong because the house tax really includes a tax on the site as well as a tax on the structure. The American term is inexact, because it confuses such entirely distinct taxes as the ground tax and the building tax, which are governed by different laws of incidence.

The value of a house, in the ordinary usage of the word, depends upon the value of the structure plus the value of the lot. The value of the structure itself is fixed by the law that governs the value of commodities the supply of which can be increased at pleasure, that is, in the long run it is equal to the cost of production, or rather of reproduction. The rent of the house proper is normally equal to the interest on the capital expended plus an annual sum which, when capitalized,

[1] There are four chief methods according to which houses are built in the English cities: (1) the freehold purchase system, where the builder simply buys the lot outright; (2) the freehold rent-charge system (called in Scotland the feu-system and in Manchester the chief-rent system), where the landowner sells the land to the builder and has no reversionary interest, but reserves a perpetual fixed yearly payment called the rent-charge or chief; (3) the long-building-lease system, where the builder takes a lease for 999 years, at a fixed annual rent; (4) the short-building-lease system (or London leasehold system), where the landowner leases the land to the builder, or what is known as an "improved leasehold ground rent." See *Urban Rating, being an Inquiry into the Incidence of Local Taxation in Towns*. By Charles H. Sargant. London, 1890, chap. i. See also *Evidence and Report of the Select Committee on Town Holdings, 1886-1890*; and Munro, *The Local Taxation of Chief Rents*, 1891. Cf. *Local Taxation and Finance*. By G. H. Blunden. London, 1895. See also *The History of Local Rates in England*. By Edwin Cannan. London, 1896.

will be sufficient, after paying all necessary expenses, to replace the capital by the time the house is worn out. The laws which govern the incidence of taxes on houses or on house rents are, therefore, analogous to those which govern the incidence of taxes on capital or on competitive profits. On the other hand, the value of the lot is fixed in agreement with the general principles of economic rent, according to which the price paid is measured by the superiority of situation.[1] It would be still more exact to make the assertion that the value of a city lot is determined by the general law of price which governs all those commodities which are not susceptible of an indefinite increase in their supply.

We may consider four cases, corresponding to actual facts:—

1. The tax may be levied on the ground owner alone, without any reference to a house tax on the house owner. This would correspond to Henry George's single tax. It would be in effect a tax on ground rents.

2. The tax may be levied on the house owner, who may or may not be the ground owner. This is the case, for instance, with the "Hauszinssteuer" in Austria.

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[1] Pantaleoni, *Traslazione dei Tributi*, pp. 208-213, makes a long argument against confusing economic rent with the rent of a city lot. With him economic rent means agricultural rent, and is due only to the law of diminishing returns; while rent arising from situation is not economic rent, but is what he calls surplus rent (soprareddito). But this surplus rent is simply another name for profits. Rent proper, he maintains, arises from the fact that the price of agricultural products is the same while the cost of production differs. Surplus rent, or profits on city lots, arises from the fact that prices differ, while the cost of production remains the same. The English, he thinks, have improved upon the Germans and French in distinguishing between land rent and ground rent; but have not seen that ground rent is really not economic rent at all.

In answer to Pantaleoni, it may be said that there is a certain justice in his distinction, but precisely in the opposite way from that in which he understands it. It seems arbitrary to confine economic rent to that differential product of the law of diminishing returns. Ricardo himself saw this and von Thünen has developed the idea. On the other hand, whatever truth there is in what Sidgwick calls the static theory of rent applies equally to the causes which fix the rent of a building lot. In other words, instead of applying the principle of economic rent to city lots, it would be more exact to say that the same causes which fix the differences in value of city lots also fix those of agricultural lands, that is differences in relative situation or in relative fertility combined with differences in situation—or, in short, differential advantages in yielding net profits.

3. The tax may be levied on the ground owner, who is at the same time the house owner. This is the condition of the real estate tax in the United States.

4. The tax may be levied on the occupier. This is true of the local rates and the inhabited house duty in England.

It is with this fourth case alone that the English economists have busied themselves. On the other hand, most of the French and German works discuss only the second case. Let us take them up in order.

I. *A Tax on the Ground Owner*

The case of a tax levied only on the ground owner is comparatively simple. The owner who leases his land will always endeavor to get as much as possible for it. The price he gets will, in general, be entirely unaffected by the imposition of a tax. For, since the supply cannot be increased, and since there is no question of cost of production, the change in price will be effected only through a change in the demand. The price, in other words, will be fixed by the degree of marginal utility. Now, if the demand for the site increases to such an extent that the ground rent not only covers the new tax but leaves a profit in addition, the tax cannot be shifted to the lessee. For the price would have been the same without the tax, since the demand of the lessees is not affected by a tax on the lessor. The ground owner will simply get less net return than he would have obtained had no tax been imposed—that is, the tax will fall on him. In the same way, if the demand for the site decreases, the price will diminish and the ground owner can certainly not shift the tax. Moreover, if he sells the land in the meantime, he will lose again in the diminished selling value of the lot. Finally, if the demand remains the same, there will be no alteration of the price, and the ground owner will obtain less net income than before because of the tax. Therefore it may be laid down as a general rule that a tax laid on the owner of the soil, or on ground rents, cannot be shifted.[1]

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[1] J. S. Mill, *Political Economy,* book v, chap, iii, $ 6, argues that this is true only if we assume an equivalent tax on agricultural rent. He says: "If a tax were laid on ground rents without being also laid on agricultural rents, it would, unless of trifling amount, reduce the return from the lowest ground rents below the ordinary return from land, and would check further building … until increased demand or diminu-

When the tax on the ground rents, however, is assessed not on the ground owner but on the occupier, the results, as we shall see later, are somewhat different.

2. *A Tax on the House Owner*

Let us next take up the case where the tax is imposed on the house owner, irrespective of the question whether he is the landowner. In other words, let us deal with the tax on the structure, or, if the tax is not levied according to capital value, with the tax on building rent as opposed to that on ground rent.

The generally accepted doctrine—that of Adam Smith, Ricardo and Mill—may be expressed as follows: Buildings represent the investment of so much capital and labor. They require an outlay for construction, for maintenance, for repairs, for insurance. No one will enter on the business of having houses built for investment unless he can count on a definite return, which must in general be equal to the returns from capital invested in undertakings of approximately the same nature. A tax imposed on the owners of the building will therefore generally be shifted to the occupiers; for, if the tax could not be shifted, it would reduce the profits of the owners below the customary level in similar investments. The result would be a cessation of building operations, a consequent scarcity of houses and a gradual increase in the rent or value of existing houses, until the margin became high enough to tempt the investor into further operations. The working of this law of the transferability of capital is, of course, slower here than in the case of quickly consumable commodities; for since houses are more or less permanent, we cannot assume an immediate diminution of supply. Given a stationary supply of houses,

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tion of supply … had raised the rent by a full equivalent for the tax. But whatever raises the lowest ground rents raises all others, since each exceeds the lowest by the market value of its peculiar advantages."

This argument seems to err through the assumption of a slow and continuous gradation from agricultural rents to ground rents. As a matter of fact, there is almost always a sudden jump from the one to the other. One has only to look at the outskirts of the ordinary American town to be convinced of the fact that land even only prospectively fit for building sites will be kept idle sooner than be used for agricultural purposes. The whole question, moreover, has simply a theoretical interest, since agricultural lands are almost always taxed as well as city lots. Sidgwick, *The Principles of Political Economy*, book iii, chap, viii, $ 8, iv, follows Mill.

their value or their rent will rise only with the slow increase of population, that is, with a relative diminution of the supply. But in the long run the working of the law is inevitable. Such a tax will, therefore, be shifted to the consumer, that is, to the tenant.

This doctrine, which may be called the orthodox opinion, requires qualification in some particulars. The two chief reasons why the theory of the inevitable shifting of the house tax to the tenant is not always true are as follows: (1) a distinction should be drawn between new and old houses; and (2) another should be drawn between general and exclusive taxes.

In the first place, a distinction should be drawn between houses already constructed before the tax is imposed or increased and those built after the imposition or increase of the tax. It may be argued that, since a tax on new houses is always shifted to the occupier—for otherwise they would not be built—the same reason applies to old houses; for a scarcity of houses will affect the values and rents of all houses, whether new or old.

This argument, however, is not convincing. Suppose that a town, or a portion of a town, is for some reason decaying. In such a case, the values and the rents of existing houses will of course fall. The owners of existing houses cannot, at first, escape bearing the burden of the tax. They cannot shift the tax to the ground owners, for since the structures are already on the land, presumably under long leases, the ground owners cannot be compelled by competition to reduce their ground rents. Until the expiration of the lease the house owner certainly cannot shift the tax to the ground owner. On the other hand, the house owner will not be able to shift the tax on the occupier, because no actual diminution in the supply of houses is possible, and because, by the supposition, there is no increase in the demand, but rather the reverse. Not until a condition of stable equilibrium has been reached will the building owner cease to bear the burden. That is to say, it will not be a question of equality of profits, but simply one of the existing relations of demand and supply. Hence, if population is stationary or declining, a tax on existing houses (and there will, of course, be no new houses, because there will be no demand for them) will inevitably fall on the house owner. Furthermore, if he sells the house he will lose the capitalized value of the decrease of rent; so that, under the theory of capitalization, only the original owner will bear the tax until there is a still further decline in population, when the process will repeat itself.

Although the condition just described may be considered in some sense exceptional, it actually occurs in all communities at periodically recurring intervals. And although the reasoning would not be applicable to the general conditions of progressive society where new houses are being continually built, the distinction is of sufficient importance to invalidate the hard and fast rule of the older economists.

Another objection, which is, however, less tenable, has recently been raised against the older doctrine. Pantaleoni in Italy and Sidney Webb in England maintain that a tax on the building owner tends to be shifted, not on the tenant, but on the ground owner. Pantaleoni claims that this must necessarily happen because, if the tax were to fall on the house owners, they would build no more houses, and would thus effect a decrease in the demand for building lots, which would result in a depreciation of the value of the land.[1]

This argument seems to rest on a misconception. It is, indeed, true that the building owners will not bear the tax. But what reason is there for assuming that the mere cessation of building operations, which would ensue on the imposition of the tax, will cause a depreciation in the value of the lot? The non-construction of new houses cannot, of itself, cause the ground rents of existing houses to fall; it can only prevent a further increase in the value of the land, or perhaps, at most, bring about a fall in the value of vacant lots. Until the old leases run out, the ground rents of occupied lots are not apt to fall, even if population, and therefore demand, diminishes. Much less will they fall if simply a tax is imposed. Even after the old leases run out, the ground rents will not fall unless the taxes on the houses are so extraordinarily high that the building owners, who have the privilege of renewal, will prefer to abandon their houses entirely rather than to renew their leases. Only in this most exceptional case[2] can

[1] Pantaleoni, op. cii., pp. 221-223.

[2] This exceptional case is virtually the one mentioned by Professor Edgeworth in his example 7 in the *Economic Journal* vii, p. 645. He expresses it a little differently, making the exception consist in the fact that the tax is equal to the original ground rent plus the constant building rent.

the building tax be shifted in part on the ground owner. If, indeed, the law of real estate were changed so that fixtures to the land would not go with the land, and if houses could easily be removed from plot to plot, then, but only then, would it be true that a building tax could always be transferred to the ground owner in the shape of decreased ground rent.

Mr. Webb's argument is equally inconclusive. He maintains that the ground landlord does not occupy a fixed position. Land in the neighborhood of a city has only an agricultural value until it becomes ready for splitting up into building plots. But the value of such land, says Mr. Webb, does not pass imperceptibly from agricultural value to the building value. By custom there is always a great jump. The landowner, who can in any case get a price much larger than the agricultural value, Mr. Webb continues, has a fixed point of resistance. He will be willing to take a little less than before the imposition of the tax, since it is merely a question of competition between the builder and the owner of land available for building. Hence the incidence of a tax on houses will be the same as that of a tax on land—namely, on the landowner.[1]

This argument seems to be fallacious because it ignores the fact that the ground owner is in the stronger position. As between the landowner and the tenant, the tenant is the weaker party.[2] The house builder knows in normal cases of increasing demand that he can more easily raise rents (since demand increases) than compel the ground owner to take less than the market value. The landowner is not compelled to part with his land; but the tenant is compelled to occupy some apartments.[3]

It would, therefore, in the main be true that, given the normal conditions of progressive society and the continued existence of prosperity—and apart from the qualification to be noticed below—the tax on the building owner is shifted. And since, as we have just seen, the

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[1] Webb, in Report from the Select Committee on Town Holdings, etc., 1890, qu. 42-44, pp. 5, 6.

[2] Bastable, *Public Finance*, book iv, chap, ii, $ 5, as well as Edgeworth, *Economic Journal*, vii, pp. 66-68, seems to overlook this in expressing the opinion that the tendency is for the tax to be shifted to the ground owner. Graziani, Istituzioni, p. 362, agrees with the argument in the text as over against Pantaleoni and Webb.

[3] For a fuller proof of the validity of this statement, see below, p. 253.

tax cannot be shifted to the ground owner (except in the rare case mentioned),[1] it will tend to be shifted to the other party interested—the occupier. In other words, given an increased demand for house accommodations, the rents of existing houses will rise until the supply of new structures is equal to the demand.

It may be said that in the meantime the house owners have a practical monopoly. Theoretically, indeed, the house owner himself would during the interval bear the tax if the rise of rents were due solely to increase of population, because in the face of this increased demand he could have obtained the same rent, had the tax not been imposed. In other words, as in the case of all monopolies where the price is fixed only by the purchasing power of the consumer, the tax would simply mean a diminution of the otherwise greatly enhanced profits to the house owner.[2] Practically, however, there is never such an interval in progressive communities. Houses are built continually, and if there is temporarily any deficiency in the supply, it is owing to the decreased profits of the house owners. In order that these profits may be maintained, the tax on new houses must fall where alone there is a margin for it—that is, on the rent paid by the occupier. But since the rents in the new houses fix the standard of rents in the old houses (allowance being made for the superiority of situation, which, however, has nothing to do with the building rent, but only with the ground rent), the owners of both old and new houses are able, in the normal cases here cited and in the long run, to shift the burden to the tenants. But it must be remembered that this is true only in the normal cases and in the long run.

The second qualification of the doctrine that the building tax will be shifted to the occupier rests on the distinction between a general

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[1] Professor Bastable advances another case: "It may happen that the premises, owing to the situation, command a monopoly value, in which case the owner, having obtained the highest possible rent, must submit to pay the public charges; the mere building owner will recoup himself at the ground landlord's expense."—Public Finance, book iv, chap, ii, $ 5. But why should the landowner take less? The building owner is in the weaker position, for his building is on the land, and under the law goes with the land. Moreover, as is pointed out below, p. 251, there is no such thing as a strict monopoly value of a lot.

[2] This is the case mentioned by Ricardo, *Principles*, chap, xiv, par. 2; by John Stuart Mill, *Political Economy*, book v, chap, iii, $ 6, par. 3; and by Professor Edgeworth, *Economic Journal* vii, pp. 50-52.

and an exclusive tax. The whole argument up to this point has been conducted on the assumption that the house tax is a special or exclusive tax. As soon as other forms of capital or other profits of investments also are taxed, the entire basis of this argument falls away. This has been frequently overlooked by those who have attempted to draw practical conclusions from the theories of the classical economists. The doctrine of the shifting of a house tax to the occupier depends on the assumption that would-be house builders will otherwise prefer to put their money in non-taxable investments, thus bringing about a scarcity of houses and an increase of rents. But if other capital or profits are also taxed, there will be no reason for refusing to invest in houses. Hence rents and values will not rise, and the tax cannot be shifted. In other words, when a house tax is part of a system of taxation which reaches all other kinds of property or income, and taxes them at the same rate, the incidence of the tax will always be on the original taxpayer—that is, the house owner. His profits, like those of all other capitalists, will be reduced by the tax. So, again, if house property or house rents are taxed at a higher rate than the property or profits of other classes, only the surplus above the average rate of the tax will be shifted to the occupier, and that only in the normal cases already mentioned.[1]

Our conclusions may be summarized as follows: If a tax is imposed on the building owner, it will remain on him when population decreases or is stationary, or when the locality decays. It will be shifted to the ground owner only when the diminution or decay is so great and the taxes so high that the building owner will voluntarily relinquish the house rather than renew the lease. It will be shifted to the consumer—that is, the occupier—under normal conditions of advance in economic welfare so far as the tax is an exclusive tax. Otherwise only so much will be transferred to the occupier as exceeds the usual tax rate for other property or profits, while the remainder will fall upon the house owner. The exact proportions de-

[1] The theory of capitalization of incidence is not applicable here, although, remarkable to say, it has been attempted by Myrbach, "Die Besteuerung der Gebäude und Wohnungen in Oesterreich," *Tübinger Zeitschrift für die gesammte Staatswissenschaft*, vol. 41, esp. p. 409.

pend upon the general system of taxation in each particular country or epoch, and upon the particular conditions of the individual case.

