A PROPOSED FRAMEWORK FOR RESOLVING THE TRANSFER PRICING PROBLEM: ALLOCATING THE TAX BASE OF MULTI-NATIONAL ENTITIES BASED ON REAL ECONOMIC INDICATORS OF BENEFIT AND BURDEN

GLEN RECTENWALD*

“[W]hen there is an income tax, the just man will pay more and the unjust less on the same amount of income.” — Plato

INTRODUCTION

Globalization has produced a world where capital is highly mobile and deployed across multiple taxing jurisdictions by single corporate taxpayers. This mismatch between global capital and national taxing jurisdictions has proved vexing for national taxing authorities as they attempt to allocate global corporate income and deductions on a national basis. One of the most significant manifestations of this allocation problem is the phenomenon of multi-national enterprises (MNEs) shifting profits to relatively low-tax jurisdictions through intra-firm transfer pricing, creating what is called the transfer pricing problem.

To illustrate the problem, consider the hypothetical case of a United States company that wishes to build a factory in Hong Kong for the manufacture of flat screen televisions, with the intention of marketing the televisions in the U.S. Assume a marginal cost of production of $100, a retail price of $150, and U.S. and Hong Kong corporate income tax rates of 35% and 16.5% respectively. In terms of corporate structure, the parent

* Duke University School of Law, J.D. 2012; Harvard Divinity School, M.T.S. 2009; Baldwin-Wallace College, B.A. 2007. I would like to thank Katherine Hunter, Catherine Lawson, and Loni Schutte for their excellent editorial work. This note is dedicated to my wife, Lara, to whom I owe everything.

company (Parent) has two basic options: build the factory as a foreign branch within the corporate structure of Parent, or establish the factory through a wholly owned subsidiary (Sub) incorporated as a Hong Kong entity. Under the first option, the tax consequences are relatively straightforward. Since Parent both manufactures and sells the televisions, a U.S. tax is assessed on the profit derived by Parent from the manufacture and sale, which will be roughly equivalent to the sale price less the cost of production, or $50 x 35% = $17.50 corporate tax assessed per unit sold.

The second option introduces an additional step in the chain of production and sale. Upon manufacture of the televisions, the Parent must set the transfer price—the intra-firm price the Sub will charge the Parent—for the televisions. Consider the pricing incentives in light of the considerable rate differential between the U.S. and Hong Kong. In the absence of any restrictions on the intra-firm price, the natural incentive will be to set the transfer price at $150 per television, booking $50 of profit to the Sub and $0 of profit to Parent. This price minimizes the overall tax burden to the firm by locating the entire profit of the production and sale enterprise in Hong Kong, the low-tax jurisdiction. In this hypothetical, a Hong Kong tax is assessed on the sale to Parent of $50 x 16.5% = $8.25 corporate tax assessed per unit. Parent realizes no gain on the resale of the televisions in the U.S., and accordingly no U.S. tax is levied. From this example we see that the transfer price effectively functions to allocate profit between Parent and Sub, with the blended tax rate on the productive activity equal to the average of the two tax rates weighted by the percentage of profits allocated to each jurisdiction, respectively.

The above example illustrates how transfer pricing creates the incentive for MNEs to shift profits to low tax jurisdictions. Absent some legal constraint, the transfer pricing problem would erode the corporate tax base of relatively high-tax jurisdictions. The prevailing legal mechanism for preventing this erosion, embodied in U.S. law and as an international standard, is to adjust the price of the transaction to reflect what the parties would have bargained for at arms-length. This principle, known as the arms-length standard (ALS), requires firms to set transfer prices according

---

4. The tax savings of this arrangement is technically in deferral of US tax. If and when the profits of Sub are repatriated in the form of a dividend to Parent, the amount of the dividend will be taxed at ordinary rates, less any applicable foreign tax credit. However, the possibility of a so-called “repatriation holiday” gives transfer pricing-effected deferrals the potential to become permanent savings.

5. See, e.g., infra note 9 and accompanying text.


to their hypothetical equivalent arms-length price, and empowers taxing authorities to reset prices, reallocating income and deductions accordingly. This price setting is principally achieved by looking to comparable uncontrolled prices and transactions.

Consider how ALS would be used to correct strategic pricing behavior in the original hypothetical. If the Parent sets the transfer price of the televisions at $150 in an attempt to realize 100% of the gain in the low tax jurisdiction, the Parent’s taxing authority can use ALS to restructure the transaction to reflect what Parent and Sub would have bargained for had they been independent parties dealing at arms-length. Under U.S. law, § 482 of the Internal Revenue Code empowers the Secretary (through the Internal Revenue Service (IRS)) to make such adjustments, and a complex array of accompanying regulations describe the standards for making appropriate adjustments in particular circumstances. 8 For a transaction involving the sale of televisions, a relatively fungible physical good, the Secretary is likely to apply the comparable uncontrolled price (CUP) method. 9 The IRS might, for instance, look at the market and determine that for comparable transactions of sufficiently similar televisions between independent manufacturers and third party distributors, the market price is $120. Accordingly, the IRS would reallocate $30 of profit per unit sold to the Parent, and assess $30 x 35% = $10.50 corporate tax per unit. 10

The ALS functions to mitigate the effects of the transfer pricing problem in so far as it is a generally accepted standard that enables taxing authorities to allocate the taxable income of MNEs, thereby staving off the erosion of the corporate tax base of high-tax jurisdictions. However, this paper will argue that the ALS is an inadequate solution on two related grounds. First, ALS contradicts the economic reality of intra-firm transactions by effectively treating the relatedness of the parties as incidental, rather than integral to the transaction. For instance, Parent and Sub in the above example are a single integrated productive enterprise; the transfer price charged between them is wholly arbitrary and has no economic substance. Second, because a hypothetical arms-length transfer price does not correspond to economic reality, ALS suffers from a lack of administrability. This lack of administrability is symptomatic of a dysfunctional regulatory framework with burdensome compliance requirements, multiple layers of subjective judgment about allocation, and a lack of correspondence to any reasonable measure of how the global

---

8. See Treas. Reg. § 1.482-1 et seq.
10. The new blended tax rate on the productive activity of Parent and Sub given the 60/40 profit split would be (0.6)(35%) + (0.4)(16.5%) = 27.6%.
corporate tax base ought to be allocated. In light of this dual failure, this paper proposes a framework for developing alternative solutions to the transfer problem, which use real and readily ascertainable economic factors to allocate the global corporate tax base according to benefits enjoyed and burdens imposed upon the tax jurisdictions where MNEs transact business. This paper further proposes that the best method for making allocations based on benefit/burden analysis is formulary apportionment, and to that end this paper suggests a novel implementation of formulary apportionment based on applying different formulas tailored to different categories of income.

