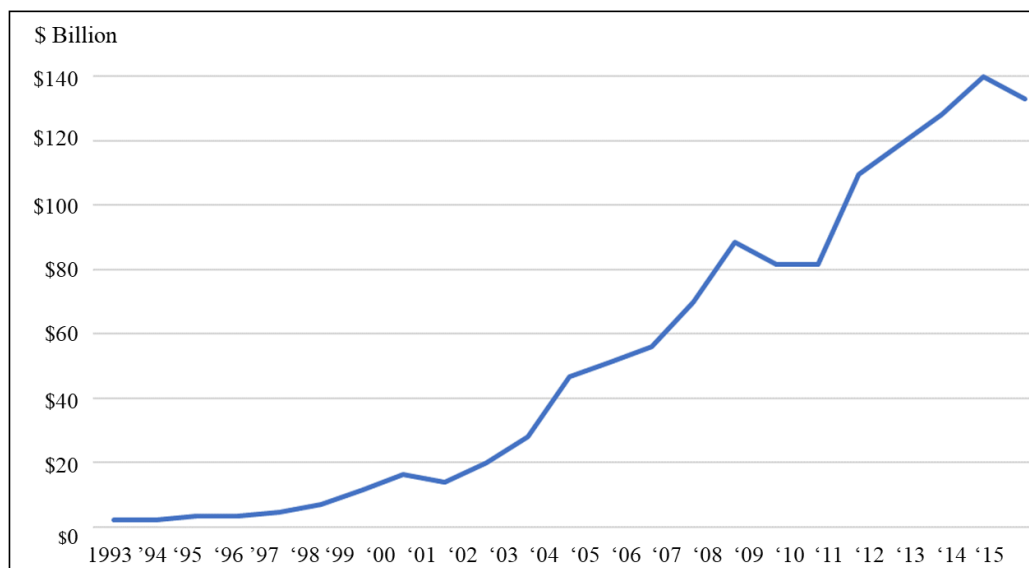


## Forensic Approaches to Transfer Pricing Enforcement Could Restore Billions in Lost U.S. Federal and State Tax Losses: A Case Study Approach

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### Introduction

For over one hundred years, international taxation has been a key factor in business activity among U.S. multinational enterprises (MNEs). A U.S. based MNE can use international activity to increase net profits in a number of ways: it can allocate business activities to countries with relatively lower production costs, it can move operations to countries with lower tax rates, or it can engage in tax planning that shifts profits to lower taxed jurisdictions. MNEs are certainly free to determine the geographic locations of their business activities as in the three examples above, and legal tax planning opportunities always seem to be plentiful. However, naked profit shifting (i.e., shifting profits offshore with no change in operations) solely for a tax benefit is theoretically prohibited by law; at least in the U.S. Yet estimates shown in *Figure 1* below indicate that naked offshore profit shifting in the U.S. appears rampant and growing, with no visible enforcement impact. Research—most notably Gravelle (2012)—indicates the vast majority of these tax losses are due to transfer pricing (TP) profit shifting.



**Figure 1: Estimated annual federal and state tax underpayments due to corporate profit shifting.<sup>1</sup>**

A window into this type of profit shifting occurred during a U.S. Senate hearing in 2014 and subsequent government investigation that discovered that Caterpillar, Inc. had shifted approximately \$8 billion, or 85%, of its U.S. pre-tax income from parts sales to Switzerland between 2000 and 2012 in a TP arrangement implemented by its public auditor PricewaterhouseCoopers LLP and approved by the Internal Revenue Service (IRS or Service) on examination. The

<sup>1</sup> These estimates were prepared based on adjusted BEA Direct Investment Series data with non-linear elasticities through 2015, as found in Clausing (2016, 2019b). We also include our own adjustments for state tax losses; tax revenue losses are based on an effective federal tax rate of 5% below the statutory federal rate, and a 6% average state tax rate. Clausing (2020) adjusts these estimates to incorporate several additional factors. See appendix A of Clausing (2020) for more detail.

government investigation deemed this arrangement to have been fraudulent.<sup>2</sup> At about the same time, the IRS was also engaged in an expensive tax court proceeding over its challenge of a TP arrangement at Amazon.com that was later found by the U.S. Tax Court to be compliant (a conclusion that was consistent with forensic modeling published in this journal prior to the court's decision).<sup>3</sup> These two "reverse tax enforcement" outcomes were in the opposite of effective tax enforcement and a microcosm of larger problem in TP enforcement: the difficulty in distinguishing between compliance and non-compliance. This issue was first highlighted in Curtis (2016) in the context of Type I and II errors, together with potential solutions in the form of increased use of data analytics and specialized forensic economic analysis to better identify noncompliance.<sup>4</sup> Whereas Curtis (2016) focused on forensic economic statistical models to detect non-compliance, this study focuses more on the examination phase, and the application of forensic methods on exam once a risk has been detected. This is because a second problem exists in enforcement: difficulties in effectively prosecuting tax evasion even when it is detected. The IRS recently lost a TP challenge in tax court against Medtronic Inc.—a case in which forensic risk detection models developed in Curtis (2016) agreed with the IRS position—yet this case illustrated the limitations faced by the IRS in building these cases forensically.<sup>5</sup> We believe that a new examination approach focused on "forensic economic investigation," in combination with advanced forensic risk detection technology, can revolutionize TP enforcement and lead to a substantial increase in compliance which will reduce both federal and state tax underpayments. Note that virtually all of the states in the U.S. rely on the federal government for enforcement of TP, and the state tax losses from non-enforcement are substantial and often overlooked.

In this paper we argue that the IRS has faced increasing challenges in tax (and TP) enforcement due to new practices adopted by U.S. MNEs in this area, even as its capabilities have been diminished by continuing budget cuts since 2010. In the following sections we first review one of the root causes of the current compliance-enforcement gap as a starting point, to illustrate how simply adding more enforcement resources to a poorly designed system is not a viable solution. We then highlight recent trends in TP—including a new type of intercompany transaction that exploits a known gap in IRS enforcement—that require changes to the design of the enforcement function itself. We explain the components of forensic economic investigation and explain its role in TP examinations and illustrate the application of this approach with two case studies. We discuss how this more scientific and data-driven approach can lead to more powerful examination strategies. Finally, we conclude with recommendations for new organizational forms, technologies and processes that can achieve a systemic improvement in enforcement. This study contributes to the existing literature by showing how forensic and investigative accounting approaches based on techniques found in law enforcement, private industry and academia can be adapted to U.S. tax enforcement, with potential impacts akin to those of DNA technology on criminal investigation.

### **U.S. Models of Corporate Taxation and Enforcement are Mismatched**

Tax regulations in the U.S. and in most countries around the globe with respect to TP are based on the arm's length standard (ALS), requiring that the pricing of cross-border intercompany transactions be determined as if the transactions were conducted between unrelated parties in an open market. This requirement may sound clear and simple for straightforward transactions, such as sales of final products, or the provision of intercompany services. However, a more complicated transaction such as the sale of an intermediate good or license of a valuable proprietary intangible asset introduces complexity that can make it more difficult to determine its pricing under the ALS. This complexity can arise

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<sup>2</sup> See U.S. Senate Permanent Subcommittee on Investigations (2014), Avi-Yonah (2014), Drucker (2017), and Crumbley et al. (2019), disclosing the conclusion of a government investigation report prepared by Leslie A. Robinson, an accounting professor at the Tuck School of Business at Dartmouth College. Caterpillar was subsequently investigated by the U.S. Attorney's Office in the Central District of Illinois, the Federal Deposit Insurance Corporation office of inspector general, the Internal Revenue Service Criminal Investigation Division and the Department of Commerce Office of Export Enforcement, including a raid on its corporate offices in March, 2017. Caterpillar's Form 10-K issued on February 18, 2014 just prior to the Senate hearing in April disclosed that the IRS had previously completed its examinations through 2006 without identifying or challenging the allegedly fraudulent transaction. The 2014 Senate PSI report requested also requested that the IRS henceforth begin applying the economic substance doctrine to their examinations of TP arrangements, and to clarify what types of TP arrangements are not subject to the economic substance doctrine.

<sup>3</sup> See Curtis (2016) and *Amazon.com, Inc. v. Commissioner*, 148 T.C. 8 (2017).

<sup>4</sup> A Type I error mistakenly identifies a compliant transaction as non-compliant (as in the Amazon case), whereas a Type II error fails to detect tax evasion when it likely exists (as in the Caterpillar case).

<sup>5</sup> *Medtronic Inc. and Consolidated Subsidiaries v. Commissioner*, T.C. 2016-112 (June 16, 2016). The decision against the Commissioner was remanded back to U.S. Tax Court by a panel of judges on the U.S. Court of Appeals in the Eighth Circuit in *Medtronic, Inc. v. Commissioner*, No. 17-1866 (August 16, 2018).

due to the absence of comparable transactions, the complexity of the transaction, the number of possible pricing approaches, the variety of inputs and their reliability, and often the dependence on specialized technical analyses.

The ALS has been U.S. federal law since the early twentieth century, though this choice has been reevaluated in succeeding years, most notably in 1962 when the U.S. Congress considered but stopped short of approving legislation requiring an alternative known as formula apportionment (FA) as a solution to corporate profit shifting; but did advise the Treasury to consider it when drafting regulations.<sup>6</sup> FA and other approaches such as unitary taxation are more widely used at the state level to apportion taxable profits between affiliates. Fundamentally, the ALS treats every related affiliate as a separate party and seeks to price transactions between them at prices that would be consistent with transactions negotiated between unrelated parties in the open market. FA, on the other hand, treats all related affiliates as components of one unitary enterprise and seeks to apportion profits based on the relative economic contributions of each affiliate. The recent country-by-country reporting requirements of the OECD Base Erosion and Profit Shifting (BEPS) initiative Action 13 and recently proposed digital services taxes or DST in Europe on Internet advertising revenues are steps in this direction.<sup>7</sup>

The choice of the ALS over FA has produced an almost never-ending source of controversy and litigation going back many decades.<sup>8</sup> The IRS is continuously engaged in controversy with taxpayers, often on the losing end.<sup>9</sup> This ending should not be surprising as the ALS is based on facts and information that are idiosyncratic to the taxpayer, and the Service suffers from information and resource asymmetry, poorly designed regulations, possibly defective examination strategies, lack of resources and capabilities, and other disadvantages. Allowing the MNE (the taxpayer) to determine its own TP arrangements with unlimited possibilities for non-compliance, without capable enforcement by the IRS is basically a textbook violation of principal-agent models of economics. Information asymmetry in particular restricts the ability of the principal (the IRS) to monitor or sanction the agent (the taxpayer), in an environment where the agent has a motive to avoid or even evade tax payments that is in complete opposition to those of the principal to maximize tax payments consistent with requirements of the law. Information asymmetry affords the agent virtually unlimited opportunities to avoid or evade taxes without observation by the principal. Alternatively, the FA approach is more straightforward, and more restrictive, by assigning returns based on specified measures of economic activity, thus limiting the options available to MNEs to shift profits between entities. FA measurements can be at least partially automated and would be transparent to tax authorities. These differences make FA much less “enforcement intensive,” while the ALS approach depends crucially on well-designed and highly capable enforcement. The decisions by the U.S. Congress and Treasury Department to implement the ALS should have been accompanied by robust and credible enforcement capability, but this implementation has not been the case. Congress has been reducing IRS funding for a decade, ignoring growing concerns raised by the Government Accountability Office, Treasury Inspector General for Tax Administration, Congressional Research Service, and other public and private institutions.<sup>10</sup>

Notably, corporate profit shifting was in some ways exacerbated by Public Company Accounting Oversight Board (PCAOB) rules under Financial Accounting Standard (FIN) 48 that became effective in 2007, because this requirement directed corporate taxpayers to incorporate tax avoidance and evasion into their financial planning explicitly. The requirement to estimate reserves due to potentially non-compliant TP and other tax positions (labeled Uncertain Tax Positions or UTP) made TP simply another financial planning tool to manage earnings. This situation is basically a “heads I win, tails you lose” proposition in which, if TP violations reserved in UTP remain undetected on exam, net earnings will increase in the future. However, if these violations are later detected and the taxes paid, future reported net earnings will not go down because the taxes were reserved. TP non-compliance is a systemic problem that has many enablers.

### **Increasing Complexity has Made TP Enforcement Difficult**

The past several decades have witnessed a shift in the nature of intercompany transactions towards more complex arrangements, including the transfer of the rights to use new forms of intangible property such as user base intangibles,

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<sup>6</sup> IRS (1988).

<sup>7</sup> OECD (2015).

<sup>8</sup> Some in the academic and legal community have advised using a FA approach to TP, especially for globally integrated firms, because the ALS is almost impossible to enforce in light of the overwhelming incentives for profit shifting and lack of any biting constraints on complexity or choice of methods (under the “best method” standard of the regulations). See for example Avi-Yonah and Clausing (2008). Taxpayers have tended to argue for ALS largely for tax planning purposes, as an approach that has wide consensus in the international community and is thus more workable on a global basis when seeking “tax certainty.”

<sup>9</sup> For a comprehensive guide to the history of TP litigation, see Avi-Yonah (2012).

<sup>10</sup> For example, see GAO (2017), TIGTA (2003, 2016).

technology-enabled infrastructure, integrated services and intellectual property (IP), corporate networks, management systems, software, and other complex and hard to value transactions that often have no reliable market-based benchmarks. More recently, many of the large dollar tax court litigations have involved cost sharing arrangements; almost exclusively controversies over buy-in payments. In particular, a new type of intercompany transaction has recently been employed by MNEs to shift substantial amounts of U.S. profits offshore: the establishment of a “low substance” or “no substance” intercompany cost sharing arrangement (CSA) purporting compliance with Treas. Regs. § 1.482-7. In this type of related party transaction, MNEs either reorganize or redefine their business structure by transferring economic ownership of (or more technically the rights to exploit<sup>11</sup>) the U.S. taxpayer’s IP to subsidiaries residing in foreign countries with low tax rates that often approach zero. These foreign entities may have no capability to exploit the transferred IP, may contain no economic substance or legitimate business purpose, and occasionally may have few or no employees or productive resources at all. This situation appears to be exactly the type of tax motivated—and therefore prohibited—“naked profit shifting” transaction mentioned earlier, yet the IRS regularly approves exactly these types of transactions (as in Caterpillar and in case studies we discuss later), despite regulations and laws that specifically prohibit them.