3. *A Tax on the Owner of House and Ground*

We next come to the third case, where the tax is levied on the ground owner who is at the same time the house owner. This is the common American system of the real estate tax. The question of incidence is here only between the owner and the tenant. The problem is, therefore, comparatively simple, as we need only to combine the conclusions arrived at in the two preceding cases.

So far as the real property tax may be resolved into the site tax and the building tax, the tax on the land when assessed on the landowner will tend to remain, as we have seen, where it is first put. The incidence of the ground tax, in other words, is on the landlord. He has no means of shifting it; for, if the tax were to be suddenly abolished, he would nevertheless be able to extort the same rent, since the ground rent is fixed solely by the demand of the occupiers. The tax simply diminishes his profits.

The incidence of the house tax, on the other hand, is fixed by the rules laid down above. The question, therefore, as to how far the real estate tax is shifted to the occupier in American cities depends partly on the actual existence or nonexistence of a general property tax, partly on the relative value of the house and the lot, and partly on the peculiar circumstances of the particular piece of property.

If our general property tax were actually enforced, the real estate tax would beyond all doubt be borne entirely by the owner. But in American cities the general property tax has become virtually a real property tax. In other words, city real estate bears the greater part of the weight of municipal taxation. In proportion as city houses are taxed at a higher rate than other capital, the main condition under which the tax may be shifted to the occupier is present. If we take the small American towns, where the investments are mainly local and where personal property is reached to a fairly high degree, then it is very probable that the real estate tax is not shifted to the occupier. But the larger the city, and the greater the chances of investment outside, the less will be the proportion of personalty taxed, and the greater will be the possibility of the shifting of a part of the real estate tax.

The possibility that the tax may be shifted turns into a probability when we remember that the building tax tends to form the greater part of the total tax. The average dwellinghouse in New York city, for example, is worth, when first built, from two to three times as much as the lot. In the tenement house districts the proportion is slightly, if at all, less, except in the case of the tumble-down wooden houses, which are fast disappearing. It is true, of course, that with the passage of time the value of the house tends to decline, while that of the lot tends to increase, from which it might be inferred that the real estate tax falls mainly on the owners. But this tendency is materially counteracted by the fact that, as sites become more valuable, owners are apt to tear down the old structures and to erect more expensive, and therefore more lucrative, buildings. Even in the crowded business centres it is now becoming the custom to erect vast buildings whose value considerably exceeds that of the ground on which they stand.

Finally, remembering the qualifications laid down above, it may be said that, while the real estate tax falls on the owner in case of a stationary or a declining population, a considerable portion of the tax is shifted to the tenant, in normally prosperous town or city districts, under the present administration of our property tax. When we reflect that in the city of New York over three-quarters of the population live in tenement houses, we are thus forced to the conclusion that in the great cities a great share of American local taxation is to-day borne by those least able to pay. The greater the extent, however, to which the existing real property tax is being generalized or supplemented by other taxes designed to reach the real ability of the taxpayer, the less probable will be the original shifting of the tax to the occupier. The reforms in the general conditions of American local and state taxation will thus indirectly affect many classes who at present think that they have nothing either to gain or to lose by the process. The question as to how far these may again be able to shift the tax on others is a part of the larger question of the taxation of property, profits and wages, and will be discussed later.

4. *A Tax on the Occupier*

We take up finally the question of the incidence of a tax assessed upon the occupier according to the rent he pays. This is the system of the English local "rate." Here again we must distinguish between the ground rent and the building rent.

Let us discuss first that portion of the tax which is theoretically levied on the land. In accordance with the general principles laid down in our discussion of the tax on the ground owner, it might seem that the tax on rent, although advanced by the occupier, must in the long run be borne by the ground owner. The tax will be shifted by the occupier to the house owner, it is said, because, when the tenant takes out his lease, he will make a deduction, measured by the height of the tax, from his rent. He will offer only so much rent as is warranted by the superiority of the site; and this superiority is not increased by the imposition of a tax. To this extent, then, the tax will fall on the house owner. But the building owner will shift the tax to the owner of the land. As has been said: " The builder calculates on a certain profit, or else he would not build; he knows that tenants of a certain class can afford to give a certain rent and no more for a certain kind of house; and therefore if building is to take place at all, it is clear that the rates must fall there where alone a margin exists to bear them; that is to say, on the price given, or ground rent promised to the owner of the soil."[1]

The contention, however, that this part of the tax falls wholly or necessarily on the ground owner, although it has been usually adopted, is partially incorrect; and for four reasons. These are (i) the relation between rent and rates; (2) the distinction between long and short leases; (3) the relation between the ground landlord and the building owner; and (4) the degree of elasticity in the demand for the particular plot of land.

In the first place, the ground rent might be so low and the rates so high that the builders could not afford to erect any more houses. They could not hire the land for any less, because the ground rents would be so low that the owner would prefer to use the land for other purposes rather than submit to a reduction. The result would be a diminution in the supply of houses and a consequent rise of rent to

[1] Goschen, "Draft Report," etc., op. cit., i66. The same idea is shared by most of the English writers. The evidence given before the Select Committee on Local Taxation in 1870 contains every possible view. Cf. esp. questions 1276, 2731. 2739, 3211, 3404 and 4050.

the tenant or consumer. But this first condition will arise very rarely, and may be passed over as unimportant.[1]

Secondly, the whole argument that this part of the tax falls on the landowner rests on the assumption that at the beginning of every lease the lessee will demand that allowance be made for the tax. This assumption is, however, not of much use in the case of long leases. After a long lease has been taken out, an unexpected change may occur in the rates; in fact, the growing tendency of modern local taxation is toward an increase. The landowner who has fixed the ground rent for a number of years will still get this rent, irrespective of any growth of rates. The increased burden cannot then be shifted on him; it must be borne by the occupier who advances the tax. Not until the expiration of the lease will the tenant be able to make a new arrangement by which he will try to shift the burden on the owner. Thus, only in the case of short tenancies could it happen that the tax would fall on the owner. In all those cases—especially numerous in England—where the occupier rents for a term of years, the excess of any rates beyond the amount calculated in the original lease necessarily falls on the occupier. The important point to be noticed is the time of the original imposition of the tax—a point too often neglected. If the owner was assessed for the taxes in first instance, as in America, there would be no question that this excess of taxes, like the remainder of the ground rent tax, might fall on him. But if the occupier advances the tax, he cannot improve his condition until the expiration of the lease. In England, then, the ground rent tax does not fall wholly on the owner, but at any given time may be borne in part by the occupier.

Before taking up the third and fourth limitations on the theory that the ground rent tax is shifted to the ground owner, let us consider the problem in its most usual form—the determination of the incidence of a ground rent tax assessed on the occupier in the ordinary case of short leases. In the preceding paragraph it has been taken for granted that at the beginning of each short lease the tenant will insist on a reduction of the rent as a compensation for the local rates assessed upon him. Only on this assumption will the owner ultimately bear the taxes. But is this assumption always correct. The real question is:

[1] Mr. Goschen himself makes allowance for this.

Who bears the taxes in the case of short leases or tenancies by the year, the quarter, or—as is the case with the majority of the tenement house population—the month or the week?

The solution of this problem involves an application of the considerations affecting the general law of value, as laid down in the preceding chapter. From the point of view of pure theory there are three possible cases. (A) where the supply of building lots is far in excess of the demand, as in the suburbs or in sections of dwindling prosperity, where there are many unrented houses; (B) where the supply of buildings on new lots just about keeps pace with the demand; and (C) where the supply of building lots is exhausted, and the number of houses may be considered as constant.[1]

Case A is not attended with much difficulty. If the lot is situated in any outlying section, or in a decaying portion of a town where the demand is slack, the tax, even if advanced by the tenant, will be shifted to the landlord. The occupier can afford to choose, and will not voluntarily assume the burden of any one else. Being in the stronger position, he will not consent to pay the higher rent due to the imposition of the tax. But this will hold good only so long as the

[1] A somewhat similar classification is given by Pierson, *Leerboek der Staathuishoudkunde* (2d ed., 1896), pp. 156, 157 and 174-185. Mr. Pierson distinguishes four cases: first, where there is an abundance of building lots, as in the country, and where the ground rent accordingly amounts to little or nothing; second, where the locality is decaying, and rents fall below the ordinary return on the capital invested in the house, and where the ground rent is also zero; third, where there is a rentless margin on the outskirts of the city with an interior area within which ground rents form a considerable portion—larger as we approach the centre—of the total house rent; fourth, where all the building lots are occupied, and where the supply of houses may be considered constant.

This classification, it will be seen, has many points in common with the distinctions in the text. Mr. Pierson thinks that when a tax is imposed on houses, the result will be that in the first case the ordinary law applicable to manufactured commodities will obtain; and that in the second and fourth cases, no influence on house rents will be perceptible. The third case, which he considers the most difficult, he solves in the following way: at the margin—supposing that the demand for new houses increases with the growth of population—rents will rise by the amount of the increase in the cost of production, so as to affect the ordinary profits of the builder. This increased rent at the outskirts will increase competition for houses of the interior, and will send rents up to a point such that the excess of rent paid by the occupier in the more favorably located areas over that paid at the outskirts will be about the same as before, or perhaps a little less than before.

decay is continuous. As soon as the decay is arrested, we have the conditions of case B, to be discussed in a moment.

Case C likewise presents little difficulty. Let us assume the existence of a walled town where every plot is occupied, or a section of the city which, through some combination of circumstances, is the only one fitted for a certain kind of business, and where all the land is covered with buildings. In such a case, the landowner has a virtual monopoly, and will exact the highest rent that the tenant can pay. If a ground rent tax is, then, imposed on the tenant, it will be shifted to the landowner, on the general theory of taxation of monopoly profits; for, according to the hypothesis, the landowner has already exacted the uttermost farthing from the tenant. Could the tenant pay an increased rent—that is, the old rent plus the new tax on ground rent—the landlord would have exacted this before the imposition of the tax. In the same way, a remission of an existing tax on the occupier would enure to the landowner, through an increase of the rent charged to the occupier. Thus, in the case of a monopoly site, as well as in the reverse case of a site which goes begging for a tenant, a tax on ground rent assessed on the occupier will be shifted to the landowner.

This case C, however, is only of theoretic interest. Practically, it never exists. The mediaeval walled towns which were increasing in population always reserved some vacant building space within the walls. As soon as this was exhausted, the walls were enlarged or the surplus population was swept beyond the walls. In modern times, again, there is no such thing as a strict monopoly of building sites. The ground rent of even the dearest plot in a crowded city exceeds the ground rents of other plots only by the value of its relative superiority. Monopoly implies absolute control of supply. Where building lots shade into each other by imperceptible gradations, with an abundant supply of the lower-grade lots, we cannot speak of an absolute control of the total supply, but only of a control of a part of the supply. This is not monopoly, but only the ownership of a better grade, possession of which gives a higher price, but not a monopoly price.

Let us, then, take up case B, which is the ordinary case in normal communities. It is the case of a district growing in population and prosperity, where there is an ever-increasing demand for building lots, but where the increase of ground rent is limited by the possibility of utilizing un-built land in less favored sections. Rents in the crowded slums, or in a favored business section, will continually rise; but at any given moment the rise is limited to the differential advantages which a particular neighborhood possesses over other possible sites. With the increase of population, there is a continual increase of house accommodation in the wider periphery. The possibility of getting an equally good apartment a little further off will keep the rent of the better situated apartment down to the level of the other, plus an addition due to the advantages of the better situation. Rents in the slums are, indeed, higher than rents in the suburbs; but the former exceed the latter chiefly because of the saving in car-fare, and because of the assumed social benefits of life in a crowded city. Any effort to put rents above this margin of advantage would inevitably fail.

Here we meet the considerations which we have mentioned as the third and fourth reasons[1] for dissenting from the ordinarily accepted view as to the incidence of a tax on ground rent. The third reason was the relation between the house owner and the landlord. When a man rents a house and agrees to pay taxes in addition to the rent, he does not make a formal distinction between the tax on building rent and the tax on ground rent. He is simply conscious of the fact that a house in a better neighborhood costs more than an equally good house in a poorer neighborhood, and that the local rates which he is called upon to pay are by so much the larger. If an additional tax is imposed on what is theoretically the ground rent portion of his periodical payment, it may indeed happen that the tenant will content himself with meaner apartments in the same neighborhood, or will seek equally good rooms in a less desirable locality. In such a case, the decreased demand for the original house might induce the house owner to be satisfied with a lower total rent, and he in turn would endeavor to shift the loss, so far as it is due to a tax on ground rent, to the owner of the land. But is it true, as Adam Smith says, that "the more the inhabitant was obliged to pay for the tax, the less he would incline to pay for the ground"?[2] Is it not rather the case that, as we

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[1] Above, p. 247.
[2] *Wealth of Nations*, book v, chap. 2.

have pointed out above,^ a tax on the owner of the building can be shifted to the owner of the land only in the exceptional case of the tax being so high as to make the house owner willing to abandon the house. Hence, even on the assumption that the tax will bring about a change in the demand for particular houses, the burden will not fall (except in most unusual cases) on the landowner, but rather on the building owner. Above all, the process here described does not imply a shifting of the tax from the occupier to the building owner (or, in exceptional cases, to the landowner). Even though the occupier can evade the tax, he cannot shift it. Evasion, as we know, is quite another thing from shifting. The tax that the occupier pays on his smaller rent will still fall on him. The landlord (or rather the " houselord ") may enjoy, for the time being, less revenue than before, but the new tax levied on the tenant will nevertheless fall on the tenant. A small tax on smaller rent is just as bad as a high tax on high rent. Even under the most favorable hypothesis[1] then, we cannot speak of a total shifting of the tax from occupier to landlord.

This brings us finally to the fourth and most important consideration—the question, namely, of elasticity of demand. Since the ground rent, as we have seen, must be paid as a part of the total rent of the house, the problem is really one of the demand for house accommodation. Most writers who have spoken of houses have put them in the category of ordinary commodities of complete elasticity, where a change in price immediately brings about a proportionate change in demand. But this hypothesis, upon which the validity of the reasoning in the preceding paragraph depends, is of questionable accuracy.[2] In a preceding chapter it was pointed out that in the case of absolute necessaries, as well as in that of expensive luxuries, great alteration of price goes hand in hand with slight variation of demand.[3] House accommodation, now, is in part an absolute necessary, in part an expensive luxury. For many classes of the population, especially in the congested areas, it is essential for the tenants to be

[1] Above, p. 240.

[2] Professor Edgeworth (*Economic Journal*, vii, p. 52) still clings to this hypothesis. He concedes the opposite in the case of the working classes; but he fails to notice that this is equally true of houses considered as luxuries rather than as necessaries.

[3] Above, p. 189.

near their work. For one reason or another, they prefer to remain where they are. As in the case of all necessaries, the effect of a tax will be to cause them to forego other things rather than change their residence. Practically, it means that they will raise money to pay the increased rent by such expedients as taking in lodgers—that is, by foregoing some of the comforts that they have hitherto enjoyed. In other quarters of the city, on the other hand, comfortable houses may be put in the category of luxuries. It is a familiar fact that many people prefer to maintain their supposed station in life at almost any cost. In such cases a tax on house accommodation tends, as in the case of all taxes on luxuries, to make them forego other things which they deem less desirable.