Part I of this paper details the transfer pricing problem in the context of taxing multinational entities and the prevailing legal mechanism for setting transfer prices, the arms-length standard. Part II details the deficiency of ALS as a legal standard that misrepresents the economics of intra-firm transfers and accordingly fails as a mechanism for allocating the global corporate tax base. Part III considers alternatives and reforms to ALS, evaluating existing unilateral and multilateral reform proposals in terms of their ability to index proportional taxability of MNE income to burdens and benefits in particular jurisdictions using real, readily ascertainable economic factors.

I. AN OVERVIEW OF THE TRANSFER PRICING PROBLEM:
DIVIDING THE INTERNATIONAL TAX PIE

Transfer pricing is more than just a technical issue for taxing authorities. Several features of the contemporary tax landscape combine to make transfer pricing a high priority for both national taxing authorities and international organizations such as the OECD. The first condition is the ever-increasing transnational nature of global economic activity. Though it may now be an obvious point, the world is interconnected across national boundaries, due in large part to advances in information technology, such that physical distance and cultural differences are no longer the barriers to international trade they once were. This translates to an increasing portion of the global corporate tax base deriving from international trade. Consider, for example, the fifty most profitable companies in the U.S. in 2010, which accounted for 38% of all US corporate profits.11 Fully half of their profits derived from foreign sources, and in 2010 alone these fifty firms accumulated $681 billion in undistributed foreign earnings.12 For many

---

12. Id.
sources of income, such as the licensing of intellectual property rights to foreign subsidiaries or the domestic sale of goods produced by foreign subsidiaries, transfer prices will determine the proportion of profit realized in the domestic and foreign jurisdictions. Furthermore, over sixty percent of all international trade is carried out within MNEs.\textsuperscript{13} By implication, the majority of all cross-border transactional activity is priced internally rather than by markets at arms-length.

The second significant feature of the contemporary landscape is the wide differential in corporate tax rates between high-tax jurisdictions and low-tax jurisdictions.\textsuperscript{14} As illustrated by the U.S.-Hong Kong example, large rate differentials create natural and compelling incentives to shift profits to low-tax jurisdictions through transfer pricing. This incentive, when combined with the ubiquitous opportunities created by the massive scale of internally-priced transnational business, produces the “transfer pricing problem,” where MNEs shift income to minimize taxes, ultimately to the detriment of revenue collection in higher-tax jurisdictions like the United States.

A. The First Implementation of ALS: Preserving a New Corporate Tax Base

The need to address transfer pricing became apparent soon after the institution of the first income tax in the U.S. and other nations at the start of the 20\textsuperscript{th} century.\textsuperscript{15} The U.S. and United Kingdom enacted the first legislation designed to combat the shifting of profits offshore through transfer pricing during World War I.\textsuperscript{16} In the U.S., the War Revenue Act of 1917 empowered the Commissioner to order MNEs to file consolidated returns to more equitably determine taxable income.\textsuperscript{17} Subsequent versions of this statutory authority were drafted as a more general power to reallocate income and deductions among related entities in a control group—the conceptual origins of modern \textsection 482.\textsuperscript{18} By 1935, ALS was formalized in U.S. tax regulations as the standard to be used when reallocating income and deductions among controlled groups of taxpayers.


\textsuperscript{14} See Deloitte, supra note 3.


\textsuperscript{16} Transfer Pricing: History, State of the Art, Perspectives, supra note 13, at 5.

\textsuperscript{17} The Rise and Fall of Arm’s Length, supra note 15, at 95.

\textsuperscript{18} Id. at 96.
to reflect the “true” taxable income of the individual entities.\footnote{Id. at 97.} The legislative history of the implementation of this power to reallocate income using ALS indicates a concern by lawmakers that related corporate entities could too easily shift profits through questionable internal sales, and that therefore the government should have the power to “allocate income where it belongs” and reflect their “true” tax liability.\footnote{Id. (quoting 69 CONG. REC. 605 (1927) (statement of Rep. William R. Green), \textit{cited in J. SEIDMAN, LEGISLATIVE HISTORY OF FEDERAL INCOME TAX LAWS 1938-1861, 522 (1938)).}} There was no discussion of what standard might govern “true” tax liability.\footnote{Id.}

When ALS was codified, policy makers did not articulate clear reasons for why ALS should be the standard employed to protect against income shifting through transfer pricing. As the early history of ALS in the U.S. indicates, the standard grew out of a more general sense that tax authorities needed latitude to adjust the income allocations within MNEs in order to protect the collection of taxes that were fairly owed to the U.S. government. This impulse is indicative of the prevailing intellectual and legislative sentiment in the early years of the corporate income tax, the justification for which was premised upon the benefits conferred by government to businesses—namely, the preconditions enabling the productive activity.\footnote{See Reuven S. Avi-Yonah, \textit{All of a Piece Throughout: The Four Ages of U.S. International Taxation}, 25 VA. TAX REV. 313, 317 (2005).} Thomas Adams, the international tax advisor to the U.S. Treasury in the 1910s and 1920s,\footnote{Id. at 318.} described the prevailing intellectual and legislative rationale for entity-level income taxation:

From political and moral standpoints, the justification for this great class of taxes is plain. A large part of the cost of government is traceable to the necessity of maintaining a suitable business environment. . . . Business is responsible for much of the work which occupies the courts, the police, the fire department, the army, and the navy. . . . The relationship between private business and the cost of government is a loose one, much like the relationship between the expenses of a railroad and the amount of traffic which it carries. The connection, however, is real and, in the long run, the more business the greater will be certain fundamental costs of government. . . . Surveyed from one point of view, business ought to be taxed because it costs money to maintain a market and those costs should in some way be distributed over all the beneficiaries of that market. Looking at the same question from another viewpoint, a market is a
valuable asset to the social group which maintains it and communities ought to charge for the use of community assets.24

This benefits-based justification, which conceives of corporate taxes as covering the shared cost of maintaining public markets, carries the concomitant need to preserve a corporate tax base commensurate with that cost. Informed by this reasoning, the ambiguous references to an MNE’s “true” tax liability suggest that policy makers were expressing at least in part frustration that purported tax liabilities often did not square with the benefits enjoyed and burdens imposed by MNEs. Thus their stated justifications for reallocation provisions using ALS, though technically imprecise, reflect both a moral and practical concern for the preservation of the corporate tax base against the eroding forces of the transfer pricing problem.