The revolutionary nature of these types of CSA arrangements is that they are implemented exclusively for tax purposes and may have no business purpose or economic substance at all; as required by U.S. law. The IRS has historically not challenged these arrangements, perhaps because CSAs are allowed by statute (to the extent they have economic substance and a business purpose and are not sham transactions). The IRS, however, has been reluctant to apply the economic substance and sham transaction doctrines or the tax shelter regulations in a TP context. The economic principle behind a CSA is that business risk and the amount of expected profit should be positively correlated. Investing in IP development is considered a high-risk activity, in which the sharing of this risk among related affiliates should result in the sharing of the associated non-routine profits or losses between them. While there are virtually no examples among unrelated parties of anything resembling a CSA transaction as described by Treas. Regs. § 1.482-7, and such an arrangement is almost patently non-arm’s length as designed by regulation, taxpayers have nevertheless pushed these arrangements even further away from the boundaries of arm’s length principles with addition of low-substance or no-substance implementations.<sup>12</sup>

This is important because in economic terms, while an MNE at the consolidated level can increase its expected profit by taking on additional business risks such as research and development (R&D), the shifting of these expenses and the economic ownership of the resulting IP between affiliates does not increase the overall risk-bearing of the MNE. The same economic principle of risk and return implies that, all else being equal, without an increase in the overall risk-bearing of the MNE, there is no reason that its consolidated pre-tax income should necessarily increase. However, shifting the economic ownership of the controlled IP in this way does appear to violate this economic principle in the sense that if the IP development activity is successful, it can result in an increase in *net* profits to the consolidated

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<sup>11</sup> Treas. Reg. § 1.482-7(b)(4)(ii) states: “Each controlled participant will be assigned the perpetual and exclusive right *to exploit* the cost shared intangibles . . .” This requirement is supported by at least 40 examples in the § 1.482-7 regulations in which each CSA participant performs production, distribution, or some other form of physically exploiting the CSA-covered IP. No examples are found in the regulations in which a foreign CSA participant earns profits attributable to the covered IP in a CSA arrangement without also performing exploitation functions. The regulations appear to explicitly bar a situation in which the U.S. parent performs all R&D functions *and* all exploitation functions, and merely shifts the profits earned by these activities to an offshore affiliate with no employees or exploitation capability, in return for simply entering into a CSA arrangement and bearing only the cost sharing payments themselves. The existence of such arrangements appears to be an enforcement problem, and not a regulatory one.

<sup>12</sup> For instance, Google Inc. reported in its FY2006 Annual Report: “Our provision for income taxes decreased to . . . an effective tax rate of 13.0%, in the three months ended December 31, 2006 . . . This decrease was primarily attributable to the effects of an Advanced Pricing Agreement (APA) we entered into with the Internal Revenue Service . . .” This APA concerned a buy-in payment in 2003 for a cost sharing arrangement implemented shortly after Google opened its Dublin office in April of that year with only five employees, hired to review advertisements. See Drucker (2011) and Newenham (2014). In the same year, Yahoo! Inc. acquired Overture Services Inc. and the industry’s first “pay for placement” search engine for \$1.73 billion, or nine times Overture’s annual revenues. Based on this comparable unrelated transaction and Google’s reported foreign revenues of about \$750 million by year-end, Google’s buy-in payment may have been expected to be around \$7 billion (indeed Google quickly eclipsed Yahoo Search on its way to achieving dominance in internet search engines). Google soon reported almost \$2 billion in cumulative foreign pre-tax income by 2006, or about 30% of Google’s total pre-tax income over the period, indicating that the buy-in payment was likely not material to these Irish profits, which by 2008 exceeded Google’s U.S. profits. Interestingly, between 2003 and 2006 Google US increased its share of Google’s valuable infrastructure from 86% to 93% of total, even as its U.S. profits were moving offshore.

company without any increase in overall risk or pre-tax profits. This missing increase in pre-tax profits however, is required by U.S. regulations to establish the business purpose of the arrangement.<sup>13</sup> This piece is why shifting production activities from a U.S. affiliate to a lower-taxed, lower-cost affiliate to increase pre-tax profit is acceptable and indeed consistent with arm's length principles, but shifting only profits without functions is not. In addition, no MNE would logically do this with a third party.

In this paper, we argue that the challenges to tax compliance presented by these novel TP approaches by U.S. MNEs have yet to be overcome by the IRS. It is no secret that the U.S. Congress has “gutted” the IRS, reducing its budget by about 20% since 2010 and preventing it from upgrading its resources and capabilities in the midst of high turnover in experienced examiners.<sup>14</sup> The IRS Taxpayer Advocate Service recently reported that the number of field examinations in the Large Business and International (LB&I) division declined by about 65% between 2010 and 2018, while almost 40% of the remaining examinations result in a “no change.”<sup>15</sup> Taken together, this means that the IRS currently makes an adjustment to corporate taxes at a rate of only 14% of the examinations it conducted in 2010—a monumental decline in tax enforcement given the implications of *Figure 1*. The report also mentions that studies of taxpayers that received “no change” audits showed that these taxpayers reduce their future tax payments on average by 37%. With estimates of annual corporate tax underpayments that might be as large as \$140 billion from TP alone, this situation would indicate that the IRS LB&I resources might simply be incapacitated, even with a smaller pool of examinations, and that at least some taxpayers have taken advantage of this.

The U.S. TP regulations are widely acknowledged to be difficult to enforce; riddled with violations of economic principles and language too vague to apply with any kind of certainty regarding economic reliability. The regulations were clearly designed with little business or economics common sense. They provide, for instance, opportunities for taxpayers to charge their most valuable U.S. activities (research and development, or the services of highly skilled and highly paid executives) at merely a portion of their cost to foreign affiliates, allowing these affiliates to then reap windfall profits on these valuable U.S. activities. The regulations allow as a safe harbor the ability for a taxpayer to borrow funds at high market rates of interest in the U.S., and then lend these same funds to foreign affiliates at a very low riskless government rate (known as the Applicable Federal Rate), booking the losses from this arrangement against U.S. profits. Apple Inc., for example, could have funded its R&D program with a loan at a market interest rate of 1.4% (as it did to pay dividends to investors in 2013), yet was able to instead pay a related tax haven affiliate the equivalent of an 1,800% rate of return for the same very routine and theoretically highly competitive capital contributions (noting that Apple's return on equity averaged around 35% since 2009). We do not know of course whether the 1,800% return for the provision of cash by one related party to another—that could have been attained in the market for less than 2%—was necessarily compliant either, even under flawed regulations.

The U.S. tax regulations likewise require that the TP method to be used by a taxpayer must be the “best method,” but provides little guidance on how to establish this best method. As a result, taxpayers have claimed as legitimate results in which an entity with only a few dozen employees performing only routine administrative activities that would otherwise attract low margins, earn instead profits in dollar terms that exceed those of the U.S. parent employing tens of thousands of employees and billions of dollars in capital and performing high value, non-routine activities that drive its global profits. It is not that the regulations allow such absurd results, it is just that they do not prevent them on their face with explicit limitations. These regulatory shortfalls place extreme demands on the IRS to prove non-compliance in ways that can be as resource and labor intensive as the fantastical planning and documentation efforts by taxpayers and their advisors. Yet these resources and capabilities are needed to detect and confront such arrangements with enough surety and evidence of their unreliability as to raise the stakes of such planning substantially, especially with respect to litigation, where more technical arguments are typically required in order to prevail.

These regulatory shortfalls and the depletion of enforcement resources may help explain some of the profit-shifting guardrails enacted as part of the 2017 Tax Cuts and Jobs Act (TCJA). These include the Base Erosion and Anti-abuse Tax (BEAT), Global Intangible Low Taxed Income (GILTI), Foreign Derived Intangible Income (FDII), and new interest deductibility limitations, among others. Initial measurements indicate these incentives have had little to no effect on profit shifting, and much if not most of the tax savings from the reduced U.S. tax rate has not been spent on U.S.

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<sup>13</sup> 26 I.R.C. 7701(o)(2)(A) states that “The potential for profit of a transaction shall be taken into account . . . with respect to the transaction only if the present value of the reasonably expected pre-tax profit from the transaction is substantial in relation to the present value of the expected net tax benefits that would be allowed if the transaction were respected.”

<sup>14</sup> See Kiel and Eisinger (2019).

<sup>15</sup> IRS Taxpayer Advocate (2018).

investment, but instead on stock buybacks.<sup>16</sup> In fact, the TCJA if anything has only reinforced the need for better enforcement, as discussed below.

### The 2017 U.S. Tax Cuts and Jobs Act Does Not Lessen the Need for TP Enforcement

The TCJA of 2017 replaced the U.S. worldwide income taxation with a territorial system, while reducing the U.S. corporate tax rate to 21%, and enacting several new provisions to theoretically reduce the incentives for profit shifting as mentioned earlier. Despite the passage of the TCJA, the shifting of U.S. profits to foreign tax havens using TP is still extremely attractive, and the TCJA has likely not reduced in any way the need for substantial improvements in TP enforcement. This attractiveness can be seen by examining the possible impact of TCJA on companies like AbbVie Inc. or Pfizer Inc. Both companies have had about 50% of long-term assets and revenues in the U.S. over the past decade, together with key executive and R&D functions. AbbVie reported \$68 billion in foreign pre-tax profits and \$15 billion in U.S. losses from 2011 through 2019 (i.e., a period extending to two years after passage of TCJA), while Pfizer reported \$40.8 billion in U.S. pre-tax losses and \$180.6 billion in foreign pre-tax income from 2008 through 2019.<sup>17</sup> At least partially as a result of the TCJA, AbbVie's global tax rate dropped from 25 percent in the year prior to the passage of the TCJA to zero in the two subsequent years, in part due to an *increase* in U.S. losses after the TCJA. Indeed, after passage of the TCJA in 2017, it reported more foreign profits than revenues (noting however that only uncontrolled revenues are reported in SEC filings and U.S. outbound payments for pharmaceutical products likely escape the BEAT tax due to a cost of goods sold exception). Pfizer also reported an instant reversal of U.S. losses into U.S. profits of \$12 billion in 2019 (with a U.S. tax refund payment) and a decline in almost \$7 billion in foreign profits, despite a *decline* in U.S. revenues by almost \$2 billion and an *increase* in foreign revenues. These anomalies may indicate how malleable TP can be, even in the absence of any visible change to operations. AbbVie reported virtually no tax settlements with the IRS or any other tax authority in the five years prior to the passage of the TCJA, and Pfizer experienced de minimis adjustments in the same period; consistent with implications of *Figure 1*.

Not only taxpayers, but foreign countries themselves are innovating to thwart the impact of TCJA on TP profit shifting. For instance, even as Ireland was considering new taxation rules to comply with BEPS Action Items 8–10 (most notably elimination of the double Irish tax avoidance structure and disallowance of royalty payments to tax haven entities with no substance), it implemented in 2009, and revised in October 2017 a highly unusual intangible assets capital allowances (IACA) program in the form of tax deductions for the depreciation and amortization of the capitalized value of imported IP. This depreciable IP was broadly defined in its legislation to include even goodwill, and this program reduces the Irish taxable profits attributable to the acquired IP. These tax deductions also include interest payments on loans taken out to pay for the IP. These payments can potentially eliminate all Irish taxes on the IP income for years, while possibly reducing U.S. tax payments on GILTI.<sup>18</sup> Apple Inc. has already adopted this structure, by re-domiciling two of its stateless entities (Apple Sales International, or ASI, and Apple Operations International, or AOI) into a tax haven in the Channel Island of Jersey and onshoring another (Apple Operations Europe, or AOE) into Ireland. These restructuring transactions out of the double Irish arrangement and into the IACA regime have already led to an increase of \$270 billion the value of IP moved to Ireland in 2015 alone, about the time of Apple's tax restructuring.<sup>19</sup>

The ability of U.S. taxpayers to continue to shift U.S. income offshore in ways that evade BEAT and GILTI and other TCJA guardrails has only made more apparent the ingenuity of tax planners and foreign governments working in concert to maintain the effectiveness of TP profit shifting, and the commensurate need for more effective tax enforcement in TP.

### Forensic Economic Investigation in TP Enforcement

Forensic economic investigation impacts two components of corporate tax enforcement: (i) the detection of TP non-compliance and selection for examination; and (ii) the examination of TP arrangements. In the former, this component consists of analyzing tax return data using time-series models that compute relationships between measurements of selected variables with predictions based on U.S. tax laws and/or applicable economic analysis. For instance, according to both tax law and economic theory, increased risk bearing should generally in an ALS framework be accompanied by

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<sup>16</sup> See Clausing (2019a).

<sup>17</sup> All figures are taken from AbbVie's and Pfizer's SEC filings for the relevant years.

<sup>18</sup> This result depends in part on whether the capitalized intangible property qualifies for treatment as Qualified Business Asset Investment (QBAI), according to rules contained in § 168. Returns on QBAI of up to 10% reduces income subject to the GILTI tax. Discussion of the complex workings of the GILTI tax are beyond the scope of this paper.

<sup>19</sup> This fact was learned from internal documents from the Bermuda-based law firm Appleby that were published by a consortium of journalists as the "Paradise Papers" in 2017. See Bowers (2017).

an expectation of increased returns. Therefore, one indicator of compliance is a comparison of measures of risk bearing (such as proportion of ownership of long-term assets, amounts of fixed, variable and total costs, number of personnel employed and their relative responsibilities and compensation) with the relative returns. Economic research over decades also supports that exploitation activities (production, sales and services) generally earn a share of overall system profits that exceeds the share attributable to IP ownership by a factor of between  $2x$ – $4x$ .<sup>20</sup> It would therefore be highly unusual for IP ownership alone to earn a greater share of system profits than the exploitation of that IP (a result that nevertheless typifies many if not most CSAs with tax haven affiliates). Effectively detecting these anomalies would enable tax authorities to focus scarce resources only on “high risk” audits, and not waste scarce resources challenging compliant transactions.

The second component of forensic tax enforcement is initiated once a taxpayer has been selected for exam based on the analyses described above. The examination would then use advanced forensic methods to prove or disprove a “hypothesis” or “theory of the case” developed based on the detection exercise.<sup>21</sup> These methods would utilize specialized resources for each facet of factual development. This need could involve for instance the use of industry, transaction, economics or accounting specialists to better understand the economics of the business, the taxpayer and the market, and the use of forensic accounting, data analytics, and economic analysis to analyze financial information to establish the correct economic relationships and outcomes based on factual development. Forensic economic investigation can include industry analysis, functional analysis, data analysis, analyses of contractual and economic risk bearing, analyses of bargaining power, analyses of the management and control over risk, relative contributions to profit generation, measurements of business and transactional integration requiring the use of a profit split method. Approaches could also include more technical economic measurements of fixed and variable costs, analyses of marginal costs and profits, and many other approaches, tailored to the transaction being investigated. These capabilities are often employed in a litigation context. However, using these capabilities in exam, on “high probability” cases identified by the detection exercise (versus randomly selected cases) would be revolutionary. This use is because it is exactly the “high probability” aspect of these cases that should make such a system less costly and more effective in the long run than the current approaches, in addition to increasing voluntary compliance due to more credible enforcement.

This would represent a “design for success” approach that would focus IRS enforcement capabilities only on identified high probability compliance risks. To illustrate how powerful such an approach can be, we analyze public information regarding two recent IRS examinations using forensic approaches to evaluate compliance and enforcement outcomes. The analyses below utilize book accounting figures reported in SEC filings, which may differ from tax accounting figures, though the particular variables selected for these analyses are expected to be consistent with those found in tax filings.