A tax, then, which will bring about such a displacement as materially to affect the demand for house accommodation must be an extraordinarily high one. Under usual conditions the elasticity of demand would be apt to frustrate the action of the assumed law of complete shifting. The argument is similar to the one that has been used in discussing the effect of economic friction. Just as we objected above to the older theory of the shifting of the land tax to the consumer, because of the untenable assumptions of perfect mobility of capital and territorial isolation, so the same objection may be made to the theory of the necessary shifting of the local rates from occupier to landlord, and largely because of similar untenable assumptions. As has been well said, economic rent is "the rent which an intelligent tenant who had an alternative investment for his capital and mobility, and acquainted with the market and his own industry, would offer to pay."[1] But the rent actually paid often differs from pure economic rent. John Stuart Mill has pointed out that in Ireland agricultural rents are often persistently above the economic rent, mainly because of the lack of opportunity and the lack of mobility on the part of the tenant. In the same way the tenants in the slums of large cities have practically little mobility. They must live in the neighborhood of their work, they shrink from the expense in moving from apartment to apartment, and their choice is limited in a hundred

[1] Sidney Webb in *Select Committee on Town Holdings*, 1890, Evidence, qu. 51.

ways. Here, as in so many other cases, the tendency of the tax is to stay where it is first imposed.[1]

We see, then, that the incidence of a tax on ground rent is not the same when the tax is advanced by the tenant as when it is assessed on the ground owner.[2] In the latter case, as in the United States, it is

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[1] As Sir T. H. Farrar says: "Whatever be the theory on these matters, a tax is very apt to stick where it first falls." Select Committee, etc., Evidence, qu. 1246, Cf. Thorold Rogers: "It is by no means the case that a person who has a tax imposed upon him can always impose the whole of that tax upon his neighbor."—Ibid., qu. 2721.

Some of the qualifications of the old doctrine are well put by Cliffe-Leslie in the following passage: "The doctrine by which eminent economists of our own day affect to determine the incidence of rates assumes … that capitalists not only know the past and present profits of all occupations and investments, but foreknow them at remote periods—to the end of a long building lease, for example. Yet it is clearly impossible for persons contemplating the building or buying of new houses to foretell, even for twenty years, the profits that a single investment will yield. The movements of business and population, the demand for houses and other buildings, the increase of wealth and money, and the general range of incomes and prices, the supply of new houses on the spot, the means of locomotion bringing other districts within reach, all defy calculation … The truth is that the profits of house property, the rents that can be exacted from occupiers, and the incidence of rates, depend on no such fiction as the 'average rate of profit,' but on the demand for and the supply of houses, and these conditions vary from time to time, and from place to place … The constant increase of population, the narrow limits of distance from their business within which it is convenient to most people to live, and the cost and trouble to existing occupiers of removal, give the owner, in most cases, the stronger position, and enable him to throw any increase in the rates on the occupier … The occupier of the house pays all the rent that can be screwed out of him. A little more could be screwed out of him were there no rates, and to that extent the rates may be said to fall on the owner, the remainder being borne by the workmen."—" The Incidence of Imperial and Local Taxation on the Working Classes," in Essays in Political and Moral Philosophy. London, 1879, pp. 207-209. In the 2d ed. under the title Essays in Political Economy, London, 1888, this passage may be found on pp. 399-401.

[2] One of the most noteworthy of the recent writers to discuss the tax on the occupier is Mr. G. H. Blunden, in an article on "The Incidence of Urban Rates," published in the *Economic Review*, vol. ii, Oct. 1891. Mr. Blunden's conclusions agree in the main with those expressed in the text, with one exception. He seeks to make a distinction between dwelling-houses, and shops or business premises, thinking that rates on shops in the best situation fall on the ground landlord because he possesses a monopoly. But in the first place Mr. Blunden really makes no such distinction, because he tells us (p. 496) that rates on ordinary dwelling-houses in congested areas may also fall on the ground owner, while in less desirable localities, rates, whether on dwelling-houses or on shops, do not fall on the ground owner. Mr. Blunden's

always borne by the ground owner; in the former case, as in England, it is generally borne to a considerable extent by the occupier; and only in more or less unusual cases is it shifted by him to the owner of the house or land. The exceptional conditions are to be found in outlying or suburban districts, in decaying quarters, and in cases of extraordinarily high taxes. What in the older theory was considered the rule thus turns out rather to be the exception.

Let us now leave the tax on ground rent and proceed to discuss that part of the tax which is due to the structure, that is, the tax on building rent. The argument here is somewhat simpler.

We have seen that even if an exclusive tax is assessed on the building owner, it will, in normal cases of increasing demand, be shifted in great part to the occupier. *A fortiori*, if the tax is levied on the occupier, it cannot be shifted to the building owner; for a tax paid by the tenant is to all intents and purposes a special tax. There is no other taxable object which can be put in the same category as rent paid by tenants, unless it be the interest paid by debtors. But we have yet to hear of any attempt to tax creditors by levying a tax on interest paid by debtors. In other words, in order to ascertain the actual burden we must add to the nominal rent at all events that part of the tax which is theoretically levied on the structure apart from the soil. In the long run the occupier tends to bear the tax, except in those quarters or under those conditions where the demand suffers a considerable check, or where we are confronted by an absence of competitive conditions.

This holds good, of course, only on the assumption that the rate of the tax is uniform on all the houses concerned. To the extent that the rates vary in different parts of the same town, the excess in any particular case tends to fall ultimately on the owner, not on the occupier. This is simply an instance of a more general law. If a prospective

distinction is therefore really one between monopoly and competitive sites, not between shops and dwellings. But even this distinction of Mr. Blunden is untenable, for the advantages of sites merge into each other by imperceptible gradations. The relative differences in eligibility between an alleged monopoly site and a less desirable site nominally subject to competition are not altered in the least by the imposition or the remission of a tax which affects both sites proportionally. In his book on *Local Taxation and Finance*, London, 1895, Mr. Blunden seems to modify his distinction between dwelling-houses and shops. See pp. 55, 56.

tenant, on whom taxes are levied in first instance, has the choice of two houses of equal desirability but in different parts of the town, the amount of the tax being in one case ten dollars more than in the other, he will certainly choose the latter house or compel the owner of the former to forego ten dollars of the rent. In England the districts within which the rate of the tax is uniform are much smaller than in America. It frequently happens that different parts of the same city, or even opposite sides of the same street, pay different rates because located in different parishes. In such cases it is fair to make a distinction between the constant and the variable or differential part of the building rate, the latter representing the excess above the rate that is uniform in all the districts. Only the constant part of the building rate will fall on the occupier; the remainder will be borne by the building owner, and in certain favorable cases will be shifted by him to the landowner. This variable element of the building tax, however, will in general be very insignificant in amount, for the reason that, even in England, the normal differences in the rates in city districts which usually have similar expenses are apt to be exceedingly slight.[1] Even in such a case, then, it may be said that the building tax will fall almost entirely on the occupier.[2]

[1] The contention of Sargant, *Urban Rating*, 1890, p. 49, that the differential rate amounts to two-thirds or even three-quarters of the total tax seems to involve an error. He terms "constant" rate only that part of the tax which is uniform throughout the kingdom. This is arbitrary. In speaking of a differential rate we must always compare two houses of equal desirability or in the same neighborhood; for it is manifestly impossible to say how much of the differential rate falls on the structure, and how much on the plot. We must not compare a house in London with a house in a country parish, because there is no competition between them. The rule holds good only within the narrow range of houses subject to the same competition.

[2] Fawcett's discussion of this question is unsatisfactory. He makes a distinction between buildings in general and those possessing exceptional advantages of situation. In the former case, rates, he says, are a charge on the occupier; in the latter, on the ground owner. "For if rates were remitted, the saving resulting would simply represent so much added to the ground rent, since rent is fixed by the demand, and the demand would not be altered if rates were remitted." Fawcett's argument can be turned against him. It may equally well be said that, given a certain demand before rates were imposed, the levy of new rates would not change the rent because it would not change the demand. Hence the rates would fall on the occupier who pays them, and not on the ground owner, whose rent is unchanged. In fact, Fawcett's whole distinction between these classes of houses is untenable. Every house pos-

To sum up, it may be said that, when the local real estate tax is levied according to rental value and assessed in first instance on the occupier, as is the case in England, the main burden of the tax will rest ultimately on the occupier, not on the owner of the premises. For the building tax, as we have seen, will usually rest almost entirely on the occupier; and the building tax forms in almost all cases the larger part of the total tax. The tendency to erect costly structures on valuable sites is, indeed, not quite so strong in England as it is in America, because of the division of ownership between the landlord and the house owner; but the tendency nevertheless exists.

Not only does the building tax normally fall on the occupier, but, as we have seen, the ground tax will generally be borne to a very great extent by the occupier. If we add this portion of the site tax to what is practically the whole of the building tax, we see that by far the larger part of the total local tax falls on the tenant. Even on the assumption that the incidence of the tax on structure is hypothetically the same as that of the tax on site, it still remains true that the tax as a whole tends to rest in considerable part on the occupier, for the reasons that have been advanced in considering the site tax.[1] The determination of the exact proportions is necessarily impossible. Here again, as in the case of the real estate tax, it may be said that in a prosperous and progressive community the tax tends to fall chiefly on the tenant, while in decaying and unprosperous districts the tax tends to fall on the owner; but in all cases more of the tax will tend to be borne by the tenant when the tax is originally imposed on him than when the tax is assessed on the owner.[2]

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sesses " certain advantages or disadvantages of situation." The advantages merge into each other by imperceptible gradations. Cf. the chapter on "The Incidence of Local Taxation" in his *Manual of Political Economy*, 6th ed., 1883, especially p. 618. On the other hand the commonly accepted doctrine of Ricardo and Mill fails to make either of the distinctions that have been pointed out in the text, for it states that the ground tax falls on the ground owner, and the house tax on the occupier,—each of which statements is partially incorrect, or, at all events, inexact.

[1] Above, pp. 249-255.

[2] It is no wonder, then, that in England the movement for the tax on ground values, assessed on the owner, should now be making such rapid headway. For the English system, with its exemption of the landowner from special assessments for local improvements, and with its casting so large a share of the whole burden on the occupier, is assuredly open to criticism. In Scotland and Ireland the rates are gener-

CHAPTER IV—Incidence of Taxes on Personal Property, on Capital and Interest

What is called personal property in English-speaking countries includes not only capital in the economic sense, but consumable commodities not used in production, like books and pictures, and wealth of other kinds, like money. Taxes may be imposed either on property itself or on the revenue derived from property. Since all taxes are nominally paid out of revenue, it is thus immaterial, so far as the question of incidence is concerned, whether we speak of taxes on capital or of those on interest and profits. It has been laid down as a general proposition by a recent writer that " the taxation of property is the taxation of the property owner."[1] The matter, however, is by no means so simple as is assumed.

So far as a tax is laid on personal property which is not capital it cannot be shifted. For instance, if a tax is imposed on the permanent owner of luxuries, like pictures or jewels, he, and he alone, bears the burden. Of this nature are what are known in England as the assessed taxes and in the continental countries as sumptuary taxes. Whatever is held simply for enjoyment and not for sale, provided it is not used for productive or lucrative purposes, is not capital. A tax on such property cannot be shifted, because the property is not sold, and because it produces nothing which can be sold. Here, indeed, the taxation of property is the taxation of the property owner. On the other hand, the incidence of a tax on capital or on profits and interest is somewhat more complicated. We may conveniently discuss the subject under three heads:—

A. A uniform tax on all capital or interest,

B. An unequal tax on all capital, or a uniform tax on only some forms of capital or interest.

C. A tax on profits.

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ally divided between occupier and owner. The same plan is now also proposed in England.

[1] "The Single Tax." By Charles B. Spahr. In *Political Science Quarterly,* vi, p. 633. Cf. the same author's *An Essay on the Present Distribution of Wealth in the United States*, New York, n.d. (1S96), p. 154, note.

It is with this last division only that the English economists have hitherto concerned themselves.

A. *A Uniform Tax on all Capital*

Let us frankly state, at the outset, that this is only a hypothetical case. It is the theory of the American property tax; but it is not the practice, and it can never be the practice. Why not?

A tax on capital can be unequal in two ways. There may be inequality in the rate, or there may be inequality in the taxable capital. In other words, the tax may be assessed on all capital, but in different proportions; or it may be assessed on only some forms of capital. Now a universal tax on all capital is an impossibility in the modern world. It might be possible in a completely isolated community, where all the inhabitants employed their entire capital within the narrow limits of the community; but in actual life it does not exist. Not only does the tax differ from commonwealth to commonwealth, but the field within which capital is employed is as wide as the world; while the efficacy of any tax law is restricted to a particular state or locality. In other words, the international employment of capital renders a tax on all capital an impossibility. Only on the assumption that every state in the whole world taxed all forms of capital alike could we have such a universal tax. But this is most improbable.

Secondly, even granting that there was such a universal tax, it would still be unequal within the limits of any particular state; for, even if the state attempted to tax all forms of capital at the same rate, it could never succeed. Not only would there always be some forms of capital within the state which, as all experience has shown, would completely evade taxation, but the same legal rate on various kinds of capital would inevitably be a different actual rate. This is evident when we consider the rate of interest. The rate of interest varies with different kinds of capital, according to the security of the investment, the length of the loan, the state of the money market and a hundred other factors. In New York state, for instance, during a single year the rate of interest has varied from two and a half per cent on certain prime bonds to a few hundred per cent on loanable capital in Wall Street. A uniform rate of tax on capital would thus result in very divergent actual rates on the interest or earnings of various forms of capital. Hence, from whatever point of view we regard it, a uniform tax on all capital is an impossibility.[1]

Bearing in mind, then, that a uniform tax on capital is only an hypothesis, let us endeavor to ascertain its incidence. The question, of course, can affect only the capitalist and the borrower. As between them, it is plain that a uniform tax on all capital must fall on the lender, that is, on the capitalist. There would be no way for him to shift the burden. As it is not to be assumed that he would consume his capital unproductively, he would attempt to reimburse himself for the tax either by investing the capital in some business or by lending it to some one else. If he invested it in a business, the demand for loanable capital would decrease as much as the supply, for he would simply be doing what the borrower would otherwise have done. The rate of interest would thus not rise. If he invested it in fixed capital or land, the rate of interest would certainly not tend to rise; for any large investment in fixed capital would simply set free so much circulating capital, that is, the purchase price of the fixed capital. Under either supposition, therefore, the tax could not be shifted.

There is one case, of course, in which the burden of the tax could be partially evaded. If the tax on capital were so exorbitantly high as to diminish the return to the capital below the rate of what John Stuart Mill calls the practical minimum, further accumulations would be decidedly checked. An attempt would be made by the employers of capital to improve production to such an extent that the enhanced profits would still give them the same net returns as before. This is sometimes the result of taxes on capital; they act as a stimulus to improved methods of production. To the extent that this is not true, however, further accumulations of capital would be discouraged. Even in such a case, however, it does not follow that the tax would be shifted to the borrower. The loss would be felt by the community at large in the shape of a decline in general prosperity. It is impos-

[1] Pantaleoni, *Traslazione*, p. 245, has called attention to this fact. His whole discussion on this point is very noteworthy.

sible to state in advance how much of the burden would be borne by any particular class of the community.[1]

B. *An Unequal Tax on Capital*

Let us now leave the realm of hypothesis and assumption, and come to the facts of every-day life. The actual tax on capital is, as we have seen, everywhere an unequal tax, however equal it may be nominally. The important question thus is: What is the incidence of an unequal tax on capital? Let us discuss the incidence as between (1) the original owner and the new purchaser; (2) the present owner and the borrower; or (3) the producer and the consumer.

1. *The Incidence of a Capital Tax as between Original Owner and New Purchaser*

This whole subject is governed by the law of the capitalization of incidence, which has already been discussed.[2] We need thus only repeat our former conclusion. When a new or suddenly increased partial tax is imposed on certain kinds of capital, the tax, if it cannot be shifted to the consumer of the article, or if it does not lead to a gradual cessation of the production of the commodity, will be discounted in a depreciation of the capital value of the article by a sum equal to the capitalized value of the annual tax, and will therefore fall on the original owner of the commodity before the tax was imposed or increased, and not on the new purchaser. In other words, when two classes of capital are taxed at unequal rates, the excess of the tax above the average rate tends to be borne by the original holder, because the new purchaser pays so much less for capital on account of the tax. Otherwise he will prefer to invest his money in something else which will bring him the usual interest. It is only when the tax is again increased that the present owner is compelled to bear the new burden. The limitations of the doctrine must, however, not be forgotten;[3] for it is just because of failure to notice these limitations that

[1] John Stuart Mill, *Political Economy*, book v, chap. 3, § 3, comes to practically this conclusion in discussing the tax on profits. Properly speaking, the argument is applicable to the tax on capital or interest, as stated in the text.