What utility early policy makers may have found in using ALS in particular as the corrective principal will be discussed in Part II. Adjusting transfer prices using ALS was likely a more reasonable mechanism in the 1920s and 1930s, given the state of MNEs at that time.25 However, policy makers did not justify ALS in terms of its technical implementation; that implementation, along with more formal justifications, evolved gradually over the ensuing decades. Rather, ALS was both adopted and justified to preserve a corporate tax base intended to generate revenue proportionate to the costs borne by government in its support of public markets.

B. The Modern Implementation of ALS

To consider how ALS is currently implemented in national tax regimes, the U.S. transfer pricing rules can serve as a representative example, because the U.S. standards for determining comparable arms-length transactions are substantially similar to the OECD Guidelines and most modern national taxing regimes.26

The U.S. transfer pricing rules rely on § 482 of the Internal Revenue Code, which empowers the taxing authority to allocate income and deductions among related entities of a control group when “necessary in order to prevent evasion of taxes or clearly to reflect the income of any

25. Among other factors, the technology necessary to centrally manage multinational enterprises was not sufficiently developed. Accordingly, related entities of multinational groups may have operated with sufficient independents such that transfer pricing was a reasonable method for ensuring the proper allocation of group income.
such organizations, trades, or businesses.\footnote{27} There is no reference in the statute itself to the use of ALS as the guiding principle for such allocations. As noted in the prior section, ALS was codified as the guiding standard for reallocations in 1935.\footnote{28} While regulations dictated the standard, the technical standards for implementing ALS first developed through the courts for the first few decades, with uneven results, and often a failure to strictly adhere to ALS itself when evaluating challenges to revenue service reallocations.\footnote{29} Uniform technical standards for applying ALS were finally promulgated in the regulations in 1968.\footnote{30}

In the present transfer pricing regime, firms are required to set internal prices according to ALS, and the IRS is empowered to reset those prices to properly reflect an arms-length result. Determining a particular price requires recourse to three sets of rules. The first category of rules set forth a variety of methods for producing an arms-length result for different kinds of transactions.\footnote{31} A second set of rules are provided to choose which of the methods should be used in a particular case (the best method rule).\footnote{32} Third, the regulations provide a list of factors for evaluating the degree of comparability between controlled and uncontrolled transactions in light of all the facts and circumstances.\footnote{33} These three aspects of the transfer pricing rules are considered below.

The categories of intra-company transaction for which the regulations prescribe methods include loans, money advances, the use of tangible property, and the transfer of tangible and intangible property.\footnote{34} Taking the common case of intra-company sales of tangible property as an example, § 1.482-3(a) sets out five acceptable methods for determining whether a transfer price adequately reflects what unaffiliated parties would have bargained for at arms-length.\footnote{35} The “comparable uncontrolled price method” compares the price charged in the controlled transaction with the price in a comparable uncontrolled transaction.\footnote{36} The “resale price method,” rather than comparing the total price of a comparable transaction, compares the gross profit margin of the controlled resale transaction with

\footnotesize

\begin{itemize}
\item \footnote{27}{26 U.S.C. § 482.}
\item \footnote{28}{See The Rise and Fall of Arm’s Length, supra note 15, at 97.}
\item \footnote{29}{See id. at 104-07.}
\item \footnote{30}{Id. at 107.}
\item \footnote{31}{Treas. Reg. § 1.482-3(a) (1995).}
\item \footnote{32}{Id. § 1.482-1(c)(1) (as amended in 2009).}
\item \footnote{33}{See generally id. § 1.482-1(c)(2).}
\item \footnote{34}{Id. § 1.482-1(a)(1).}
\item \footnote{35}{Id. § 1.482-3(a).}
\item \footnote{36}{Id. § 1.482-3(b).}
\end{itemize}
the margin earned in a comparable uncontrolled resale. The “cost plus method” compares the percentage markup from the cost of production in the controlled transaction to comparable uncontrolled profit markups. The “comparable profits method” is a financially complex method which determines profit level indicators from similarly situated uncontrolled taxpayers and compares these profit levels to that of the controlled party. Finally, the “profit split method” is another financially complex method which divides profit and loss between the two controlled taxpayers based on the profit split of similarly situated uncontrolled entities (the “comparable profit split”), or divided in reference to the market rate of return to each taxpayers contribution to the economic activity (the “residual profit split”).

There is no prescribed hierarchy or priority of methods for evaluating a transfer price. The regulations provide only the best method rule, which simply requires that the best method among those given for a particular form of transaction be used. A method is “best” only if “the comparability, quality of data, and reliability of assumptions under that method make it more reliable than any other measure of the arm’s length result.” The regulations give various examples of comparative analyses between alternative methods to determine the “best” option, but the standards in the definition are quite loose, and not surprisingly a source of uncertainty and dispute in practice.

The final aspect of the ALS determination is the evaluation of the comparability between the controlled and uncontrolled transactions. To be an appropriate measure of whether a transfer price reflects arms-length dealing, the uncontrolled transaction must be sufficiently comparable. Five aspects of the uncontrolled transaction must be comparable to the controlled transaction: the parties must have comparable functions (e.g., manufacturer and distributor), contractual terms, risks, economic conditions, and property or services (i.e., a sale of toasters is not comparable to a sale of computers).

37. See id. § 1.482-3(c).
38. See id. § 1.482-3(d).
39. See generally id. § 1.482-5.
40. See id. § 1.482-6; CHARLES H. GUSTAFSON & RICHARD CRAWFORD PUGH, TAXATION OF INTERNATIONAL TRANSACTIONS 748 (Charles H. Gustafson, et. al. eds., 4th ed. 1995).
41. Treas. Reg. § 1.482-1(c); § 1.482-8(a).
42. Id. § 1.482-8(a).
43. See RUFUS VON THULEN RHOADES & MARSHALL J. LANGER, US INTERNATIONAL TAXATION & TAX TREATIES § 18.03.
44. See Treas. Reg. § 1.482-1(c)(2)(i).
45. Treas. Reg. § 1.482-1(d)(1).
It is clear even from this cursory overview of transfer pricing rules that there are highly subjective judgments required at each stage of determining the arms-length price for an intra-firm transaction. Regardless of which method a taxpayer chooses as “best” for determining an arms-length price, the choice will always be open to second-guessing, and “the district director’s temptation to second-guess will be, in most cases, more than he can resist.”