### **Case Study 1: Apple Inc.**

This case study concerns the IRS examinations of Apple Inc. over the decade 2009 to 2019. Note that Apple’s SEC filings disclose relatively modest (for Apple we surmise) tax audit settlements in this period; on the order of \$5.2 billion, when Apple’s foreign pre-tax profits during this period were \$370 billion, or almost twice its U.S. profits of \$190 billion. In the same period its UTP grew by 1,500% from \$971 million in fiscal year (FY) 2009 to \$16.4 billion in FY2019, in which Apple added \$30 billion to UTP and recognized about \$5 billion of undetected UTP into earnings upon exam closures. During this time, Apple’s U.S. pre-tax income was approximately 30% of global taxable income, while U.S. total costs were approximately 40% of global costs. Just matching Apple’s U.S. taxable profits to its proportion of U.S. total costs would have increased U.S. pre-tax income by about 33% over the decade. Noting that from all accounts Apple’s U.S. human capital is more senior and highly paid than non-U.S. resources, and manages and controls Apple’s worldwide supply chain operations, these U.S. expenses should almost certainly attract a higher return per dollar of cost. Likewise, foreign operations may bear risks they do not control, such as Apple’s Irish affiliates funding a portion of Apple’s production tooling in China as part of their CSA cost sharing payments, but otherwise having no involvement

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<sup>20</sup> Curtis (2016).

<sup>21</sup> This forensic approach represents a “top-down” or “outside-in” *explanatory* exercise based on indicators of potential non-compliance. This approach is distinguished from a typical TP examination, which may be an *exploratory* exercise, focused on a “bottom-up” review of TP that is often limited to information provided by the taxpayer, often in the absence of any indications of potential non-compliance, in what IRS officials have referred to as a “hunt and peck” audits. See Curtis (2016).

in, or control over the production process, while similar funding could be obtained in market transactions with no claim to Apple's non-routine profits.<sup>22</sup>

### *An optical illusion*

*Table 1* below provides some high-level analytics of segmented information found in Apple's FY2011 SEC filings, which raises several additional questions regarding its TP arrangements. An important caveat to these figures is that sales are reported according to the location of the customer and not the related affiliate making the sale. However, *Table 1* shows wide variations between U.S. and non-U.S. cost and profit dynamics, in which the growth in U.S. profits (assumed to be almost all of the profits of the Americas) is constrained to almost exactly match U.S. revenue growth, while foreign profits exhibit unconstrained growth that exceeds revenue growth; in one region by almost 50%. On its face, there is no reason why this situation should be the case. Apple's U.S. and foreign revenues (from products and services) grew at similar rates and presumably exhibited a similar product mixes and resulted from a common integrated supply chain where U.S. and foreign products shipped from the same third-party factories at the same production cost. Subjecting these results to a cost accounting breakeven analysis identifies more anomalies that should be (or should have been) investigated.<sup>23</sup> An examiner could begin with a presumption that Apple's U.S. margins should not only have experienced growth rates higher than Apple's U.S. revenue growth rate, but the U.S. profit growth rates should have possibly been greater than foreign rates because in addition to profits on U.S. sales, Apple US might expect to earn a substantial share of foreign territory system profits as compensation for its U.S. based supply chain contributions to foreign sales. However, the fact that Apple Ireland (with only 4,000 employees performing only local functions as of 2013; representing about 5% and 8% of Apple's global and U.S. employment respectively) is more profitable than Apple US, in addition to constrained U.S. profit growth, indicates that Apple US appears to have almost certainly earned *losses* on its foreign; benefitting intercompany exploitation functions, which would contribute to what appears to be highly abnormal U.S. profit growth rates compared to the other regions with similar sales growth rates.

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<sup>22</sup> The term "routine" is used in TP parlance to mean the profits attributable to activities involving no valuable unique intellectual property or other attributes that would provide the entity any material bargaining power, such that the competitive returns to its activities can be easily benchmarked using results of firms performing similar functions in the market. The term "non-routine" generally refers to the residual profits in excess of the routine functions that are often explained by highly valuable intellectual property, substantial bargaining power, competitive advantage, etc.

<sup>23</sup> As shown in Curtis (2016), rapid sales growth when sales exceed total costs will result in a profit growth rate that will generally exceed the growth rate of sales, absent TP manipulation. The fact that this relationship is conventional and far above the global average in foreign jurisdictions but is unconventional and far below the global average in the Americas should be cause for concern in a TP examination.



	<u>2011</u>	<u>2010</u>	<u>2009</u>	<u>3-yr change</u>
<b>Americas:</b>				
Net Sales	38,315	24,498	18,981	102%
Operating Income	13,538	7,590	6,658	103%
Operating Margin	35%	31%	35%	0.7%
<i>Difference in changes of sales and income:</i>				1%
<b>Europe:</b>				
Net Sales	27,778	18,692	11,810	135%
Operating Income	11,528	7,524	4,296	168%
Operating Margin	42%	40%	36%	14%
<i>Difference in changes of sales and income:</i>				33%
<b>Japan:</b>				
Net Sales	5,437	3,981	2,279	139%
Operating Income	2,481	1,846	961	158%
Operating Margin	46%	46%	42%	8%
<i>Difference in changes of sales and income:</i>				20%
<b>Asia-Pacific:</b>				
Net Sales	22,592	8,256	3,179	611%
Operating Income	9,587	3,647	1,100	772%
Operating Margin	42%	44%	35%	23%
<i>Difference in changes of sales and income:</i>				161%
<b>Non-U.S.</b>				
Net Sales	55,807	30,929	17,268	223%
Operating Income	23,596	13,017	6,357	271%
Operating Margin	42%	42%	37%	15%
<i>Difference in changes of sales and income:</i>				48%
<b>Global</b>				
Net Sales	94,122	55,427	36,249	160%
Operating Income	37,134	20,607	13,015	185%
Operating Margin	39%	37%	36%	10%
<i>Difference in changes of sales and income:</i>				26%

**Table 1: Segmented financial information on net sales and operating income of Apple Inc. Taken from the company 10-K filings to the Securities and Exchange Commission for FY2011.**

Going one step further, we can measure the distribution of foreign pre-tax income itself and would find that more than 90% of this income was realized in Ireland. Since it would appear impossible that 4,000 employees could generate as much as 68% of Apple's global pre-tax income, when the majority of this income is generated by supply chain and exploitation functions of the sort not found in Ireland, this fact could indicate that examining the nature of the functions and profits in Apple Ireland might be an important component of any IRS examination. Yet, by all accounts the IRS appears to have never examined Apple's Irish profits or operations in this period. *Table 2* provides additional information taken from Apple, Inc's Form 10-K from FY2011.

(\$ Millions)	<u>2011</u>	<u>2010</u>	<u>2009</u>	<u>Source</u>
Foreign Pre-tax Income (a)	24,000	13,000	6,600	Form 10-K
Foreign Taxes (b)	602	161	310	Form 10-K
Foreign Tax Rate (c)	2.5%	1.2%	4.7%	= b / a
Taxes at 0% ETR (d)	21,592	12,356	5,360	= a - (b / 0.25)
Taxes at 25% ETR (e)	2,408	644	1,240	= a - d
% Non-taxed income (f)	90%	95%	81%	= d / a

**Table 2: Financial information on foreign income, taxes and tax rates. Taken from the company 10-K filings to the Securities and Exchange Commission for FY2011.**

*Table 2* develops a simple measurement that divides foreign income between two hypothetical buckets—one with an average foreign tax rate of 25% and another with a 0% tax rate, to estimate the percentage of profits that could be considered to be untaxed (since not reported separately). Various TP structures can be implemented to shift profits to low tax countries, such as establishing “limited risk” entities in high tax jurisdictions, providing these entities with low risk, low margin profits, and transferring their business risk and associated residual or non-routine profits to a lower taxed jurisdiction. The table shows that as much as 95% of Apple's foreign income may have been earned in stateless entities, assuming that the average non-stateless tax rate was around 25%. At 95%, this proportion seems extremely

high, given Apple's stateless entities typically had no employees. To the extent that these entities had few or no productive resources, this measurement could provide a reason to examine these profits from a TP perspective, to identify if any of these profits should be redetermined according to where they were actually generated.

According to written testimony provided by Apple to the U.S. Senate in 2013 and the state aid report issued in 2016 by the European Commission (EC), Apple's primary Irish companies were Apple Operations Europe (AOE) and Apple Sales International (ASI), and within each of these affiliates there existed a non-Irish tax resident internal branch that was not taxed in Ireland or anywhere. The non-Irish tax resident branches were "controlled" by Apple US, with U.S. directors but no other employees, and were characterized as providers of "head office services" in the EC report. The report also noted that the majority of Apple's foreign income that was transferred to its Irish affiliates was paid to these stateless branch entities, based on a formula negotiated with the government of Ireland, which did not involve any TP analysis or documentation. This is consistent with the result in *Table 2*. Without any of the necessary exploitation capabilities, it is unclear what Irish activities might have explained these stateless profits, though two of Apple's Irish affiliates participated in Apple's CSA and were credited with economic ownership of Apple's IP for use in foreign (non-Americas) territories.<sup>24</sup> Empirical research has shown consistently over several decades that the share of total system-wide profits attributable to commercial IP ownership in uncontrolled transactions averages around 20%.<sup>25</sup> The absence of employees in the stateless branches of the Irish entities and considering that these profits exclude those reported in the non-stateless Irish entities would rule out returns for any Irish exploitation activities. Therefore, assuming that the Irish profits represent IP ownership returns, and testing the observed profits against the 20% benchmark from this research, shows that the stateless profits in Ireland are more than four times the amount predicted by comparables. In other words, Apple's Irish affiliates may be earning four times the amount of profit they should be earning for their IP exploitation rights alone—according to existing research on uncontrolled comparable arrangements. This would be an exponential difference from the ALS that exceeds even the inverse of an arm's length result. However, as discussed earlier, earning such IP profits without also managing, controlling or performing any of the related exploitation functions that generate them would likely violate U.S. TP rules, if not the economic substance and possibly the sham transaction doctrines. Noting that Apple in 2011 had the highest-rated and possibly the most efficient and profitable supply chain of any major retail products company on the planet, and this supply chain was centrally developed, managed and controlled by Apple US, the fact that these stateless entities are more profitable than Apple US would be consistent with Irish affiliates appropriating large amounts of Apple's U.S. exploitation returns, which would be a TP issue.<sup>26</sup>

These results appear to have escaped IRS scrutiny prior to 2013 (at least based on the absence prior to 2013 of any material tax settlements as reported in SEC filings). However, this was not the case with the U.S. Senate and the European Commission, both of which initiated separate investigations of Apple's Irish operations and profit shifting in 2013. When questioned on its Irish profits by the Senate, Apple claimed that Apple's Irish income was "foreign source" income, generated by its "international operations." Searching for evidence of this, an intrepid forensic investigator might have come across the following (emphasis by the authors):

*"Mobile operator O2 is preparing to unveil Apple's much anticipated iPhone in the UK tomorrow. But serious questions are being raised in the City about how much ground it has had to give away to Apple in order to clinch the deal. The UK's largest mobile operator came from behind at the last minute to seal an agreement with Steve Jobs, Apple's chief executive, to market the iPhone in the UK, but one other operator described the deal as "madly money-losing". O2 . . . will return to Apple as much as 40% of any revenues it makes from customers' use of the device. The price of the combined phone and iPod can be changed by Apple at any time, as happened recently in the U.S."*<sup>27</sup>

This is only one contract, but by September of 2011 Apple had reached similar agreements with a total of 228 carriers in 105 countries.<sup>28</sup> If Apple's U.S. executives had negotiated, secured and arranged delivery on all of these foreign revenue contracts as it did with O2, while also centrally managing the global supply chain that produced the deliveries, this would appear to represent the majority if not all of the key internal revenue and profit generating functions associated with these contracts.<sup>29</sup> Yet Apple claimed to the U.S. Senate that Apple Ireland itself, or other foreign affiliates,

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<sup>24</sup> Apple (2013).

<sup>25</sup> See Goldscheider, Jarosz and Mulhern (2002) and Lu (2011). Numerous other articles and papers have confirmed these results.

<sup>26</sup> Research firm Gartner ranked Apple Inc. supply chain the best in the world from 2010 to 2013 and Apple's supply chain is widely credited a primary enabler of its revenue growth and source of its high profitability.

<sup>27</sup> Wray (2007).

<sup>28</sup> This fact was reported in Apple's Form 10-K.

<sup>29</sup> For an excellent compendium of the valuable contributions of U.S. executives to Apple's profits, see Isaacson (2011).

generated Apple's foreign income, and this explained why foreign affiliates such as ASI and AOE were more profitable than Apple US at the time of the Senate hearing in 2013, even with only 4,000 employees. If the congressional purpose in enacting Internal Revenue Code (IRC) § 482 was that "income follows economic activity," how might Apple explain how so much of its pre-tax income ended up in foreign affiliates in Ireland with no employees, when the activities that produced this income took place in the U.S.?<sup>30</sup>

#### *Apple's cost sharing arrangement*

Apple disclosed in its testimony to the U.S. Senate in May of 2013 that it had a "double Irish" tax structure in which as much as 99% of any pre-tax income reported in Ireland was transferred to two stateless entities located there, per a secret agreement with the Irish government that resulted in an effective 0% tax rate on the shifted income. Like any profit shifting or tax avoidance structure, the benefits of the arrangement depended on how much U.S. pre-tax income Apple could divert into the Irish structure (legally or otherwise). Apple US had a CSA with AOE and ASI, and as a result, these foreign entities were able to book all of Apple's non-Americas revenues as part of the arrangement, in return for paying a share of Apple's R&D costs. Since Apple's R&D expenses represent only around 6% or less of its total costs since 2010 through 2019, this begs the question how the other 94% or more of the remaining U.S. and foreign benefitting exploitation expenses and associated profits were treated for TP purposes. As discussed earlier, as much as 80% of the Apple's global profits may have been attributed to its supply chain/exploitation functions based on analyses of unrelated comparables.<sup>31</sup> The U.S. cost sharing regulations were designed to enable Apple's Irish affiliates to earn only the economic profits attributable to the exploitation of that IP in their territory either by their own efforts or by the efforts of others in the same territory if paid for at an arm's length price.<sup>32</sup> The absence of material internal exploitation capabilities in Ireland, combined with Irish profits that equate to nearly the entire exploitation profits of the global company, should also have raised questions for any examiner.

The absence of any TP analysis to support Apple's Irish profits or their distribution between taxable and non-taxable Irish entities was highlighted in the EC report, because the EC investigation that ended in 2016 found that the pre-tax income transferred to the stateless branch entities was largely attributable to activities performed by Apple US, though the income remained within AOE and ASI. *Table 3* is based on Apple's SEC filings, as well as Apple's testimony to the U.S. Senate in 2013 and the EC report.

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<sup>30</sup> See U.S. Congress, House of Representatives (1986), which states "... the objective of these provisions [is] that the division of income between related parties reasonably reflect the relative economic activity undertaken by each."

<sup>31</sup> Note that these ratios from industry research cannot by themselves be used to set transfer prices; at least without further adjustments as needed to establish threshold comparability, per Treas. Regs. § 1.482-1(d)(2).

<sup>32</sup> Treas. Regs. § 1.482-7(b)(4). This approach is another good illustration of poorly designed regulations, since there would be no business purpose to such an arrangement under § 7701(o) to the extent that the CSA participant cannot itself exploit the IP, and therefore the arrangement has only tax benefits. The IRS however has never applied § 7701(o) to TP arrangements that lack economic substance or business purpose, even after the U.S. Senate recommended the IRS to do so in a Senate report in 2014 (U.S. Senate, 2014).