[2] Above, pp. 181-186.

[3] For a fuller discussion of this doctrine as applied to an important class of capital, see the essay on "Taxation of Corporations," in Seligman, *Essays in Taxation*, pp. 254-258.

some writers have fallen into the error of assuming that a tax on capital is always a tax on the capitalist. If a tax could not be shifted, or if it could not destroy the producer, who has bought the business, then indeed the excess of an unequal tax, or the exemption from a tax, would be capitalized or amortized into a change in the capital value of the capital taxed. But, as we shall soon see, it is an error to assume that the tax can never be shifted, or, on the other hand, that it can never injure the purchaser who continues to produce.

2. *The Incidence of a Capital Tax as between Debtor and Creditor or Borrower and Lender*

To just the same extent that it is difficult for a capitalist to shift a tax which is imposed on all capital, it is easy for him to shift to the borrower a tax which is imposed on only some forms of capital. That is to say, in the case of an unequal tax on capital, it is generally the debtor and not the creditor who suffers. How can this be proved?

The rate of interest on capital can rise only through an increase in the demand for capital or through a decrease in the supply of capital. Some writers maintain that demand will increase. It is claimed that if a tax be imposed on the capitalist lender, and if, accordingly, the borrower be now allowed to deduct from his taxable property the amount of the loan, the borrower will be able to pay a higher rate of interest. Since he is no longer taxed on the debt, he will be able to lay aside more. This will increase his effective demand for additional capital. Because of this increased competition for capital, the rate of interest will rise, so as to leave the creditor uninjured, notwithstanding the imposition of the tax.[1]

This argument, however, as Rau has shown, is inadequate.[2] In the first place, it is not necessarily true that the borrower is allowed to deduct his debts from his taxable property; in the American commonwealths it is frequently the rule that debts cannot be deducted from personal property. Secondly, even if debts are deducted, it does not follow that the competition for capital will increase; for

[1] This is the argument of Kröncke, *Grundsätze einer gerechten Bestetterung*, 1819, pp. 130-138. Cf. the same author's *Ausführliche Einleitung zur Regulirung der Steuern*, 1810, p. 35.

[2] Rau, *Finanzwissenschaft*, §§ 381, 382, vol. ii, pp. 156, 157 (5th edition). Cf. also Pantaleoni, *Traslazione del Tributi*, pp. 253-255.

only a part of the debts will have been contracted for industrial purposes, while a portion will have been the result of losses or accidents. An amelioration in the condition of the debtor will therefore just as frequently result in a payment of old debts as in a contraction of new debts. Thirdly, if an increase of the debtor's profits (due, for instance, to the exemption of the debt from taxation) enhances the demand for capital, every decrease in the rate of interest would do the same; and this increased demand would counterbalance the decrease in the rate, so that interest could never permanently fall. But this is manifestly untrue. Hence the argument that a tax on capital will increase demand is untenable.

On the other hand, the argument that the supply will decrease is more successful; in fact, this is the real basis of the whole theory of the shifting of the capital tax, whether it be a tax on mortgages or on any other form of loanable capital. The argument was first advanced by Turgot,[1] and rests really on the fundamental assumption of the mobility of capital. Capital, it is said, shows its mobility in two ways: if employed un-remuneratively, it will be removed or transferred either to some other industry or occupation within the country, which affords higher gains because untaxed, or it will be removed to another country where the same industry or occupation is not taxed. In other words, there is both an internal and an international migration of capital continually going on—a migration from industry to industry, and one from country to country. Capital, the argument continues, always seeks to secure the highest returns. Impose a tax on the capitalist lender, and he will insist on an increase of the rate of interest tantamount to the tax, or else will transfer his capital to some untaxed occupation within or without the country.

But while it is abstractly true that a special tax on capital will be shifted to the borrower, it often happens in practice that the assumed absolute mobility of capital is countervailed by other forces that may be summed up under the name of economic friction. These opposing influences may be classified as follows: (1) ignorance of the capitalist; (2) difficulty of removing the capital; (3) risk connected with

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[1] Turgot, "Observations sur un Memoire de M. de Saint-Peravy en faveur de l'impôt Indirect," in his *CEuvres* (Daire's ed.), i, p. 423. See above, p. 109.

the migration to other countries; (4) social or other considerations which make for permanence of investment; (5) legal obstacles.

Ignorance of the capitalist, it may be confessed, is not of very material importance. In a highly developed industrial organism, under the modern regime of interchange of thought and communication of news, the fact of extraordinary profits in any particular occupation cannot be long concealed. Especially the distinction which concerns us here—that between taxed and untaxed capital—must be obvious to the average investor. With the growth of modern society the ignorance of the investor is a factor of continually decreasing moment.[1]

More important is the difficulty of removing capital to more lucrative employments. Of course, in the case of loanable capital, as in the stock exchanges of to-day, this difficulty is reduced to a minimum. But in proportion as the capital assumes more and more of a fixed character, its mobility grows gradually less. To transfer investments from one stock to another is a very different matter from abandoning all the plant and machinery in one business in order to enter upon another occupation.

The risk connected with investments in foreign countries is likewise not so great as it formerly was. It is indeed true that creditors, as a rule, like to be near their debtors. American capitalists prefer the less remunerative mortgages in the East to the high interest-paying investments in the Western states. Moreover, it frequently happens that home investors or domestic corporations are treated more leniently, both as regards taxation and in other respects, than foreigners. It is the survival of the old law of aliens. This check on interstate or international transfer of capital is, however, gradually losing its potency.

Social considerations of various kinds often interpose a more serious obstacle. It is not always strictly true, as Adam Smith said, that "the proprietor of stock is properly a citizen of the world, and not attached to any particular country." Feelings of patriotism, of local pride, of desire of proximity to friends, of long custom and old

[1] For a proof that it is of some importance, cf. Cliffe-Leslie, "On the Philosophical Method of Political Economy," in his *Essays in Political and Moral Philosophy*, pp. 235-237,

usage, sometimes play a considerable role. Although they may be called non-economic motives, they are none the less to be reckoned with by the economist.

Finally, the law may prevent the free migration of capital. Under the American state bank laws, for instance, there was very generally a provision that banks could invest their deposits only in certain specified state securities or mortgages. The large demand for state mortgages in such cases may have contributed toward lowering the usual interest allowed on the mortgage, and may thus have prevented the whole of the burden of the tax from being shifted to the borrower.

While, therefore, it may be laid down as a general rule that a tax on loanable capital will be shifted from the creditor to the debtor, the conditions which interfere with the absolutely free mobility of capital may be sufficiently strong to prevent this transference of the tax from becoming entirely complete. The application of this principle to the great question of taxation of mortgages in the United States is obvious.

3. *The Incidence of a Capital Tax as between Producer and Consumer*

This is practically the same as a tax on profits. The investor of capital in a productive industry does not make any but an arbitrary distinction between his interest and his profits on the investment. The rate of interest is fixed by the relative amount of loanable capital, that is, it is a matter of adjustment between borrower and lender. But as soon as it becomes a question of adding the tax to the price of the goods the problem is the same as that of the tax on profits. This topic is of sufficient importance to demand a separate chapter.

CHAPTER V—Taxes on Profits

In discussing the incidence of a tax on profits, as between producer and consumer, it is necessary to make several distinctions. Profits may be taxed directly, as when the tax is imposed on the net receipts or profits of the producer; or they may be taxed indirectly, as in the case of a fixed license, or of a tax on stock in trade, or of a tax on sales. Taxes on sales, however, may themselves be subdivided into two categories. The producer may, in the one case, be taxed on the amount of commodities produced or sold by him. This is equivalent to a so-called indirect tax on commodities. It is immaterial, from the standpoint of incidence, whether such a tax is raised from the producer or from the consumer. In the other case, the producer may be taxed, not on the quantity produced, but on the gross receipts from sales—which is not necessarily the same thing. As an indirect tax on profits, a tax on gross receipts occupies, as it were, an intermediate position. It is, in some sort, a cross between a tax on net receipts and a tax on the quantity sold.

Consequently, if we use the term "profits" in the wider sense, to signify the revenue which accrues from the sale or exchange of commodities, there are really four chief kinds of taxes which affect profits and thus influence the relation between producer and consumer. These are:—

1. A tax varying with gross production or gross amount sold.
2. A tax varying with gross receipts.
3. A tax varying with net receipts.
4. A tax of fixed amount.

1. *A Tax on Gross Production or Gross Amount sold*

This is practically the same as a tax on commodities. Whether the tax is a so-called "indirect" tax, levied on the commodities, or whether it is levied on the producer according to each unit produced or sold, is immaterial. Thus, in some of the American commonwealths, the taxes on sewing-machine companies or telephone companies are proportioned to each sewing-machine or telephone sold or produced. This is the same, so far as the question of incidence is concerned, as if an indirect tax had been levied on each machine or telephone.

Let us mention first the case of a tax on particular commodities produced or sold under the law of competition. This case is the normal one which has been treated above in the chapter on general principles. We have, therefore, only to repeat the general conclusions there reached,[1] namely, that the tax is apt to be shifted to the consumer in whole or in part, but that the degree to which the tax is shifted varies inversely as the elasticity of the demand and directly as the elasticity of the supply.

In most cases the tendency of an increase in price is to diminish the demand and, therefore, the output; but if the falling off in demand is so slight that the former marginal producer still remains the marginal producer, or if the margin between the price and the cost to the more efficient producer is so slight that he cannot crowd out the former marginal producer, then the whole of the tax will be shifted to the consumer. This is a frequent case—perhaps even the ordinary case—under the regime of competition. But conditions may arise under which only a part of the tax will be shifted. These conditions will be present when an industry has not only reached the point of diminishing returns, but has for some time been obeying that law, so that any increase of price due to the tax will lead to a smaller output with a lower marginal cost, and therefore to a new price below the old price with the whole tax added.[2] But the same result—the incomplete shifting of the tax—will follow when, owing to the imposition of the tax, the former marginal producer is now replaced by a new marginal producer who can supply the product at a lower cost, and when the new price will now be a little (or perhaps even much) less than the old price, or the old marginal cost, with the tax added. The ordinary conditions of progress, as we know, result in a continual crowding out of the marginal producer by more favored competitors. This process will be accelerated, and the marginal producer will be replaced more quickly, as we have seen: first, when the demand for the commodity is very elastic; second, when there is a great difference in the efficiency of the various producers; and third, when the

[1] Above, p. 213.
[2] See above, p. 208.

industry obeys the law of increasing rather than of diminishing returns.[1]

To the extent that the imposition of a tax hastens this process, the tendency will be that somewhat less than the whole of the tax will be shifted. For the entire tax will be shifted only so long as the old marginal producer still remains. To what degree, now, will a tax accelerate this process?

A tax on output—that is, on each unit produced—will normally affect the elasticity of the demand, and thus the amount produced. If this diminution of output is divided proportionally among all competitors, it will not change their relative positions. But if there is a great difference in the efficiency of the various producers, and if the imposition of a tax, by making it more difficult for the marginal producer to hold his own, brings about a greater diminution in his output than in that of his competitors, the tendency for the larger producer to crowd out the smaller will be accentuated; and, because of the economies in production, somewhat less than the entire tax will be added to the price. If, however, the movement toward concentration goes far enough to produce a complete monopoly, price will be fixed by conditions of monopoly value to be discussed in a moment; and while ordinarily only a part of the tax or the whole tax will be added to the price, exceptional cases may occur where the monopoly is so secure and the demand so stable that the new price may even exceed the old price with the tax added. A good example of such an exceptional result is the match tax during the Civil War.[2]

When the competitive industry obeys the law of increasing returns, it is necessary to make a distinction. The fact that an industry is subject to the law of increasing returns tends, as we know, strongly toward concentration; but as long as the old competitors are left—that is, in the interval during which the old marginal producer continues to produce—the smaller output, due to the imposition of the tax, will be supplied at a higher marginal cost, and the new price will not tend to be less than the old price with the tax added.[3] But after the process has been completed—if it is ever completed—and the

[1] See above, pp. 202, 203.
[2] See below, p. 283.
[3] See above, p. 207.

industry is now monopolized, the price may not be quite so high as before, because under conditions of monopoly, other things being equal, the influence of the law of increasing returns is to raise the price by somewhat less than the tax.[1] The interesting corollary from the above considerations is that in the transitional cases of competitive industries subject to the law of increasing returns, the tendency toward monopoly is checked rather than accelerated by a tax on output; while, in the usual case of competitive industries subject to the law of diminishing returns, the imposition of a tax—under certain conditions at least—may weaken the forces that oppose the tendency toward monopoly and may make it more difficult for the small producer to remain in business.

We may sum up, therefore, by saying that in the case of competition the usual result of a tax on output or gross amount produced or sold is that the entire tax will be shifted to the consumer, but that special cases may arise where the price will be augmented by only a part of the tax. Such special cases are chiefly to be found not only when the industry has been obeying the law of diminishing returns, but also when the tax enables a more capable producer to undersell his former competitors at the margin of profitable production.

We come next to the case of a monopoly. The law of monopoly value is, we remember, in some respects different from that of competitive value. The monopolist will always demand the very highest price at which he can sell the greatest number of products. To the extent that his monopoly is complete he is uninfluenced by the fact that the article might be produced more cheaply by others,—a consideration of vital importance in the whole domain of competitive prices. So far as concerns the incidence of the particular tax with which we are at present dealing—namely, that on gross production or on commodities—the monopolist and the competitive producer are, however, in some respects subject to practically the same influences.

If a tax is imposed on every article produced, the monopolist may prefer to restrict his production and to raise his price. Although he sells less than before, because of the increased price, his net profits may be larger, because he pays a smaller tax than he would pay if he

[1] See above, p. 205.

produced more extensively. Although his gross receipts diminish, his expenses diminish still more. If the tax is small and the demand is apt to fall off a great deal with an increase of price, the monopolist will be likely to find it profitable to bear more of the tax himself. If, on the other hand, the demand is less elastic, he will be apt to shift more and more of the tax to the consumer. The degree to which he will add the tax to the price depends chiefly on the height of the tax as compared with the extent of the production and the elasticity of the demand. In these respects the influence of a tax under conditions of monopoly is akin to that of a tax under conditions of competition. On the other hand, when the minor qualification of the ratio of product to cost is introduced, the analogy between conditions of monopoly and competition disappears. As we have seen, if the monopoly industry obeys the law of increasing returns, the tendency is that less of the tax will be added than if it obeys the law of diminishing returns; while in the case of competition the tendency is the reverse.[1] Since the existence of the law of increasing returns is most favorable to the continuance of a monopoly, and since the great mass of so-called economic monopolies have become such precisely because they are subject to the law of increasing returns, the conclusion is warranted that in the ordinary cases of these monopolies when a tax is imposed on gross product, even though the monopolist shifts a part of the tax to the consumer, he will shift less of the tax than he would have done had he produced under conditions of competition.

The important point to be noticed, however, is that in the case of the taxation of gross product the monopolist may, and generally will, shift the tax to the consumer, even though he shifts less of the tax than would be the case if he were not a monopolist. We shall very soon see that in the case of some other taxes there is, in respect to the question of incidence, a sharp line of distinction between monopoly price and competitive price. Even in the case of the tax on gross product, however, there are some differences between the regime of monopoly and of competition. One of these differences is connected with the consideration of the ratio of product to cost, which has just been mentioned. Another is that, in the case of monopoly, while the tax will ordinarily be shifted in whole or in part, it may happen that

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[1] See above, pp. 203-210.

no part of the tax will be shifted at all.[1] Let us proceed to consider this possibility somewhat more in detail.

Let it be assumed that a monopolist can sell, at the price of $5 each, 1000 units of a particular article. Let it be further assumed that the cost of each unit is $2. His gross receipts will then be $5000, and his net profits (5-2) x 1000 = $3000, which may be declared to be his maximum monopoly revenue. If he charged more, the sales would fall off; if he charged less, the receipts would be smaller. In either case his net profits would diminish. Let it be assumed that, if he charged $6 a unit, the sale would fall off to 700 units. His gross receipts would be 6 x 700 =$4200, and his net profits (6—2) x 703 = $2800, or less than before. If, on the contrary, he charged only $4 a unit, his sales would increase, let us say, to 1200 units, his gross receipts would be $4800, and his net profits (4-2) x 1200 = $2400. He will therefore always prefer the price $5, which marks the point of maximum monopoly revenue.

