

No Tax Parity in Balance Sheet Adjustments to Profits

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Ednaldo Silva is a managing director at RoyaltyStat LLC.

In this article, Silva examines concerns that standard balance sheet adjustments are inconsistent with regulations under section 482 and the effects of that inconsistency on transfer pricing practice.

In the 2020 APMA Statutory Report, we read on page 618: “In making comparability adjustments, the *standard balance sheet adjustments* identified in reg. sections 1.482-1(d) and 1.482-5(c), including adjustments for differing amounts of payables, receivables, and inventory, *were made in most cases*” (emphasis added).

But the cited provisions don’t allow for “standard balance sheet adjustments.” Contra this lasso, the cited provisions are quite strict, and we parse the relevant subsections for a better grip.

According to reg. section 1.482-1(d)(2)(ii) (standard of comparability):

(a) In order to be considered comparable to a controlled transaction, an uncontrolled transaction . . . must be *sufficiently similar* that it provides a reliable measure of an arm’s length result.

(b) If there are *material differences* between the controlled and uncontrolled transactions, adjustments must be made if the effect of *such differences on prices or profits can be ascertained with sufficient accuracy to improve the reliability of the results*.

(c) Such adjustments must be made to the results of the uncontrolled comparable and *must be based* on commercial practices, economic principles, or statistical analyses.

The standard balance sheet adjustments are seemingly inconsistent with the cited regulations because the adjustments are not based on economic or statistical principles (there is no disclosed economic theoretical underpinning of the Excel files used for the assets adjustments); they are done as praxis, and without ascertaining the improved reliability of the adjusted profit indicator. Smaller adjusted profit indicators don’t mean they are more reliable than reported profit indicators.¹

The “standard balance sheet adjustments” practice appears to violate the fundamental transfer pricing principle of income tax parity between the controlled and uncontrolled taxpayers. Ergo, reg. section 1.482-1(a)(1) (purpose and scope) provides: “The purpose of section 482 is to ensure that taxpayers clearly reflect income attributable to controlled transactions and to prevent the avoidance of taxes with respect to such transactions. *Section 482 places a controlled taxpayer on a tax parity with an uncontrolled taxpayer* by determining the true taxable income of the controlled taxpayer” (emphasis added).

Measurement Without Theory

The APMA report states on page 617 that the operating profit margin is the most used profit

¹Disregarding the regulations’ insistence about “reliable measures” of arm’s-length profit indicators is a folly. Reliable measure is a statistical concept that establishes that the best (most reliable) estimator among competing estimators has the smallest standard error around the central value. The coefficient of variation is an accepted measure of reliability in economics and statistics.

indicator: “For covered transfers of tangible and intangible property that used the [comparable profits method / transactional net margin method], the operating margin (OM) continues to be the most common profit level indicator (PLI) used to benchmark results. It was used 64 percent of the time.”

The comparable operating margin used to benchmark the tested party is posited in the regulations as a linear equation without an intercept²:

$$(1) P(t) = \beta S(t)$$

in which $P(t)$ denotes operating profits after depreciation and amortization, and $S(t)$ denotes net sales. The time index $t = 1, 2, 3$, etc., denotes the audit year and two or more prior or following years. The random error component is excluded to simplify exposition.

This linear profit model can produce reliable results if the slope coefficient (β), which represents the profit margin of each comparable company, is estimated using regression analysis.

But the standard transfer pricing practice simply reduces long-established economics and statistics principles to computing quartiles of the individual comparable company ratios $M(t) = (P(t)/S(t))$, whose escape is that the central value (for example, median) of these ratios can in some circumstances approximate β .

In general, quartiles produce less reliable ranges of the profit margin than regression analysis, but the pseudo “best practice” won’t abandon this unsupported (invalid, unreasonable, groundless, less reliable) habit because, as we know from experience, the adjusted results milk the tax administration of corporate income taxes.

The standard balance sheet adjustments reduce the reported operating profit of the comparables by postulating the augmented model:

$$(2) P(t) = \beta S(t) - \gamma W(t)$$

in which the boost variable $W(t)$ represents “amounts of payables, receivables, and inventory.”

In practice, $W(t) = \text{inventories} + (\text{receivables} - \text{payables})$, which means that this peculiar measure of “working capital” is negative only if accounts payable in the measured period are greater than the sum of receivables and inventories. Otherwise, $W(t)$ is positive, and the reported operating profits of the comparables are reduced by this ad hoc (arbitrary) grafted component.

