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By Edward D. Page

Balance sheets have been made by bookkeepers from time immemorial for the information of owners of businesses. So long as the business man understood the meaning of the items in his balance sheet it made very little difference what terms were used to express them. Few words were necessary to answer the main question—What is my net worth? Assets of merchandise and cash and receivables against debts were quite sufficient to show the balance of net worth in a mercantile business. An item of real estate and machinery added to the asset column adapted this statement to the needs of a manufacturer. If he and his few creditors were satisfied this was enough. So long as his character was above reproach, and his ability was annually affirmed by a constant increase in the net worth, his credit, for as much as he needed of that commodity, could be depended on. I can remember when all that was needed to maintain a credit was to show a satisfactory figure for net worth without any explanations as to how it was made up, and let it go at that. Few dispensers of credit paid much attention to balance sheets—hardly even to their own, unless they were in some way displeased or disappointed with the final result.

But three things happened. First, a small number of artful and scheming tricksters found out how little was required to obtain credit, and, simulating the honest trader, built up credits by inflated asset valuations until their rapidly depreciating receivables and their rapidly vanishing cash forced failure. I well remember one nominally solvent woolen firm that went to the wall, with a million dollars in mining stocks valued at the par printed on the certificates as their chief asset. The treasurer of one of the most important cotton mills in Massachusetts for a while paid dividends and floated his paper on the strength of a stock of merchandise with whose cost he annually compounded the six per cent. interest that he figured had become a part of the cost as a carrying charge. Another mill treasurer kept himself for a while from failure by valuing his real estate and machinery at its cost, whereas when his credit clock ran down it was found to be so hopelessly obsolete that what had stood on the statement at a million and three-quarters sold for only seventy thousand dollars. This led to a call for more complete balance sheets and for some analytical ability in reading them.

Second, not only did business grow but industry became more complex, and so the capital required for their efficient operation increased at a rapidly advancing ratio. In 1860, $50,000 went as far in establishing a cotton mill as $350,000 in 1910. By average, an iron furnace could be run with only $86,265 capital at the former date, while half a century later its average need was $2,344,139. And so corporations took the place of private concerns, and with a large number of untechnical stockholders came the call for more elaborate reporting of business results.

Third, with the expansion of business came the need on the part of growing business for a broad and flexible basis of credit, while with the expansion of banking came a demand for liquid investment for secondary reserves in commercial paper. The bankers—once bit, twice shy—asked for more detailed information, and, as usual, they got what they wanted.

And so the preparation of a balance sheet has taken its place among the arts, and even the interpretation of one requires considerable skill. There is a deplorable lack of uniformity in the practice of preparing them, and I am making bold to present these notes with the hope that they may serve as the basis of some discussion as to a more complete standardization of the terms and methods used in arriving at a true statement of mercantile conditions.

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I. There are several methods by which the assets of an industrial business may properly be valued for the purpose of a statement of condition:

a. At prime cost;
b. At cost of reproduction;
c. At sale or realization price;
d. At value for use;
e. At an arbitrary value, generally less than any of the above, designed to eliminate all possibility of the inclusion, in the divisible surplus, of any values that could be destroyed by market fluctuations.

II. It must not be forgotten that all valuations are estimates. Real value can only be determined by conversion through sale and reduction of the proceeds to cash. In a going business it is seldom convenient at the arbitrary date chosen for the preparation of a statement of condition to establish real values, although there are some individual instances of conversion of assets into cash or debts receivable for balance sheet purposes. It is obvious that this method can be applied only to businesses dealing in instantly convertible securities or staple commodities. But by such a procedure the owners temporarily go out of business for valuation purposes. And, since the profits of most businesses are dependent upon the assumption of the risks involved in the holding as assets of instruments of production or commodities for future use or sale, to attempt the conversion of all such assets into real value at any one time or of instruments of production at any time would be liquidation and subversive of the purpose for which such organizations are formed as going businesses. Consequently we must resort to one or more of the methods of estimation stated in I.

a. Periodical statements of condition are valuable
   (1) for the information of the present and prospective owners and administrators of a business;
   (2) for the information of creditors, present and prospective.

b. From the comparison of two or more balance sheets the drift of a business may be inferred. To make comparisons of use a standardized system of valuation should be chosen and adapted to the conditions of the business. If profits are distributed at fixed intervals it is especially important that no undistributable valuations be included in the balance of profit and loss.

