HARRY GRUBERT'S EVOLVING VIEWS ON INTERNATIONAL TAX POLICY

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Harry Grubert made important contributions to our thinking about international tax policies. He identified the numerous margins on which corporate tax systems could distort behavior in a global economy and estimated the relative costs of these distortions. His views evolved over time from support of worldwide taxation of U.S. multinationals to favoring a territorial system with a minimum tax on super-normal returns and a shift in taxation from the corporate to the shareholder level. His research greatly influenced corporate reforms in the Tax Cuts and Jobs Act of 2017 (TCJA), although he no doubt would have differed with many of the Act's details.

Keywords: Territorial taxation, worldwide taxation, formulary apportionment, dividend exemption, excess credit and excess limit positions, Tax Cut and Jobs Act, minimum tax on foreign profits, global intangible low tax income (GILTI)

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I. INTRODUCTION

I am extremely pleased to have been asked to comment on Harry Grubert's contributions to our thinking about international tax policy. Reviewing the major articles Harry wrote on international tax policy over the past two decades, many of them co-authored with Rosanne Altshuler, has been a great learning experience. It reminds me how much we lost with Harry's passing, but also how much we still benefit from what he has left behind.

Harry was my first professor of microeconomics in graduate school and I have been learning from him ever since. I continued to benefit from his deep insight and knowledge as his long-time colleague at the Treasury department and as a participant in tax policy discussions afterwards. His influence on my thinking and that of many of his colleagues was immense.

Many of those who write on international tax policy fall roughly into one of two opposing camps — those who favor worldwide taxation of multinational corporations and those who favor territorial taxation. Advocates often minimize the real problems

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that purer forms of either worldwide or territorial taxation would create. Harry started out on the worldwide side but gradually shifted towards the territorial end of the spectrum, while recognizing the problems with both extreme positions. A major theme of his work, as Rosanne Altshuler noted in a recent conference at the Tax Policy Center (Toder, 2014), was that international tax rules affect numerous decision margins. This led him to a very nuanced view of policies, in which he recognized that neutrality across all margins was unachievable while he sought solutions that minimized what he viewed as the most important distortions.

Harry Grubert joined the International Tax Staff of the Office of Tax Analysis in the U.S. Treasury in 1978. He provided advice and analysis for top Treasury officials and wrote scholarly articles on international tax issues for the remainder of his career. This paper covers the evolution of Harry's views on international tax policies and the common themes in his papers over the past two decades. I review seven of his major articles between 2001 and 2016, five of them co-authored with Rosanne Altshuler, in chronological sequence — Grubert and Mutti (2001), Grubert (2001), Altshuler and Grubert (2001), Grubert and Altshuler (2008), Altshuler and Grubert (2010), Grubert and Altshuler (2013), and Grubert and Altshuler (2016). I conclude with a discussion of how Harry's work has influenced policy formation, especially how his writings influenced the international provisions in the Tax Cuts and Jobs Act of 2017 (TCJA). Harry surely would not have agreed with everything in the TCJA, but the legislation nonetheless bears the mark of his influence.

II. EVOLUTION OF VIEWS OVER TWO DECADES

A. Overall Views

Harry Grubert's views on international taxation evolved over time, as have the views of many of us. For the first two decades of his career at Treasury, he agreed with the then majority view among international tax specialists that U.S. multinationals should be taxable on their worldwide income. While maintaining that overall position, however, he then authored and co-authored a series of papers arguing that an explicit territorial system could be superior to the then current U.S. system of worldwide taxation with deferral, foreign tax credits, and the ability of firms in excess credit positions to use those credits to offset taxation of royalty and export income. Grubert and his frequent co-author Rosanne Altshuler then made a powerful critique of formula apportionment (FA) as a method for allocating multinationals' profits among countries, pointing out that while FA would solve some of the problems resulting from the treatment of multinationals' affiliates in different countries as separate entities, it would create new problems that could be even worse.

