

LOCATION SAVINGS ADJUSTMENT TO PROFITS

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ABSTRACT

MNE income taxes in developing countries are determined by profit rates from enterprise-level comparables in developed countries. Unless a location saving adjustment is made, corporate income taxes collected in developing countries are under-reported because wage and salary shares (unit labor costs) don't converge. We develop a simple formula to correct this systemic error that, if left uncorrected, adds to the persistent poverty of most of the world's population.

Keywords: *Transfer Pricing, Location Savings, Disparity of Profit Rates.*

1. INTRODUCTION

The purpose of transfer pricing is to ensure corporate income tax parity between controlled and uncontrolled MNE (multinational enterprises). This purpose is reflected on US 26 CFR § 1.482-1(a)(1), which states: "Section 482 places a controlled taxpayer on a tax parity with an uncontrolled taxpayer by determining the true taxable income of the controlled taxpayer."

OECD, UN, and US transfer pricing rules recognize that tax administrations and controlled MNE affiliates that are engaged in within-group trade of goods and services and the transfer of assets must consider location savings adjustments when benchmark uncontrolled comparable enterprises operate in different geographic markets from the tested party (MNE affiliate subject to income tax audit). Location savings adjustments are needed when we can measure (in different geographic markets such as UK versus South Africa, or US versus Mexico) significant differences in wage shares and adopted technologies measured by capital/output ratios. Location savings is transfer lingo for differential costs or for resulting differential profit ratios.

Tax administrations in developing countries have no established method of making reliable transfer pricing adjustments to account for economic differences in geographic markets. Only limited guidance is provided by local tax authorities and by international organizations acting as Delphi (OECD, IMF, UN, World Bank), and such guidance is vague and ad hoc, and is not based on recognized economic principles. See, OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrations (2017, § E.9.126), United Nations Practical Manual on Transfer Pricing for Developing Countries (2017, § D.3.7.), and US Treasury Regulations § 1.482.

In US 26 CFR § 1.482-1(d)(4)(ii)(C) (Location savings), we read: "If an uncontrolled taxpayer operates in a different geographic market than the controlled taxpayer, adjustments may be necessary to account for significant differences in costs attributable to the geographic markets. These adjustments must be based on the effect such differences would have on the consideration charged or paid in the controlled transaction given the relative competitive positions of buyers and sellers in each market. Thus, for example, the fact that the total costs of operating in a controlled manufacturer's geographic market are less than the total costs of operating in other markets ordinarily justifies higher profits to the manufacturer only if the cost differences would increase the profits of comparable uncontrolled manufacturers operating at arm's length, given the competitive positions of buyers and sellers in that market."

Additional guidance provided by case law has been unsatisfactory. Academic research about location savings is wanting, as a search for this key expression in <https://www.jstor.org/> produced no results. But see the survey of Petutschnig and Chroustovsky (2018), which covers several adjustments including

location savings. Likewise, Google search for “location savings” produces marketing material from big franchises dominating transfer pricing consulting. But see Gonnet, Starkov and Maitra (2014).

Here, we propose a location savings adjustment method that can be applied depending on aggregate or industry-specific data available (recalling comparable facts and circumstances).

2. DEVELOPING COUNTRY COMPARABLES

In transfer pricing practice, which is dominated by four franchises, Deloitte, Ernst & Young, KPMG, and PwC, comparable enterprises located in United States and United Kingdom are used to determine controlled (related party) corporate income tax in developing countries with respect to transfers of tangible and intangible property and the provision of shared services.

Thus, MNE comparables from the United States are used to determine corporate taxable income in the Americas, except Brazil. Likewise, MNE comparables from the United Kingdom are used to determine corporate taxable income in the Asia-Pacific region (except for Australia, China, India, and Japan), Africa, Eastern Europe, and the Middle East. For example, South Africa’s Revenue Service (SARS) uses comparables from Europe (mainly United Kingdom), as noted on UN Practical Manual on Transfer Pricing (2017) D.5.6.1: “The main challenge that South Africa has in determining arm’s length profits has to be the lack of domestic comparables. It is thus accepted that the most reliable comparables will suffice. The problem in South Africa is that this compromise is extended even further given that there are no databases containing South African specific, or for that matter, Africa specific, comparable data. As a result, both the tax administration and taxpayers rely on European databases to establish arm’s length levels of profitability.”