III. The assets of any business fall naturally into five categories:

A—Fluid assets:

1. Cash
2. Debts receivable:
    (a) accounts, not past due and,
    (b) notes, not extended.

B—Assets for liquidation:

1. Merchandise:
    (a) Raw materials for conversion;
    (b) Finished product for sale;
    (c) Materials in process of manufacture.
2. Investments; advances on collateral; notes and accounts past due.

C—Fixed assets: instruments of business:

1. Real estate
2. Buildings
3. Machinery
4. Furniture and fixtures
5. Investments in subsidiaries.

D—Intangible assets:

1. Patents
2. Leases and contracts
3. Franchises
4. Goodwill.

E—Fictitious assets:

1. Unamortized discounts on funded debts
2. Organization expenses
3. Losses not written off
4. Debit balances of profit and loss.

A—It is customary to estimate the valuation of fluid assets at their face or book values. Cash, if on hand or deposited in solvent banks, needs only to be stated. Debts receivable are also fluid because they liquidate automatically, and as it is the modern practice to charge immediately against the profit and loss account all failed accounts, and all such as are long overdue or otherwise deemed entirely or partly uncollectible, the sum of debts receivable may be appraised at face value, subject in most businesses to insignificant deductions. But in order completely to cover the loss from bad debts, however trifling, there is a growing practice among conservative accountants to segregate from the profit and loss balance a reserve for bad debts, which by recurrent transfers is kept at a little more than the amount which has been determined by experience to be the average percentage of loss on the accounts receivable existing at any given time. If fluid assets are subject to a term of credit or to discount for cash a suitable reserve should be carried to cover unearned interest or other possible deductions.

B—Assets for liquidation, requiring time and effort to resolve into fluid assets, are subject to the fluctuations of the market as well as to the perils of possible mismanagement or errors of judgment. They should therefore be valued more conservatively than fluid assets.

(1) Merchandise:

(a) The resale of raw materials is sometimes easy and inexpensive; sometimes very difficult and expensive, especially when bought for a particular purpose. There are several ways of valuing such materials, viz., (A) at prime cost; (B) at cost of reproduction or repurchase, but generally by a combination of A and B, at whichever is the lower of the two. Sometimes freight is added to the prime cost, more often it is not. Sometimes the net realization or resale price is used, against which, of course, back freightage and sales costs are deducted. There is much to be said in favor of the combination of methods A and B; for, inasmuch as time is required for the conversion of most raw materials, there is always some likelihood that the market value at the time of actual conversion may be as low as the lowest. Anything added to the profit and loss account by reason of an advance in raw materials is always a paper profit unless the business in which they are to be used is to liquidate immediately and cease operations. The real and only profit is when the materials are finally converted and sold for cash or a good credit. Even one whose business is simply that of dealing in the raw material would be counting his chickens before they were hatched if he were to include as profit in his balance sheet an advance in the price of his raw materials before that profit had been realized by a sale.

The case against adding freight to the cost of raw materials when estimating their value for the purposes of a balance sheet is simply that it is an unrealizable part of the cost if the material be resold. The argument in its favor is that it forms a part of the cost at factory, and as such should enter into the material cost of the product, rather than by way of an overhead charge. This may be a reasonable view, but, if adopted, a reserve against unrealized freight should be set up on the liability side of the balance sheet and taken from the surplus of profit and loss.

The most conservative method of estimating the value of raw materials used in manufacture is to carry them on the books at a fixed value or base rate irrespective of cost. Such a fixed value should always be low, so as to absorb all probable market fluctuations. The value of this method is twofold. It prevents the addition in rising markets of excess values to the profit and loss account before they are actually realized and acts as a deterrent to its improvident distribution in dividends, while in falling markets it absorbs automatically the losses which otherwise will result from enforced markdowns in values as material markets decline.