Later, Grubert and Altshuler tackled explicitly the issue of how the international system should be reformed, given the need to reduce the incentives for income shifting while minimizing harm to the competitive position of U.S. multinationals. They first argued for a burden-neutral worldwide tax as superior to both the system then in

existence and a dividend exemption system. They then examined a variety of options and indicated a preference for a proposal to combine a territorial system for normal returns to tangible capital, implemented by allowing expensing of foreign investments, with a minimum tax on worldwide returns attributable to economic rents. In their final paper, they proposed sharply reducing the tax rate at the corporate level, shifting the taxation of income generated in corporations to the individual shareholder level because shareholders were more easily taxable on their worldwide income.

B. Common Themes

The international tax policy debate in the United States has been focused on an ongoing argument between advocates of worldwide taxation and supporters of territorial taxation. Although initially leaning towards the worldwide approach, Grubert was always keenly aware of the strengths and weakness of arguments on both sides of the debate, ending up with a much more nuanced view than many proponents on either side.

1. Recognition of the Numerous Decision Margins that Tax Rules Affect

Grubert's work raised awareness of the numerous decision margins of both corporations and individual investors whom corporate and international taxation rules and rules for taxing individuals' capital income affect. These decision margins, all of which are mentioned in at least one of the papers I reviewed, include (but are not limited to) the following:

(1) whether to invest overseas or at home and, if investing overseas, whether to invest in high-tax or low-tax foreign countries;

(2) where to report corporate profits for a given level of real investments, given the flexibility corporations have in setting prices for intra-company transactions (transfer prices) and in allocating overhead costs;

(3) if investing overseas, whether to invest through controlled foreign subsidiaries or by licensing the use of unique intangibles to independent, locally owned firms;

(4) if exporting goods, whether to export to affiliates in foreign countries or to independent distributors;

(5) whether to repatriate foreign profits or retain those profits in foreign affiliates;

(6) how to time repatriations to make optimum use of foreign tax credits;

(7) whether to finance operations through debt or equity and where to issue debt;

(8) where to locate intangible assets, what transfer prices to set when transferring those assets to foreign affiliates, and what royalty rates to charge when leasing those assets to foreign affiliates;

(9) for individual investors, whether to invest in debt or equity and whether to hold assets of domestic or foreign-resident corporations;

(10) for individual investors (and companies acting on their behalf), whether to receive equity income in the form of dividends or capital appreciation and when to realize capital gains on appreciated assets;

(11) for domestic companies, whether to be organized as a C corporation or a flow-through, and for start-ups, when and if to go public; and

(12) for multinational corporations, where to establish and maintain corporate residence.

A major theme of Grubert's work was that a corporate income tax cannot exist without distorting decision-making on at least some of these decision margins. His research aimed to estimate how policy reforms would affect different distortions and to assess which ones mattered more than others.

2. Recognition of the Changing Nature of the International Environment

Grubert's views evolved as the world changed and his papers carefully documented many of these changes. His views were affected by the growth in intangible assets, the evolution of tax rules in other countries, the increases in the assets U.S. companies held in their foreign affiliates, and the increase — which he documented — in the extent to which the growth in foreign-source income of U.S. multinational companies represented shifting of reported income instead of growth in real investments and employment overseas.

C. Pre-2000: Worldwide Taxation Is the Best System

The argument for worldwide taxation with a credit for foreign income taxes is that it is neutral between a company's decision to invest and to report income either at home, in a low-tax foreign country, or a high-tax foreign country — a condition known as "capital export neutrality" (Musgrave, 1963). The Kennedy Administration proposed a global tax system that reflected this principle in 1962, but Congress enacted a much more limited reform (Subpart F of the Internal Revenue Code) that imposed tax only on certain defined categories of income — such as passive income from portfolio investments — that Congress believed could be easily shifted to foreign jurisdictions to avoid U.S. corporate income tax. Congress retained deferral of tax on most active income that U.S. corporations earned within their controlled foreign affiliates.

An alternative system, territorial taxation, would treat multinational corporations in all jurisdictions the same regardless of the residence of the multinational's parent company, because the tax rate all companies paid would depend only on the jurisdiction where they earned income — a condition known as "capital import neutrality." Horst (1980) showed that the choice between capital export neutrality and capital import neutrality depended on which form of neutrality was viewed as more important — neutrality in the location of investment across jurisdictions (which capital export neutrality would

yield) or neutrality between current and future consumption (which capital import neutrality would yield by causing capital users in high-tax countries, not savers, to bear the burden of capital income taxes). But improving saving incentives by effectively eliminating taxation of the return to savers was a weak rationale for capital import neutrality, because the same result could be achieved without distorting investment flows by simply eliminating taxation of income from capital.