Although more research is needed, we can establish that wage shares are higher in more developed countries. For example, the most recent wage and salaries shares of the United States and the United Kingdom are, respectively, 0.574 and 0.563 (near neighbors), while in Mexico and India they are, respectively, 0.287 and 0.337 (distant from developed country wage shares). Raw data regarding gross value added (GDP), compensation of employees, and gross capital formation (gross investment) can be obtained in the UN System of National Accounts (SNA) website:

<https://unstats.un.org/unsd/nationalaccount/sna.asp>

3. WAGE & SALARIES SHARES AND CAPITAL/OUTPUT RATIOS

We employ an aggregate economic model in which gross domestic product is divided into compensation of employees and gross operating surplus, including depreciation. Eq. (1) defines national income and product accounts compiled by individual countries, such as US NIPA (national income and product accounts), and major international organizations, such as OECD and United Nations using income instead of the expenditure approach. See Lequiller and Blades, 2014, Table 1.5, page 31. Eq. (1), which is non-controversial, was conceived by classical economists, including Adam Smith, David Ricardo and Karl Marx, and revived by Maynard Keynes and Michael Kalecki (1971 [1933], Chapter 7) during the 1930s economic depression. In the United Nations System of National Accounts (SNA), Y is gross value added (gross of “consumption of fixed capital”), W is wages and salaries (compensation of employees), S is gross operating surplus, and r is our computed gross profit rate.

See <https://unstats.un.org/unsd/nationalaccount/sna.asp>

Eq. (2) is a testable hypothesis that gross operating surplus (profit) is proportional to measured gross capital stock. Eq. (3) describes the profit rate determined by wage and salaries shares (ω) and capital/output ratios (κ). We substitute behavioral equation (2) into accounting equation (1), and divide the result by Y_i to obtain reduced-form model (3):

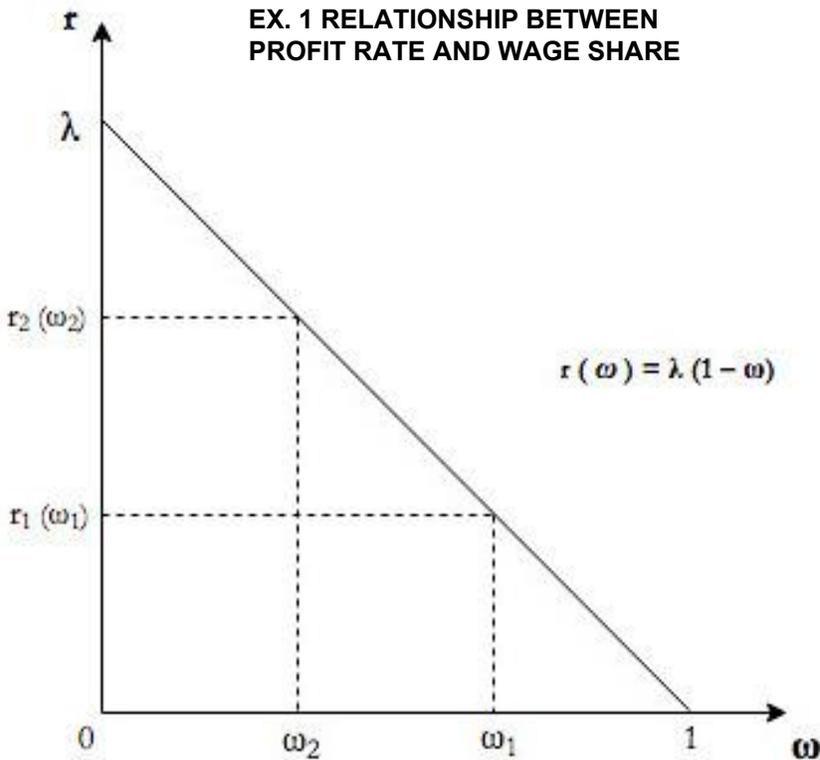
$$(1) \quad Y_i \equiv W_i + S_i$$

(2) $S_i = r_i K_i$

(3) $r_i = \lambda_i (1 - \omega_i)$ where $\omega = W / Y$, $\kappa = K / Y$, and $\lambda = 1 / \kappa$ is the maximum profit rate if $\omega = 0$.