(b) While finished products ready for distribution are generally valued at cost unless this is greater than market value, it is perhaps safer to use the base rate above referred to for the raw material item in finished costs. This method shortens the valuation processes, or enables a perpetual inventory system to be installed, and facilitates the making of frequent trial balances based on fixed valuations—to be corrected by revision at longer fixed intervals. For purposes of arriving at real costs of the finished product the differences of raw material values can then be calculated as frequently as required and applied by addition at short notice to the amount of raw material contained in the product. A business which uses this method is in no danger of deceiving itself by the addition to its distributable profits of temporarily increased valuations which subsequently have to be written off—generally at a time when real profits are likewise declining. The continual marking down or marking up of the valuation of assets for liquidation is one of the ways in which producers manage to make themselves think that business is worse than it really is in every period of declining prices and better than it really is in periods of advancing values.

(c) Merchandise in process is generally valued at cost of materials plus labor up to the process which it has reached. It is safer practice to take all goods in process only at the valuation of the materials contained in them. Under conditions of semi-completion this is their outside sale value and in the event of the stoppage of production all they would realize. This method also simplifies materially the work of inventory and reduces the time and labor applied to it.

2. Investments if capable of valuation by an actual and open market and if intended to be sold may be taken at the sale or realization price; if not capable of such valuation, at cost; and if unproductive should be subject to the establishment of such fair and reasonable reserves for depreciation as may protect the owners of the business from loss in case for any reason it may be desirable to dispose of them. In such circumstances it is much easier and pleasanter to realize a profit on such a sale than to be obliged to write off a loss; and this plan avoids an incentive to improvident distribution of unrealized profit and loss balances. The value of advances on collateral generally made for long terms is naturally dependent upon the worth of the collaterals and the credit of the borrower. It is by no means easy to place an exact and stable valuation on the resources and ability of a long term borrower, for it is quite possible that his responsibility may materially alter before the collection of the loan. If the collaterals are not easily valued or have depreciated, a reserve should be established against such a loan, to be restored to the profit and loss account if the loan be successfully liquidated.

Notes given for past due accounts or demand notes, payable at the pleasure of the borrower, are seldom worth their face value and should be valued accordingly or, if valued at par for bookkeeping purposes, should be protected by a depreciation reserve.

C—The fixed assets of any going business are less capable of accurate appraisal than either fluid assets or assets for liquidation. They generally represent a prime investment of the capital required to establish a business, in the essential and necessary instruments by which, with the aid of liquid capital, labor and organizing ability, materials purchased may be converted into merchandise fit for resale at a profit over cost. Inasmuch as the expectation of this profit is the inciting cause for the investment of capital in forms from which it cannot readily be withdrawn it is apparent that at the start the real estate, buildings, machinery, furniture and fixtures and investments in subsidiaries in which it is locked up should be valued on the books at prime cost. Inasmuch as its fixed assets, except in cases of monopolies, are rarely regarded as anything more than an accessory resource in the estimation of the amount of credit which any business is to enjoy and inasmuch as any different value could only be established by a process of liquidation, which is not one of the contemplations of a going business, they should never be valued in the balance sheet at more or less than prime cost, modified however by the following considerations:

1. Real estate, except where it is a part of the business to improve real estate for sale, should not be advanced in estimated value so as to increase the profit and loss account, lest a business which shows its willingness or desire to add to its apparent distributable balance by estimated and unrealized profits in outside operations be judged to have failed in the normal operations for which it was organized. There is only one touchstone of a profit in outside operations, and that is cash or good security in hand as the result thereof.

2. Buildings. While the prime cost of the buildings necessary for the accommodation of a business is the main determinant of their valuation on the balance sheet, yet the fact must not be overlooked (a) that there is a limit, however long, to the physical life of a building no matter how well maintained, and (b) that there is a more subtle and somewhat indeterminate limit to its value for use, due to the progress of invention. If the physical life of a building be estimated at fifty years a reserve of two per cent. of its cost can be carried annually from the profit and loss to a depreciation account which may be charged with its replacement. It is true that structures built at times of low building costs may appreciate in cost of reproduction at times of

high building costs, but it would be injudicious to carry such fluctuations into a profit and loss balance as it certainly would be a great hardship when a similar loss of value occurs if the net earnings of the operations of the business should have to be charged with such loss. But over and above physical depreciation there is always at work in the fixed assets of industry the subtle influence of new processes and new methods of economy or efficiency and these have a constant tendency to impair the value of a building through its lack of proper spaces or of proper arrangement for new methods of production exacted by competition. This renders an old building so much less effective than a new one that estimates of the effective life of most factory buildings should be still further reduced and increased reserves established to meet this contingency. If the prime costs be maintained among the assets and the reserves for depreciation be segregated among the liabilities a fair measure for insurance valuations will generally be maintained; but accurate replacement values, which are what insurance adjusters are concerned with, will in any event have to be established independently. Experience has shown that they are a poor index to the valuation that should appear on the balance sheet, and that they vary materially, with the form of insurance written as well as with the market for building materials and labor. Frequent changes of valuation of fixed assets engender suspicion in the minds of dispensers of credits by continual fluctuation in the valuation of fixed assets and the carrying of such written-up valuations into the profit and loss account.