The larger challenge to capital export neutrality came from the growing importance of portfolio investment and the role of research and development (R&D) in international trade and investment. For example, if shareholders view U.S. and foreign-resident corporations as good substitutes, they will demand equal risk-adjusted after-tax returns from U.S. and foreign-resident companies. This would imply that taxing U.S. multinationals at U.S. tax rates rather than local rates on their investments in low-tax foreign countries would cause investments by foreign-based corporations to replace investments by U.S. corporations instead of reducing total investment in low-tax jurisdictions, because shareholders would reallocate their portfolios to lower-taxed foreign-resident companies instead of accepting lower after-tax returns. Worldwide taxation, therefore, would distort the pattern of corporate ownership (violate "corporate ownership neutrality") instead of removing distortions to the pattern of real investment (Desai and Hines, 2003).

I recall from discussions with Harry in the 1990s that he agreed with the long-standing consensus for taxing the worldwide income of multinationals with a credit for foreign income taxes. A paper he co-authored with John Mutti (Grubert and Mutti, 1995) rejected the claim that the increased role played by portfolio capital in financing investment and the recognition that R&D was an important determinant of international trade and investment provided compelling reasons to allow a lower tax rate to foreign- than to domestic-source income. Grubert and Mutti found that capital export neutrality remained an important principle for developing the best rules for taxing foreign investment of U.S.-resident corporations. The same paper also estimated, based on 1990 data, that the U.S. tax rate on active foreign income was negative. This was a precursor to subsequent papers by Grubert and his co-authors making a case for a territorial tax system that would improve neutrality by "raising" the effective rate on foreign-source income to zero.

D. 2001: Dividend Exemption (Territorial), Done Properly, Is Better than U.S. Worldwide Rules with Deferral

Although the United States and some foreign countries, in principle, taxed the worldwide income of multinationals, they permitted taxes on income accrued within foreign subsidiaries to be deferred until repatriated as a dividend to the parent company. (Taxes on these dividends are referred to below as "repatriation taxes.") Deferral of tax until repatriation made the system much closer in effect to a territorial than to a worldwide system (Hartman, 1985). In three papers in 2001, Grubert by himself and with co-authors Rosanne Altshuler and John Mutti argued that an explicit dividend exemption system might reduce the incentive for U.S. companies to invest and report income in low-tax foreign countries and could raise more revenue than the system then in effect

in the United States. In this view, a properly designed territorial system was not the ideal, but was nonetheless a practical reform that proponents of both worldwide and territorial taxation should favor.

The idea that a territorial system might raise more money than a system that people generally characterized as "worldwide" was surprising to many. As discussed below, however, it reflected both the extent to which the then current system fell short of a worldwide system and the specific design features of the territorial system that Grubert and his co-authors were proposing.

These papers showed that the then existing system was more favorable to the foreign investment of U.S. multinationals than a dividend exemption system, because U.S. companies could use excess foreign tax credits from their profits in high-tax foreign countries to offset taxes on royalty income, much of which was earned in low-tax countries. A dividend exemption system that treated royalties that companies received from their foreign affiliates as domestic-source income would raise revenue and reduce the incentive to overstate the value of intangibles leased from affiliates in low-tax countries. Because it raised the taxes on foreign-source income from negative to zero, such a reform, in the view of Grubert and his co-authors, should have appealed to proponents of worldwide and territorial taxation.

Grubert and Mutti (2001) made the case for replacing the current U.S. system with a territorial system that exempts from tax dividend repatriations that U.S. multinationals receive from their foreign affiliates. The territorial system they envisaged would deny deductions for interest and other overhead costs attributable to foreign-source income (in the same manner that interest incurred to finance tax-exempt bonds is not deductible) and would treat all royalty and export income as domestic source. Grubert and Mutti emphasized the benefits eliminating the repatriation tax would provide in improved efficiency and simplicity. Efficiency would be improved by eliminating the lock-out effect that caused U.S. companies to retain assets overseas and, thereby, to use less efficient methods to finance investment opportunities in the United States. And the tax system would be simplified because companies would no longer need to devise complex strategies and make complex calculations to use foreign tax credits to shield repatriated dividends from tax.