If the government now imposes a tax of $1 a unit, what will be the result? The net return on each unit is reduced to $2, the total net profits to $2000. If the monopolist attempts to add the whole tax to the price, he will sell only 700 units; and since the cost per unit has been increased by the tax to $3, his net profits will be 700 x (6-3) = $2100. Granting that this is the highest net return that the new conditions admit, the monopolist will increase the price from $5 (which gives him $2000 profits) to $6 (which gives him $2100 profits). The entire tax will be shifted to the consumer.

On the other hand suppose that the tax is only ¼ of a dollar. Then the cost per unit would be $2¼, the net profits at price $5 would be (5—2¼) x 1000 = 2¾ x 1000 = $2750; while the net profits at price $6 would be (6—2¼) x 700 = 3¾ x 700 = $2625. Admitting that

[1] Professor Graziani, in his *Istituzioni di Scienza delle Finanze*, p. 335, substantially accepts, on this particular point, the argument in the text. Professor Edgeworth, who originally criticised the statement in the text in the *Economic Journal*, vii, p. 227, made the same criticism of Professor Graziani's subsequent acceptance of this position in a review of the latter's work in the *Economic Journal*, vii, pp. 405, 406. Professor Graziani came to the defence of his position in a reply entitled *Sulla Repercussione delle Imposte nei Casi di Monopolio*, published in the *Studi Senesi*, xiv, p. 5, and also separately (Turin, 1898). A rejoinder to this by Professor Edgeworth appeared in the *Economic Journal*, viii, pp. 234-236.

other prices yield profits likewise inferior, the monopolist would continue to charge only $5; that is, he would not raise prices at all.

It might be said, however, that the admission in the last sentence is not permissible.[1] A simple arithmetical example, however, will show that the conditions may arise under which any other price than the original one would give the monopolist less net profits.

Let it be assumed that, instead of adding the whole tax to the price, the monopolist adds only part of it. Let it be further assumed that at price $ 5¾ he will sell 900 units; at price $5½ 825 units; at price $5¾ 750 units; and, as we have already previously stated, at price $6, 700 units. His net profits, then, after a tax of ¼ of a dollar had been imposed, would be:—

At price 5	(5 - 2½) x 1000 =	2¾ x 1000 =	$2750
At price 5	(5¼ - 2¼) x 900 =	3 x 900 =	§2700
At price 5	(5½ - 2¼) x 825 =	3¼ x 800 =	$2681,25
At price 5	(5¾ - 2¼) x 750 =	3½ x 750 =	$2625
At price 6	(6 – 2 ¼) x 700 =	3¾ x 700 =	$2625

In other words the monopolist will continue to find his greatest profits in continuing to charge the original price, $5. It is clear, therefore, that cases may rise in which it will be profitable for the monopolist to bear the burden himself.[2]

[1] Professor Edgeworth, for instance, urges this criticism. The only cases in which it is possible for the monopolist to bear the thole tax himself, says he, are (a) when it is not in the power of the monopolist to increase his output, and (b) when the monopolist is the sole buyer. Cf. *Economic Journal*, vii, p. 227. That these are not the only cases, however, is clear from the argument in the text.

[2] Cournot states that the tax must always be shifted (except in the cases mentioned in the preceding note). Professor Edgeworth (*Economic Journal,* vii, p. 405) thinks that this is true "in general." Later, when hard pressed by Professor Graziani, he seeks to maintain his position by assuming that "the change of price is small," "by taking "delta p sufficiently small" (Economic Journal, viii, p. 235). But is it fair to assume that a small change of price is "more general" than a great one? And would Professor Edgeworth's elaborate formulae all hold good, if the change of price were substantial? It is pot denied that, if we varied the figures in the text, it might happen that when the cost per piece were 2¼, the price which yields maximum profit might become greater than 5. What it is sought to prove by the above illustration is that the result does not necessarily follow. We venture, therefore, still to cling to the position in the text, notwithstanding that, in the opinion of Professor Edgeworth, the opposite point has been "proved formally and mathematically by Cournot, informally and in plain prose "by himself. See *Economic Journal*, vii, p. 406, note 1. Knut Wicksell,

No part of the tax will be shifted to the consumer.

Granting, however, that this is exceptional, and that in ordinary cases the monopolist will shift at least a part of the burden, it was stated above[1] that the more elastic the demand, the smaller the proportion of the tax that he would be apt to shift to the consumer. It may be wise to illustrate this also by some simple arithmetical figures.[2]

Demand is said to be more elastic when each successive increase of price leads to a greater falling off in demand. The example above was based on the assumption that, at the price of $6, the demand would fall to 700. Let us now assume that, with a more elastic demand, the sales at price $6 would fall off as far as 675 units; and let us further assume that, with a more stable demand, the sales at the price $6 would fall off only to 725 units. Now, with the more elastic demand, the net profits would be, after the tax of $1 per unit was imposed (6—3) x 675 = $2025; but with the less elastic or more stable demand, the net profits would be (6—3) x 725 = $2175. Hence, the more stable the demand, the greater the chances of his increasing the price by the whole tax.[3]

The validity of this statement may be seen from a *reductio ad absurdum* of the opposite. Suppose it were true that, the more elastic the demand, the greater the chance that the monopolist would add the

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on the other hand, thinks that, theoretically, the monopolist will always add the tax to the price, but that practically he will often not do so.—*Finanztheoretische Untersuchungen*, p. 12.

[1] See p. 204.

[2] Especially because the proposition has recently been assailed, again by Professor Edgeworth, in *Economic Journal*, vii, p. 227, note 4, and in his criticism of Professor Graziani's acceptance of the above contention in ibid., vii, p. 406, and viii, pp. 237, 238. For Professor Graziani's rejoinder, see *Sulla Repercussione*, etc., pp. 6, 7.

[3] It is not permissible to say that, if this were true, the monopolist would have raised the price before the imposition of the tax. For, according to our hypothesis, the net profits at the original price of $5 were $3000; and with a sale of 725 units at the price of $6 without the tax, his real profits would still be only (6—2) x 725 = $2900. It is only when the elasticity is indefinitely small that such a result would follow. As Professor Edgeworth observes, we must assume some elasticity, for otherwise equilibrium would not have been reached. The monopolist would have gone on raising prices until checked by a sensible elasticity. The objection urged by Knut Wicksell, Theoretische Untersuchungen, p. 12, is therefore not well taken.

tax to the price. Then it would follow that, if at the price of $6 the demand fell off to 500, the net profits of the monopolist would be (6—3) x 500 = $1500; if to 400, then (6—3) x 400= $1200; if to 300, then (6—3) x 300 = $900, and so on. In other words, the monopolist would, in each case, prefer the smaller net profits to the higher ones—which is absurd.[1] It remains true, therefore, that the degree to which the tax will be added to the price varies, other things being equal, inversely with the elasticity of the demand.

We see then that the validity of the general law as stated above[2] is substantiated, and that in the case of monopoly the degree to which the price will be increased by a tax depends upon the height of the tax as compared on the one hand with the ratio of product to cost, and on the other hand with the elasticity of the demand.

If we consider the ulterior effects of a tax on the gross product of a monopoly, some interesting conclusions force themselves on our attention. Let us take up those cases in which the monopolist will generally add the tax to the price. To this extent he will have shifted the tax to the consumer; but that does not mean that he suffers no loss. On the contrary, since the increased price means reduced sales, the net profits of the monopolist will, as we have seen, be smaller than before the tax. He therefore loses also. The tax he pays to the government is, indeed, smaller than it would have been if he had continued to produce as much as before; and in this sense we can speak of a partial evasion of the tax. That is, taking the figures used above in the illustration of normal conditions, the tax of $1 per unit amounts to $1000 when 1000 units are sold; but since the change of price from $5 to $6 cuts down the sales to only 700 units, the government then receives only $700. The producer thus evades the tax to the extent of $300, but he also suffers a considerable loss. For, while his net profits before the imposition of the tax were $3000, his net profits, after he raises the price by the entire amount of the tax, are only $2100. He thus loses $900, although he technically shifts the

[1] The error of Professor Edgeworth seems to consist in the assumption that the demand curve is continuous,—that, if an increase of price leads to such a sudden falling off in demand, a decrease of price will lead to a similar jump in demand. But this does not necessarily, or even ordinarily, follow. Cf. the considerations below, p. 287.

[2] See p. 273.

tax. Moreover, the consumers also lose. Those who pay the increased price can measure their loss in dollars and cents; for, if the tax is shifted completely, they pay the total amount of the tax. Those who have been compelled, by the increase of price, to forego the article and to content themselves with something inferior, also suffer a loss, even though it cannot be definitely expressed. The only persons who gain are the producers of the new commodity which some of the consumers now substitute for the old one. This gain, however, which also cannot be expressed numerically, will ordinarily be smaller than the loss suffered by the producers of the original article. Even though a tax on gross product be shifted to the consumer, in the sense of causing a rise in price, it is apt to inflict a loss on the producer as well as on the consumer; and this loss to both classes may exceed the total yield of the tax to the government. In the above extreme case the producers lose $900, the consumers, whose loss can be computed numerically, lose $700, or $1600 together, while the tax yields only $700. The possible dangers of taxes on gross product are thus apparent.[1]

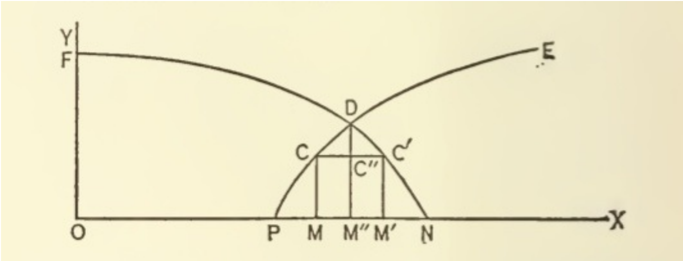
Box

The above reasoning may be illustrated graphically as well as arithmetically. Fleeming Jenkin, "On the Principles which Regulate the Incidence of Taxes," in Proceedings of Royal Society of Edinburgh, Session 1871-1872, p. 624 (republished in Papers, Literary, Scientific, etc., by the late Fleeming Jenkin, edited by Colvin and Ewing, 1887, ii, p. 113), made use of the diagram on the next page.

FN is the demand curve, PE the supply curve, CO the amount of tax per unit. Then OM is the market price to the supplier, OJSP the market price to the buyer, and MM' the tax.

The amount raised by the tax is MCC'M', the portion paid by the seller CC"M"M, the portion paid by the buyer C" C'M'M". The whole loss to the community is MCDC'M', the loss to the sellers CDM"M, the loss to the buyers M"DC'M'. Both buyers and sellers suffer a loss beyond the tax. The sellers suffer a loss CC"D, the buyers suffer a loss C C"D. If the tax is large, CO will approach the axis OX. Then the tax will be unproductive, and the excess of loss to buyers and sellers, CC'D, will be large.

[1] See Box A



Of course, according as the industry obeys the law of constant returns, or of increasing returns, the supply curve PE will tend to curve differently. Conversely, according to the elasticity of the demand, the demand curve FN will tend to be parallel to EO. Jenkin did not modify his diagram to meet these conditions. But Professor Marshall has made the changes in his *Principles of Economics,* 3d ed., pp. 523-525, to which the reader is referred. Marshall, however, applied his diagrams only to consumers' rent, i.e. to what Jenkin called OC"D. It is equally applicable to the producers' rent. The whole analysis is outlined by Cournot in his *Principes Mathématiques,* pp. 78-82 (English translation, pp. 71-75), and more especially in his *Principes de la Théorie des Richesses,* pp. 374378. But so far as concerns the laws of decreasing and increasing cost, the reader is reminded of the discussion above, pp. 204-206.

The case of a bounty is just the reverse of a tax. It can be proved in the same way that, while a bounty ordinarily benefits only the producer and brings no advantage to the consumer, cases may possibly occur where the result of a bounty will be not only an increase of the profits of the producer, but also a decrease of the cost to the consumer. This is the reason why bounties have generally been given; namely, to educate the producer to that point where he may find it profitable to reduce prices. But these instances are very exceptional, just as was the preceding case of a tax that cost the producer and the consumer far more than it yields to the government. Such cases, moreover, cannot be advanced as arguments in favor of the policy of bounties in general; for, ordinarily, the loss occasioned to the taxpayers who pay in taxes the amount distributed as a bounty more than outweighs the benefits to the special classes who are deemed to derive a benefit from the bounty. It is for this reason that modern governments grant bounties only in the exceptional instances mentioned above.

Returning now to the consideration of taxes on gross product in general, irrespective of the fact whether the industry is subject to the law of monopoly or of competition, attention must be called to a point in which many have committed a serious error. Cournot, for instance, maintained that a tax, whether on a monopoly or on a competitive commodity, may raise the price to an extent greater than the amount of the tax. The chief reason he advanced for this phenomenon was that the price paid by the consumer must include not only the tax but the interest on the sum necessary to pay the tax, and the profits of the middlemen. The necessary conclusion was that it is always wiser to assess the tax at as late a stage as possible—that is, on the consumer himself—since the collection of the tax becomes more costly, more vexatious, and more burdensome to the community in proportion as the assessment of the tax approaches the producers. The consumers will have to pay more than the government receives.[1]

This theory of Cournot is, however, nothing but the accepted doctrine of Adam Smith, Ricardo and Mill. Adam Smith puts the idea into the plainest form when he says:—

"A tax upon these articles (necessaries of life) necessarily raises their price somewhat higher than the amount of the tax, because the dealer who advances the tax must generally get it back with a profit. His employer, if he is a manufacturer, will charge upon the price of his goods this rise of wages, together with a profit; so that the final payment of the tax, together with this exchange, will fall upon the consumer. The final payment of both the one and the other (taxes on necessaries and on labor) falls altogether on themselves (the consumers) and always with a considerable overcharge."[2]

So also this is what Ricardo means when he says that "the taxing of all commodities will raise the price by a sum at least equal to the

[1] Cournot argues on p. 78 of the *Principes Mathematiques* (English translation, p. 70) that, owing to the "additional charges arising from interest," "the commodity will be sold at a higher price just in proportion as the tax is prematurely collected." Cf. the corresponding statement in his *Principes de la Theorie des Richesses*, p. 273, as to competitive conditions.

[2] *Wealth of Nations*, book v, chap, ii (Rogers' ed., ii, pp. 468-470).

tax,"[1]—a remark which, as we have seen, is not necessarily true. So Du Puynode, Parieu and many other writers make the same statement. Fawcett calls this the most serious objection against taxes on commodities.[2]

This whole theory rests on the old doctrine of normal or natural profits. As soon as we remember that, according to the modern theory, actual profits are simply the surplus over marginal cost, the doctrine falls to the ground. The middleman cannot add his profits to the price, because in a state of competition price is fixed at any given moment at the cost of the most expensive increment. If there were such a thing as normal profits, the price of the article would indeed be increased with each transfer, until the ultimate price might immensely exceed the tax. But there is, under competitive conditions, always a producer or middleman on the margin of production—that is, one who produces or handles the product without profits, simply getting back his expenses—and the price of the whole supply, at any given moment, is equal to his cost of doing the business. The profits are obtained only by the more fortunate or more skilful individuals. The mere fact that the product passes through a number of hands cannot in itself raise the price by more than the exact cost of such transference. Cost, however, does not include profits; cost is the condition of profit. Otherwise retail prices would increase geometrically, according to the number of retailers—a conclusion which is obviously untrue. The tax is simply an addition to the cost of production; and there can be no geometrical increase in the tax. As soon as we abandon the normal profits theory, then we see how inaccurate is the excess-of-price-above-tax doctrine. The doctrine assumes not only

[1] *Principles of Political Economy and Taxation*, chap, xvii (McCulloch's ed., p. 186). Cf. Mill, Principles, book v, chap iv, §2.

[2] Du Puynode, *De la Monnaie, du Crédit et de l'impôt*, ii, p. 210; Parieu, *Traite des Impôts*, i, p. 165; Sayer, *The Income Tax*, 1833, pp. 58, 59; Fawcett, Political Economy, pp. 550, 551 (6th ed.). The most recent repetition of the statement is by Sidney and Beatrice Webb in their Industrial Democracy, 1898, p. 303. "At every 'repercussion' of the tax, there would be an additional 'loading,' so that the ultimate charge to the consumer would, as in the case of excise duties on raw materials, far exceed the original sum."