	US Revenues	Foreign Revenues	US Pre-tax Income	Foreign Pre-tax Income	Estimated ASI+AOE Pre-tax Income
Year	(a)	(b)	(c)	(d)	(e)
2003	3,627	2,580	(158)	250	165
2004	4,893	3,386	(1)	384	253
2005	8,194	5,737	893	922	609
2006	11,486	7,829	1,318	1,500	990
2007	14,128	9,878	2,808	2,200	1,452
2008	18,469	14,010	3,395	3,500	2,310
2009	22,325	20,580	5,466	6,600	4,000
2010	28,633	36,592	5,540	13,000	12,000
2011	41,812	66,437	10,205	24,000	22,000
2012	60,949	95,559	18,963	36,800	36,000
2013	66,197	104,713	19,655	30,500	28,500
2014	68,909	113,886	19,883	33,600	31,600
2015	81,732	151,983	24,915	47,600	45,600
2016	75,667	139,972	20,272	41,100	39,100
2017	84,339	144,895	19,389	44,700	42,700
2018	98,061	167,534	24,903	48,000	46,000
2019	102,266	157,908	21,437	44,300	42,300
<b>Total</b>	<b>791,687</b>	<b>1,243,479</b>	<b>198,883</b>	<b>378,956</b>	<b>355,579</b>

**Table 3: Apple’s geographic segmentation of revenues and pre-tax income in columns (a)–(d) are per Apple, Inc. forms 10-K. Column (e): years 2008–2018 are actuals based on U.S. Senate PSI report, others are estimated per the Senate report.**

*Table 3* shows that Apple’s stateless pre-tax income may have exceeded \$300 billion since 2003, far in excess of the pre-tax income Apple reported in the U.S., with the majority of this income (according to Apple documents) recorded in entities with no employees or functional contributions to Apple’s supply chain.

***Apple testifies to the U.S. Senate, and triggers an investigation of state aid***

Apple was called to testify before the U.S. Senate Permanent Subcommittee on Investigations on May 21, 2013. This testimony was one in a series of committee meetings to investigate offshore profit shifting by U.S. multinational corporations, and in this one TP was at the center of it. However, in its written testimony before the Senate, Apple excluded the words “transfer pricing” from its testimony entirely and repeatedly referred to its Irish income in ASI and AOE as “foreign, post-tax income” and credited the Irish cost sharing payments as important to its success (possibly implying that without these cost sharing payments it might not have performed the R&D that led to the iPhone). Apple focused its testimony on its compliance with tax laws in general and with the spirit of the law in all countries. With that, Apple changed the subject from its possible TP violations to the complexity of the U.S. tax code, loopholes in the U.S. tax system such as Subpart F rules, and the importance of not eliminating the U.S. cost sharing regulations. By claiming that the income in ASI and AOE was “foreign” and “post tax” income, this appeared to lead the committee to deduce that as much as 70% of Apple’s pre-tax income was physically generated by ASI and AOE offshore, as if they had played a larger role in Apple’s supply chain than was possible with only 4,000 employees in these entities (and none in the stateless branches where the majority of Apple’s foreign pre-tax income was reported). Apple US in contrast had as many as 27,000 non-retail employees that also controlled non-Irish foreign operations (including production operations in China and elsewhere), as well as Apple’s activities performed in Ireland, and thus virtually all of Apple’s internal exploitation functions.<sup>33</sup>

Weeks after Apple’s testimony before the Senate, the EC sent a letter to Irish authorities requesting information on Ireland’s tax rulings for Apple. This request initiated a three-year investigation into Apple’s TP by the EC. In its findings issued in August 2016, the EC determined that Apple had received “state aid” from Ireland between 2003 and 2014, largely because the profits in ASI and AOE appeared to have resulted in part from activities performed in the U.S., for which Apple US was never compensated. The EC also stated that ASI and AOE might have a permanent establishment in the U.S. on account of the material contributions of Apple US to the profits reported in Ireland. According to the EC

<sup>33</sup> Apple reported total employees, retail and non-retail employees in its Form 10-K, and reported its U.S. and Ireland employees as of May 2013 in its Senate testimony. The number of Apple’s U.S. retail employees was estimated based on the U.S. share of all retail stores at the time, which we estimated based on press releases to be around 55%.

report, Apple's arrangements with Ireland and the amounts of profits that were taxed in Ireland were not based on any TP analysis or documentation. Apple acknowledged that all profit-driven functions and decisions were the responsibility of Apple US, and that both ASI and AOE appeared to operate "on paper" only and, at least outside of Ireland, they were unable to monitor and mitigate business risk. The report noted that most of the directors of ASI and AOE were U.S. executives. Finally, the EC report, in paragraphs 449 and 450, included an invitation to the IRS to make a claim to tax the Irish profits that it determined had benefitted from uncompensated U.S. exploitation activities.

The IRS did not respond to the EC findings and closed the last of the years covered in the EC investigation in 2018 after a very short examination, apparently without addressing any of the issues raised in the EC report. In addition, the U.S. Treasury, just days before the EC decision, issued a "White Paper" criticizing the EC state aid investigations as harmful to U.S. interests.<sup>34</sup> Interestingly, regarding the EC's state aid investigation, the Treasury made a statement that appeared to ignore the elephant in the room:

*"Under Irish law, an Irish non-resident company, just like any other non-resident company, would have been subject to tax only on the income attributable to activities in Ireland."*

If the non-Irish tax resident income reported in ASI and AOE was not taxable in Ireland because it was *attributable* to physical activities outside of Ireland, then to whom outside of Ireland would these profits have been taxable under existing law? The Treasury did not say. However, with no employees in the stateless Irish branches, the profits could certainly not have been "attributable" to any activities there. Apple appeared to finally answer this question a few months later when it made the following disclosure in a pleading before the European Court of Justice (ECJ) in December 2016 (emphasis by the authors):

*"... the applicants' [ASI & AOE] profit-driving activities, in particular the ... commercialisation of intellectual property ('Apple IP'), were controlled and managed in the United States. The profits from those activities were attributable to the United States, not Ireland. ... the Irish branches ... were not involved in the commercialization of Apple IP which drove profits."*

This statement is quite critical, because it refers to Apple's U.S. exploitation functions—not the passive returns to the CSA-covered IP—as generating the stateless profits. The Treasury White Paper made the argument that the taxes paid by Apple to Ireland under orders of the EC would otherwise have been paid to the IRS upon repatriation of the stateless profits to the U.S., and the Irish tax payments would likely be credited against U.S. taxes and therefore effectuate a transfer of revenue from U.S. taxpayers to the European Union. This argument, from a U.S. perspective, can only be true if the stateless income was exclusively *foreign source* income. But Apple's statement to the EC only months later confirmed that (i) the stateless income earned by ASI and AOE included "commercialization" (i.e., exploitation or supply chain) services income; and (ii) these exploitation activities occurred in the U.S. Note that commercialization or exploitation income is income from *services*, and under U.S. tax rules services income is sourced and taxed in the country where the service is performed, and virtually all of Apple's internal exploitation services associated with the stateless income were provided by Apple US, making this income *U.S. source*. Apple's pleading to the ECJ all but claimed the stateless income at issue was in fact U.S. source, pre-tax income, subject to current U.S. taxation in the year reported. If this claim is true, then under TP rules the portion of the stateless income attributable to these U.S. supply chain activities (which could represent 80% or more of the stateless income) should have been reported and taxed in the U.S. in the year it was earned by Apple since 2003, as payments for U.S. "commercialization" services. This raises the question of how the IRS might have missed hundreds of billions of dollars of U.S. pre-tax income for U.S. services over more than a decade of continuous audits. Likewise, the Treasury's position is tantamount to waiving U.S. TP rules for Apple, since commercialization services income is ordinarily subject to TP rules and as U.S. source active income, taxation cannot be deferred (even if the foreign entities are disregarded on the U.S. return).<sup>35</sup>

While the IRS has closed Apple's U.S. tax audits for the years covered by the EC investigation without responding to the EC investigation or seeking to recover U.S. taxes on Apple's U.S. commercialization profits reported in Ireland, Apple's pleadings gained the attention of the Irish tax press, which stated the following:<sup>36</sup>

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<sup>34</sup> U.S. Department of the Treasury "The European Commission's Recent State Aid Investigations of Transfer Pricing Rulings." White Paper. August 24, 2016.

<sup>35</sup> Office of Chief Counsel, Internal Revenue Service memorandum Number: 201349015 (12/6/2013) entitled *Treatment Under Sections 482 and 901 of Transactions with Foreign Branches or Disregarded Entities* [DEs] states: "A transaction between a foreign branch or DE of a member of a consolidated group and another member of the same group is a transaction between related parties that has effect for U.S. tax purposes. Section 482 applies to these intercompany transactions."

<sup>36</sup> Donohue (2017).

*“For the first time, Apple has expressly attributed the profits of its Irish subsidiaries to the United States. To date, Apple has referred to the intellectual property being developed in the US under the cost sharing arrangement, but here they are talking about the commercialization of the IP happening in the US . . . the US is driving sales, negotiating contracts, etc., for the rest of the world.”*

*“Apple must have a high degree of comfort that the IRS is okay with this argument. The problem is, though, that if the IRS is genuinely okay with a non-US company generating profits in the US without paying tax there, why was a stateless Irish company required at all?”*

In summary, the U.S. Senate, the European Commission, the academic community, the tax industry press, TP economists, and others have raised concerns with Apple’s TP, but the IRS and Treasury have raised no similar concerns, at least publicly. Perhaps the IRS was flummoxed by Apple’s TP arrangements, unaware of key forensic information, handicapped by resource constraints, or continuing to focus its audit resources on IP or cost sharing transactions at the expense of exploitation transactions that should have been the most critical examination issue.

This case study, which applied forensic economic investigation and analysis to public information, identified questions that examiners appear to have not addressed. For instance, based on Apple’s filing to the ECJ and subsequent audit settlements, was Apple’s sworn testimony before the U.S. Senate in 2013 completely accurate when executives claimed that Apple was in compliance with U.S. tax laws and its stateless income was “foreign, post-tax” income? Is Apple claiming now that a large portion of the \$300 billion in stateless income reported in Ireland since 2003 was U.S. source pre-tax income that escaped U.S. taxation at the 35% rate? Are the Treasury arguments that nearly 100% of Apple’s foreign profits for TP purposes were attributable to cost-shared IP, and none to Apple’s valuable U.S. based supply chain plausible? Did the Treasury make a mistake in its White Paper when it assumed that Apple’s stateless profits were deferrable foreign source income when Apple claimed it was not? Were Apple’s Irish profits, or its global exploitation activities ever examined, including the distribution of profits between IP ownership and exploitation, and the value of the U.S. supply chain contributions to foreign profits, or the divergent profit dynamics between U.S. and foreign revenue and profit growth? That many of these questions remain unanswered makes a strong case that enforcement can benefit from these more forensics- and data-based approaches, and they may be the only way the IRS can begin to effectively challenge these arrangements.

## Case Study 2: Facebook Inc.

The IRS audited Facebook’s TP and in 2016 made a large upward adjustment to Facebook’s September 2010 CSA buy-in payment. Facebook has challenged this adjustment in tax court, and one of its assertions is that the IRS may have made a mistake in its buy-in payment valuation by failing to consider that the desktop platform technology to which the buy-in payment applied ceased generating the majority of its revenues within a few years of executing this transaction. By 2012, Facebook had begun work on a native mobile application on which as much as 90% or more of its revenues is now generated. Curtis (2016) predicted by use of forensic analysis that the IRS challenge to a buy-in payment in a case against Amazon.com was a Type I error, and therefore misplaced, and the court later decided against the IRS in March 2017, finding its adjustments to be arbitrary and capricious. Similar forensic analysis here predicts the possibility of a similar outcome in the Facebook tax court case, though not necessarily because Facebook is or is not shifting U.S. income offshore. Instead, the IRS might be challenging the wrong transaction based on a what appears to be a mechanical approach to examining cost sharing buy-in payments (see below), even when such buy-in payments can be shown forensically to be arm’s length. Like the Amazon case, this approach would be the opposite of effective enforcement—challenging compliance and effectively sanctioning non-compliance based on conclusions that are opposite to the facts, conforming to prior IRS determinations that have been overturned in U. S. Tax Court.<sup>37</sup>

### *Did the IRS implement a version of the “CIP” exam strategy at Facebook?*

In 2010, Facebook’s auditor designed, helped implement, and then self-audited what appears to be an illegal tax shelter at its audit client, that today may account for the majority of its global earnings before R&D spending.<sup>38</sup> Currently, 95% of Facebook’s global revenues appeared to be generated via U.S. activities at the end of 2019.<sup>39</sup> According to court filings, the IRS may have accepted Facebook’s CSA arrangement (despite what appears to be questionable if not nil

<sup>37</sup> Veritas Software Corp. v. Commissioner, 133 T.C. 297, and Amazon.com, Inc. v. Commissioner, 148 T.C. 8 (2017).

<sup>38</sup> See Kocieniewski (2016).

<sup>39</sup> This fact is based on Facebook application users only, per SEC filings. This figure does not include for instance users of WhatsApp and Instagram, which were acquired in 2014 and 2012, respectively. WhatsApp had an estimated 1.5 billion monthly active users in 2019, but only 4.5% were in the U.S., while Instagram had an estimated one billion monthly active users as of 2018, of whom 12% were located in the U.S., according to Clement (2019, 2020).

economic substance) but applied an adjustment to its buy-in payment. The IRS challenge to Facebook’s buy-in payment appears consistent with the approach used in the Veritas and Amazon cases, in which the IRS attempted to sustain in tax court its “CIP” based examination strategy.<sup>40</sup> This directive required examiners to disregard the primary specified methods in the U.S. TP regulations for CSA buy-in payments, in favor of unspecified methods that were based on discounted cash flow valuations, and to also bundle into the buy-in payment additional assets that were not included in the Treas. Regs. § 1.482-4(b) definition of intangibles subject to a buy-in transaction, such as “workforce in place,” “goodwill,” “going concern value,” “synergies,” “rights to future research,” and others. This approach was deemed by the tax court in Veritas to be arbitrary and capricious, yet the IRS issued a “non-acquiescence” memorandum and continued to apply the methodology, losing the Amazon case in tax court.<sup>41</sup> Notably, the IRS had announced in January of 2012 that it was withdrawing the CIP examination strategy, but the CIP guidance still appears in the IRS practice unit for examining buy-in payments as late as April, 2020.<sup>42</sup> The IRS may or may not have applied the CIP strategy directly in Facebook, but its approach seems to have many of its hallmarks. The IRS appears to have chosen Facebook as its third attempt to validate its CIP approach in tax court, noting that Facebook’s CSA transaction will be the first to be challenged under the current CSA rules that became effective in 2009, that incorporated elements of the CIP approach.

The first approach in this case study is to consider Facebook’s results in the absence of TP, using a form of counterfactual FA analysis. *Table 4* provides some statistics related to Facebook during FY 2018 with and without incorporating the company’s CSA arrangement, on a per user basis.