3. Machinery, both from wear and tear and from obsolescence, tends to deteriorate more rapidly than the general run of industrial buildings. Being itself a commodity a machine also fluctuates in value, and these fluctuations often succeed one another with great rapidity. For example cotton revolving top-flat cards have sold at $425 and $550 within the same year, and within two years' time from the minimum rose as high as $600.

In a mill of 40,000 spindles the extremes of variation in the value of the machinery installation if estimated at current market prices may easily be $100,000—an embarrassing addition if taken into inventory, equally certain to be lost another year.

It seems from this consideration that either prime cost or value for use is the fair, as it is the customary, method of machinery valuation rather than that of the variable cost of reproduction or sale price. In opposition it may be urged that machines when set up lose at least one-fourth of their cost value before they are turned over, and one-half within a year, and that the progress of invention often materially reduces within a few years their value for use or efficiency as compared with later models. But there is no reason why this, like the other fixed assets used in the business, cannot in justice to the owners be carried at cost among the assets and suitably depreciated by a periodical transfer from profit and loss to a depreciation reserve, so that, when the time comes that the machine must be replaced by a more efficient one, the result can be accomplished without a withdrawal of the cost from a single year's income. In regard to insurance the machinery account, like that of buildings, is a matter of the actual reproduction value of the plant. This may be more or less than cost, dependent on the machinery market of the year in which the loss is made. The valuations placed upon machines by the appraisers of mill mutual companies are generally full and without reference to their value for use, for the income of their companies depends in large measure upon a full measure of underwriting on every plant.

4. Experience has shown that the item of furniture and fixtures is the most elusive of all assets valuations in the balance sheet. Lenders of credit have suffered very heavy losses by admitting values claimed for these items of fixed assets. The best practice is to write them entirely off by charging them to earnings during a term of five years.

5. Investments in subsidiaries should be valued according to the return which they bring into the treasury of the parent concern with the expectancy of a high yield, say 8% or 10% on par. If unproductive, good reason should be shown for not providing some form of amortizement for at least a part of investment.

D—Intangible assets, patents, leases, contracts, franchises and goodwill. There can be no rule laid down for the valuation of these assets, which often have real values and are a part of the earning capacity of many going concerns. It may be observed that patents tend to decrease in value as they approach the limits of their statutory term, and that there is with them always the risk of being supplanted by more efficient devices. This should be recognized by a plan of amortization proportioned to the life of the patent. Long term leases as well as long term contracts have sometimes a definite market value for resale, which may be recognized in the balance sheet; this also tends to decrease year by year and calls for liberal amortization. Franchises, if irrevocable, have a very distinct and definite place in the balance sheet of a concern which has the usufruct of a natural monopoly, and are capable of a definite valuation, which, however, is generally disregarded by the asset appraisers of public utility corporations where the item most customarily is in evidence. Goodwill established by widespread publicity represents the investment of capital, but it may easily be lost or depreciated in competition with greater publicity and a better product.

Lenders of credit are usually somewhat impatient with valuations of intangible assets in a balance sheet. The tendency is to blue-pencil them and deduct them from the resources of the firm, on the ground that whatever they may mean in times of prosperity they are of no use to pay debts with in times of trouble.

But if meaningless to creditors it does not follow that they may not have a real meaning to owners when used to effect adjustments in the division of earnings between capitalists, inventors and the builders of a long established but recapitalized enterprise. Why would it not be possible to represent such values, when incorporated, by shares of stock of no par value, sharing equally with capital stock in the earnings, but receiving in liquidation no more than the sale value of the intangibles? This would avoid the question of the balance sheet valuation of intangible assets, which at best is knotty and difficult.