Grubert and Mutti argued further that the concern that dividend exemption would result in more investment in low-tax locations was unwarranted. They noted first that the burden of the repatriation tax was already very minor so eliminating it would not change matters much. But, in addition, two features of a dividend exemption system would have raised burdens on foreign investment. First, such a system would have required that U.S. companies allocate their overhead expenses (other than R&D, which could be allocated to domestic income because royalties would be taxable) between taxable domestic income and exempt foreign income. The proportion allocated to foreign income would no longer be deductible. A second feature would be that royalty income and the portion of export income excluded by the sales source rule (under which 50 percent of exports were treated as foreign source) would be defined as domestic-source income and, therefore, would no longer be shielded by excess foreign tax credits from repatriated dividends.

These two features of a properly designed dividend exemption system produced the result that such a system would raise federal receipts. The loss of taxes no longer collected on dividend repatriations would be more than offset by increased taxes resulting from lower deductions of overhead expenses and full taxation of royalty, interest, and export income.

Grubert and Mutti cited earlier empirical research by Grubert (1998) that found that repatriated dividends were highly sensitive to the tax price of repatriation. As an alternative to repatriated dividends, firms could instead access cash from their foreign affiliates without increasing their net debt position by borrowing from an unrelated party while their foreign affiliates invested in interest-bearing assets. But this technique for returning foreign profits to domestic shareholders would create some costs because of the spread between borrowing and lending rates. These costs, then estimated at between 1 and 2 percent of foreign earnings, were not considered large enough to deter investments in low-tax countries, but they did represent a significant efficiency loss relative to the alternative of accessing cash through repatriations and a significant cost relative to the tax collected on repatriated dividends.

Grubert and Mutti also found that repatriation taxes had little effect on real investment decisions. Further, the move to dividend exemption would slightly increase the effective tax rate on investments in low-tax countries.

Grubert and Mutti concluded that neither the current system nor dividend exemption had any claim to conceptual superiority. They viewed dividend exemption as superior to the current system, but not necessarily the best option, noting that reformed interest allocation rules and rules for taxing export and royalty income could be enacted without dividend exemption.

Grubert (2001) focused on the effect of dividend exemption on federal receipts. Using 1996 data, he estimated a static revenue gain of more than $9 billion per year from switching to a dividend exemption system. As in the prior paper, this estimate reflected the fact that the revenue gain from the allocation of parent company overhead expense to exempt income and the full taxation of export sales source and royalty income (not shielded by foreign tax credits) exceeded the revenue loss from no longer taxing repatriated dividends. He then examined the effects of behavioral responses on this revenue loss. The substitution of newly exempt dividends for taxable royalties would reduce receipts, but the reduction in overhead expenses that firms attributed to domestic-source income would increase receipts. Firms would seek to borrow more overseas because they could use the increased foreign interest costs to reduce foreign corporate income taxes, while the source of their borrowing would have no effect on U.S. tax liability. Grubert concluded that, because the effects on receipts of the behavioral responses were opposite in sign and the static effect was positive, dividend exemption would probably, on balance, raise federal revenues. He noted, however, that this conclusion was highly sensitive to the design features of the proposal.

Grubert and Altshuler (2001) considered, in more detail, how dividend exemption would affect where U.S. multinational corporations invested. The analysis in this paper was complex because the proposed reform would have had differential effects on U.S.

corporations, based on whether they were in excess (foreign tax) credit or excess limit positions.[1] Dividend exemption would have provided no benefit for firms in excess credit positions because their repatriated dividends were already fully shielded by foreign tax credits, but might have hurt them by limiting the use of these credits to shield royalty income and export income benefiting from the sales source rule. In contrast, dividend exemption would have helped firms in excess limit positions that were taxable on repatriated dividends.

Grubert and Altshuler first examined how U.S. allocation of foreign investment in manufacturing across locations compared with two dividend exemption countries — Canada and Germany. They found that U.S. companies in 1998 invested a larger share of their investments in Asia in low-tax countries than did Canada or Germany, relatively more of their investments in Europe in low-tax Ireland than did Germany, but relatively less of their European investments in Ireland than did Canada. The Canadian experience in Europe suggested that dividend exemption may have caused U.S. companies to invest more in low-tax foreign countries, but the other comparisons did not.