The theory itself may, as we know, be traced back to a period anterior to Adam Smith. It is found in Fauquier, in Decker and in other writers of the time. See above, pp. 17, 56.

that the producer is a monopolist, but that every middleman is a monopolist also. Only on this assumption can there be no no-profits middleman. The assumption, however, is not practicable in treating conditions of actual life.[1]

There is, indeed, one way in which the price of an article may be driven up beyond the amount of the tax—a way suggested in the last sentence, but involving considerations very different from those just discussed. Since a tax on production or on commodities must generally be advanced before the producer has received payment for his sales, the necessity of raising the funds will bear more heavily on the smaller producers. In fact, under given conditions of elasticity of demand, such a tax, especially if it be high, tends to increase the advantages of the powerful producer. When the conditions are sufficiently favorable, the imposition of a tax may thus be the direct cause of the creation of monopoly. But it is then primarily the monopoly, and only indirectly the tax, which enables the producer to raise the price far above its previous level. Conversely, the repeal of a tax may reduce the price by an amount far greater than the tax, because what was formerly a monopoly may now become subject to competition. As a good example of this tendency may be mentioned the tax on matches in the United States during the Civil War, the imposition of which created a monopoly with high prices, and the abolition of which caused a fall in price considerably greater than the amount of the tax. Again, the proposed reduction of taxes on certain commodities—for example, tobacco—was opposed in the United States by the large manufacturers and importers, because the higher the tax the greater the advantage of the large dealer. But it is primarily because of the monopoly, and only indirectly because of the tax, that prices are thus raised unduly.[2]

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[1] Cf. Gunton, *Principles of Social Economics,* p. 380. His conclusions are in other respects, however, questionable.

[2] There is another case in which a tax may increase the price of a commodity by more than the amount of the tax. This is the case where a smaller tax is imposed on the producer of a larger quantity of units than on the producer of a smaller quantity. In industrial operations in general such a tax is well-nigh unknown. It would be what the French call an " upside down progressive tax." But in agriculture it has happened that a uniform tax is imposed per acre, while the productivity of the land varies. In such a case, the tax would involve a lower rate, per bushel of wheat for instance, on

The whole question of the incidence of import or export duties is virtually identical with the one discussed in the preceding cases; for import and export duties are usually levied at given rates per units of the commodities, whether the units be those of weight or of value; that is, whether the rate be specific or ad valorem. It will be readily seen, therefore, how erroneous is the doctrine of those extremists who maintain that the loss to the consumer is always and necessarily measured by the proceeds of the import duties. On the contrary, it may happen that prices will rise by something less than the tax; and it is conceivable, although not probable, that prices may not rise at all. When, for example, the foreign producer fears that the increase of price by the total amount of the tax will so materially reduce his sales as to render his net profits lower than they would be if he assumed a part of the tax himself, prices may rise by something less than the tax. On the other hand, it may happen that the loss to the consumer will be more than the amount of the tax. It is impossible to lay down any exact and universal rule; attention must always be paid to the given conditions of the particular case. The application of the principle is so important, however, that it merits a fuller discussion, which will be reserved for another chapter.[1]

2. *A Tax on Gross Receipts*

A tax on gross receipts must not be confounded with a tax on sales (in the sense of a tax proportional to the number of commodities sold) or with a tax on gross product. A tax on sales or on product varies with the amount sold or produced. But gross receipts may be larger with small sales than with large sales, provided prices are higher. Conversely, gross receipts may be smaller with large sales than with small sales, provided prices are lower.

If we take up first the case of competition, it is clear that there can be in the given market only one price—that equivalent to the cost of production of the dearest increment of the temporary supply. Now a tax on gross receipts necessarily increases the expenses of this dear-

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the more productive land than on the less fertile land; and, as long as the less fertile land contributed a part of the necessary supply, the price of the product would rise by more than the amount of the tax. The case is worked out arithmetically above on p. 225.

[1] See below, pp. 300 et seq.

est increment; for the producer at the margin of profitable production, whose gross receipts afford him only a bare return for his outlay, without any profits, must add the tax to his price, if he is to remain as a competitor at all. In the end, therefore, the tax must be shifted. The extent, however, to which the tax will be shifted at any particular time will depend on the considerations that were discussed in the case of a tax on gross product; that is, on the elasticity of the demand as compared with the elasticity of the supply.

In the case of monopoly the same effects are also generally observable. Although the increase of price will lead to a falling off in the demand, and although the gross receipts may even be less than before, the net profits of the monopolist will generally be greater, because of the diminution of the expenses due to the decrease of the output, and because the tax on the reduced gross receipts will be less than it would have been had the sales remained unchanged.[1]

Box

This general shifting of the tax, in whole or in part, can be illustrated by a diagram.

At price OT let OM be sold; at price OT' let ON be sold.

Let gross receipts OTCM = $10,000; let gross receipts CT'C'N = $8990. (These figures are chosen because they were the ones used in the first edition, in the illustration which is discarded here for the reasons mentioned in the next note.)

Let PP' = line of cost. Let cost OPVM = ^7000. Let cost OPV'N- $6000. Then net receipts at price 0T= $10000—$7000 = $3000. Then net receipts at price OP' = $8990—$6000 = $2990. The monopolist, then, will prefer price OP.

Now impose a tax of one per cent on gross receipts. With gross receipts $10,000, tax = $100. With gross receipts $8990, tax = $89.90. Net receipts $3000—$100 = $2900; net receipts $2990—$89.90 = $2900.10. The monopolist will now prefer the price OP'.

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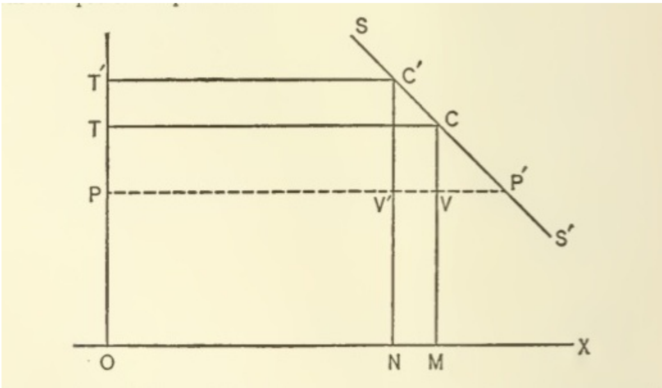
[1] See Box…



Hence, after the imposition of a tax on gross receipts, the monopolist will prefer to raise the price. Here, as before, however, allowance must be made for the elasticity of demand and for the ratio of product to cost.

Although it is generally true that a tax on monopoly gross receipts will raise prices, the conclusion does not necessarily follow.[1] Cases may arise where it will be profitable for the monopolist to bear the burden himself. The reasoning as illustrated by the diagram in the note assumes that the falling off of demand with increase of price is not only continuous, but absolutely proportional, and that therefore the demand curve may be represented by a straight line. But it is possible that the demand may fall off largely for the initial increments of price, and less largely thereafter. Let us utilize, in other words, a hypothesis similar to the one already mentioned,[2] where,

[1] In the first edition of this work the statement was made that such a tax could never raise price. This was an error, due to inattention, in the particular illustration, to the fact that cost changes with the amount produced. The error in the original calculation has been pointed out by several writers, for example, by Professor Ross in the Annals of the American Academy of Political and Social Science, iii, p. 460; by Knut Wicksell in his *Finanztheoretische Untersuchungert*, p. 14; by Professor Loria in his review of the work of Professor Graziani (who had accepted the argument of the first edition) in the *Giornale degli Economisti*, anno vii, p, 461; and finally by Professor Edgeworth in the *Economic Journal*, vii, p. 228. But some of them, like the writer last named, go too far in asserting that a tax on monopoly gross receipts must raise prices.

[2] Above, pp. 275, 276.

instead of the demand falling off by 100 units for every one-quarter of a dollar added to the price, the demand at price \$5 amounts to 1000; at price \$5¼, to 900; at price \$ 5½, to 825; at price \$5¾, to 750; and at price \$6, to 700. If a tax of ten per cent on gross receipts be now imposed, the figures will be as follows:—

At Price	Gross receipts	10% tax
\$5	5 × \$1000 = \$5000	\$500
5¼	5¼ × 900 = 4725	472.50
5½	5½ × 825 = 4537.50	453.75
5¾	5¾ × 750 = 4312.50	431.25
6	6 × 700 = 4200	420

The expenses will be the cost of production plus the tax, or

At Price	Cost of production	plus tax	equals total expenses
\$5 . . .	2 × \$1000 = \$2000	+ \$500	= \$2500
5¼ . . .	2 × 900 = 1800	+ 472.50	= 2272.50
5½ . . .	2 × 825 = 1650	+ 453.75	= 2103.75
5¾ . . .	2 × 750 = 1500	+ 431.25	= 1931.25
6 . . .	2 × 700 = 1400	+ 420	= 1820

Deducting from gross receipts the total expenses, we have the net profits:—

At Price	Gross receipts	minus expenses	equal net profits
\$5	\$5000	− \$2500	= \$2500
5¼	4725	− 2272.50	= 2452.50
5½	4537.50	− 2103.75	= 2433.75
5¾	4312.50	− 1931.25	= 2381.25
6	4200	− 1820	= 2380

That is, the maximum monopoly revenue will as before still be at price \$5.

It is, therefore, possible, in the case of a tax on gross receipts as well as in the case of a tax on each article sold, that the monopolist may prefer not to raise the price at all. Even if the price, however, is increased by reason of the tax, as will ordinarily be the case, the same distinction must be observed as that mentioned in the previous case of the taxation of gross product.[1] That is, since the great mass of

[1] See above, page 274.

monopolies are subject to the law of increasing returns, while the great mass of competitive industries obey the law of decreasing returns, and since the action of the law of increasing returns is to bring about a slighter degree of shifting in the case of monopoly than in that of competition, it follows that even if a tax on gross receipts induces the monopolist to raise the price by a part of the tax, the tendency will be for the producer to bear more of the burden himself than would have been the case had he been subject to competitive conditions.

3. *A Tax on Net Receipts or Profits*

In the case of a tax on the net profits of a monopolist, it might be assumed that the tax will always be shifted to the consumer because of his necessary dependence on the monopolist. This assumption, however, would be completely false. It makes no difference whether the monopolized commodity is one, the supply of which is strictly limited and which is not reproducible at all, or whether the commodity is reproducible according to the law of constant, diminishing or increasing returns. So far as the producer is concerned, he cannot add the tax to the price; for it may be assumed that the monopolist producer will always demand the highest price which the consumer is willing to give. If the consumers were willing to pay more, he would have increased the price before the imposition of the tax. In other words, since monopoly price is always at the point of greatest monopoly profits, a tax on these profits can never increase the price. A tax on monopoly profits must, therefore, fall wholly on the monopolist.

In the case of competitive net receipts, we must distinguish between an exclusive and a general tax on profits. A tax on the profits of some particular occupation must, in the long run, be shifted to the consumer, provided that the commodity continue to be produced at all. For if the tax rests on the particular profits, the producers will be put at a disadvantage as compared with those engaged in other industries. There will be a gradual migration of capital to find the most profitable level, and the original industry will gradually be deserted. In the long run, therefore, either the tax will be shifted to the consumer or it will lead to a cessation of production. In the one case, consumers suffer through increase of price; in the other case, they suffer through destruction of consumption. But in no case will the burden ultimately rest on the permanent producer.

We must, however, not forget the following important practical point, which seems to have been overlooked by many. To the extent that the theory of the mobility of capital is not applicable, "the long run" will not occur. When the fixed capital forms a large part, and the circulating capital a small part, of the entire investment, final equilibrium can be brought about only through the ruin and disappearance of the producer. Even where the capital is ultimately transferred, the intermediate effects are often the most important ones. What may be in a sense unimportant from the standpoint of national economy, may be supremely important from the standpoint of individual economy. When we say that taxes cannot, in the long run, remain on the producer, we generalize the conception. The producer merely represents a class of individuals who never disappear. But when we speak of the producers during any interval, we refer to certain individuals. The welfare of producers as a class is something very different from the welfare of an actual producer. Producers as a class ultimately may contrive to obtain certain average returns; but this may be rendered possible only by the complete ruin of the individuals who are now engaged in production. So far as inequalities of taxation are not constant inequalities, this process will continually repeat itself. The optimistic theory is as much out of place here as it is in the other domains of economic science.[1] In other words, even an

[1] Cf. above, p. 230, the discussion of the incidence of the tax on the net profits of land. The qualification to the general doctrine as to the incidence of exclusive taxes is admirably expressed by Cliffe-Leslie in the following passage: "Another incidence of a number of taxes on the working classes as producers has been concealed by the doctrine that taxes on particular commodities and particular employments fall on consumers only, not on producers. The theory of taxation abounds in examples of the danger of the abstract and hypothetical method of reasoning in economics. The economist sets out with an assumption surrounded with conditions and qualifications, and perhaps itself open to question, such as that in the long run, and on the average, the profits of different occupations tend to equality, and presently forgetting all his qualifications and conditions, concludes that the profits of individuals must be equal; and therefore all special taxes advanced by producers must come back to them with equal or average profit. Individual profits really, in almost every business, vary from enormous gain to absolute loss. Mill says: ' That equal capitals give equal profits, as a general maxim of trade, would be as false as that equal age and size give

exclusive tax on profits may at any given time, under certain conditions, rest on the original taxpayer until he has been entirely driven out of the field. The only result of a tax on profits might then be completely to stop the production of the commodity or the continuance of the business. The consumer would then suffer not through the increase of price, but through the inability to procure the commodity at all.

A general or universal tax on profits, in the sense of a uniform tax on profits, does not, strictly speaking, exist any more than a general or uniform tax on all capital.[1] But a tax may practically affect so many classes of producers in a given community, and so many different kinds of profits more or less removed from liability to competition from foreign sources, that we are justified in setting up the conception of a general tax, in contrast with an exclusive tax, on profits. Such a general tax on net profits can never be shifted. If profits represent the surplus above cost of production, a general tax on this surplus cannot influence the cost of production. Price cannot be altered, and the interests of the consumer cannot be affected. It is the producer who bears the tax, both immediately and ultimately.

Some writers, indeed, like Cournot, have asserted that the ultimate effects on the consumer may be bad, because the tax restricts the producers' consumption, and because the employment of the proceeds of the tax is generally less profitable than if the proceeds had remained in the hands of the producer. But this reasoning seems to be defective. It takes for granted that taxes are used unproductively, and it leads logically to the aphorism of Say that the best taxation is that which is least in amount. So far as governmental expenditures are necessary and judicious, they are useful and productive; and it is not permissible to assume that private expenditure is more beneficial than public expenditure. Everything depends on the nature of the

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equal bodily strength.' Nevertheless it is taken for granted that every special tax on a business is received ' with average profit,' though the net result of all a trader's advances is not un-frequently ruin; though all such taxes give an advantage to the larger capitalists …"—"The Incidence of Imperial and Local Taxation on the Working Classes." In *Essays on Moral and Political Philosophy,* 1879, p. 196. In the 2d ed., under the title *Essays in Political Economy,* this passage is found on pp. 3S8, 389.

[1] See above, p. 262

expenditure, and on the general views as to the duty and limits of governmental activity. To say that a tax on profits is injurious to the consumer seems to involve a begging of the question. The whole problem, moreover, is not peculiar to a tax on profits, nor is it any longer a problem of incidence: it belongs properly to the wider discussion of the general influence of taxation.

One practical inference from the above discussion may be used in connection with the controversy in the United States as to whether corporation taxes should be levied on gross or on net receipts. Whether these be monopolies or not, the a priori conclusion in favor of taxation of net receipts[1] is strengthened by the results of this discussion. In the particular case of transportation companies, for example, around which most of the wordy warfare and the practical contest have waged, it is more likely that the travellers and shippers will feel a tax on gross receipts than one on net receipts.

4. *A Tax of Fixed Amount*

It may happen that a tax is not assessed according to net profits, gross receipts or sales, but that it is imposed in the shape of a lump sum on all the producers in the industry. This is the common, although not the universal, rule with the American license taxes. No matter how large the profits, the tax remains the same.

In the case of a monopoly, such a tax necessarily falls on the monopoly profits. For the very same reasons that were advanced above, in the discussion of a tax on monopoly net receipts, the tax cannot be shifted. It is always the monopoly revenue that suffers.