<b>2018 results before transfer pricing</b>	
Total cost per daily average user worldwide:	\$21
Revenues per U.S. daily average user:	\$145
Revenues per foreign daily average user:	\$24
Percentage of users outside North America:	90%
Percentage of operational infrastructure located in the U.S.:	95%
<b>2018 results incorporating transfer pricing</b>	
Total cost deducted in the U.S. per U.S. daily average user:	\$92
Total cost deducted overseas per foreign daily average user:	\$12
U.S. taxable profits per U.S. user before CSA payments:	\$18
Foreign taxable profits per foreign user before CSA payments:	\$17

**Table 4: Statistics for Facebook as of FY 2018. Main source: the company form 10-K filing with the SEC. Figures calculated prior to intercompany cost sharing payments, before taxes, and U.S. and foreign user figures were estimated based on North American and non-North American, U.S. and foreign Daily Average Users reported by Facebook, with calculations shown in an appendix. Numbers are rounded to the nearest dollar.**

One might deduce from the top half of *Table 4* that in 2018 Facebook should have reported about \$3 in offshore pre-tax profits per foreign customer, and over \$100 of profit per U.S. customer, especially because Facebook US appeared to perform almost all of its IP development and exploitation activities in the U.S., while foreign affiliates supported these activities with only a fraction of the U.S. employees or assets. *Table 5* provides an estimate of Facebook’s U.S. and foreign financial results incorporating the estimated effects of the company’s CSA based on public information:

<sup>40</sup> CIP refers to an IRS Office of Chief Counsel (International) “Coordinated Issue Paper” regarding examinations of taxpayers with CSA arrangements. See Dept of Treasury, IRS, Coordinated Issue Paper (2007). For a detailed analysis of this strategy and how it was predicted to cause problems for the IRS, see Femia and Blair (2008).

<sup>41</sup> See Department of Treasury, Office of Chief Counsel (2010).

<sup>42</sup> IRS (2015) and Ernst & Young (2012).



	Reported	Reported	Calculated	Calculated	Calculated	Calculated
	U.S. Pre-tax	Foreign Pre-tax	Estimated U.S.	Estimated	U.S. Pre-tax	Foreign Pre-tax
(\$ Mil)	Income	Income	Share of N. A.	RoW R&D	Income Before	Income Before
			R&D Expense	Expense	R&D Expense	R&D Expense
Year	(a)	(b)	(c)	(d)	(e) = a + c	(f) = b + d
2010	\$1,027	(\$19)	\$131	\$13	\$1,158	(\$6)
2011	\$1,819	(\$124)	\$240	\$148	\$2,059	\$24
2012	\$1,062	(\$568)	\$787	\$612	\$1,849	\$44
2013	\$3,197	(\$443)	\$721	\$694	\$3,918	\$251
2014	\$4,918	(\$8)	\$1,341	\$1,325	\$6,259	\$1,317
2015	\$2,802	\$3,392	\$2,538	\$2,278	\$5,340	\$5,670
2016	\$6,368	\$6,150	\$2,990	\$2,929	\$9,358	\$9,079
2017	\$7,079	\$13,515	\$3,755	\$3,999	\$10,834	\$17,514
2018	\$8,800	\$16,561	\$4,922	\$5,351	\$13,722	\$21,912
2019	\$5,317	\$19,495	\$5,855	\$7,745	\$11,172	\$27,240
<b>Total</b>	<b>\$42,389</b>	<b>\$57,951</b>	<b>\$23,280</b>	<b>\$25,094</b>	<b>\$65,669</b>	<b>\$83,045</b>

**Table 5: Facebook financial results, based on the company SEC filings. Estimates assume that in FY2010 Facebook Ireland only paid its RAB share of ongoing U.S. R&D expenses for 3.5 months (from September 15, 2010 to year-end), where RAB share is proportion of global revenues.<sup>43</sup>**

According to *Table 5*, Facebook reported about \$58 billion in offshore pre-tax income since 2009, compared to \$42.4 billion in the U.S. However, this amount was *after* cost sharing payments, which we have assumed in this model are in proportion to the share of revenues in North America and the rest of the world. Prior to making CSA payments (including buy-in payment), foreign affiliates appear to have earned around \$83 billion, compared to only \$65.6 billion in the U.S. Facebook Ireland was able to pay around \$25 billion of CSA payments in part from profits shifted from the U.S. to Ireland (assuming Facebook US substantially generated the income reported in Ireland). In addition, based on the calculations in *Table 4*, if Facebook reported pre-tax profits of \$17 per foreign user given revenues of \$24 per foreign user, this figure would imply a 71% return on sales, compared to only a 12% return in the U.S.; after TP adjustments. Such an anomaly would appear to raise questions regarding Facebook's TP, though by all accounts the IRS has not performed such an analysis, and instead challenged Facebook's 2010 buy-in payment, possibly as a third attempt to prevail in tax court on its CIP examination strategy.

By entering into a CSA in 2010, Facebook was able to instantly shift its revenues attributable to foreign (i.e., non-North American) customers to an Irish controlled affiliate per the mechanical operation of the § 1.482-7 cost sharing regulations, while profits were shifted by effectively reporting the majority of its costs in the U.S. via an internal TP exercise that is not addressed by § 1.482-7. Indeed, in a filing by the IRS to the tax court on October 18, 2019, the IRS disclosed that Facebook and its public auditor attributed 100% of its foreign profits exclusively to the transferred IP whose development expenses today represent about 33% of total expenses, and attributed 0% of Facebook's profits to its U.S. based supply chain activities that represents 67% of total expenses. These activities include its U.S. based personnel, operations and infrastructure, including marketing, management services and systems, administration, data centers, and revenue operations:

*"... [Ernst & Young LLP] created projected income statements attributable to the [Rest of World] Territory that, in general, allocated 70 percent of income items to technology intangibles and 30 percent of income items to user base intangibles ..."*<sup>44</sup>

The IRS position in its challenge to Facebook appears to take no issue with this premise that all of Facebook's Irish profits are due to the IP transferred from the U.S. (which Facebook Ireland paid for at cost via cost sharing payments), and no foreign profits are due to U.S. based exploitation/commercialization activities by Facebook US; where the U.S. operations appear to comprise almost all of Facebook's employees and operations that drive revenues and profits on a daily basis. This result means that if the IRS loses its challenge to Facebook's buy-in payment in tax court (perhaps because the value of the desktop-based platform intangibles comprising the buy-in payment later declined in value when

<sup>43</sup> Facebook reported in an October 11, 2016 petition to the U.S. tax court that it uses a RAB share based on net present value of projected gross profits, that uses information proprietary to the taxpayer and the IRS. Facebook reported in the petition that its Irish affiliate RAB share in 2010 was 43%, which compares to 38% if using proportion of revenues. Filing as available at <https://www.documentcloud.org/documents/6649118-Facebook-2016-Tax-Court-Petition.html> (accessed on April 5, 2020).

<sup>44</sup> Filing is available at <https://assets.documentcloud.org/documents/6650535/IRS-Tax-Court-Filing-2019-10-18.pdf> (accessed on April 5, 2020).



Facebook migrated to a mobile platform within a few years after the buy-in payment), not only will its enforcement strategy fail in a third trial in tax court, but the IRS may have unwittingly approved a tax shelter that could now be shifting as much as 75% of Facebook's U.S. pre-tax profits offshore (comparing 2019 foreign pre-tax income of \$19.5 billion shown in *Table 5* with a figure of only \$3 billion calculated under the most generous assumption in *Table 8* below, which models results with a CSA arrangement and allocation of total exploitation costs globally based on users, with no mark-up).

*Table 6* provides information on Facebook's estimated operating capacity in the U.S. and abroad. This Table shows that in the tax years after the current IRS exam through 2019, Facebook continued to maintain most of its revenue-generating capacity in the U.S., that today may continue to represent as much as 95% of its installed operational capacity. This fact is important, because *Table 5* shows that in 2019 alone, Facebook's foreign pre-tax profits exceeded its U.S. pre-tax profits by almost 270%, while *Table 6* implies that Facebook US performed virtually all of the IP exploitation and other revenue generating functions of the company from the U.S. (in addition to the fact that approximately all of Facebook's key executives and R&D functions are located in the U.S., as well as perhaps 75% of its employees through 2019, and approximately 100% of its operational data centers prior to June 2013).<sup>45</sup>

Functional Op. Capacity (000 Sq. Ft.)		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Dig. Rlty Trust, CA & VA	Leased	86	114	229	242	242	206	182	192	197	814	1,207	1,207
DuPont Fabros, VA	Leased	10	10	138	236	236	236	236	646	646	662	662	662
CoreSite Realty, CA	Leased		230	280	280	280	280	280	280	280	280	280	280
Fortune Data Ctrs, CA	Leased		25	25	25	25	25	25	25	25	25	25	25
BAIS, Inc., CA	Leased		40	83	83	83	83	83	83	83	83	83	83
Prineville, OR	Owned				333	688	688	688	688	688	1,175	1,175	1,175
Forest City, NC	Owned					740	740	740	740	740	740	740	740
Lulea, Sweden	Owned						290	290	415	415	415	415	500
Altoona, IA	Owned										1,446	2,500	2,500
Fort Worth, TX	Owned										440	440	660
CloudHQ	Leased										460	460	460
Clonee, Ireland	Owned											624	926
Los Lunas, NM	Owned												460
Henrico, VA	Owned												970
<b>Percentage located in U.S.</b>		<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>89%</b>	<b>89%</b>	<b>86%</b>	<b>86%</b>	<b>94%</b>	<b>95%</b>	<b>95%</b>

**Table 6: Functional operating capacity in 1,000s of square footage. Entry is listed only if it is operational at least three months during the year.**

The following two tables develop an alternative foreign profit estimation under two different models. The first is an estimation of foreign profit results if Facebook did not engage in a CSA arrangement, and simply apportioned its global expenses between U.S. and foreign affiliates based on users. The table then assumes that approximately 85% of global expenses on average are incurred in the U.S. across all years (and 15% incurred locally offshore), and then applies mark-ups of 10% and 20% to the proportion of U.S. costs allocated to foreign affiliates based on users. These rough estimates include an assumption that approximately 25% of employees and 5% of long term assets were located offshore on average, noting that foreign employee expenses are expected to be lower than U.S. employee expenses, and per asset costs are assumed to be somewhat less as well, based on a smaller proportion of assets being data centers compared to Facebook US. These assumptions of course can be replaced with actual information by Facebook if requested by tax examiners.

<sup>45</sup> All estimates are based on information reported by Facebook, Facebook SEC filings, Informa USA Inc., LinkedIn data, Baxtel.com, press reports, and other sources. Note that Facebook reports a greater percentage of foreign long-term assets than the percentage for operational data centers as a category of assets, and this fact may result from the inclusion of non-operational data center assets on its balance sheet as well as office space and other long-term assets.

(Million, unless noted)									
	As Reported	As Reported	As Reported	Calculated	Calculated	Calculated	Calculated	Calculated	As Reported
	Foreign Revenue	Foreign DAUs	Global Total Cost per DAU (\$)	Est. Foreign Generated Expenses (15% total non-R&D expenses)	Foreign Share of Total Costs	Adjusted Foreign Pre-tax Income with No MU on U.S. Cost Allocations	Adjusted Foreign Pre-tax Income with 10% MU on U.S. Cost Allocations	Adjusted Foreign Pre-tax Income with 20% MU on U.S. Cost Allocations	Foreign Pre-tax Income
Year	(a)	(b)	(c)	(d)	(e) = b x c	(f) = a - e	(g) = a - e - (.1*(e-d))	(h) = a - e - (.2*(e-d))	(i)
2010	\$ 751	197	\$ 3.39	\$ 120	\$ 670	\$ 81.3	\$ 26.3	\$ (28.8)	\$ (19)
2011	\$ 1,644	326	\$ 4.52	\$ 235	\$ 1,476	\$ 167.7	\$ 43.6	\$ (80.6)	\$ (124)
2012	\$ 2,511	452	\$ 7.98	\$ 473	\$ 3,609	\$ (1,098.3)	\$ (1,411.9)	\$ (1,725.6)	\$ (568)
2013	\$ 4,259	584	\$ 7.12	\$ 548	\$ 4,155	\$ 103.6	\$ (257.1)	\$ (617.8)	\$ (443)
2014	\$ 6,817	709	\$ 8.83	\$ 721	\$ 6,256	\$ 560.6	\$ 7.1	\$ (546.5)	\$ (8)
2015	\$ 9,415	839	\$ 11.85	\$ 1,033	\$ 9,946	\$ (531.0)	\$ (1,422.3)	\$ (2,313.6)	\$ 3,392
2016	\$ 15,059	998	\$ 13.16	\$ 1,394	\$ 13,128	\$ 1,931.1	\$ 757.7	\$ (415.8)	\$ 6,150
2017	\$ 22,919	1,180	\$ 15.21	\$ 1,904	\$ 17,947	\$ 4,972.4	\$ 3,368.2	\$ 1,763.9	\$ 13,515
2018	\$ 31,738	1,318	\$ 20.83	\$ 3,098	\$ 27,464	\$ 4,274.4	\$ 1,837.8	\$ (598.8)	\$ 16,561
2019	\$ 40,467	1,439	\$ 29.06	\$ 4,967	\$ 41,810	\$ (1,343.4)	\$ (5,027.7)	\$ (8,712.1)	\$ 19,495
<b>Totals</b>	<b>\$135,580</b>	n/a	n/a	n/a	<b>\$ 126,462</b>	<b>\$ 9,118</b>	<b>\$ (2,079)</b>	<b>\$ (13,276)</b>	<b>\$ 57,951</b>

**Table 7: Estimation of foreign profit results, assuming that all U.S. incurred expenses (assumed to be 85% of total non-R&D costs) are allocated in proportion to users, at cost, and with a 10% mark-up and a 20% mark-up.**

(Million, unless noted)										
	As Reported	As Reported	As Reported	Calculated	Calculated	Calculated	Calculated	Calculated	Calculated	As Reported
	Foreign Revenue	Foreign DAUs	Global Total Cost per DAU Excluding R&D Costs (\$)	Est. Foreign Generated Expenses (15% total non-R&D expenses)	Foreign R&D Costs (Revenue Share of R&D Expenses)	Foreign Share of Total Costs	Adjusted Foreign Pre-tax Income with No MU on U.S. Allocations of Non-R&D Costs	Adjusted Foreign Pre-tax Income with 10% MU on U.S. Cost Allocations	Adjusted Foreign Pre-tax Income with 20% MU on U.S. Cost Allocations	Foreign Actual Pre-tax Income
Year	(a)	(b)	(c)	(d)	(e)	(f) = (b*c) + e	(g) = a - f	(h) = a - f - (.1*(f-d-e))	(i) = a - d - e - (1.2*.85*(b*c))	(j)
2010	\$ 751	197	\$ 2.87	\$ 120	\$ 13	\$ 580	\$ 170.6	\$ 125.9	\$ 81.1	\$ (19)
2011	\$ 1,644	326	\$ 3.63	\$ 235	\$ 148	\$ 1,331	\$ 312.7	\$ 217.9	\$ 123.0	\$ (124)
2012	\$ 2,511	452	\$ 5.53	\$ 473	\$ 612	\$ 3,112	\$ (600.8)	\$ (803.5)	\$ (1,006.2)	\$ (568)
2013	\$ 4,259	584	\$ 5.13	\$ 548	\$ 694	\$ 3,689	\$ 569.8	\$ 325.1	\$ 80.4	\$ (443)
2014	\$ 6,817	709	\$ 5.68	\$ 721	\$ 1,325	\$ 5,349	\$ 1,467.9	\$ 1,137.6	\$ 807.3	\$ (8)
2015	\$ 9,415	839	\$ 6.98	\$ 1,033	\$ 2,278	\$ 8,131	\$ 1,284.0	\$ 802.0	\$ 320.0	\$ 3,392
2016	\$ 15,059	998	\$ 8.04	\$ 1,394	\$ 2,929	\$ 10,949	\$ 4,110.5	\$ 3,447.9	\$ 2,785.3	\$ 6,150
2017	\$ 22,919	1,180	\$ 9.44	\$ 1,904	\$ 3,999	\$ 15,141	\$ 7,778.2	\$ 6,854.4	\$ 5,930.7	\$ 13,515
2018	\$ 31,738	1,318	\$ 13.91	\$ 3,098	\$ 5,351	\$ 23,691	\$ 8,046.5	\$ 6,522.3	\$ 4,998.0	\$ 16,561
2019	\$ 40,467	1,439	\$ 20.60	\$ 4,967	\$ 7,745	\$ 37,382	\$ 3,084.9	\$ 617.8	\$ (1,849.2)	\$ 19,495
<b>Totals</b>	<b>\$135,580</b>	n/a	n/a	n/a	<b>\$ 25,094</b>	<b>\$ 109,356</b>	<b>\$ 26,224</b>	<b>\$ 19,247</b>	<b>\$ 12,270</b>	<b>\$ 57,951</b>