Determining comparability of an independent transaction requires evaluating the five factors, and the regulations prescribe multiple standards of comparability within each of those factors. Compliance with this price-setting system of subjective judgments upon subjective judgments is, not surprisingly, a source of concern and enormous administrative expense on the part of MNEs, as compliance requires careful documentation of intra-company transfers and the rationale for chosen transfer prices. As a consequence, businesses regularly cite transfer pricing as the most difficult and burdensome tax issue they face.

Audit of transfer prices is a constant concern in every country where MNEs transact business. The subjective nature of the pricing rules, predictably, produces commensurate subjectivity and uncertainty in compliance.

C. The Modern Justification of ALS

Given the considerable complexity and subjective judgments required to determine a hypothetical arms-length price for an intra-company transfer, what are the justifications for preserving this regime? As discussed in Part I.A, the implementation of ALS was justified at the outset only in terms of its function as a tool for the preservation of the corporate tax base, without any further theoretical focus on ALS per se. However, as ALS developed into a global standard, governments and international institutions developed a clear set of policy justifications for its continued use.

The most prominent articulation of these policy rationales, consistent with the U.S. and other OECD member countries, is by the model rules for transfer pricing promulgated by the Organization for Economic Cooperation and Development, the OECD Transfer Pricing Guidelines for Multinational Enterprises and Tax Administrators (the “Guidelines”). The Guidelines function as model rules and all OECD member countries have agreed to incorporate the OECD standards into their own tax

46. RHODES & LANGER, supra note 43, § 18.03.
47. See generally Treas. Reg. § 1.482-1(d).
48. See RHODES & LANGER, supra note 43, § 18.02.
50. Id.
Accordingly, the rationale for ALS articulated in the Guidelines can be considered the generally agreed-upon justification for the use of ALS to set transfer prices. In describing the role of transfer pricing in MNEs and the associated risk of income distortion, the Guidelines set out an important assumption about the nature of intra-firm prices. “It should not be assumed that the conditions established in the commercial and financial relations between associated enterprises will invariably deviate from what the open market would demand.” This critical assumption made by the Guidelines—that the related entities in a single control group related to one another in a way economically analogous to similar unrelated enterprises—indicates that from the standpoint of the Guidelines, ALS is used to set “real” prices. Even where there is no intent on the part of an MNE to minimize or avoid taxes, an adjustment using ALS may be appropriate. The assumption that arms-length prices reflect economic reality of intra-firm transactions, though not made fully explicit in the Guidelines, is the first and most significant justification for the ALS regime. The Guidelines suggest that the structure of MNEs distorts natural prices, even if inadvertently, and that ALS corrects that distortion.

The second stated justification for ALS is closely related to the first. When ALS corrects the price distortions created by intra-firm transactions, it provides “broad parity of tax treatment for members of MNE groups and independent enterprises.” The artificial tax advantages produced by MNE transfer pricing would otherwise “distort the relative competitive positions” of the two types of entities. Furthermore, eliminating this artificial competitive advantage promotes the growth of international trade and investment. Similar to the first justification for ALS, the necessary implication of this stated purpose is the assumption that the difference between related entities in an industry and individual entities performing similar productive functions, but independently, is that the related group has the opportunity to distort its tax bill and thereby gain an artificial advantage over the independent entities. According to the Guidelines, the two scenarios have the same economic reality, but with the potential for different tax consequences, a distortion that ALS corrects.

51. See OECD TRANSFER PRICING GUIDELINES, supra note 7, at 18.
52. Id. at 32.
53. See id.
54. Id. at 31.
55. Id. at 34.
56. Id.
57. Id.
The third stated justification for ALS as the global transfer pricing regime is a functional one. The Guidelines recognize that taxation of MNEs is a global problem requiring collective action. The OECD itself represents collective movement away from tax competition and towards coordination.\textsuperscript{58} ALS is a broadly accepted standard, integrated into individual states’ tax laws as well as bilateral treaties, including Article 9 of OECD Model Tax Convention.\textsuperscript{59} Insofar as ALS is widely and uniformly implemented, its role as a facilitator of collective action is a core justification for its continued use. It is especially useful for avoiding double taxation, which is the central objective of bilateral tax treaties. When one taxing authority makes an adjustment to the income of an entity using ALS, the fact that other tax jurisdictions where the MNE does business allocate income using the same standard reduces the chances of conflicting allocations that lead to double taxation. For these reasons, along with the stated theoretical justifications, the Guidelines express a firm stay-the-course attitude with respect to ALS.

II. THE FAILURE OF THE ARMS-LENGTH STANDARD

Using the term “failure” to describe any legal rule, much less a global legal regime, can tend toward hyperbole. Nevertheless, to the extent that ALS is clearly inadequate to the task it is implemented to fulfill—the allocation of the corporate tax base of MNEs—ALS is a failed doctrine. Central to this failure is the disconnect between the assumptions at the core of ALS about the nature of intra-firm transactions and the economic reality of those transactions. With the increasing pace of globalization, this disconnect between the assumptions of ALS and the reality of global commerce will only widen, and the use of ALS to allocate global income on a national basis less tenable.

A. The Economic Fallacy of ALS

Recall that the OECD Guidelines offer two related theoretical justifications for ALS: that it corrects distortions of “real” prices in intra-firm transactions, and in so doing levels the competitive playing field between related and independent entities that otherwise perform economically identical productive functions. The implicit assumption about intra-firm transactions generally is that the relatedness of the transacting parties is incidental, rather than integral to the transaction. Thus, setting the

\textsuperscript{58} See id. at 18.

\textsuperscript{59} Id. at 33.
transfer price to the hypothetical market price supposedly puts the MNE on equal footing with similar non-integrated actors.

The treatment of the relatedness of parties as incidental to intra-firm transactions is the economic fallacy at the heart of ALS. Rather than incidental, the relatedness of the members of a control group is essential to the transactions within the group. But for the relatedness of the parties as part of a common enterprise, they would not enter into the transactions. An MNE, though various productive functions may be distributed among constituent members across multiple taxing jurisdictions, is a single integrated productive enterprise.