If equation (2) has a sound economics-theoretic base, which we can’t vouch for, it must be subject to a disclosed statistical t -test based on accounting (“book”) data from the selected comparables. Only if the partial regression coefficient of $W(t)$ is different from zero can the standard balance sheet adjustments be allowed.

However, standard balance sheet adjustments are accepted by some tax administrations, as divulged by the report, without theoretical support and without a disclosed statistical significance test, and we believe that this “double take” constitutes an abuse of discretion.

According to economic and statistics principles, unless the “working capital” coefficient (γ) is significant, there should be no hesitation — the balance sheet adjustment must be rejected. But without a demonstrable economic theory basis, the augment in equation (2) is on trial.

Divide (2) by net sales and obtain the standard balance sheet adjusted (that is, reduced) profit margin expressed in transfer pricing reports of the IRS and taxpayers alike:

$$(3) M(t) \approx \beta - \gamma X(t)$$

in which, as above, $M(t) = (P(t)/S(t))$ is the operating margin and $X(t) = (W(t)/S(t))$ is called asset intensity.

The “best practice” is to measure the coefficient (γ) of the augment variable $W(t)$ by some average interest rate, such as the U.S. prime rate plus a premium, but this is misconceived. This parameter is a depreciation coefficient

²This linear equation is equivalent to the expression that the profit margin is the ratio between operating profits and net sales. Reg. section 1.482-5(b)(4)(ii)(A) (ratio of operating profit to sales).

misapplied to balance sheet accounts (payables, receivables, and inventory) that are not subject to annual depreciation.³

Without regression analysis, these parameter estimates are questionable because their standard errors can't be discerned, and thus their reliability can't be ascertained. As such, the standard balance sheet adjustments fail to satisfy the multiple conditions of reg. section 1.482-1(d)(2)(ii) (adjustments must be based on recognized principles, and they must be made if the effect of adjusted differences on prices or profits can be ascertained with sufficient accuracy to improve the reliability of the results).

Statistical Significance Testing

The APMA report states on Table 4 that most filers are in wholesale trade, and that the most frequent duration (at 619, Table 6) of APMA's range from four to seven years, and can be up to 15 years. Thus, comrades in arms, we selected a group of 25 U.S. wholesale distributors to test equation (1) using long-term data from 2002 to 2019⁴:

$$(4) P(t) \approx 156.5 + 0.0265 S(t)$$

with count = 450 ordered pair data, the Newey-West t -statistics = 5.5742 for the intercept and 5.3983 for the slope (profit margin) coefficient, and $R^2 = 0.3467$.

Tested against this large data sample (count = 450 data years, counting the 25 companies' data from 2002 to 2019), this prescribed model (1) produces unreliable results because the relationship between operating profit and net sales may include a significant intercept, and the regression function may not be linear (can be better expressed as a power function).

The top chart shows that the distribution of the operating profit margin after depreciation (OMAD) is not normal despite the large sample containing 450 data points, the bottom chart

shows a poor linear fit between operating profits and net sales among 25 U.S. distributors, and the resulting $R^2 = 0.3467$ is low.⁵ Yes, without a good linear fit between operating profits and net sales, the quartiles of comparable profit margins are unreliable measures of the arm's-length range.

Elsewhere, we showed that standard operating profit model (1) is misnamed because it represents a structural and not a reduced-form equation. We don't estimate structural equations, and hence the results of (4) can't be trusted even if we use regression analysis.⁶

We tested the standard balance sheet adjustment augmented model (2) using the same dataset of 25 U.S. wholesale distributors, producing strange (unconvincing) results. First, the regression equation has a significant intercept, which is disregarded in the prescribed profit equations (1) and (2). Second, the coefficient of net sales is negative, which is perverse. Third, the coefficient of "working capital" is positive, which is not prescribed by the adjustment model (2):

$$(5) P(t) \approx 71.3 - 0.01064 S(t) + 0.313 W(t)$$

with count = 450 ordered pair data, the Newey-West t -statistics = 3.6198 for the intercept, -2.0927 for the coefficient of net sales, 6.9569 for the coefficient of "working capital," VIF = 3.42, and the adjusted $R^2 = 0.6272$.

⁵The R^2 provides the proportion of the variation in operating profits explained or caused by the variation in net sales. We get better regression results estimating first differences in variables, and even better results estimating a power function. But the functional form doesn't address the problem that equation (1) is structural and only reduced-form equations should be estimated.