**Table 8: Estimation of foreign pre-tax income assuming a CSA arrangement, where U.S. generated exploitation costs (assumed to be 85% of total non-R&D expenses, because we estimate that around 15% of these costs are physically generated in foreign locations) are allocated in proportion to users, at cost, and then with a 10% mark-up and a 20% mark-up.**

If it were the case that Facebook's total costs should be allocated assuming the absence of a CSA (Table 7) or only its exploitation costs consistent with a CSA (Table 8), and that these allocations between U.S. and foreign affiliates should be based on *number of users* (because, for instance, the Facebook's total costs primarily benefit Facebook's platforms versus one set of users over another, or Facebook's expenses were highly correlated with users versus revenues, and given that costs might be expected to be similar per user globally), then Facebook could be subsidizing its foreign operations with U.S. profit shifting. This at least seems intuitive, since Facebook incurs substantial costs to host more

than 2.3 billion users globally; almost 90% of whom are located outside of the U.S. Facebook's R&D functions are also possibly integrated with its U.S. infrastructure and operating activities, since corporate, research and revenue generating activities appear focused on managing, operating and improving its applications and infrastructure, and appear highly integrated both vertically and horizontally.

Note that the foreign profits shown in *Table 8* are greater than in *Table 7* because under the CSA arrangement assumed in *Table 8* the R&D costs are allocated between U.S. and foreign cost sharing participants based on revenues instead of users (reflecting the common measurement of RAB share allowed by the cost sharing regulations). This approach substantially reduces the expenses allocated to the foreign participants versus allocations of the same costs based on the number of daily average users. This reduction occurs because Facebook has vastly more foreign users than U.S. users, but generates vastly fewer revenues per foreign user than per U.S. user. These models assume, however, that costs per user is similar, regardless of the user location. These tables show that allocating either total costs or exploitation costs by users (with appropriate commercial mark-ups) would substantially reduce reported foreign operating profits if such allocations were indicated by the facts. One interesting result of this exercise is the estimation that Facebook could have a substantial aggregate foreign loss since inception, if its total costs were integrated and allocated by user, in the absence of a CSA. A "gap analysis" might seek to explain the difference between reported pre-tax foreign income and the amount of this pre-tax income that would have resulted from other approaches, and whether other approaches to Facebook's TP might be more reliable according to regulations. It goes without saying that regardless of its compliance, Facebook surely has one of the most aggressive TP arrangements of any U.S. based MNE and presents an extreme challenge to IRS capabilities.

### *The intercompany activities of Facebook Ireland*

Facebook claimed in tax court that its Irish affiliates generated Facebook's foreign users via Irish activities and/or expenses, which was important to increasing the value of the user base intangible that was transferred to its Irish affiliate. Facebook stated the following in its tax court petition in October of 2016 (emphasis by the authors):

*"5.a.11. Pursuant to the 2009 IP license, Facebook granted to Facebook Ireland a non-exclusive license to use the Facebook System to develop, promote, expand, maintain and monetize the users, advertisers and developers, outside North America (Facebook Ireland's territory)."*

*"5.a.14. Between January 19, 2009 and September 14, 2010, Facebook Ireland, at its expense, grew the user base in its territory from 101 million MAUs to 392 million MAUs."*

*"5.a.31. Facebook Ireland overvalued the User Base in Facebook Ireland's territory because Facebook Ireland, at its expense, developed the User Base in its territory from January 19, 2009 through September 14, 2010."*

These comments imply that Facebook Ireland "used" Facebook's U.S. owned IP, and "grew" and "developed" the user base outside of North America "at its own expense." This process implies that Facebook Ireland physically performed all the user base generation activities outside of North America. However, this could also mean that Facebook Ireland merely paid Facebook US to perform these activities on its behalf; exactly as occurred before the arrangement was entered into. If so, this may or may not then be a sham transaction, but it is not clear from these comments what if anything changed functionally, other than a naked transfer of U.S. profits offshore with no change in functions and the presence of exclusively tax benefits via a paper transaction, noting that in January 2009 Facebook Ireland had just started to recruit its first employees (noting the similarities to the Google's 2003 CSA arrangement mentioned earlier, when it had as few as five employees; this arrangement being described as the basis for Facebook's arrangement).<sup>46</sup> Facebook Ireland's public financial statements covering its 2009 and 2010 tax years reflect that Facebook Ireland Ltd was paid by Facebook US or other affiliates for its activities, similar in nature to a contract services arrangement. This fact would indicate that Facebook US would likely have been the owner of any enhancements to its IP or profits from any Irish activities that it paid for. In particular, Facebook Ireland's public financial filings represented that it performed marketing services for Facebook US, and that its revenues were generated primarily from related party payments for these services, implying that it was not acting as an entrepreneur on its own behalf and earning revenues from customers, paying affiliates for contracted services, and generating non-routine profits by its own activities.

Missing from this narrative is that in October 2007, Facebook US began translating its flagship English language website into 80 languages, and by 2008 released an application (a "Translation App") that allowed the site to be translated into

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<sup>46</sup> This information is per testimony of Facebook's Director of Policy Delphine Reyre before the European Union Parliament Tax Committee on November 16, 2015 that her company's tax model is "exactly the same as Google's" as reported by Martin (2015).

any language by local country developers. By 2009, around the time of the arrangement with Facebook Ireland when it had few if any employees, foreign users represented 70% of all Facebook users, growing at four times the monthly growth rate of users in the U.S., and the Facebook application hosted from the U.S. was being accessed by users in 180 countries.<sup>47</sup> By the time of the 2009 intercompany licensing transaction that transferred foreign derived revenues and profits offshore, foreign user growth was already following a similar trajectory to that which occurred in the U.S. and then other English speaking countries, as a result of purely U.S. efforts, most notably the Translation App and infrastructure improvements. This is what has become known as Facebook's "network effect." First associated with telephone companies, the *network effect* is often used to explain the fantastic growth in users of a communications platform such as a telephone network, independent of any efforts by the company to grow the number of users.<sup>48</sup> Basically the value of the network (of interconnected users) to any current or future user grows as more users join the network, and this constant growth in the value of the network to each user stimulates more users to join, and so on. This result seems important to examining any claim that Facebook Ireland was exclusively responsible for the continued exponential growth in foreign users after 2008, when it could be said that network effects were already at work and no actual "user growth activities" could be found in Ireland in this period. Facebook also introduced the "Like" button in February 2009 that was widely credited with stimulating additional growth in users.<sup>49</sup> Importantly, at this time Facebook operated on 30,000 highly engineered U.S. servers located in San Francisco, Santa Clara and Northern Virginia, developed and managed exclusively by U.S. engineers, with content and applications developed in the U.S. that users could access from a personal computer. These are facts that would logically be part of any TP examination.

Apparently, by the time of the 2009 intercompany license agreement with Facebook Ireland, Facebook's foreign users were already greater in number than U.S. users and growing exponentially without any visible marketing or sales efforts by either Facebook US or Facebook Ireland. Despite its testimony in tax court that Facebook Ireland grew the user base between January 2009 and September 2010 via its own efforts, it is more likely that the foreign users would have grown at the same pace in this period had Facebook Ireland never existed (or had the 2009 transaction never taken place), and this growth was likely enabled by the Translation App and the extensive and well-documented efforts of Facebook US engineers to continually improve and overhaul the efficiency and capacity of its infrastructure to enable the exponential growth in users.<sup>50</sup> According to an Irish Data Protection Commission audit report covering this period and other sources, Facebook Ireland effectively had no trained employees when the 2009 intercompany license transaction took place, and began adding employees in January 2009, these employees were focused almost exclusively on serving existing users and performing local Irish back-office administrative activities—not growing new users worldwide.

For instance, according to Facebook's Irish financial report for year-end 2009, Facebook Ireland had 64 employees—virtually all of whom were hired that year—of which 31 worked in internal administration (a back office activity unrelated to user growth), and 32 worked in "Sales" functions, which were left undefined in the financial report, but which were described in the Irish Data Protection Commission audit report as mainly supporting existing users. One employee was reported to be engaged in engineering activities related to the Facebook application. None of the employees were involved in any activity resembling "growing the number of users." The Irish Data Protection Commission report contained the following descriptions of the "sales" function that indicate this activity to be largely unrelated to the generation of users, revenues or profits (emphasis by the authors):<sup>51</sup>

*"Online Sales Operations handle the management of advertising accounts which are mainly created through the self-serve advertising tool available on the Facebook [U.S.] website."*

<sup>47</sup> Helft (2010) and Kirkpatrick (2010).

<sup>48</sup> A Network Effect (such as a telephone or fax network) becomes more valuable to users and investors the more people join the network. "Metcalfe's Law" introduced in 1980 postulates that the growth in the value of such networks was self-sustaining, at the rate of the number of connected users squared ( $N^2$ ). Metcalfe's Law was formalized in Shapiro and Varian (1993). "Reed's Law" (Reed, 2001) postulated that the growth in the value of networks was much quicker, growing exponentially in proportion to the number of users ( $2^N$ ). According to this concept, Facebook's U.S. and foreign networks could be said to grow "on their own" exponentially (i.e., without the need for "user growth" activities of the sort claimed in Ireland) once the network was established, as long as Facebook's U.S. based infrastructure could improve quickly enough to accommodate this growth without any loss in the quality of the service.

<sup>49</sup> Locke (2018).

<sup>50</sup> See Metz (2013), Novet (2014) and Levey (2017).

<sup>51</sup> Ireland Data Protection Commission (2011).

*“User Operations . . . responds to alleged breaches of terms of service, as well as user feedback and suggestions about the product.”*

*“The Public Policy Division works with legislators and regulators to explain Facebook policies and to resolve complaints.”*

It is important to note that Facebook does not consider advertisers to be users (advertisers exploit users' information to target advertisements).<sup>52</sup> Second, the Dublin office handled existing accounts only after they had been created on Facebook's automated U.S. platform by the user with no Facebook Ireland employee involvement. Third, other Facebook offices in France, Germany, and elsewhere performed functions similar to those performed by Facebook Ireland but were not rewarded with hundreds of millions and later billions in profits out of all proportion to the routine value of their local functions.<sup>53</sup>

Facebook stated in its U.S. tax court petition in October of 2016 that it was these Irish activities above (site monitoring, account management, administration) and not the activities of Facebook US (delivering the Facebook platform to users, enhancing the network architecture, translating the website, building new data centers, acquiring new technologies, capabilities and platforms, and creating self-generating network effects) that grew the number of foreign users between January 2009 and September 2010. TP rules were created to ensure that taxpayers price their intercompany transactions as if they were conducted with third parties, and that this pricing is based on the nature and value of the activities performed, risks assumed and managed, and tangible and intangible assets employed. These arrangements do raise the question whether Facebook would have entered into similar arrangements with third parties, where it would in effect give up its U.S. non-routine and routine profits related to its foreign customers in return for routine “site monitoring” and other routine activities by newly-hired, low-level, administrative type employees. There would appear to be in 2009 and 2010, based on this external analysis of public information, no reasonable business purpose for this arrangement, given the absence of any capability or activities by Facebook Ireland to grow users or profits, and given the extensive efforts required by Facebook US to monetize Facebook's powerful network effect via herculean improvements to the functionality and operating capacity of its U.S. based applications and infrastructure during this time. In addition, Facebook's Irish activities appeared to be of a routine nature that could be easily replicated anywhere, meaning that there would be no logical pricing premium or non-routine profits attributable to these activities. It would appear such a transaction would likely not occur between unrelated parties (at least in this way), since it effectuated a handover of non-routine U.S. profits for primarily routine activities, with no anticipated increase in pre-tax income. CSAs are allowed by statute, but § 1.482-7(k)(1)(iv)(A) require that CSAs have at least some economic substance (emphasis by the authors):

*“[T]he Commissioner may impute contractual terms in a CSA consistent with the economic substance of the CSA and may disregard contractual terms that lack economic substance.”*

If this CSA arrangement had no economic substance or business purpose at all, it could be disregarded entirely. It is not clear how Facebook Ireland “used” the Facebook platform IP to “develop the user base” from January 2009 through September 2010, when it was just hiring new employees, none of whom appeared to be involved in any functions related to this activity. It also appeared that Facebook US continued to perform exactly the same commercial activities for foreign users both before and after the 2009 and 2010 arrangements. The IP license contract should be reviewed in light of these activities, since Treas. Regs. § 1.482-7 governs only the sharing of R&D costs, and not the exploitation of that IP (other than requiring arm's length pricing for such exploitation activities under other code sections). If Facebook Ireland had entered into an exploitation contract with no capability to physically exploit the IP and the only benefits of the arrangement were U.S. tax avoidance, the commissioner could disregard this contract as having little or no economic substance and possibly as a tax shelter. The following excerpts from Facebook Ireland's 2009 public financial report provides useful information on the nature of the activities and sources of revenue reported in Facebook Ireland:

*“The company provides a range of marketing services to its ultimate parent, Facebook Inc.”*

*“Revenues . . . represents amounts invoiced by the company in respect of services, goods and commission, excluding value added tax.”*

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<sup>52</sup> Per Facebook's SEC filings.

<sup>53</sup> Facebook announced in December of 2017 that it would begin shifting the Irish profits for advertising sold outside of Ireland to the affiliates in the countries in which the ads were sold. This shifting coincides with Ireland's decision to eliminate its “double Irish” tax avoidance structure by 2020.