In the case of competition, the tax of fixed amount is a condition precedent to production. It might be inferred that the tax would therefore be an addition to the necessary cost of production, which must be shifted to the consumer. But this is not the case; for such a tax is even more inimical to the small producer than a tax on gross product. As the large producer will pay absolutely no more than his small competitor, he will prefer, provided the commodities are reproducible to any extent, to assume the tax and to recoup himself by capturing the customers of the smaller dealer. The minor producer who is thus unable to add the tax to the price will be crowded out of exist-

[1] See Seligman, *Essays in Taxation*, pp. 198-205.

ence. Thus the fixed license tax, when high enough to tempt the large dealer, tends to be borne by the producer—until, indeed, the gradual trend toward monopoly, fostered by the tax, may bring about a rise of price and thus affect the interests of the customer. Here again, however, it would be only indirectly the tax that would cause the rise of price. But it may frequently happen that the price will not rise at all, the increased sales of the fewer producers compensating them for the tax which they pay. In such a case, the incidence of the tax may in a certain sense be declared to be neither on the consumers nor on the producers who continue to produce permanently after the imposition of the tax; for the whole tax may be discounted and borne by the unfortunate producers who are crowded out of existence. Thus the system of high liquor licenses does not necessarily result in any increased price to the consumer. Its effect may be a diminution of the saloons and the gradual monopolization of the trade in the hands of the wealthier individuals. The producer then always pays this tax; the consumer may or may not be affected ultimately.

Of course, when the so-called "license taxes" are not fixed in amount, but vary with gross receipts or gross produce or net profits, their incidence is governed by the rules laid down in the preceding paragraphs. The word "license" covers a multitude of very distinct taxes.

In summing up the preceding discussion, we come to the following conclusions: the incidence of a tax on monopoly revenue is always on the producer, except in the case where the tax is proportioned to the amount produced or sold, in which case the tax is ordinarily shifted in whole or in part, although even there, under certain conditions, the tax may remain on the monopolist producer; a general tax on competitive profits, whether fixed or proportional to net receipts, rests on the producer; a special tax on competitive net receipts is ordinarily shifted to the consumer; and a roundabout tax on competitive profits, in the shape of a tax on gross receipts or gross produce, may or may not be shifted to the consumer—with the probability that, in the great majority of cases, the whole, or almost the whole, of the tax will be so shifted.

This conclusion may not be satisfactory to the sticklers for over-precision or for "natural laws" of incidence. But it will be sufficient to show the delicacy of the problem, and to prove how superficial is the optimistic or general diffusion theory.

If we wish to draw any inferences as to some existing' problems in the United States, they may be summarized as follows:—

(1) The so-called "business" taxes are not necessarily any more " direct " taxes than are the national internal revenue taxes.

(2) Taxes on pure monopolies should not be levied on gross product or on gross receipts if it is desired that they should remain on the monopoly.

(3) Taxes on corporations should be levied on net receipts rather than on gross receipts or on other elements, if it is not intended that the taxes should be shifted to the community.

(4) Business taxes in general, including the so-called license taxes, should be levied according to net receipts. The so-called license taxes, when of fixed amount, further the trend toward monopoly; and when graduated according to sales tend to be shifted to the consumer.

(5) Excise or internal revenue taxes, when levied on gross product, are apt to be shifted to the consumer. But the degree to which they will be shifted depends chiefly on three points: (a) whether the business is of a monopolistic or of a competitive nature; (b) whether the elasticity of demand is great or small; and (c) whether the relation of product to cost is constant or not. There is always a possibility that a portion of the tax may rest on the producer.

The application of the general principles of the taxation of profits to land, houses, debts and mortgages has already been made in preceding chapters, and needs no further discussion.

CHAPTER VI—Taxes on Wages

It has been customary, since the time of Adam Smith, to make a distinction between the wages of ordinary labor and what he calls "the recompense of ingenious artists and men of liberal professions." Let us, then, first take up the incidence of a tax on the latter class.

Adam Smith maintained that a tax on such skilled employments would be shifted, because this recompense "necessarily keeps a certain proportion to the emoluments of inferior trades."[1] Unless their recompense increased by the amount of the tax, these professions, "being no longer on a level with other trades, would be so much deserted that they would soon return to that level." On the other hand, John Stuart Mill maintained that all the skilled and privileged employments are taken out of the sphere of competition by a natural or conferred monopoly, and that a tax will always fall on them, because they have no means of relieving themselves at the expense of any other class.[2] Which of these two statements is correct?

It would seem that in the main Mill is right, although his reasons are not entirely above criticism. It is true that the earnings of professionals are in general regulated by custom rather than by competition. For a large class, moreover, the superior earnings must be regarded in the light of what Marshall terms quasi-rents. A great tenor, an eminent surgeon or a famous lawyer, for example, will not receive more for their services, if a tax be imposed on the class to which they belong. To them a tax simply means a burden which cannot be shifted. If the tax had not been imposed, their earnings would have been the same. Moreover, the whole class of professional workers is in many respects subject to influences of a more or less uneconomic kind. Their motives are frequently not pecuniary, but rather of a higher nature. An actor, a painter, a doctor, a lawyer, often adopts his profession with other objects in view than simply making his living or obtaining the greatest possible income. It is not long since the recompense to certain professional classes, like doctors, was regarded as a gratuity, not as a legally enforceable due. Even if we regard these classes from the purely economic standpoint, we cannot

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[1] Cf. above, p. 115.

[2] Mill, *Principles*, book v, chap, iii, § 4.

say that their recompense bears any necessary proportion to common wages. The earnings of the liberal professions are not dependent on cost of production. It is only by a perversion of words and of facts that we can consider the time and efforts spent in educating a member of a profession as a capital which must earn interest. In fact, the present alleged overfilling of the professions is due not so much to the hope of greater earnings as to the compulsory education and general social conditions of modern times. The forces which keep the price of labor in general at a certain level do not operate with equal effect in this field. The price of labor in professional occupations, in short, is not competitive, but is either customary or monopolistic.

Salaried public officials belong to a similar category; for governmental salaries depend primarily on the relative desirability of governmental service, and on considerations of imagined political expediency. They may be highest in countries where the usual level of wages is lowest. Even if this were not so, it would be hard to say on whom a tax on official salaries could be shifted. Surely not on the government, because it does not enter the market as a producer; nor does it follow ordinary commercial principles. If the tax be sufficiently high to render the position undesirable, it may result in less efficient, and therefore in the long run more expensive, work. The community at large will suffer from a poor civil service. But the tax, as such, cannot be shifted.

When, however, we come to the ordinary wages of the common artisan, whether skilled or unskilled, the matter is not so simple. We have seen that the older theory maintains that a direct tax on wages falls on profits, because wages are necessarily fixed by the cost of living, or the standard of life. But, in the course of our sketch of the history of the doctrine, we learned some of the objections made to this theory. These may be summed up as follows:—

(1) It is assumed that laborers will not consent to accept a reduction in their standard of life. This, however, is largely a question of power between the wage-earner and the employer. It is impossible to say in advance who will win. If wages were actually fixed by the bare minimum of subsistence, then, indeed, a tax on wages would necessarily be shifted. Although Ricardo was not, properly speaking, a believer in the iron law of wages, he makes use of this very argument to prove his point. The fact is that wages are never at this point

of bare subsistence: the standard of life is always above this limit. Between this limit and the actual standard of wages there is a margin on which a tax may encroach. An irruption of low-priced immigrants, other things being equal, will inevitably lower the standard of life and the general rate of wages. So also a tax on wages which will, at first at all events, fall on the laborer, may equally well lower his standard of life, by making it impossible for him to procure the conveniences to which he has been accustomed. The wage-earner will, of course, strive to reimburse himself by demanding higher wages; but there is no reason why the employer should be compelled to acquiesce. If that were true, no reduction of wages would ever be possible, because a reduction of wages always implies a lowering of the standard of life. Whether or not a tax on wages will be shifted on profits, even in the long run, depends entirely on the relative strength of the labor organizations and on other conditions which may compel the employer to pay an increase of wages equivalent to the amount of the tax. Whenever such conditions are not present—and they are frequently absent—the tax will rest on the wage-earner, and trench on the margin above the bare rate of subsistence, thus keeping down the standard of life.

(2) Even granting that a tax on wages may in the long run, under favorable conditions, be shifted to profits,, in the interval the burden will be borne by the laborer. It is a wellknown fact that in a general rise of prices the price of labor is always the last to respond to the general impulse. This interval, however, may become more or less permanent. The longer the delay, the more severe is the suffering that ensues, and the greater the prospect that the temporary diminution of the consumers' effective demand will be converted into a reduction of the laborers' standard of life.

The taxation of labor results in a vicious circle. The weaker the workman, or the lower his general standard of life, the less able is he to resist the attempts of the employers to reduce his wages to the barest minimum. The higher his wages, the more effective is his power of resistance and compulsion, and the more likely is he to secure a gradual continual advance of wages. The imposition of a tax on wages thus injures the workman both temporarily and permanently. It reduces his standard of life, and, in weakening him, it renders less easy any future attempt to lift himself out of his impoverished condition. If a tax on wages is shifted to profits at all, it is only after a long and fierce struggle, during which the laborer may suffer materially, and as a result of which his whole morale may be lowered. Here again there is no place for either optimism or absolutism of theory.

CHAPTER VII—Other Taxes

The application of the principles which govern the incidence of taxation to the other taxes that have not yet been treated calls for but little discussion. The most important of the remaining taxes are as follows:—

1. *Poll Taxes*

A poll or capitation tax is clearly not susceptible of being shifted, except to the extent that it falls on the laborer. Even then, it must trench upon the margin between the cost of subsistence and his actual standard of life before the conditions under which the shifting may take place will be present. The possibility of shifting, moreover, as has already been indicated, is not by any means the same thing as the actual shifting itself.

2. *Inheritance Taxes*

A tax on inheritances or bequests cannot be shifted, for evidently there is no one to whom it could be transferred. The ulterior effects of which some writers speak, such as the influence of inheritance taxes on the accumulation of capital, do not really illustrate the process of shifting. They are, moreover, of such doubtful validity that they may be neglected.[1]

3. *Excises*

An excise or internal revenue tax may or may not be shifted. It is virtually one form of the profits tax discussed above. The problem depends for its solution on the consideration of all the complicated points referred to there.[2] It may be said, however, that in the majority of cases such a tax tends to be shifted in whole or in greater part.

Much the same may be said of an import duty. As a general rule, this tax will be partially or completely shifted; but the exact result will depend on the particular conditions of the individual cases in question. The application of the general principles of incidence to

[1] Professor Bastable (*Public Finance* 2d ed., p. 563), for example, bases his criticism on Ricardo's view that such taxes fall on capital, and thinks that the whole society will as a result suffer from less efficient production. For a criticism of this position, see West, *The Inheritance Tax*, 1895, pp, 119-122.

[2] Above, pp. 270-294.

customs duties is so important as to warrant a somewhat more extended discussion.

4. *Import and Export Duties*

The theory of international value, as it has been successfully developed by the classical economists, is nothing but an application, although an exceedingly complicated one, of the general law of value.[1] The elements that enter into the equation of international demand are so numerous and so complex that an investigation of the actual effects of a tax upon any one class of commodities would require for its proper solution not only an acquaintance with the details of the theory itself, but also an intimate knowledge of all the forces influencing the supply of, and the demand for, the commodities affected in the two countries immediately concerned as well as in all the other countries that constitute the world market.[2] Among the considerations affecting the problem of the incidence of a tax on imports or exports, the following are the more important:—

(1) To what extent does the exporting country control the supply of the commodity? (2) To what extent does the importing country constitute the sole market for the commodity? (3) To what extent can the commodity in question be produced at home? (4) What is the ratio of product to cost? (5) To what extent is the demand elastic?

Let us take up first the questions connected with an import duty. The imposition of the tax may be considered, in ordinary cases, as an addition to the cost of production, and as such increases the price of the article in the importing country by the amount of the duty. Under

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[1] The most successful restatements of the theory by modern authors are to be found in Bastable, *The Theory of International Trade, with Some of its Applications to Economic Policy*, 2d ed., 1897, and Edgevvorth, "The Theory of International Values," a series of articles in the *Economic Journal*, iv (1894), pp. 35-50, 424-443, 606-638. The particular question of the shifting of a tariff tax was treated by Professor Bastable in his "Incidence and Effects of Import and Export Duties," in the *Report of the British Association* for 18S9, pp. 440 et seq.

[2] As against those who expect a precise answer to every practical problem of the effect of a tariff, the statement of Professor Nicholson seems almost justifiable, that in many cases " the only answer is that an answer is impossible." In another place he says that " the incidence of import and export duties, especially when the indirect effects are considered, is the most complicated and difficult problem in economics."—"Tariffs and International Commerce." By J. S. Nicholson. In the *Scottish Geographical Magazine*, September, 1891.

such conditions it is true that "a tariff is a tax," and that it falls on the consumer. This conclusion is based on the assumption that the producers do not bear any of the tax; that, although the sales necessarily fall off more or less, according as the demand is sensitive or not, by reason of the increased price, the producers find an outlet for their goods in some other country, so as to recompense them for the partial loss of the market in the country which imposes the tax.

This assumption, however, is not always correct. It may happen that the importing country constitutes either the sole market for the commodity, or such an important part of the market that the producer finds it impossible or difficult to extend his sales in other countries. To the extent that this is true, the producer finds it to his interest to avoid any substantial diminution of the demand in his chief market. This can be accomplished, however, only by his consenting to bear a portion of the tax himself. The case that is most favorable to the consumer in the importing country is: first, that the importing country constitutes the sole market for the commodity; and, second, that the demand for the commodity is so very elastic that a slight increase of price causes a very great diminution in the sales. But from this very exceptional case, where the producer tends to bear a large share of the tax, down to the ordinary case, where the consumer bears the whole of the tax, there are all kinds of gradations.

Another very important element in the problem is the extent to which the home production in the importing country may fill the gap caused by the diminution in the imports from the exporting country. The ordinary reasoning that "a tariff is a tax" is based on the assumption, as we have seen, that the equilibrium will be reached when the decreased supply from the foreign country sells at the increased price. If the home country cannot produce the article at all—that is, if the exporting country has a monopoly of the supply—this assumption is valid. But if the home country has hitherto been prevented from producing the article solely because the price has been too low to admit of profits, the degree to which home production can round out the supply depends entirely on the extent to which the price rises. Suppose that an imported commodity can be produced abroad so as to sell in the importing country at $10.00, while it can be produced in the importing country only at $12.50. If a tax of $2.00 per unit is imposed, other things being assumed as equal, the price will rise to

$12.00, and the demand will fall off. But suppose that the importing country can now furnish a part of the supply, and because of the larger output will be able to produce with profit at $11.00. Notwithstanding the tax of $2.00, the price cannot rise above $11.00, the demand will not fall off as much as before, and the tax will be divided between the foreign producer and the home consumer. The extent to which the home producer can capture a part of the market depends, among other things, upon the ratio of product to cost. If the commodity is produced at home under the law of increasing cost, which as we have seen is the usual case in competitive industries, the chance of the home producer is not so good; if under the law of decreasing cost, which as we know implies a trend toward monopoly, his chances are better. But it is obvious that cases may arise where it is not true that "the tariff is a tax" in the sense that the whole burden of an import duty is necessarily borne by the consumer.[1]

The indirect effects of an import duty are interesting, but lie beyond the scope of this inquiry. From the point of view of revenue, it is clear that the greater the supply that is captured by the home producer, the less will be the proceeds of the tax. If the foreign producer is entirely shut out, the revenue will be zero. The amount of the immediate loss to the community in general will thus depend on the price at which the home producer can afford to sell. If, in the extreme case mentioned, the home producer supplies the entire market at a price of $12.00, the government loses its whole revenue from the tax, and the consumers lose the entire amount of the tax through the increase of price. If, on the other hand, the price of the home product after the shutting out of foreign competition and the development of improved processes at home can be finally brought down to a point lower than $10.00, the revenue will indeed still be zero, but the consumers will lose nothing, and the community will have gained the advantages resulting from an increase of industry. This, however, brings us at once to the controversy between free trade and protec-

[1] This is now recognized by the foremost writers on the subject. Cf. the quotations in Professor Edgeworth's article in the *Economic Journal*, iv, p. 43, and his own statements, ibid., pp. 46-48. The conclusions to which Professor Carver comes in his article on "The Shifting of Taxes" in the *Yale Review*, v, p. 271, are therefore really not "opposed to the orthodox teachings" on the subject, as he assumes, if by orthodoxy we mean the views commonly held to be authoritative.

tion—a controversy that can be settled only by considering the wider and more permanent results of an international industrial policy. What concern us here are the immediate results, or the actual incidence of an import duty.