To treat MNEs as related only for tax distortive purposes, as ALS impliedly does, is to fundamentally misunderstand the nature of an integrated firm. Integrated firms arise precisely in order to deviate from arms-length prices in comparable uncontrolled transactions.60 Integrated firms can take advantage of economies of scale, organizational efficiencies and saved transaction costs.61 The assumption that adjusting internal prices of MNEs can put them on equal economic footing with comparable independent entities is therefore erroneous.

Furthermore, a corollary to considering MNEs as integrated productive enterprises is the fact that transfer prices have no economic substance. Recall the hypothetical U.S. producer of televisions proposed in the Introduction. Production costs were $100 per unit with a sale price of $150, netting a profit margin of $50 per unit from the total productive enterprise, including manufacturing and marketing. The constituent U.S. and Hong Kong entities worked toward a unitary profit goal, with the transfer price charged between the entities a wholly arbitrary number, an artifact of their distinct corporate personalities under the law with no relation to the economic reality of the productive venture. There are of course real economic distinctions between the two related entities, such as employment in the respective locations, assets, and other costs distinct to the respective entities. However, the transfer price bears no rational relation to any real distinction, and a transfer price set to a hypothetical arms-length price may only incidentally and partially reflect the respective contributions of related entities to the collective productive activity. By assuming independence between the parties that does not exist in reality, arms-length pricing will by necessity fail to quantify synergistic gains and the value added to each related member by the other in an integrated enterprise.62

60. See John J.A. Burke, Rethinking First Principles of Transfer Pricing Rules, 30 VA. TAX REV. 613, 627 (2011).
61. Id.
62. See id. at 626-27.
Given that the main theoretical premises of ALS are based on an erroneous economic assumption about the relatedness of entities in an integrated enterprise, it is worth revisiting the rationale for continued commitment to ALS. Why commit to a principle that a casual acquaintance with firm economics demonstrates to be an economic fallacy? Consider that the transfer pricing problem is produced by the mismatch between increasing shares of income produced by integrated global entities that are taxed on a national level. The facility to reallocate income and ALS as a reallocation standard were a response to preserve national tax bases in international enterprises, an increasingly difficult task. It is natural, then, that the preference of national taxing authorities is for individual, discrete business entities over global, transnational entities. ALS pursues this preference by attempting to treat integrated MNEs as discrete economic agents with a discrete tax base identifiable on a national level. This impulse of ALS today is the same as the original, but augmented with a greater urgency due to global commerce unconstrained by national boundaries.

B. The Administrative Failure of ALS

In criticizing ALS, it is not enough to point out that it is premised on a legal fiction that disregards the true economics of MNEs. While the notion that payments which have no economic substance can somehow be made correct is, on an economic level, nonsensical, it is necessary to interrogate ALS solely as a corporate tax base allocation mechanism. Ultimately, ALS is also a failure on the level of administrability, not because it is a legal fiction as such, but because, when considering how to allocate the MNE corporate tax base, transfer pricing does not reliably correspond to any reasonable measure of how the tax base ought to be allocated. Furthermore, to the extent that ALS might incidentally correspond to a reasonable measure of allocation, it is an ambiguous and difficult to ascertain metric, especially in comparison to easily ascertainable, real measures of economic activity.

To judge the administrability of ALS—whether, as a general matter, it works—means to determine its suitability for the purpose of allocating MNE tax bases. In order to answer that question, it is necessary to first consider what factors determine how income should be allocated among national taxing jurisdictions. Recall the original rationale for the corporate level income tax, as articulated by Thomas Adams. The purpose of the tax was to cover the collective costs of maintaining the public markets, the

---

63. By “administrative failure” I mean to capture administration in the broadest sense of the term; how ALS works, or does not work, in practice.
necessary preconditions for the productive activity of business entities.\textsuperscript{64} Thus the significance of the underpayment of taxes was expressed in terms of failure to recompense the full costs imposed and benefits derived from the use of community assets.\textsuperscript{65} Using this burden/benefit analysis as a starting point for judging an allocation mechanism means that the mechanism should provide some reasonable proxy for burdens/benefits that permit a relative allocation of the total tax in proportion to the necessary compensation.

In addition to a connection to burdens/benefits imposed, an allocation mechanism should have an easily ascertainable connection to the respective taxing jurisdiction. Under the prevailing norms, the corporate tax base consists of net income, and that tax base is allocated based on the source of the income. Income from production of rail cars in Canada, for instance, is Canadian-source income, and Canada is entitled to levy a tax on the net benefit derived from that productive activity.\textsuperscript{66} However, it is precisely this clear connection between income and territory that is undermined by the transfer pricing problem. Thus an effective system for allocating the income of MNEs will provide a measure of economic activity which is clearly connected with the respective taxing jurisdictions.

Evaluating ALS in light of the foregoing, ALS begins with the question, “What would comparable independent parties have bargained for?” This may ultimately prevent opportunistic income-shifting that would have resulted in undercompensation from the burden/benefit standpoint. However, setting arms-length prices between related entities as such bears no direct relationship to the burdens/benefits of those entities in their respective jurisdictions. In terms of connecting activity to a particular jurisdiction, ALS functions to directly reallocate income, so it would seem to satisfy the clear connection requirement. However, transfer prices are a legal fiction with no real economic substance outside of tax adjustments. Because benefits and burdens are related to real costs, they will not align with the deemed income allocated by ALS.

Even if ALS was suitable for allocating the tax base of MNEs as a theoretical matter, the highly subjective nature of ascertaining arms-length prices creates disproportionate administrative burdens, especially relative

\textsuperscript{64} See Adams, supra note 24.

\textsuperscript{65} Id.

\textsuperscript{66} Note that the U.S. income tax is residence-based, taxing residents on worldwide income regardless of source. However, offsetting credits for foreign tax paid, e.g., from a US company doing business in Canada, are generally available, so the net effect of this principle holds. See CHARLES H. GUSTAFSON & RICHARD C. PUGH, TAXATION OF INTERNATIONAL TRANSACTIONS 33, 39 (4th ed. 1995).
to other easily ascertainable, real measures of economic activity. ALS relies on completely fictional accounting figures, which MNEs are required to maintain for compliance purposes, rather than real measures of economic activity that are already available through standard accounting practices and often audited. This fictional accounting, which requires documented justification for transfer prices, amounts to a massive burden and a cause of considerable anxiety for MNEs.67

ALS is not a failure administratively simply because it is based upon a legal fiction. It is a failure because it is based upon a legal fiction that complicates and obfuscates instead of clarifying and simplifying. Compare another legal fiction in tax law, depreciation deductions.68 The U.S. depreciation rules provide for fictional, scheduled depreciation deductions for enumerated asset classes.69 This necessitates a phantom accounting system which adjusts the bases of firm assets in a manner that does not reflect economic reality.70 The tradeoff that the depreciation rules make is for a fictitious but highly administrable system rather than a financially accurate but administratively difficult system (annual appraisal of all physical assets). If you are going to create a phantom accounting system, it should be highly standardized and predictable, with judgment calls only at the margins. ALS, by contrast, is uncertain, subjective in every case, and frequently subject to challenge and revision. A legal fiction that does not gain simplicity or administrability in the bargain is an administrative failure, especially when there are feasible alternatives that are real measures of economic activity and readily ascertainable.