These disclosures indicate that Facebook Ireland earned revenues primarily from related parties, and not directly from customers via exploiting the Facebook platform IP, making it difficult to reconcile this to its purported activities to “grow users” and advertising revenues outside North America at its own expense. Facebook Ireland Ltd financial statements for 2010 are more difficult to interpret, because they include the period before and after Facebook’s CSA was entered into in September 2010, when Facebook instantly moved approximately \$300 million in revenues into this entity in the last three months of the year.<sup>54</sup>

Facebook Ireland revenues in 2010 showed a remarkable growth from €15 million in 2009 to €229 million, or more than 1,500% in 2010, versus about 90% for the company as a whole and 120% for all foreign revenues. According to the Facebook Ireland financial report, this growth resulted from a change in its billing practices. While Facebook Ireland began billing customers for advertising, this advertising was purchased by advertisers directly from Facebook US and delivered via its U.S.-based data centers. Prior to this date, user interactions were the contractual responsibility of Facebook US. The exponential increase in foreign revenues appeared to occur when, subsequent to this change in September 2010, Facebook added the following statement on its website when viewed by individuals outside the U.S.:<sup>55</sup>

*“The website under www.facebook.com and the services on these pages are being offered to you by Facebook Ireland Limited, Hanover Reach, 5-7 Hanover Quay, Dublin 2 Ireland.”*

Indeed, most of the additional revenues in 2010 appeared to be received in the three months between September 15 and December 31, upon entering the CSA. As shown in *Table 9*, these payments amounted to \$1 billion on an annualized basis; compared to \$1.2 billion of annual U.S. revenues. Consequently, revenues per employee in Ireland appeared to instantly grow to 11 times more than revenues per employee in the U.S.

	Average employees in	Annualized revenues over	Revenues per
(in Dollars)	2009-2010	period 2009-2010	employee
Facebook Ireland	107	\$1,064,902,541	\$9,952,360
Facebook US	1,336	\$1,223,000,000	\$915,419

**Table 9: Revenues, employees and revenues per employee in Ireland and the U.S.**

It is not clear how Facebook Ireland “offers” the Facebook platform to users as a result of a disclaimer added to the website with no other functional changes, when the platform is developed, managed, and hosted in the U.S. and users connected to the U.S. platform directly and transacted with the U.S. infrastructure and website in an identical fashion both before and after the disclaimer was added to the website. Likewise, it is not clear how Irish employees performing “site monitoring” and administrative activities can generate profits that are 11 times greater than profits per U.S. employee, when foreign revenues per user are only a fraction of those in the U.S. This arrangement appears to simply insert Facebook Ireland as a form of toll collector, possibly an example of what tax authorities refer to as “misallocation via contract” of profits away from the sources of their creation. It was exactly this type of TP arrangement that was targeted by the recent OECD BEPS project. Nevertheless, the IRS has apparently accepted Facebook’s CSA arrangement and TP on its face, challenging only its buy-in payment under a mechanical approach that has been disqualified in two prior tax court challenges. In addition, forensic evaluation indicates that the desktop technology platform on which the IRS has focused its buy-in challenge was soon replaced as Facebook’s main revenue-driving technology by a native mobile application developed subsequent to the buy-in payment, which may support a *write-down* to the buy-in payment—exactly the opposite of the IRS arguments that the transaction value should be increased.<sup>56</sup>

### **Forensic Approaches Enable More Sophisticated TP Enforcement**

These two case studies illustrate how taxpayers can develop their intercompany pricing in ways that can thwart highly mechanical and legalistic approaches to enforcement, which may miss key economic or business relationships unobservable to an examiner without specialized resources. Apple was able to exploit the fact that the IRS tends to overvalue intangibles (occasionally to more than 100% of accumulated foreign profits, as was the case in its failed challenge to Amazon.com), and diminish the value it places on supply chain and exploitation activities to as little as 0%, when Apple’s supply chain is widely credited as the primary source of its profitability. Facebook and its advisors may have sought to overvalue its buy-in payment anticipating an “automatic” examination under the IRS CIP approach,

<sup>54</sup> All amounts are reflected using an exchange rate of \$1.33 per €.

<sup>55</sup> Ireland Data Protection Commission (2011).

<sup>56</sup> The IRS later in January 2020 increased its buy-in valuation to \$21 billion; almost twice Facebook’s May 2009 market capitalization of around \$10 billion, at a time when Facebook’s stockholder’s equity was less than \$900 million.

which may have helped disguise an illegal tax shelter. More advanced forensic approaches can help identify and challenge these highly aggressive arrangements and uncover the true arm's length results. Enforcement approaches to TP need to adapt to highly novel and complex profit shifting schemes and utilize the full capability of specialized resources and the full arsenal of available codes and regulations where appropriate. This is discussed below.

### ***Towards more nuanced TP enforcement of IP and cost sharing transactions***

The most recent § 1.482-7 cost sharing regulations became effective in January 2009. In particular, § 1.482-7(b)(4) states that (emphasis by the authors):

*“Each controlled participant will be assigned the perpetual and exclusive right to exploit the cost shared intangibles through the use ... of property or services in its territories. Thus, compensation will be required if other members of the controlled group exploit the cost shared intangibles in such territory.”*

Regulation § 1.482-7(a)(3)(iii) also requires that such compensation for exploitation of the IP must be valued at an arm's length price. The highlighted words above are important, as they appear to be saying that (i) the CSA participant must physically “use” the IP in some way; (ii) that this “use” must occur in the participant's territory; and (iii) if the use of the IP is outsourced to another member, that member must be compensated at an arm's length price. In the latter case study, Facebook US appears to be performing the exploitation activities (i.e., “using” the IP) to provide services directly to users located in another member's territory, interfacing with those users directly from the U.S. without any involvement at all in the arrangement by the CSA participant in the other (non-U.S.) territory. In addition, these exploitation activities appear to be undercompensated, especially if exploitation costs (which could be all costs excepting R&D) were driven by the number of users versus revenues or other drivers. These facts, if found to be accurate, could possibly violate these regulations. Of course, an alternative approach is to simply treat Facebook Ireland (and other related affiliates) as the tested party instead of testing exclusively the more complex and valuable activities of Facebook US-atomized and disaggregated and stripped of their non-routine properties. Such artificial selection of tested parties and separation of highly integrated and valuable U.S. activities for TP purposes shifts the non-routine profit of these activities to Ireland. The Irish affiliates of both Facebook and Apple, on the other hand, can be shown to involve primarily routine transactions with a fraction of the personnel and resources of their U.S. parent, which in both cases appears to perform the majority of exploitation activities related to foreign revenues. According to Treas. Regs. § 1.482-5(b)(2), it may be the case that Irish affiliates should be the tested parties in both the Apple and Facebook instances for TP purposes:

*“. . . in most cases the tested party will be the least complex of the controlled taxpayers and will not own valuable intangible property or unique assets that distinguish it from potential uncontrolled comparables.”*

A residual profit split method of Treas. Regs. § 1.482-6(c)(3) would accomplish something similar, to the extent that the Irish affiliates may possess some minimal non-routine functions or risks. These alternative methods might overcome the current approaches that result in “right sizing” of U.S. and foreign pre-tax income according to proportion of revenues when the facts and economics do not support this.

### ***The Economic Substance Doctrine in a TP context***

The economic substance doctrine (ESD) was enacted into the U.S. tax code in March 2010, in order to prevent purely tax motivated transactions that have no business purpose or financial benefits apart from tax avoidance. This was a codification of a long-standing non-statutory doctrine and has historically been applied very narrowly to particular tax avoidance structures and investment activities. However, the language in the statute does imply a broader application that can include intercompany transactions, including multi-step transactions. IRC § 7701(o) states the following (emphasis by the authors):

*“(1) In the case of any transaction to which the economic substance doctrine is relevant, such transaction shall be treated as having economic substance only if- (A) the transaction changes in a meaningful way (apart from Federal income tax effects) the taxpayer's economic position, and (B) the taxpayer has a substantial purpose (apart from Federal income tax effects) for entering into such transaction.”*

*“(2) Special rule where taxpayer relies on profit potential. (A) In general. The potential for profit of a transaction shall be taken into account in determining whether the requirements of subparagraphs (A) and (B) of paragraph (1) are met with respect to the transaction only if the present value of the reasonably expected pre-tax profit from the transaction is substantial in relation to the present value of the expected net tax benefits that would be allowed if the transaction were respected.”*

The IRS issued a memorandum under LB&I Control No: LB&I-4-0711-015 in 2011 that required examiners to assess whether application of the ESD is appropriate in each situation, using a four-step process. The directive makes clear that “in applying this LB&I Directive, when a transaction involves a series of interconnected steps with a common objective, the term ‘transaction’ refers to all of the steps taken together.”<sup>57</sup> This position would imply that all of the transactions between the operating, holding, and shell companies could be examined together to determine whether the overall result has economic substance. The LB&I directive lists the facts and circumstances shown below that may indicate if the application of the ESD is appropriate in any given case, and some of these are shown below:

Circumstance

*Transaction has no credible business purpose apart from federal tax benefits*

*Transaction has no meaningful profit potential apart from tax benefits*

*Transaction is not at arm’s length*

*Transaction creates no meaningful economic change*

*Taxpayer’s potential for gain or loss is artificially limited*

*Transaction duplicates a deduction*

*Transaction results in separation of income between different taxpayers*

*Transaction has no significant risk of loss*

*Tax benefit is artificially generated by the transaction*

*Transaction is promoted/developed/administered by outside advisors*

By all accounts at least four and as many as six or more of these factors appear to apply to both the Facebook and Apple cost sharing arrangements (and the Google arrangement mentioned earlier). Some or all these factors could be tested in an examination of a low- or no-substance CSA using advanced forensic investigation and fact-specific analyses to prove the presence or absence of sufficient business purpose according to these thresholds. The guidance by the LB&I however contains an important caveat to these factors, in that the memorandum also advises that if a transaction is a “statutory or regulatory election” (which presumably a cost sharing arrangement is) that the economic substance doctrine *should not apply* without further consultation with IRS counsel. This consideration would appear to only apply to the extent that such “regulatory election” itself results in a transaction devoid of any economic substance. However, U.S. TP rules in general, and § 1.482-7 in particular *require* economic substance explicitly.<sup>58</sup> Forensic economic investigation could be important to establishing these facts and circumstances to a sufficiently high degree that the economic substance doctrine could be applied with specificity to a particular intercompany transaction or arrangement.

Indeed, in a ground-breaking ruling in January 2020, a United States District Court deemed Microsoft’s CSA under IRC § 482-7 to have been implemented purely for tax reasons, and therefore qualified as a tax shelter as defined by the United States tax code.<sup>59</sup> In its decision, the court stated the following (emphasis by the authors):

*“Following the Court’s review, the Court finds itself unable to escape the conclusion that . . . the transactions served a primary purpose of shifting taxable revenue out of the United States.”*

*“But the tax shelter exception turns, at least partly, on the purpose for the transaction. See 26 U.S.C. § 6662(d)(2)(C)(ii). A tax structure may be a permissible method to achieve a legitimate business purpose in one context and an impermissible tax shelter in another. Valero, 569 F.3d at 632 (noting that “[o]nly plans and arrangements with a significant—as opposed to an ancillary—goal of avoiding or evading taxes count” as tax shelters).”*

*“This reasoning guides the Court’s determination that KPMG strayed into promotion of a tax shelter.”*

The U.S. court of law here has effectively defined CSAs that exhibit *only* (or to be more precise exceeding a much lower threshold of merely “significant” or “non-ancillary”) tax avoidance purposes, as tax shelters. These would undoubtedly also include CSAs that lack any economic substance, and which have no business purpose, or financial benefits apart from tax benefits—exactly the triggers laid out by IRC § 7701(o) deeming such a transaction to be illegal. This determination should cause the IRS to rethink its current reluctance to apply the economic substance doctrine to TP in general, and to CSAs in particular, and whether to deem these arrangements to constitute illegal tax shelters.

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<sup>57</sup> This requirement also was described in IRS Notice 2014-58, issued in October 2014.

<sup>58</sup> § 1.482-1 and § 1.482-7 contain the words “economic substance” 24 times and 19 times respectively.

<sup>59</sup> *U.S. v. Microsoft Corp.* et al., case number 2:15-cv-00102, in the U.S. District Court for the Western District of Washington.



*Effectively Connected Income (ECI) regulations and Partnership Status in a TP context*

In globally integrated groups, it is common for related U.S. and foreign affiliates to provide production and sales services, licensing, financing and other arrangements to each other under contractual arrangements based on arm's length principles. Normally, such arrangements would not cause one affiliate to become an agent of the other, or to have a permanent establishment in the counterparty's tax jurisdiction. However, in many profit shifting arrangements, forensic investigation will reveal that the foreign purchaser of U.S. services may have little or no substance, and therefore has no ability to manage or conduct critical aspects or the entirety of its own foreign business. As such, these foreign affiliates depend on their U.S. affiliate service providers for operations including both the management and actual conduct of profit-driving activities. To the extent that a foreign affiliate through its own foreign based personnel has little or no management control over the U.S. activities and/or depends materially on U.S. personnel and assets for the generation of its income, the foreign income could be taxable in the U.S. as effectively connected income. Kadet (2015), Kadet and Koontz (2018), and Kelley et al (2016) provide particularly useful analyses on the application of the ECI regulations to these types of aggressive TP arrangements.<sup>60</sup>

IRC §§ 864(c) and 865(e)(2), Treas. Regs. § 1.864-4 through -7, and Prop. Treas. Regs §1.865-3 provide the principal rules that allow the United States to *directly* tax the business income of a foreign corporation when that income is attributable to material U.S. activities and/or assets such as a U.S. office or other fixed place of business. Importantly, with the taxpayer being the foreign affiliate (and not a U.S. member of the affiliated group that files a U.S. consolidated tax return), it is likely that many early years will still be open for IRS adjustment even where the corresponding years of the U.S. group are closed. Also, in some instances, certain deductions and credits may be disallowed and the §884 branch profits tax may apply.

Under the factual manner in which many profit-shifting structures are conducted, there is a high likelihood that the U.S. and foreign affiliates within a group will conduct joint business activities that create an unintended partnership under the entity classification rules. In addition to U.S. filing and withholding tax requirements, the existence of a partnership importantly makes the application of the ECI rules much easier. See Kadet and Koontz (2016).

Interestingly, as noted earlier, the tax structure used by Apple Inc. was examined in 2013 by the Senate Permanent Subcommittee on Investigations and subsequently by the European Commission. Most recently, it has been described in some detail in the July 15, 2020, decision of the General Court of the European Union.<sup>61</sup> Clearly, one of the requirements of the favorable Irish tax authority rulings and the Court's decision itself was that the Irish affiliates performed only routine functions. The facts as presented by Apple were that all valuable non-routine functions concerning both production and income generation were performed by the U.S. parent. The Court stated the following in paragraphs 300, 301, and 381, respectively:

*“... It is also apparent from that evidence that the strategies relating to new product launches and, in particular, the organisation of distribution on the European markets in the months leading up to the proposed launch date had been managed at the Apple-Group level by, inter alia, the Executive Team under the direction of the Chief Executive Officer in Cupertino.”*

*“In addition, it is apparent from the file that contracts with third-party original equipment manufacturers (OEMs), which were responsible for the manufacture of a large proportion of the products sold by ASI, were negotiated and signed by the parent company, Apple Inc., and ASI through their respective directors, either directly or by power of attorney. ASI and AOE also submitted evidence regarding the negotiations and the signing of contracts with customers, such as telecommunications operators, which were responsible for a significant proportion of the retail sales of Apple-branded products, in particular mobile phones. It is apparent from that evidence that the negotiations in question were led by directors of the Apple Group and that the contracts were signed on behalf of the Apple Group by Apple Inc. and ASI through their respective directors, either directly or by power of attorney.”*

*“... Apple Inc., ASI and AOE submitted, in the context of both the administrative procedure and the present action, evidence demonstrating that the framework agreements with the manufacturers of Apple-branded*

<sup>60</sup> In the absence of a tax treaty, the domestic law threshold for potential ECI taxation is that the foreign affiliate taxpayer is engaged in a trade or business within the United States. This is a very low threshold that will often be met. Where a tax treaty is in force, there must be a “Permanent Establishment” of the foreign affiliate in the United States for ECI to apply. Given the aggressive manner in which many profit-shifting structures are carried out, this PE threshold where a treaty applies will often be met.

