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Correspondence: “Sinking-fund Method for Amortizing Franchises”

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Correspondence

"Sinking-fund Method for Amortizing Franchises"

Editor, The Journal of Accountancy:

SIR: In some instances, at least, Mr. Wildman's arguments in favor of the straight-line method of amortizing the cost of franchises (set forth in the article *Sinking-fund Method for Amortizing Franchises* in the January JOURNAL) are upset by the simple mathematics of the case.

A certain company paid \$500,000.00 for a franchise running over a period of eighty years. The plant which it purchased at the same time was equipped for its entire functioning for the rest of its existence; gross revenues and operating expenses, including depreciation, were practically fixed amounts; and the utilizing of the rights comprehended by the franchise brought into the company net cash earnings of practically the steady annual sum of \$50,000.00 throughout its life. It could have paid dividends of \$50,000.00 a year except for the necessity of making good the capital invested in franchise by the date of its termination.

If it should provide for amortization by the straight-line method it would write off \$6,250.00 a year, leaving only \$43,750.00 available for dividends. Mr. Wildman's article implies that the question of replacing capital invested in the franchise is separate and distinct from arriving at figures which will measure the amount of amortization applicable to the franchise from time to time. Nevertheless, \$6,250.00 is not only a figure in the reserve but it is also an amount of cash on hand to be invested, and, as these annual amounts set aside accumulate, the earnings derived from their investment increase. What disposition is to be made of these earnings? They must either (a) be retained by the company and thus go to swell the amount intended for the replacement of capital invested in the franchise or (b) be paid out in dividends together with the amount derived from operations.

If the company should allow these earnings to remain undistributed and should confine its dividends to the \$43,750.00 net annual earnings, it would find as a result of interest accretions at the termination of the franchise that instead of having \$500,000.00 on hand with which to replace the capital invested in the franchise it would have on hand, assuming that the funds not needed in the operation of the business can earn 6 per cent. when invested, the sum of \$10,916,250.00.

If the company pays in dividends its net earnings from operations plus its interest on investments, while it will have available for dividends in its first year \$43,750.00 and in the second year \$44,125.00, in its fifty-first year it will have available for dividends \$43,750.00 plus \$18,750.00, the latter being 6 per cent. of \$312,500.00, by that time set aside and invested, and in its eightieth year its dividends for the same reason will amount to \$73,375.00. If the company should keep its books according to the straight-line method of amortization and stockholders should dispose of their stock, say, in its fiftieth year, on the basis of book values, it is apparent that the purchasers would obtain a rare bargain.

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There is no argument for the straight-line method in such a case. The proper sum to set aside out of each year's operating earnings is such an amount as with interest earnings will replace the capital invested in the franchise at its termination. The amount in this particular case is \$286.27 a year.

It is not a problem in accounting subject to judgment; it is a problem in mathematics. While the straight-line method might seem a simple substitution, its use is as incorrect as to substitute simple division where cube root is required.

This criticism is limited to a particular case, a case which was actually dealt with by the writer, with one factor of variation, namely, that the free cash available as a result of charges to earnings for amortization was in part to be invested in the company's own bonds, the interest saved by thus reducing indebtedness being equivalent to interest earned on the part of funds invested outside the business.

Yours truly,

L. P. COLLINS.

Pittsburgh, Pennsylvania, January 16, 1923.

Editor, The Journal of Accountancy:

SIR: Your courtesy in sending me Mr. L. P. Collins' criticism of my article entitled *Sinking-fund Method for Amortizing Franchises*, which appeared in the January number of THE JOURNAL OF ACCOUNTANCY, is much appreciated. The subject is so highly technical and complicated that emphatic assertion in favor of or against the sinking-fund method may easily convince, unintentionally mislead and remain unchallenged except after deep thought and consideration on the part of the reader. I am glad, therefore, to contribute whatever I may in searching out the facts of a controversial matter, both sides of which offhand may appear to have merit. I shall attempt first to refute Mr. Collins' argument against the straight-line method and later show wherein the sinking-fund method fails to accord proper treatment to the amortization of a franchise.

Mr. Collins, in the premise set forth in the second paragraph of his criticism, narrows down the issue until it becomes a question as to the disposition of the cash resulting from earnings (\$50,000). Obviously, if \$6,250, being one-eightieth of the franchise cost (\$500,000), is reserved, there will be available for dividends only \$43,750, and the amount corresponding to the reserve (\$6,250) will remain in the cash. Now comes the question of what to do with this cash. It may not be paid out as dividends. It is not needed and may not be used for the extinguishment of liabilities or put into additional property, because, according to the limitations imposed in establishing the conditions on which the premise is based, there can be neither other assets and liabilities nor further income and expense. A further reason why this cash may not be utilized for any of these purposes is that it is needed to maintain the capital intact. In other words, \$6,250 has passed from the asset value of the franchise to cash. The replacement of capital invested in the franchise has been effected through earnings. And please note that the capital has not for a moment

become impaired. The asset in which it was invested has only changed form.