In the case of an export duty, much the same conclusions can be reached. An export duty ordinarily falls on the citizen of the exporting country. But if the duty is imposed on a commodity of which the country has a monopoly, and still more if the demand for this monopolized commodity is comparatively persistent, it may happen that an export tax will be shifted to the foreign consumer. It is noteworthy that the chief examples of export duties still to be found are those of duties on articles which approach the conditions of monopoly supply. Such are, for example, the export duties on opium in India and on guano in Peru. But it is to be observed that the cases of perfectly stable demand, even for a monopolized article, are exceedingly rare.[1] There is scarcely any commodity for which some substitute, even though it be incomplete, cannot be found. To the extent that this is true, more and more of the export duty will be borne by the monopolist exporter for fear that the decrease of sales, even at a higher price, will lower his maximum monopoly revenue.

5. *Stamp Taxes*

Stamp taxes are usually supposed to be shifted to the consumer or purchaser. This does not, however, necessarily follow. If the stamp taxes are imposed on the sale of particular commodities—as, for instance, the American internal revenue duty on proprietary medicines—we are confronted by what is an ordinary form of the taxation of profits discussed above. This is equally true when the so-called stamp taxes are nothing but taxes on production, levied by means of a stamp, as in the American taxes on tobacco, whiskey and beer. Stamp taxes here do not really form a distinct kind of taxes.

If the stamp taxes are, however, taxes on transportation and communication, much again will depend on the height of the tax, the character of the business and the elasticity of the demand. For instance, in the case of the American war revenue taxes of 1898, the one cent tax on telegraph messages and on express receipts has been

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[1] See above, pp. 189-191

shifted to the consumer, partly because the tax was high enough, from the standpoint of the telegraph and express companies, to warrant an attempt to throw it on the sender of the message or parcel, and partly because the tax was at the same time so low that the consumer did not care to abandon the use of those particular media of communication and transportation. The telegraph is used in America almost exclusively for purposes of business; and the service may to a large extent be classed as a necessary, with comparative inelasticity of demand. The express companies, moreover, even in that part of their transaction where they come into competition with the postal service, do not run much risk of reducing their business by adding the tax to the price.

On the other hand, the one cent tax on parlor car tickets has been borne by the transportation companies, partly because of their fear of losing their patronage, partly because the tax constitutes a less important percentage of the price than in the preceding cases. From the consumer's standpoint, in the case of a moderate comfort like the parlor car service, even a slight addition to price may mean a considerable diminution of demand for the service. From the producer's standpoint, one cent on a sum ranging from two to four dollars (the average price of a parlor car ticket) is of considerably less consequence than one cent on a sum ranging from twenty-five to forty cents (the average price of a telegraph message or express shipment). Even here, however, it is open to question whether the conditions of comparative elasticity of demand and supply will not change to such an extent as to cause the tax on parlor car tickets to be shifted to the consumer, just as the ordinary tax on railroad tickets in the continental countries of Europe is also borne by the passenger.

Finally, when a substantial tax is imposed on an act of communication or of transportation, where the demand is sensitive, the tax may, in rare instances, seem to have the very exceptional result of lowering prices. When the United States, for instance, imposed, in 1898, a one cent tax on ordinary fifteen cent telephone messages, the telephone companies were so apprehensive of diminishing their maximum monopoly revenue, that they not only decided to refrain from adding the tax to the price, but also resolved to evade the tax entirely by reducing telephone messages to a price below fifteen cents. Ordinarily, however, a monopoly like the telephone company would be presumed to have realized its maximum advantage at the price current before the imposition of the tax. The tax may, indeed, in this particular case, have led the company to consider the whole matter anew; but, after all, the reduction of the price would have ultimately come about, tax or no tax. The tax, therefore, was the occasion, rather than the cause, of lower prices.

When the stamp taxes are taxes on acts or transactions, the incidence will depend on whether these transactions are of a commercial character. In the case of judicial taxes, sometimes termed court costs and fees, there is evidently no one to whom the taxpayer can shift the burden. In the case of ordinary commercial transactions, the important considerations, again, will be the height of the tax and the elasticity of the demand. When the tax is very insignificant, as in the case of a tax on the ordinary receipts of sales, the merchant is very apt to bear the tax himself. When the tax is sufficiently large to make it an inducement to the seller to shift the burden, the tax, if imposed on him, will usually be shifted to the buyer, except to the extent that this shifting will diminish the number of transactions and thus induce the seller to bear a part of the burden himself. In such cases, the burden is apt to be divided in accordance with the relative elasticity of demand and supply. The net result may then be a diminution of transactions. The chief reason, for example, why there exists in the French cities no such important class of real estate brokers and speculative builders as in the American cities, is to be found in the high French taxes on transfers of land. Finally, when the stamp taxes are imposed on the transfers of capital, as between lender and borrower, it is clear that the tax will be largely borne by the borrower, in accordance with the principles laid down above.

6. *Income Taxes*

The incidence of an income tax has been much discussed. One writer has even attempted to prove that an equal tax on incomes is the only tax that cannot be shifted.[1] He draws the conclusion that the income tax must therefore be the ideal—the only possible realization of the principle of equality of taxation. This contention, however, is open to

[1] Kaizl, *Die Lehre von der Ueberwälzung der Steuern*, pp. 101-118.

criticism for two reasons. In the first place, we have seen that there are many other taxes which cannot be shifted—like the poll tax, taxes on inheritances, on rent, on salaries, and certain taxes on monopolies. Secondly, and more important, it is untrue that the income tax, as frequently levied, cannot be shifted.

In some countries, as in England, the income tax is simply a combination of taxes on the separate ingredients of income, and it often happens that the so-called income tax is, in reality, a system of taxes on gross revenue or gross receipts. In such cases there can be no question that each part of the income tax follows the laws of incidence of the respective separate taxes, so that there is, in respect of incidence, practically no difference between a so-called income tax and the other direct taxes of which the income tax is substantially composed. If the total income is composed of wages, the law of incidence cannot be different, whether we call the share income or wages. If the total income is composed of profits in the broad sense, the tax will be shifted or not, according to the rules of incidence that govern a tax on profits. If the income is derived from house rents, the final burden will be borne in accordance with the principles laid down in discussing the tax on real estate. If some of the separate parts are shifted, the whole cannot possibly remain unshifted.

In those cases, indeed, where the tax is levied on pure income in the strict economic sense, the tax is substantially a tax on economic rent, plus a tax on net profits, plus a tax on wages. Now, the tax on economic rent and on net profits cannot be shifted; and, therefore, as regards all members of the community except the wage-earners, a tax levied on pure income tends to stay where it is imposed. So far as the lowest incomes are exempted from the tax, the tendency would also be for the income tax on the laborers to stay where it is put. But, even in such cases, there is no absolute certainty that the income tax will not be shifted. In actual life, of course, as we very rarely find either a pure income tax or an equal income tax, we cannot safely rely on the complete non-transferability of the tax. Nevertheless, to the extent that the tax may be considered one on surplus, rather than on margin, the chances are that the tax will remain where it is originally placed.

This entire question, however, like that of the incidence of stamp duties and taxes on exchange, as well as the wider problem of the shifting of all taxes from the consumer onward, practically resolves itself into the old problem whether a tax is to be regarded as a cost of production or an outlay for consumption.

In all the cases that we have thus far discussed we have traced the shifting of taxes down to the consumer. Certain taxes, we have found, are never shifted; other taxes are sometimes shifted in whole or in part to the consumer. But will not the consumer in turn shift the burden to some one else? Here we must remember the theory of Canard, Thiers and Stein, that every tax is shifted on everybody—that every consumer will again shift the tax on a third party, and that this third party who is again a consumer will shift it to some one else and so on *ad infinitum*. Since every one is a consumer, every one will thus bear a portion of the taxes that everybody else pays.

The error of this doctrine lies in the failure to distinguish between productive and unproductive consumption. If every taxpayer were engaged in production and paid taxes only on what he employed for the purposes of further production, there might be some truth in the foregoing doctrine. Many taxes fall on individuals who are not producers at all, so that there is no question of any shifting to the consumer, while each consumer uses only a part of the commodities consumed by him for productive purposes. Every one consumes unproductively. Whatever an individual spends on luxuries, or on anything but necessaries, is an expenditure which, so far as he is concerned, does not give rise to any further relations of producer and consumer. If the consumer, on whom a certain tax has been shifted, spends his income in buying diamonds, on whom can he possibly shift the tax } Not on the diamond dealer, because he does not stand in any relation of producer to the dealer. He may indeed buy fewer diamonds than he would have bought if the tax had not been imposed, but he cannot shift the tax. The shifting of the tax is not the same thing as the result of the tax. What is true of the diamond purchaser is true of all who consume for purposes other than those of production. So that there is no indefinite diffusion of taxes.

Only so far as the individual purchases or consumes a commodity in order to produce other commodities with it, will the condition arise under which he as producer will be able to shift the tax proper on to another consumer. Here, again, the possible conditions are not necessarily the actual facts. Just as only some producers—and even they only under certain circumstances—will be able to shift the tax, so only some of the consumers (who must in this respect be regarded as producers)—and they only in part—will be able to shift the tax. Hence the theory of the general diffusion of taxation is untenable, whether the theory asserts that all taxes are equally spread throughout the community, or that they will inevitably rest at last on some one class.

CHAPTER VIII—Conclusion

We come now to the close of our investigation, and to the consideration of the question whether the theory of incidence contains by inference any advice for the statesman engaged in framing a scheme of taxation. What is the practical result of our discussion? What weight should be attached to theories of incidence in constructing a positive system of public contributions?

In the first place, we have seen that there is no room for optimism of theory. The legislator cannot rightfully shut his ears to any cry for reform, on the plea that all old taxes tend to become good taxes. Nor dare he complacently grasp any new source of revenue, on the assumption that all taxes, no matter how levied, will ultimately be borne by the community at large. The theory that "all taxes fall on everybody" and are therefore just, is incorrect because it assumes that all taxes are a part of the cost of production. This assumption is untrue, because some taxes are levied on persons, or property, or revenue, where there is no further relation of producer and consumer. Even if all taxes were to be regarded as additions to the cost of production, it would not follow that the taxes would be shifted to the consumers in any definite proportion to their faculty or ability to pay, which is the only test of justice in taxation. If all taxes did really fall on everybody, taxation would be proportional to expenditure; and expenditure is, of all bases of taxation, the least equitable. Thus the optimistic theory must be discarded: first, because the general diffusion doctrine is untrue; and, second, because if it were true, it would cause injustice. The legislator cannot shirk his duty in this easygoing way.

On the other hand, there is no good reason for pessimism or agnosticism. Some writers, as we know, claim that it is useless to construct any system of taxation, because it is impossible to foresee the ultimate consequences of any tax. But this hopeless attitude we have found to be mistaken. It is true, indeed, that the distinction between direct and indirect taxes is robbed of much of its value; for many of the so-called direct taxes may be shifted in the same way as the so-called indirect taxes. In common parlance the distinction between direct and indirect taxes is practically relegated to the mind of the legislator: what he wishes to have borne by the original taxpayer is called a direct tax, what he intends to have borne by some one else than the original taxpayer is called indirect. Unfortunately the intention of the legislator is not identical with the actual result. We must, then, either revise our nomenclature or declare the present distinction of little value.

While the mere fact that a tax is called a direct tax does not show that it may not be shifted, the preceding discussion has shown that certain general tendencies may be clearly defined. What are these general tendencies of incidence? They may be summed up under four heads.

In the first place all taxable objects may be looked at from the standpoint of property or from that of revenue. Regarded from the former point of view, we have found that unequal or partial taxes on revenue-yielding property tend to be a charge neither on the community nor on the future possessors, but only on the holders at the time the tax is imposed. The capitalization theory comes into play whenever a new tax is assessed on certain classes of property or the rate of an existing tax is altered. The tax is never shifted onward, but its results are serious, whether for good or for evil, to the class of initial owners alone. The lesson which the capitalization theory has to teach is that the evils of inequality of taxation are doubly intensified when the inequality attaches to revenue-yielding property, and that the ultimate equalization of the burden, if it come at all, can be attained only at the expense of the unfortunate present holders.

Secondly, if we look at taxable objects from the standpoint of revenue, we have found that there are only two kinds of revenue on which a tax, when once imposed, necessarily remains. These are economic rent and pure profits, or, to use a term which has sometimes been adopted to include both elements, economic surplus. A tax on surplus can never be shifted, because surplus is not a part of cost of production, but the result of process of production. Thus, taxes on inheritance, gifts, gains from speculation, etc., cannot be shifted, because they are a part of surplus, of pure profits. If it were possible, then, to find a class whose revenue consisted exclusively of economic rent and pure profits, the legislator might single out this class either for taxation or for exemption, according as it was the general policy to have taxes paid directly or indirectly.

In the third place, all remaining taxes tend, in the abstract, to be shifted, until they fall ultimately on this surplus, because all other taxes tend to form a part of cost of production. The conclusion might, therefore, be drawn, that taxes should be levied either on net profits alone or on commodities—in the latter case, falling in the long run on profits, but without the knowledge of the profit-receiver. In either case, taxes on wages would be regarded as part of the cost of production, and would be shifted from wages to profits.

Such conclusions rest on doctrines very like those that we discussed under the head of "absolute theories." They tend to be true only in an isolated community where there is complete mobility of labor and capital, and where the economic man reigns supreme. In actual life, these tendencies are met by the counter tendencies of "economic friction." Taxes on land often tend to stay where they are put, because of international relations and the lack of absolute transferability of capital; taxes on wages, if cunningly imposed, may lead to a lowering, instead of to a heightening, of the standard of life; taxes on occupiers of houses are not necessarily shifted to the owners; and so on.

Fourthly, above all, we must distinguish between kinds of revenue and classes of society. Economic surplus, pure rent and pure profit may mean the entire revenue of some individuals, but only part of the revenue of others. As we have already pointed out, the mere fact that a tax may be shifted by a class does not show that the tax may not press very unequally upon individual members of the class. If we thus change the point of view from social classes to individuals, we see how untenable is the argument that the best tax is an indirect tax, because it will ultimately be shifted to the economic surplus of society. For such a tax can get to economic surplus only through the productive consumption of individuals—that is, through expenditures which again create relations of producer and consumer. But as we have just pointed out, not all consumption is productive consumption; and expenditure in general is the least equitable basis of taxation, because it always bears with greater weight upon the less fortunate or more deserving members of any social class.

The advice, therefore, which the correct theory of incidence has to offer to the legislator is: Choose primarily those taxes the results of which can be foretold with some degree of accuracy; at all events, take some taxes where the chances of shifting are very slight, and take, on the other hand, taxes which will be shifted in their entirety. In the former class are included certain taxes on monopolies, net profits, inheritances and definite forms of property and income. In the latter class are included taxes on commodities in the shape of import duties, certain excise taxes and licenses, and taxes on gross receipts of corporations. If the legislator desires to reach certain classes of society directly, let him choose the first kind of taxes; if he desires to have his taxes paid unawares, let him choose the second. If neither the one nor the other kind of taxes suffices for the public revenue, the legislator will be compelled, as is often the case, to resort to taxes, the incidence of which is more uncertain, and where the intentions of the legislator may be entirely frustrated by the actual course of events.

The theory of incidence has therefore important, but by no means final, advice to offer in the elaboration of a tax system. It does not by any means render unnecessary the study of the principles of justice and equality in taxation. If neither the optimistic, nor the pessimistic, nor the agnostic theory of incidence can be any longer upheld, the student of public finance must seek to elaborate the rules of equitable taxation without any reliance upon the automatic operation of presumed absolute laws. He must endeavor to make a choice of public revenues which in themselves satisfy the requirement of the principles of economic justice; and in so doing he may be guided by those principles of incidence, but only by those, which are definite and well ascertained. The theory of shifting of taxation is, therefore, an aid to, but not a substitute for, the study of economic justice. As has been well said, the doctrine of incidence is neither the archangel nor the archfiend of the science of finance.

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