The profit rate in Eq. (3) is an unknown dependent variable that we determine after computing ω and κ from pair-wise developed and less developed countries, using industry-specific data reflecting the controlled tested party's business activity (functions performed in transfer pricing lingo). Eq. (3) is sui generis because we selected gross value added (GDP) as numéraire of this three-equation system. This equation (3) is like Sraffa's (1960, Page 22) profit equation; however, this similarity is deceiving because Sraffa does not use Eq. (2) and he does not employ actual Y as numéraire. But Sraffa, 1960, Page 17 summary is à propos in our context: "We shall call Maximum rate of profits the rate of profits as it would be if the whole of the national income went to profits. And we shall denote by a single letter, R [$= \lambda$], the two coincident ratios, namely the Maximum rate of profits and the 'balancing' ratio of net product to means of production."

Exhibit 1 shows an inverse relationship between r and ω . Thus, given κ , a profit rate increase is determined by a decrease in the wage and salaries share. We show that a higher wage share is associated with a lower profit rate, and vice versa.



The world economy is asymmetric in terms of wage and salary shares and adopted technologies. Subscript $i = 1, 2$ counts pair-wise the more developed country ($i = 1$) where enterprise-level comparables are selected, and ($i = 2$) is the less developed country where such comparables are used to determine controlled MNE affiliate taxable income.

The major empirical challenge in computing Eq. (3) using incremental capital/output ratios ($\lambda = \Delta Y / \Delta K$) is that either or both numerator and denominator can be negative. We avoid this challenge by using multi-year data. Also, by computing incremental capital/output ratios for both more developed and less developed countries, we avoid conceptual problems with aggregate K in eq. (2). Incremental capital/output ratios are based on gross capital formation (CAPEX or gross investment) aggregate data,

and thus we avoid K altogether. Aggregate capital stock, K, is computed using the “perpetual inventory method” (PIM), which can be reduced to an expression in which the profit rate is an explicit independent variable. Thus, K cannot be used to compute an aggregate profit rate, and such computations are misconceived. We use capital stock as a notional concept in Eq. (2) but do not employ K in our computations. We eliminate K by using incremental capital/output ratios. See Silva, Ednaldo, “Intangible Assets are not Hard-to-Value”, RoyaltyStat Blog, January 2019, <https://blog.royaltystat.com/intangible-assets-are-not-hard-to-value>

4. LOCATION SAVINGS FORMULA

We obtain a location adjustment formula by calculating the difference in the specified profit rates between paired developed and less developed countries:

$$(4) \quad r_2 - r_1 = \lambda_2 (1 - \omega_2) - \lambda_1 (1 - \omega_1)$$

$$r_2 - r_1 = (\lambda_2 - \lambda_1) - (\lambda_2 \omega_2 - \lambda_1 \omega_1) \text{ where } r_2 - r_1 > 0 \text{ because } \omega_1 - \omega_2 > 0.$$

Eq. (4) can be written as our general location savings adjustment formula by commuting r_1 from left to right side:

$$(5) \quad r_2 = r_1 + \delta_1$$

where the location adjustment error is computed with formula:

$$(6) \quad \delta_1 = (\lambda_2 - \lambda_1) - (\lambda_2 \omega_2 - \lambda_1 \omega_1) \geq 0.$$

We can express (5) also as a ratio by dividing r_2 by r_1 , obtaining an alternative formula:

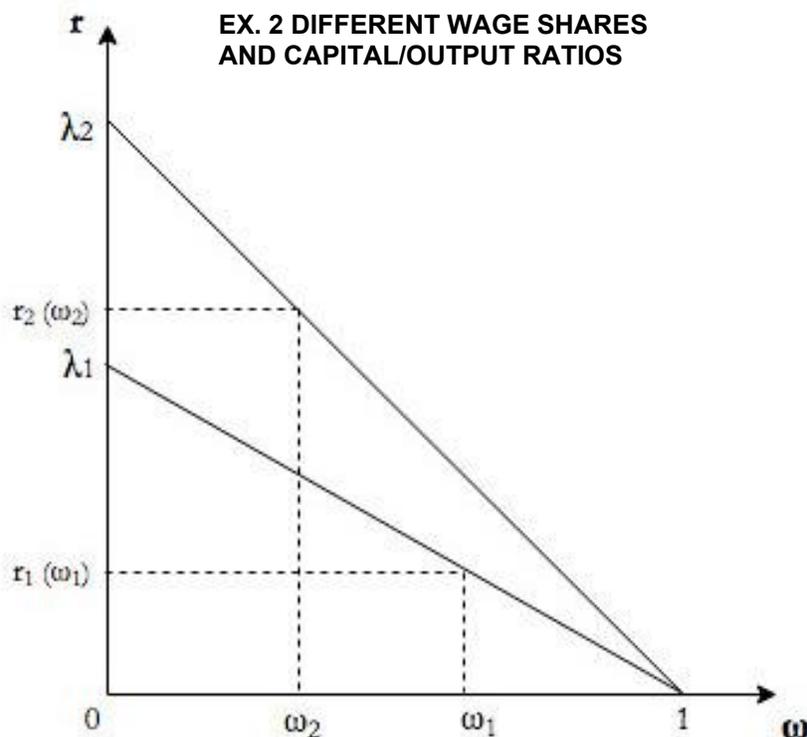
$$(7) \quad r_2 = \beta r_1$$

where an alternative location savings adjustment ratio is computed with formula:

$$(8) \quad \beta = [\lambda_2 (1 - \omega_2)] / [\lambda_1 (1 - \omega_1)] \geq 1.$$

In both Eq. (5) and (7), r_2 is an unknown variable to be determined by transfer pricing analysts by finding a reliable range of profit rates from comparable enterprises (r_1) coupled with the computation of δ_1 or β from industry-level or more aggregate data published by the OECD, UNCTAD and United Nations SNA. Again see <https://unstats.un.org/unsd/nationalaccount/sna.asp>

Exhibit 2 shows the economic structure of world trade in goods and services where the reported wage and salary shares and adopted technologies do not converge. We hold Ex. (2) to represent a general situation involving transfer pricing in developing countries, and thus reliable calculations of Eq. (5) or (7) (same data are required for both formulae) have important corporate income tax policy implications.



Disparities in wage and salary shares are represented by the inequality ($\omega_1 > \omega_2$), and differences in technologies adopted by developed and developing countries are expressed by ($\lambda_2 \geq \lambda_1$).

Delta (δ) denotes the location adjustment correction. Therefore, an estimated profit rate in the selected less developed country can be expressed as the profit rate in the paired developed country plus a location savings adjustment (displacement) measured by δ . As stated, r_1 is obtained from enterprise-level data from benchmark developed countries; the wage and salary share, and incremental capital/output ratios are obtained from annual SNA data.

Again see <https://unstats.un.org/unsd/nationalaccount/sna.asp>

Data required to make this location savings adjustment are not onerous, just two factors, κ and ω , are needed, which are the same data used to compute country-specific aggregate profit rates. For OECD countries, see Hill, OECD, 1979. Hill's Chapters 4 and 5 contain a detailed explanation of gross operating surplus as defined on SNA. Hill (1979) preferred working with gross over net operating surplus (i.e., EBITDA instead of EBIT at the enterprise level) because of anomalies in calculating cross-countries depreciation (consumption of fixed capital) allowances.

5. CONCLUSIONS

A major policy implication of (5) or (7) is that, given existing inequalities of wage and salaries shares in the global economy, a controlled corporate income tax policy mandating a location savings adjustment is inescapable because it is needed to determine more reliable arm's length MNE taxable income in developing countries where, given prevailing international oligopolies, local comparables cannot be found.

Use of location savings adjustment formula (5) or (7) can help tax administrations from less developed countries reduce profit shifting and prevent the evasion of controlled MNE taxable income. Eq. (5) or (7) can help also MNE groups reduce the risk of transfer pricing adjustments by increasingly savvy

developing country tax administrations. Further, location savings adjustment formula (5) or (7) can provide more tax certainty to both tax administrations and MNE groups.

REFERENCES

Gonnet, Sébastien, Starkov, Vladimir and Maitra, Madhura, "Comparability Adjustments", *Transfer Pricing International Journal (BNA Special Issue)*, Pages 4-12, April 2014. Abstract available at: <https://www.nera.com/publications/archive/2014/comparability-adjustments-in-the-absence-of-suitable-local-compa.html>

Hill, Peter, *Profits and Rates of Return*, OECD, 1979.

Kalecki, Michael, *Selected Essays on the Dynamics of the Capitalist Economy*, Cambridge University Press, 1971.

Lequiller, François and Blades, Derek, *Understanding National Accounts (2nd edition)*, OECD, 2014. Available at: <http://dx.doi.org/10.1787/9789264214637-en>

Petutschnig, Matthias and Chroustovsky, Stefanie, "Comparability Adjustments: A Literature Review" (October 1, 2018). WU International Taxation Research Paper Series No. 2018-08. Available at SSRN: <https://ssrn.com/abstract=3266107> or <http://dx.doi.org/10.2139/ssrn.3266107>

Sraffa, Pierro, *Production of Commodities by Means of Commodities*, Cambridge University Press, 1960.

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