If the company should allow the cash representing earnings to remain undistributed and should confine its dividends to \$43,750 per annum, the cash invested annually at 6 per cent. with the interest accretions on the accumulated sum would, at the end of eighty years, produce \$10,916,250. In other words, the company would thus build up a sinking fund, scientifically calculated and based on annual deposits of \$6,250.

Without intending any discourtesy to Mr. Collins, may I suggest that this procedure would be absurd? The sum to be amortized and the capital to be kept intact is \$500,000. If the company has in hand at the end of eighty years \$500,000 of assets representing the invested capital, every purpose, logical, ethical or legal, will have been served. Hence the question: "Why resort to a sinking fund, which calls for a compounding of interest and building up an illogical surplus"?

If annual sums of \$6,250 could be invested in securities to yield 6 per cent. per annum, the simple interest on the accumulated investment from year to year would amount, in the course of eighty years, to \$1,185,000, or an average of \$14,812.50 a year. There appears to be no reason why this interest as earned from year to year should not be credited to income and be paid out as dividends. In this way no part of the principal invested in order to accumulate \$500,000 at the end of eighty years would be affected. The amounts of annual interest would increase from year to year, and there would be a corresponding effect on the amount disbursed as dividends. Taken over the whole period, the position of stockholders, from a dividend point of view, would be very advantageous, since the increased dividends made possible by interest would average \$14,812.50 per annum, whereas the annual loss in earnings from operations on account of the charge for amortization would be only \$6,250. Under the straight-line method there would be available for dividends over the whole period and from all sources, \$4,685,000 as against \$3,977,098.40 under the sinking-fund method.

In the event of a change in the ownership of the shares, all earnings, either direct or through interest, having been paid out as dividends, it appears that there would be no dispute as to the book value of the shares, since there would be no surplus. It is not probable that either party would expect to base the sale price on a value which would comprehend the present worth of future earnings including interest. Otherwise, it is not apparent where there would be any rare bargain, since substantially all cash corresponding to surplus earnings and interest would have been paid out currently in liquidation of dividends payable.

Having tried to dispose of Mr. Collins' criticism of the straight-line method by reducing his premise to an absurdity, I should like to consider briefly one or two matters concerning the sinking-fund method, using Mr. Collins' facts and figures. The sinking-fund method is subtle and intriguing. I confess to having been tempted astray by it on more than one occasion, because it gives the appearance of releasing for dividends annually all but a small amount of the earnings from operations. This

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small amount is that which is necessary to be, on the one hand, charged against earnings and credited to reserve for amortization of franchise and, on the other hand, taken out of general cash and deposited in the sinking fund. The annual amount necessary to accumulate in eighty years at 6 per cent. a sinking fund of \$500,000 and create a reserve in equal amount is \$286.27.

At the end of one year the value of the franchise, based on its cost and life, has decreased \$6,250. If this loss in value is not met out of earnings the capital which the asset represents is depleted to that extent. The sinking-fund method provides for the meeting of this decrease in value at the end of the first year to the extent only of \$286.27, which is charged against the earnings and credited to the reserve. Hence the capital has been impaired to the extent of the difference, \$5,963.73. At the end of the second year the difference is a little less (\$17.18) than twice this amount, due to the interest on the first deposit which has run during the second year and has been credited to the reserve.

The sinking-fund reserve is a laggard. It never catches up with the amortization until maturity. The following table shows the discrepancy between the sinking-fund-amortization reserve and the straight-line-amortization reserve, the latter of which correctly reflects at all times the extent to which the value of the asset has declined:

<i>End of year</i>	<i>Straight-line reserve</i>	<i>Sinking-fund reserve</i>	<i>Extent of impairment</i>
Ten	\$ 62,500.00	\$ 3,773.27	\$ 58,726.73
Twenty	125,000.00	10,530.61	114,469.39
Thirty	187,500.00	22,631.99	164,868.01
Forty	250,000.00	44,303.71	205,696.29
Fifty	312,500.00	83,114.46	229,385.54
Sixty	375,000.00	152,618.60	222,381.40
Seventy	437,500.00	277,089.94	160,410.06
Eighty	500,000.00	500,000.00

No argument should be needed, it seems, to convince one that a franchise granted to run for a term of years and without the privilege of renewal has no value at the date of expiration. If this is so, the cost of the franchise should be spread over the life thereof, so that each accounting period of the same length will absorb an equal amount. If the charge in any period is not met out of income the result will be an impairment of capital. If all the net income, exclusive of a charge for amortization of franchise, is declared away as dividends and the dividends are paid, the act apparently may be construed with propriety as a payment of dividends out of capital. It is illegal in most states, if not all, to pay dividends out of capital.

The sinking-fund method of amortizing franchises, therefore, appears to leave a company which permits of its use always in the position, until maturity, of having sustained an impairment of capital, the cause of which is found in the payment of dividends.

Yours truly,

JNO. R. WILDMAN.

New York, February 3, 1923.