⁶We get more reliable results estimating the reduced-form equation:
 $S(t) \approx 173.3537 + 1.0279 C(t)$

The same count = 450 ordered pair data, Newey-West t -statistics = 5.9087 for the intercept and 199.8806 for the slope (profit markup) coefficient, and $R^2 = 0.9985$. This operating profit markup of 1.0279 can be translated into a profit margin of 0.02714, or 2.7 percent.

The independent variable $C(t)$ denotes total costs (cost of goods sold + selling, general, and administrative expenses + depreciation, amortization, and depletion - amortization of acquired intangibles) (XSGA + DP - AM) using Standard & Poor's Compustat database of company financials, which is the primary database used in APMA (APMA report, at 617: "For the APAs executed in 2019 that involved CPM/TNMM with a North American tested party, the most widely used data source for comparables was Standard and Poor's Compustat/Capital IQ database.").

See Ednaldo Silva, "Transfer Pricing Methods Based on Operating Profits," RoyaltyStat, Apr. 2, 2020.

³Balance sheet account depreciation is governed by international accounting standard 16.50. The accounting of the different types of assets is governed by IAS 16.73.

⁴In Standard & Poor's Compustat database, we used the search criteria: SIC codes 5000 to 5099 (durable goods wholesale trade), the United States is the country of incorporation, and reporting positive operating profits after depreciation in all selected years from 2002 (post-dotcom debacle) to 2019.

Abuse of Discretion

In economics, measurement without a supportable theory is unacceptable. Without theoretical development, we don't know the selection of independent variables, and any variable selection, such as adding $W(t)$ to equation (1) to make (2), is arbitrary. The economic rationale for equation (2) is difficult to sustain because the underlying accounting identity equation is not disclosed, and we are unfamiliar with the accounting authority for equation (2). Hence, we call the subtracted (fudge) factor $\gamma W(t)$ arbitrary.

Also, we reject a strange version of (2) or (3) in which the variables are treated as deviations from the tested party's balance sheet accounts because if the tested party is outbound, its net sales, inventories, and receivables are mixed with related-party transactions; and if the tested party is inbound, its inventories and payables are mixed with related-party transactions. Thus, it's erroneous to measure uncontrolled party variables as deviations from controlled accounts. Controlled accounts must be tested against comparables, and they can't serve as reference in transfer pricing.

According to Imre Lakatos,⁷ scientific honesty consists of specifying, in advance, an empirical trial such that if the results contradict the theory, the theory must be given up. A major problem with the standard balance sheet adjustments in transfer pricing is that the theory of profit adjustment itself is undisclosed, and a sort of theoretical anarchy (anything goes) prevails in which ad hoc adjustments that have the unilateral effect of reducing the reported profit margin of the comparables (called "best practice") are accepted by some tax administrations as if no critical thinking is exercised.

This transfer pricing practice amounts to a violation of the principle of income tax parity between the tested party and the uncontrolled taxpayers because the latter can't benefit from

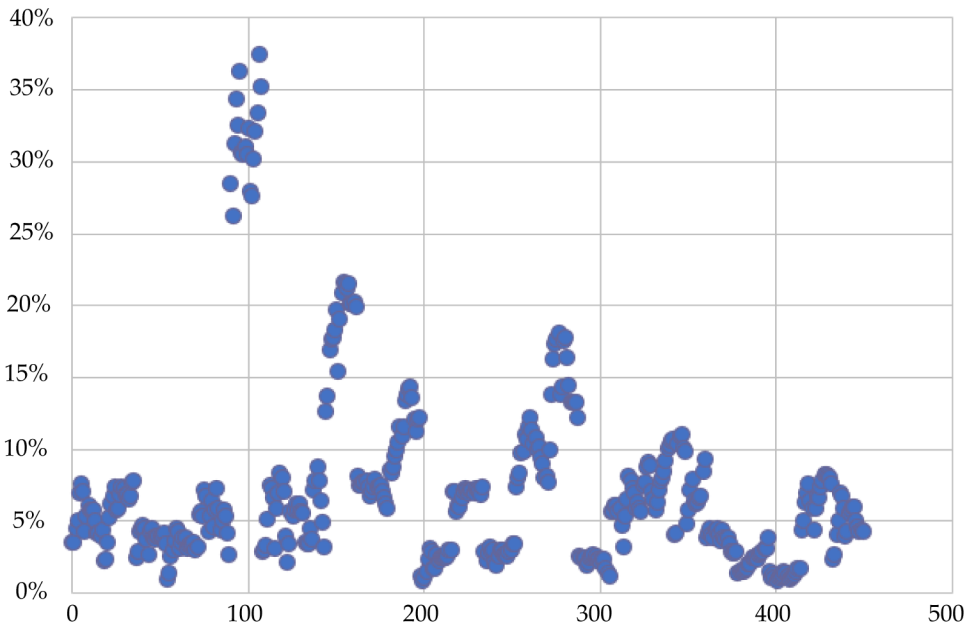
these undisclosed subterfuges. Adjustments without a coherent economic theory and without empirical (statistical) tests of significance can't be accepted.