They then developed a theoretical model to estimate how dividend exemption would have changed effective tax rates in low-tax countries for tangible and intangible assets for both excess credit and excess limit companies. Compared with the current system, dividend exemption would have left unchanged the effective tax rate on tangible assets for excess credit companies but would have reduced the effective tax rate for excess limit companies. For intangible assets, it would have raised the effective tax rate (currently zero because of the shielding of royalty payments by credits) for excess credit firms and left unchanged the effective tax rate (fully taxable under current law) for excess limit firms. Grubert and Altshuler assumed that 25 percent of firms were in excess credit and found that dividend exemption would increase the average effective tax rate compared with the current system for both tangible and intangible assets in low-tax countries.

Finally, Grubert and Altshuler used regression analysis to estimate the effect of foreign tax credit positions on the location of foreign affiliates of U.S. manufacturing companies. They concluded that firms that did not expect to pay repatriation taxes were more attracted by low tax rates abroad than other firms, suggesting that dividend exemption could cause a shift in foreign investment patterns to low-tax countries.

Based on the totality of the evidence, Grubert and Altshuler were unable to make a definitive prediction of how a dividend exemption system would change the location of investments of U.S. multinational corporations. But they concluded that, on balance,

[1] The U.S. tax code limits foreign tax credits taxpayers may claim to the tax rate that the United States would otherwise apply to the same income. So, for example, if foreign country A imposed a tax rate of 40 percent on income, as defined in U.S. law, and the U.S. rate on the same income was 35 percent, the U.S. company could only claim 35 cents of credit on $100 of repatriated profits. This firm would be in an excess credit position with $5 of unused credits. If the same firm, however, earned $100 of income in foreign country B with a tax rate of 20 percent, it could use the excess credit in country A by repatriating income from both countries, since then its average foreign tax rate would be only 30 percent. Firms in excess limit positions would pay residual U.S. tax on repatriation because their foreign tax credits would be insufficient to offset all their U.S. tax due.

the evidence did not validate the concern that dividend exemption would cause a large outflow of U.S. investments to low-tax locations.

E. 2008: Worldwide Taxation Is Superior to Dividend Exemption, While the Distortion from Lock-Out of Assets Overseas Is Larger than Previously Believed, Strengthening the Case for Any System That Exempts Repatriated Dividends

Grubert and Altshuler (2008) compared two systems: dividend exemption and burden neutral worldwide taxation and came down on the side of worldwide taxation, while concluding that both systems were superior to current law because they would eliminate the tax on repatriated dividends. Dividend exemption would do this by fully exempting active foreign-source income of U.S.-resident multinationals from U.S. tax, while the burden-neutral worldwide taxation system would do this by taxing foreign-source income as accrued, so there would be no need for an additional tax upon repatriation.

The dividend exemption they considered in this paper was based on the option Grubert had outlined in previous papers. Dividend repatriation taxes would be eliminated. Subpart F rules would be maintained, but other foreign-source income would be tax exempt. U.S. parent companies would be required to allocate overhead expenses, including interest paid but excluding R&D expenses, between taxable domestic-source and exempt foreign-source income. Royalties and export sales would be fully taxable as domestic-source income.

The worldwide taxation option would eliminate deferral. All overhead expenses that supported foreign investment would be deductible because all foreign income would be taxable. The foreign tax credit and foreign tax credit limitations would be retained. The corporate tax rate would be reduced from 35 to 28 percent to maintain the total tax burden on corporate income. At that rate, companies with about 30 percent of foreign income would have been in excess credit in 2002, but that figure excluding petroleum companies would be only 18 percent. And, with the reduced foreign tax rates after 2002, Altshuler and Grubert expected the share of companies with excess credits would decline further.