<sup>61</sup> The full decision of the General Court is available at: <http://curia.europa.eu/juris/documents.jsf?num=T-778/16>.

*products (or OEMs) had been concluded centrally in respect of the Apple Group as a whole by Apple Inc. and ASI in the United States.”*

This type of evidence supports in what appears to be almost black-and-white terms the existence of a partnership between Apple Inc. and its foreign affiliates and the existence of some amount of ECI that is directly taxable by the United States. Other apparent examples include Google Inc. and Facebook Inc. When these firms entered into these cost sharing arrangements, they did so with newly established Irish affiliates that each had only a handful of mostly back-office employees. Despite this, these Irish affiliates were designated for tax purposes as “operators” of the non-U.S. business within their territories, ignoring the fact that all commercial operations were conducted exclusively by U.S. personnel, using physical and intangible assets domiciled in the U.S. Advanced forensic economic investigation can be used to establish the importance and even the centrality of the U.S. activities to the generation of foreign profits in these arrangements.

To date, we are not aware of the IRS having used such investigative techniques to challenge profit-shifting structures exploiting low- or no-substance cost sharing arrangements. Rather, the IRS has focused instead on the valuation of transferred IP at the date of transfer. This approach (aside from being a terribly subjective and fact-intensive approach with mixed results at best in litigation) has seemed to only legitimize, and thus encourage, these arrangements. Even if the IRS were to prevail on its valuation of the transferred IP, that still leaves the “low-“ or “no-substance” structure in place to continue shifting U.S. profits offshore. It is telling that despite the TCJA’s application of some taxation on Global Intangible Low-Taxed Income, very few groups have altered their existing profit-shifting structures.

Finally, the investigations into Apple Inc. by the Senate Permanent Subcommittee on Investigations and the European Commission focused on the manufacturing and sale of products. However, Google, Facebook, Amazon, Netflix, Uber, and many other U.S. multinational companies provide various forms of digital services. For many of these groups, it may be the case that: (i) their U.S.-based centralized management and other personnel controls and conducts from within the U.S. foreign operations by division and globally; (ii) the execution of sales and the performance of key business operations occur primarily in the U.S.; and (iii) U.S. activities and assets are the primary factor in the realization of the income reported by the group in low-substance foreign affiliates.<sup>62</sup> At least based on public information, an unintended partnership and ECI are risks these structures appear to have.

### ***Periodic adjustments***

Treas. Reg. § 1.482-7(i)(6) provides the IRS a final stopgap when a CSA shifts excessive profits offshore in ways that may not have been detected in prior years. Known as a Periodic Adjustment (and a Periodic Trigger), the adjustment under this regulation can be applied in any year subsequent to payment of a buy-in (PCT) transaction, without regard to statute of limitations (emphasis by the authors):

*“ . . . the Commissioner may make periodic adjustments for an open taxable year (the Adjustment Year) and for all subsequent taxable years for the duration of the CSA Activity with respect to all PCT Payments, if the Commissioner determines that, for a particular PCT . . . has realized an Actually Experienced Return Ratio (AERR) that is outside the Periodic Return Ratio Range (PRRR). . . . The Determination Date is the date of the relevant determination by the Commissioner. The failure of the Commissioner to determine for an earlier taxable year that a PCT Payment was not arm's length will not preclude the Commissioner from making a periodic adjustment for a subsequent year. A periodic adjustment under this paragraph (i)(6) may be made without regard to whether the taxable year of the Trigger PCT or any other PCT remains open for statute of limitations purposes or whether a periodic adjustment has previously been made with respect to any PCT Payment. ”*

*“ . . . the PRRR will consist of return ratios that are not . . . more than 1.5. ”*

This is a rote calculation, that can apply in certain situations, and the PRRR (Periodic Return Ratio Range) upper bound of 1.5 represents a maximum return on PCT and related cost sharing payments by the foreign participant(s), on a present value basis. There are some exceptions that could negate an otherwise applicable periodic adjustment, such as if the taxpayer transferred the same IP to an unrelated party at the same price, etc., but these are likely to rarely apply. In addition, Revenue Procedure 2015-41 appears to enable a taxpayer to avoid a periodic adjustment to the extent that it obtains an Advanced Pricing Agreement (APA) for the PCT transaction, where the IRS explicitly agrees to waive tax enforcement related to the transaction in the future:

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<sup>62</sup> Dozens of entries can be found on LinkedIn among U.S. executives and employees documenting this.

*“If a covered issue is a platform contribution transaction, the APA may provide that such transaction will not be treated as a Trigger PCT within the meaning of Treas. Reg. § 1.482-7(i)(6)(i) for purposes of making periodic adjustments, during or after the APA term, under Treas. Reg. § 1.482-7(i)(6).”*

Rev. Proc. 2015-41 places a lot of pressure on the IRS to get this right, should they agree to such terms in an APA that would bar examiners from enforcing the law in the event of successful tax evasion. Given the substantial complexity of these arrangements, and enforcement issues highlighted in this paper, it is unclear why this guidance was issued, and it would appear to represent yet another potential obstacle to effective enforcement. For instance, consider Google Inc., mentioned earlier, which transferred the economic rights to its U.S.-owned IP to a low- or no-substance Irish affiliate in 2003, for what appeared to be a relatively small sum, and also received an APA for this transaction (though the APA was issued years prior to the revenue procedure cited above). This IP presumably included its proprietary AdWords pay-per-click advertising platform launched in late 2000 and AdSense platform launched in March 2003, that generated virtually all of its revenue and more than 95% of its profitability in 2003-revenues that grew by as much as 400,000% in the years prior to the transaction.<sup>63</sup> As late as 2019, AdWords continued to generate as much as 70% of revenues and possibly as much profit, being integrated into Google Search and other platforms such as YouTube, Gmail, Play, Maps and others, while AdSense contributed to Network Member advertising revenues.<sup>64</sup> It is difficult to see how the 2003 transfer of the economic rights to the AdWords and AdSense platforms would not have triggered a periodic adjustment in one or more of the years since. A rote calculation assuming a 25% decay of this migrated IP between 2003 and 2019, a weighted average cost of capital of 8%, a buy-in payment in the low single digit billions of dollars, and estimates for non-North America RAB shares attributable to Google’s Irish affiliate produces a periodic adjustment in 2019 approaching \$100 billion. Note that between 2003 and 2019 Google Inc. (and later Alphabet Inc.) reported approximately \$134 billion in foreign pre-tax income, and about \$108 billion in U.S. pre-tax income, though U.S. employees and long-term assets have exceeded those in foreign locations by about 50% over the period.<sup>65</sup> Despite such indications of a potentially large periodic adjustment, the IRS by all accounts appears to rarely if ever apply these regulations to recoup evaded taxes, possibly due to their complexity and other factors.

In summary, these examples show how more nuanced and innovative approaches to the interpretation of the existing regulations (on par with taxpayers and their advisors) can be important to examining intercompany transactions. Armed with advanced forensic capabilities, many new and more powerful examination approaches can be developed. These can include further developing the economic research mentioned earlier that supports that exploitation activities, on average, tend to attract a greater share of profits than passive IP ownership. New approaches can use data analytics technology to measure anomalies in risk versus return via statistical indicators and provide more reliable facts to support a residual profit split outcome when it is appropriate. Data analytic techniques can also be used to measure the relationships between revenue, cost, and profit (including analyses of fixed and variable costs), and whether these relationships comport to conventional economics and accounting relationships or are severely distorted due to TP profit shifting. The innovations and improvements appear unlimited.

### **Recommendations for Forensics-Based TP Enforcement**

Myriad barriers exist to creating a forensics-based tax and TP enforcement capability. Constraints such as low governmental pay scales, restrictive examination procedures and other bureaucratic obstacles will almost surely prohibit internal development of these capabilities. Outsourcing these functions and technologies separately and then attempting to integrate them would likely be too expensive and/or simply too difficult. Such an organization would likely need to be built from the ground up since many of these capabilities-though highly skilled-would still require further development to operate in a TP enforcement context. In order to truly develop an original, supremely capable organization, the government may consider the use of a “Government Corporation” such as that specified by 5 U.S.C. § 103. A Government Corporation is a quasi-profit driven enterprise that operates much like a private company but is owned by the government and often funded by its own operations. This definition means recruiting the most highly skilled resources, paying competitive market-based compensation, and surviving in part based the success of its efforts (which, after all, is how the tax advisory industry operates). We believe the following recommendations could be important to achieving these goals:

- Build a TP enforcement organization incorporating a multi-disciplinary, multifunctional organization much like those found within private practices, and consider the use of a Government Corporation to procure the necessary

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<sup>63</sup> Battelle (2005).

<sup>64</sup> Alphabet Inc. FY2019 Form 10-K, which reported that approximately 84% of Google’s revenues were from advertising and within this AdWords (rebranded Google Ads in 2018) was approximately 84% of this, or 70% of total advertising revenues.

<sup>65</sup> Ratio of long-term assets is based on SEC filings and estimates of employees are based on an analysis of LinkedIn data.

skills, technology, specialization, and integration to compete on equal terms with market-based advisory practices;

- Replace random audits, campaigns, recurring examinations of the same compliant taxpayer (such as in CAP audits) with a centralized audit selection capability based on advanced detection technology and focus examination resources on identified non-compliance, potentially sorted by underpayment risk;
- Support field examinations with a centralized forensics organization that can perform case development based on highly specialized research, data analytics, and forensic economic investigation using advanced science and technology, prior to and during TP examinations;
- Replace standardized “one size fits all” generic practice units and mechanical examination procedures that have been designed as roadmaps for generalist examiners with more specialized and forensic approaches, training and technology that utilize more flexible, evidence-based examination techniques and strategies based on forensic economic investigation;
- Establish a “Chief Economist” position in the IRS for TP, with responsibility for building and managing a technology-enabled, forensics-driven enforcement capability, with authority that is on par with IRS Counsel in terms of establishing priorities, reducing litigation risk, approving cases, while managing the overall capabilities and success of the organization;
- Revise current regulations to better incorporate economic principles and methods, by better defining reliability to incorporate principles of economics; enabling the use of apportionment approaches as a best method or safe harbor in certain circumstances where this is consistent with economic principles; more directly incorporating the requirement for economic substance into the transfer pricing regulations, such as directly eliminating the ability of taxpayers to implement cost sharing and other arrangements without any economic substance or possessing only tax avoidance benefits.

Many of these advancements are simply ideas leveraged from industry, law enforcement, academic research, and other sources, that have been used successfully to achieve similar objectives in other contexts. Enforcement must be able to innovate and level the playing field in terms of capability, to overcome the vast resource, capability, and information asymmetries that currently exist vis-à-vis deep-pocketed taxpayers and their highly skilled advisors. These efforts could generate revenues that far exceed their costs in terms of both enforcement recoveries as well as improved compliance.

## **Conclusion**

Repeated budget cuts to the IRS since 2010 have starved it of enforcement resources and technology, even as it has lost as much as 50% of its most experienced personnel in corporate tax enforcement.<sup>66</sup> However, even in the absence of these budget cuts new forensic approaches could add value. We recommend that only a wholesale reengineering and redesign of current enforcement approaches can enable adequate examination capabilities in the context of the most complex TP profit shifting cases the IRS might see. Likewise, the IRS must take a different approach to enforcement by focusing more on statistically reliable detection of non-compliance, and forensic economic investigation of TP using more powerful data analytics, economic science and forensic economic investigation to identify and sustain adjustments and reduce costly tax court proceedings. The IRS has substantial powers to reallocate income, but without the ability to detect when income should be reallocated, or the ability to support its income reallocations, it will continue to lose cases in tax courts and embolden taxpayers to continue to implement aggressive TP in ways the IRS cannot challenge. The sheer revenue losses possibly approaching \$2 trillion dollars in the last two decades (per *Figure 1, that excludes estimates for 2016–2020*) should make it extremely worthwhile to consider such alternative approaches.

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<sup>66</sup> Estimate by the authors, based on GAO (2017) and IRS Taxpayer Advocate (2019). The GAO reported a decline in revenue officers (experienced IRS enforcement personnel who conduct audits of corporations and individuals) of 40% between 2011 and 2017. The Taxpayer Advocate reported that IRS examinations continued to decline after 2017. This would imply a continued decline in experienced enforcement resources after 2017 to the present, even in the presence of increased hiring, over a period that represents approximately 50% of the years between 2011 and 2017.

Appendix-Facebook Daily Average Users calculations used in Tables 4, 7 and 8, derived from Facebook's Form 10-K filings with the SEC.<sup>67</sup>

All figures in Millions

US & Canada DAUs					As Reported
Year	Q1	Q2	Q3	Q4	Ave
2010	82	85	92	99	90
2011	105	117	124	126	118
2012	129	130	132	135	132
2013	139	142	144	147	143
2014	150	152	155	157	154
2015	161	164	167	169	165
2016	173	175	178	180	177
2017	182	183	185	184	184
2018	185	185	185	186	185
2019	186	187	189	190	188

Global DAUs					As Reported
Year	Q1	Q2	Q3	Q4	Ave
2010	234	257	293	327	278
2011	372	417	457	483	432
2012	526	552	584	618	570
2013	665	699	728	757	712
2014	802	829	864	890	846
2015	936	968	1,007	1,038	987
2016	1,090	1,128	1,179	1,227	1,156
2017	1,284	1,325	1,368	1,401	1,345
2018	1,449	1,471	1,495	1,523	1,485
2019	1,562	1,587	1,623	1,657	1,607

Estimated U.S. DAUs based on U.S. vs. Canada Population					
Year	Q1	Q2	Q3	Q4	Ave
2010	74	76	83	89	80
2011	94	105	111	113	106
2012	116	117	118	121	118
2013	125	127	129	132	128
2014	135	136	139	141	138
2015	144	147	150	152	148
2016	155	157	160	161	158
2017	163	164	166	165	165
2018	166	166	166	167	166
2019	167	168	170	170	169

Estimated Foreign DAUs = Global DAUs minus U.S. DAUs					
Year	Q1	Q2	Q3	Q4	Ave
2010	160	181	210	238	197
2011	278	312	346	370	326
2012	410	435	466	497	452
2013	540	572	599	625	584
2014	667	693	725	749	709
2015	792	821	857	886	839
2016	935	971	1,019	1,066	998
2017	1,121	1,161	1,202	1,236	1,180
2018	1,283	1,305	1,329	1,356	1,318
2019	1,395	1,419	1,453	1,487	1,439

<sup>67</sup> Note that Facebook SEC filings report both daily and monthly average users, and also report that as much as 11% of monthly average users may be duplicate accounts, and that most of these duplicate accounts are located in developing countries. Facebook does not provide estimations of duplicate accounts associated with daily average users. Further, these estimates are based on algorithms and assumptions regarding user location and are subject to error (for instance usage via a proxy server in a different country from the user could result in the user being assigned to a different country or region). We believe that the use of DAUs versus MAUs, and the use of U.S. versus consolidated foreign groupings may reduce the impact of these measurement issues. However, this cannot be guaranteed.

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