Because uncontrolled taxpayers report operating profits without the benefit of the fudge factor $\gamma W(t)$, the standard balance sheet adjustments can't be granted as a "free lunch" to controlled taxpayers. If the tax administration wants to use standard balance sheet adjustments, it must meet two burdens: First, it must derive the adjustment equation using a disclosed and coherent economic theory; and second, it must obligate the participants to perform statistical significance tests to ascertain the greater (demonstrable, not asserted) reliability of the adjusted measure of arm's-length profits.

Also, the tax administration must recognize that it's obliged by regulatory mandate to ensure tax parity between the controlled and uncontrolled taxpayers. Adopting a standard practice of reducing "comparable" reported operating profits whose standard adjustments exist only in transfer pricing practice, to which uncontrolled parties can't benefit, and without accounting, economic, or statistical authority, seems to be an abuse of discretion.

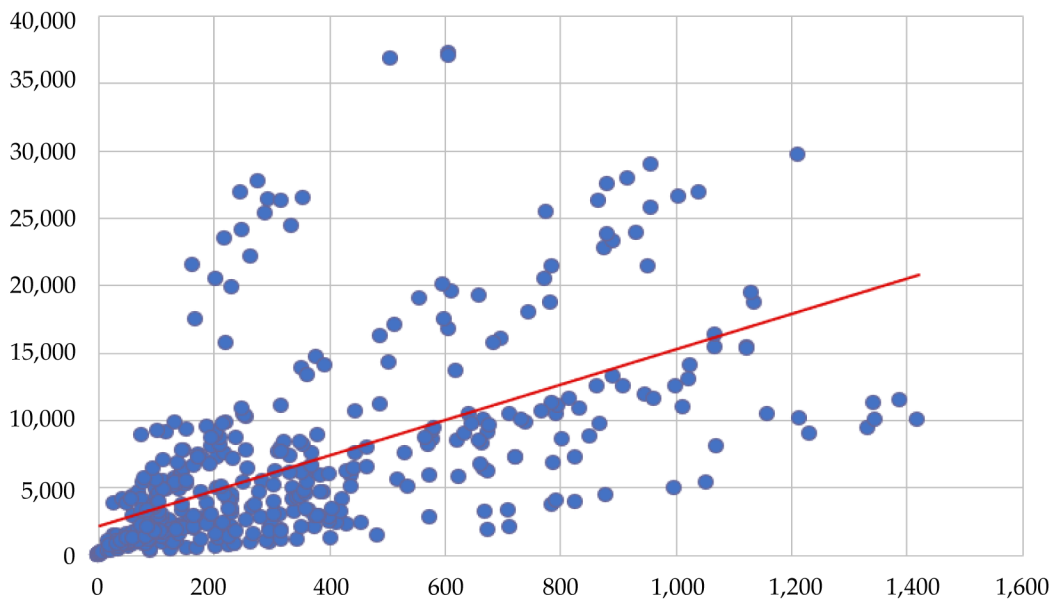
⁷Lakatos, "Falsification and the Methodology of Scientific Research," in *Criticism and the Growth of Knowledge* 95, 96 (1970). We are not convinced that the standard balance sheet adjustment equation is scientific (containing a coherent economic-theoretic foundation), so it should not even be subject to empirical tests because it fails the most elementary acceptability criterion.

Figure 1. U.S. Wholesale Distributors, 2002-2019 Scatterplot of Operating Margin (OMAD percentage)



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Figure 2. U.S. Wholesale Distributors, 2002-2019 Scatterplot of Operating Profit Vs. Net Sales



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