E—Fictitious assets are merely bookkeeping devices to preserve a balance of the books, and to permit the increment of profits for the year to be displayed, without influence from the business transacted in previous years. They should be subjected to rigid amortization at ratios proportioned to their origin:

IV. The liabilities of any business fall naturally into six categories.

A—Quick debts:

1. Accounts payable for merchandise;
2. Accrued payrolls;
3. Demand notes payable;
4. Deposits of employees.

B—Deferred debts:

1. Interest accrued;
2. Term notes discounted;
3. Funded debts, debentures, mortgages, etc.

C—Contingent debts:

1. Dividends declared but unpaid;
2. Endorsements on notes or other obligations;
3. Liabilities on incomplete contracts.

D—Reserves set aside from earnings:

1. For working capital;
2. For various depreciations in the assets;
3. To cover unforeseen or apprehended losses, dependent upon contingencies.

The balance of the foregoing categories with the valuations of the assets constitutes the surplus or net worth of the business. It is either:

E—Fixed capital—representing the investment of the owners in the form of:

1. Common stock;
2. Preferred stock;
3. Income debentures;
4. Surplus funds; or

F—Profits or distributable income—what remains after deducting the capital items from the surplus.

The discussion of the propriety of incurring any of the three classes of debts in any given business is no part of this summary. The valuation of liabilities is generally much simpler than that of assets. If books are honestly kept the amounts appearing thereon are in most cases the correct amount. It is only in the case of contingent debts that there can be any such difficulty as to valuation as will produce changes in the surplus. (1) Dividends are often declared for an entire year and may be upon occasion entirely or partly suspended—in which case their valuation as liabilities may be reduced to correspond with the amount actually to be paid. (2) Endorsements on the notes or other obligations of solvent debtors should not be a part of the balance sheet unless such obligations are valued as assets. It is not customary so to value them but in lieu thereof to note them at the foot of the statement so that they may not be concealed and so deceive. (3) Liabilities on uncompleted contracts are not customarily valued in going businesses, as the corresponding asset of the value of such contracts is not generally included in the assets

V. It will be observed that the information desired by both owners and creditors and presented by the balance sheet finds its summary in the surplus, or net worth, which for the further convenience of the owners is classified as either fixed capital or distributable income. In a copartnership the profits form a fund beyond which the partners may not withdraw without depleting their capital. In a corporation it is the measure of dividends, all amounts necessary for the conduct of the business or for the safeguarding of the investment having been previously reserved or set aside until such time as the final liquidation or termination of the business shall make them either a certain charge against the valuation for whose protection they are specifically appropriated or returnable to the owners. Experience has shown that unless such reserves are systematically established and stated in the accounts, there is a resultant uncertainty as to the amount of profits actually divisible and this uncertainty has as often led to over-division as to under-division—a distribution of what is not due and should not be distributed which has sometimes led to disaster.

VI. The principles laid down with reference to valuations are little else than those generally adopted by credit analysts in their determination of the amounts which in their own minds they consider safe to extend, as a credit, to the character, ability and net worth of any given organization. A statement being only a means by which net worth is announced, and net worth being only one of the elements of credit, it is conceivable that a considerable credit may still be enjoyed either without a statement or with an unsatisfactory one. Nevertheless it must be conceded that, other things being equal, a well-considered, well-arranged and satisfying statement adds greatly to the mental satisfaction on which the extension of a credit is based and upon its face may bear the impress of both conservative and skilful practice so as to reinforce and perhaps in a measure to disclose the character and the ability of the men who made it. Under such conditions it is an undoubted asset of the business whose affairs it summarizes.

VII. Is it necessary to add a consideration of the value to any business of so wide a zone of credit and of the ability so to inform a large circle of intending lenders that an abundant supply of short time credit may always be available for a mercantile concern? In the long run short time credit is always cheaper than any other form of indebtedness, for not only is the average rate of interest lower but its cost may be eliminated without premium the moment the necessity for its use has passed. In proportion as the opportunity of profit comes at short notice and for realization demands prompt action, so does the value of a quick call upon the loan market without the delays incidental to authorizations, investigations or indentures become of importance to the administration of a modern business, in which these conditions are so apt to prevail. Lenders regard the net fluid assets of any concern as always a safe measure of its borrowing capacity, to which in the case of a manufacturing concern with unencumbered plant may always be added a considerable proportion of its assets for liquidation.