As an illustration of the multifaceted dysfunction of ALS in practice, consider the famous transfer pricing case of Bausch & Lomb Inc. v. Commissioner.71 Bausch & Lomb (B&L), a manufacturer of contact lenses, developed and patented the spin cast method for manufacturing soft contact lenses, which enabled production costs of approximately $1.50 per lens, while alternative methods used by competitors cost at least $3.00 per lens.72 B&L subsequently licensed the technology to wholly-owned Irish subsidiary B&L Ireland.73 B&L Ireland manufactured the lenses at a cost of approximately $1.50 per lens and then sold them to B&L for $7.50 per lens

67. See Rhoades & Langer, supra note 43, § 18.02; Rhoades, supra note 49.
69. See id.
70. For purposes of corporate valuation, depreciation is added back in, as it is not a real adjustment to the value of firm assets.
72. Id. at 550.
73. Id. at 563-64.
The IRS, in challenging the transfer price as artificially high, argued that B&L Ireland was analogous to a contract manufacturer because sale of its total production was assured. Because it did not bear the risks of an independent manufacturer, B&L Ireland is only entitled to cost plus a comparable contract manufacturer markup. B&L argued for application of the comparable uncontrolled price method, presenting evidence that the $7.50 per lens price was at or below the price which would have been charged by comparable uncontrolled manufacturers for similar lenses. The court found that comparable uncontrolled price was the appropriate method, with $7.50 a reasonable per unit price, in part because B&L Ireland was not contractually bound to sell the lenses it produced to B&L.

The Bausch & Lomb case illustrates several troubling aspects of administering ALS in practice. First, the treatment of the parent and subsidiary as separate entities is particularly absurd in this case, as it is clear that the transaction in question would not have occurred but for the relatedness of the parties. Second, in the clear absence of comparable uncontrolled transactions (given the novel manufacturing technology), the IRS and the taxpayer submitted equally plausible arguments, in so far as both fit the transaction into an accepted pricing method, and neither form resembled the economic reality of the transaction. Finally, the disposition of the case, while defensible from the standpoint of ALS, was perverse from the standpoint of economic reality. The dramatically lower manufacturing costs were produced in the United States through technology development, but the return on that U.S. productive activity in the form of higher margins was booked in Ireland. A tax avoidance provision was used to sanction a bald tax avoidance structure because of a hypothetical comparable market price that bore no relationship to the economic reality of B&L’s productive activity.

Rather than a complex, ambiguous legal fiction, the economic reality of the productive enterprise—in the form of easily ascertainable, real economic factors—is the best proxy for allocating the tax base of MNEs in terms of determining burden and benefit with respect to a particular taxing jurisdiction. Depending upon arms-length transfer pricing adjustments is a

---

74. *Id.* at 583.
75. *Id.* at 583, 588.
76. *Id.* at 587.
77. *Id.* at 591-93. B&L was not committed to purchase the production of B&L Ireland; therefore, it bore the risks of an independent producer, and it was entitled to the market prices commanded by analogous independent producers. If B&L committed to purchase the entire production, it would need to be compensated for taking on that additional risk in the form of a discounted unit price. See *id.*
dysfunctional solution to a problem that is needlessly perpetuated by the insistence on separate entity treatment and the significance of transfer prices.

III. REFORMS AND ALTERNATIVES

Substantial reform or outright replacement of ALS seems inevitable as the allocation of global corporate income through transfer pricing becomes increasingly untenable and perceptions of unjust tax results from intellectual property holding companies in tax havens and periodic repatriation holidays reach a political boiling point. This final section will consider potential reforms and evaluate their suitability based on whether they utilize (i) real, easily identifiable economic factors (ii) which can be used to approximate relative benefits and burdens on a particular tax jurisdiction (iii) relative to the entity considered as a whole. These criteria necessitate beginning with the MNE considered as a single entity. Reforms and alternatives to ALS fall into two broad categories: unilateral reforms, changes that can be implemented by individual national taxing authorities, and multilateral reforms, changes in international law and institutions which require collective action.

A. Multilateral Reform

Multilateral reform is the most theoretically complete mechanism for instituting alternatives to the current ALS regime. Because the core aspect of any reform is taking the economic reality of the MNE as an integrated enterprise rather than the legal fiction of control group member independence, the corporate tax base of MNEs will be defined at the first instance on a global level. It follows that in order to comprehensively avoid the possibility of double taxation, mutual agreement as to how that tax base is defined is necessary. The starting point for the most complete approach to reform, therefore, is the global consolidated tax base.

Only one credible reform proposal approaches this ideal case: the EU Proposal for Common Consolidated Corporate Tax Base (“CCCTB”). The CCCTB, currently under consideration by the European Commission, is a proposed single set of rules defining taxable income in the EU along with a single consolidated tax return for the entirety of a company’s activity within the EU. The tax base would effect a unitary profit and loss calculation, but preserve the right of individual member states to set rates.  

---


79. Id.
Most importantly from the standpoint of reforming ALS, the CCCTB proposal incorporates a formulary apportionment for the sharing of the consolidated corporate tax base. The apportionment to individual members of a control group is a function of sales, payroll, and assets, equally weighted. A consolidated tax base apportioned on a formulary basis means that the CCCTB would solve the transfer pricing problem within the EU by making intra-firm transactions irrelevant to the calculation of income.

While the implementation of the CCCTB would solve the transfer pricing problem within the EU, it is an incomplete solution. In a post-CCCTB world, the EU would simply resemble a single national taxing authority in the context of the global transfer pricing scheme. Absent further reform, ALS would remain the relevant standard for setting transfer prices between related parties in the EU and other national taxing jurisdictions. While incomplete, the CCCTB might serve as a stepping stone to more comprehensive reform. It is likely that a single EU tax base would substantially reduce barriers to collective action, with agreement between the U.S., United Kingdom, and consolidated EU likely sufficient to initiate major changes in the larger transfer pricing regime.

B. Unilateral Reform

Notwithstanding the numerous failings of ALS, its enduring advantage over alternative approaches is its widespread adoption, which permits collective action on the basis of ALS and provides critical protection from double taxation through bilateral tax treaties. As a result, any unilateral reform will have to contend with the existing international framework that premises MNE income allocation on making transfer pricing adjustments in accordance with ALS. However, there is still room for unilateral action that is compatible with the existing ALS-dominated international law framework. This section will consider modifications to current law which displace or augment ALS with formulary apportionment, a system which allocates income based on the proportion of fixed economic factors in a given jurisdiction.

81. Id. The merits of the formula itself, a variation on the “Massachusetts Formula,” are discussed infra Part III.B.
1. Formulary Apportionment as an Effective Tool for Apportioning Income Using Real Economic Factors

The mechanism traditionally contrasted with ALS when considering how to apportion income across taxing jurisdictions is known as formulary apportionment, since it apportions income in fixed proportion to certain specified factors, expressed in a formula. The proposed formula for the EU CCCTB discussed in the prior section is one example of formulary apportionment, itself modeled on what is known as the “Massachusetts Formula”: allocating total entity income to a particular jurisdiction in proportion to property, payroll, and sales in that jurisdiction, giving equal weight to each.\(^{82}\) The U.S. states and Canadian provinces have long used some variation on the Massachusetts Formula to allocate the state level corporate income tax base of domestic entities, recognizing that large enterprises operate on a national scale such that state-by-state accounting would be distortive of economic reality—imagine the enormous folly of requiring transfer pricing documentation for intra-company movement of goods and services across state lines.\(^ {83}\) This scenario is really no different than MNEs in the international context, except that barriers to collective action on the state level are far lower than for the international system, and when the respective systems were instituted, the national economy was integrated in a way that resembles the contemporary global economy. Replacing or augmenting ALS with some variation on the Massachusetts Formula is the starting point for every unilateral reform proposal; no serious reform in the academic literature is known to the author which proposes to retain transfer pricing as the sole mechanism for allocating MNE income.

Formulary apportionment in general has been criticized on several grounds. First, it has been criticized as an arbitrary, if predictable division of corporate income, in contrast to the use of transfer pricing according to ALS, which attempts to estimate the actual division of income among members of a related group\(^ {84}\) However, as was demonstrated in Part II of this paper, the notion that transfer prices at arms-length prices reflects the “true” income of related parties is itself a fallacy. This was due in part to the fact that the notion of the “true” location of income for MNEs in a global economy is itself a circular concept. The income is unitary and produced in a transnational fashion. How it is divided is precisely the


\(^{83}\) See id. at 501.

\(^{84}\) See id. at 516.
normative problem that should frame any analysis of reform. In contrast to
transfer pricing, a formulary apportionment approach is at least capable of
addressing the proper framing question of MNE tax base division, rather
than persisting in the erroneous assumption that related entities transact at
arms-length.

2. Proposed Applications of Formulary Apportionment

The dominant variation of formulary apportionment advocated for in
the international tax reform literature focuses on a single factor of the
traditional formula as a proposed replacement for transfer pricing: the
proportion of total sales in a jurisdiction. As the proponents of sales-based
formulary apportionment note, many states already weight the sales factor
of their apportionment formulas heavily, for two principal reasons. First,
destination-based sales figures are straightforward to account for and
apportion, whereas property in particular requires periodic valuation. Second,
there has been a concern that businesses might be discouraged
from locating jobs and investment in a state which assesses taxes based on
property and employment. Sales are less sensitive to differences in tax
rates across jurisdictions, and the incentive to maximize sales is essentially
constant even in high-tax jurisdictions.

Several methods for implementing formulary apportionment have
been suggested. Most straightforward, the transfer pricing rules could be
replaced directly by a formulary apportionment system. Under this
implementation, sales-based formulary apportionment under single-entity
tax accounting would displace the entire edifice of international tax law
built around the use of separate entity accounting and transfer pricing,
including the need for many foreign business tax credits and most of
Subpart F of the Internal Revenue Code. Another prominent proposal
would have sales-based formulary apportionment implemented as a
variation on the residual profit split method, a transfer pricing method
implemented by many OECD countries. Under this implementation, an
estimated market return would first be assigned to the deductible expenses
incurred in each country (the “routine income”), and any residual income

86. Id.
87. Id.
88. Avi-Yonah, et al., supra note 82, at 509.
89. See Morse, supra note 84, at 594.
90. Id. at 600-03.
91. See Avi-Yonah, et al., supra note 82, at 500.
would be allocated based on the relative sales in each country. Finally, formulary apportionment could be applied only to a subset of intra-company transactions, such as financial transactions, which the current transfer pricing system especially fails to account for accurately. Under such an implementation, transfer pricing according to ALS would be retained for transactions with an easily-ascertainable market price, with formulary apportionment for financial transactions, which are otherwise subject to widespread abuse using transfer pricing.

3. A Flexible Approach: Tailoring Formulary Apportionment Based on Type of Income

Given the range of proposed reforms, what should an alternative to ALS look like? A dominant feature of current formulary apportionment proposals is the use of outbound sales as opposed to other “supply side” factors. However, if we accept that an underlying norm of allocation should be its correspondence to measures of economic benefit/burden in the jurisdiction, then it would be desirable to have labor and capital factors reflected in any formulary apportionment. While outbound sales would divide income based on the extent to which an MNE avails itself of particular markets for its goods and services, such costs are only one aspect of dividing the income base in a normatively desirable way. A significant criticism of using production factors in the apportionment calculation, and a concern of the states which weight sales more heavily, is that including capital and labor factors creates “an implicit tax on the factors used in the formula.” The fear is that this inclusion would in turn discourage locating factors of production in high-tax jurisdictions. However, this rationale for excluding productive factors from formulary apportionment is deficient for two reasons. First, it is implicitly based on a “tax competition” normative foundation, which as a guiding principle is not well-equipped to answer the question of where multinational income ought to be taxed. It is a response in part to collective action problems, but not directly to the question of allocation on a formal level. Second, if reform of ALS is performed in revenue-neutral fashion, U.S. corporate tax rates could be lowered

92. See id. at 509. For the existing rules on which this method is based see Treas. Reg. § 1.482-6 (2011) and OECD TRANSFER PRICING GUIDELINES, supra note 7, at 191-203.


94. Id.

95. See, e.g., Susan C. Morse, Revisiting Global Formulary Apportionment, 29 VA. TAX REV. 593, 594 (2010); Avi-Yonah, et al., supra note 82, at 498.

96. Avi-Yonah, et al., supra note 82, at 509.
considerably,\textsuperscript{97} eliminating in large part the tax-competitive concerns of including factors of production in a formulary apportionment.

In addition to the factors themselves, the second major problem with the implementation of a formulary apportionment reform is the inevitability that a single multifactor formula will allocate at least some types of income arbitrarily. Unless we use strictly destination sales, the other production factors and the weight assigned to them represent judgments about how income was produced and how relevant each factor is to a productive activity in a particular taxing jurisdiction. The oil industry, for instance, has objected to allocating income based on property and payroll, since profits derive largely from the oil reserves themselves, an element not reflected in the traditional formula because companies do not typically own the reserves directly.\textsuperscript{98} Under the Massachusetts Formula, therefore, an oil producer’s income will be allocated arbitrarily, in so far as that allocation does not reflect the source of profits and the benefits/burdens corresponding to its productive activity.

In light of both the desirability of including factors of production in any formulary apportionment and the concern that any single formula will allocate some income arbitrarily, this paper proposes a flexible approach which uses multifactor formulas applied to particular categories of income.\textsuperscript{99} This approach is flexible in that a national taxing authority could establish the income categories and corresponding formulas as broadly or narrowly as necessary to allocate income in a sufficiently non-arbitrary fashion.

To illustrate the advantages of this flexible implementation of formulary apportionment, consider the case of an oil company which engages in both production and refining activity. Under a variation of the Massachusetts formula, the company’s refining activity will be allocated in a way that reasonably reflects both the source of income from refining and the benefit/burden of the refining activity in the appropriate jurisdiction, since refining is a relatively capital- and labor-intensive productive activity, and the Massachusetts formula gives weight to those factors. However, the company’s oil production income will be misallocated to the extent that property and employment are excessively weighted in the Massachusetts formula relative to the contribution of those factors to oil production income. The company might, for instance, perform all of their drilling activity in Canada but have the vast majority of property and payroll in the

\begin{itemize}
\item \textsuperscript{97} See id. at 507.
\item \textsuperscript{98} Id. at 516.
\item \textsuperscript{99} Separate tax accounting treatment for different categories or baskets of income is already a common feature in the tax code. See, e.g., 26 U.S.C. § 901 (Foreign Tax Credit Rules).
\end{itemize}
U.S., leading to excessive allocation of oil production income to the U.S. If instead we apply a destination sales-based allocation, the risk of over-allocation based on the location of employees and investments is eliminated, but as a pure demand-side measure, the allocation could fail to capture the complete benefit/burden of the company in the U.S., where it has availed itself of labor markets and all the conditions necessary to support capital-intensive productive activity.

A flexible formulary apportionment makes it possible to correct for the risks of over-allocation while also accounting for the supply-side benefit/burden through the inclusion of productive factors appropriate to the category of income. In the case of the oil company, a flexible approach would put the overall income of the company into two baskets: production income and refining income. The formulary allocation of refining income would give adequate weight to payroll and property, to reflect the contribution of those factors in the generation of refining-related income. The formula for oil production income would by contrast give less weight to property and payroll, and include factors tailored to oil production. A flexible formulary apportionment would even allow for readily-ascertainable, industry specific metrics for allocation, such as measurements of wellheads or output.

A flexible formulary apportionment approach has the potential for considerable complexity, depending upon the degree to which the formulas implemented by national taxing authorities are narrowly tailored to specific income-producing activities. However, the complexity is based on objective factors, and the difficult decision-making happens at rule formation rather than rule application. Thus the complex, subjective application of transfer pricing rules would be replaced with a complex, but narrowly-tailored and objective formulary apportionment system.

CONCLUSION

It is clear that transfer pricing using ALS as a mechanism for allocating the income of MNEs is broken and unsustainable in its administration and for the purposes of revenue collection. Reform based on some form of formulary apportionment is the best alternative method to allocated MNE income based on real, readily ascertainable economic factors. Furthermore, if we wish to return to the original, normatively-coherent basis for entity-level taxation premised upon the benefits enjoyed and burdens imposed by the productive activities of business entities, any reform based on formulary apportionment should consider more than destination-based sales, as this is only one economic factor of the benefit/burden in a particular jurisdiction. In consideration of the
propensity for any single formula solution to allocate at least some kinds of income arbitrarily, this paper proposes a basketing approach with different allocation formulas based on different categories of income, in order to tailor allocation to different forms of productive activity while maintaining single-entity taxation according to objective economic factors.

However ostensibly fair, efficient, or politically feasible any formulary apportionment reform proposal might appear, prospects for this kind of comprehensive reform are uncertain. Though taxes are the price of civilization, and corporate taxes, perhaps, are the price of secure, functioning markets, the corporate taxpayers with the greatest pull over tax policy are preoccupied by a culture of tax avoidance. In other words, it is not clear that the cultural moment is ripe for international tax reform based conceptually on benefits enjoyed and burdens imposed by MNEs, even if that is the most coherent basis for the allocation of the global corporate tax base.

Regardless of present cultural attitudes relative to taxation, there is a growing consensus, at least academically, that ALS is hopelessly outmoded and broken. The benign explanation for the persistence of the current ALS regime is simple path dependence—so much is invested in this form of international taxation that the costs of exit exceed the benefits of a more rational, administrable system. The cynical explanation takes as its starting point the emerging cycle of massive offshore tax deferral in anticipation of the next repatriation holiday. The few large entities capable of benefiting from ALS have far more to lose in the transition to a level, transparent system than the rest have to gain from such reform, a political asymmetry not easily overcome.

101. As an illustration of the asymmetry of political incentives, consider that those (relatively few) firms which advocated for and then availed themselves of the 2004 repatriation holiday realized an average return of 22,000% on their lobbying investment. See generally Raquel Alexander, Steven W. Mazza & Susan Scholz, Measuring Rates of Return for Lobbying Expenditures: An Empirical Analysis under the American Jobs Creation Act, 25 J.L. & Pol. 401 (2009).