The paper included a discussion of the shortcomings of standard efficiency criteria (capital export neutrality, capital import neutrality, and capital ownership neutrality) for evaluating international tax systems and instead explicitly listed behavioral margins that the reforms under consideration would affect. Dividend exemption would be a plus compared with current law because it would remove the excess burden of the repatriation tax. It could also modestly improve the allocation of foreign assets by eliminating the incentive for some companies to benefit from a low or zero tax rate on royalty income. It also would provide an incentive for foreign governments to lower taxes on U.S. companies. But it would not address income-shifting problems under the current system, nor would it eliminate the incentive to invest in low-tax foreign countries.

In comparison, Altshuler and Grubert concluded that burden-neutral worldwide taxation would dominate both dividend exemption and the current system because it would eliminate more distortions. As with dividend exemption, it would remove the repatriation

distortion. Unlike dividend exemption, it also would remove the incentive to move income offshore through transfer pricing and would eliminate the benefit of offshore tax havens. It would make the tax law simpler because tax considerations would no longer affect financing decisions and companies would not have to make expense allocations. To keep U.S. corporations in the same overall competitive position, Altshuler and Grubert estimated the tax rate would need to be reduced to 28 percent. They acknowledged, however, that this estimate was subject to considerable uncertainty because data on the use of foreign tax credits under the current system did not necessarily indicate the level of credits that would be available with worldwide taxation. In addition, the lower corporate rate could cause shifts in the domestic economy between the corporate and pass-through sectors. These issues were mentioned but not fully explored in the paper.

The paper also did not consider issues, such as the effect on corporate inversions, which were then in a temporary lull after new and tougher anti-inversion provisions were enacted in 2004. The lower corporate rate would have kept the total burden on the U.S. corporate sector unchanged, but Altshuler and Grubert noted it would have reduced taxation of domestic-only corporations and increased taxation of U.S. multinational companies with income in low-tax countries. Therefore, it could have increased the incentive for multinational companies to change their residence, a decision choice that was not explored in this paper but was considered in Grubert's subsequent work.

An important feature of this paper was a revised assessment of the excess burden of the tax on repatriated dividends. Based on the experience with the repatriation holiday in the American Jobs Creation Act (AJCA) of 2004, Altshuler and Grubert decided their previous assessment that this burden was equivalent to a tax rate of about 1.7 percent was too low. The huge volume of repatriations following the enactment of a temporary 5.25 percent repatriation tax in AJCA suggested that the implicit costs of deferral could be above 5 percent in low-tax locations. Subsequent analysis in Grubert and Altshuler (2013) estimated an implicit cost of around 7 percent. This new evidence strengthened the argument for eliminating the repatriation tax.

F. 2010: FA Is Not the Solution

A major flaw of both the U.S. system and current territorial systems is that they encourage multinationals to use improper transfer pricing, debt-equity swaps, and other techniques to shift reported income to low-tax foreign jurisdictions. This income shifting is possible because the tax law treats affiliates in different countries of multinational corporations with common ownership as separate entities. Using an FA system that allocates profits among foreign affiliates based on objective measures of their presence in different countries, such as the value of tangible assets, payroll, or sales, would eliminate the profit shifting that occurs in these separate accounting (SA) systems (Avi-Yonah and Clausing, 2007) and raise substantial revenue by re-assigning reported corporate profits from tax havens (where there are little assets, payroll, or sales) to countries with more robust corporate tax systems. FA has been adopted by many U.S. states to determine their share of the total U.S. corporate tax base, so why not extend this to the international arena?

Altshuler and Grubert (2010) show, however, that FA systems entail other distortions that are likely worse than the distortions in SA systems. Two decision margins are critical for the choice between these two systems. One is the choice between arms-length and related party transactions and the other the choice between exporting for foreign markets or producing abroad. SA systems encourage multinationals to shift intangible assets to low-tax jurisdictions and to manipulate transfer prices to reduce reported income in high-tax countries. Under FA, there is no benefit from manipulating transfer prices because the multinational pays tax as a single entity. But companies have an incentive under FA to shift routine activities overseas and to change the degree to which they depend on outside suppliers. And FA may provide even larger incentives than SA to shift production to lower-tax countries outside of the United States because of the interaction between variables included in the formula and sources of profit that cannot be included, especially intangible assets.

The authors developed a complex model that highlighted the importance of intangible excess returns and allowed for a variety of behavioral responses under both systems. The model illustrated the behavior of a firm with both high-tech lines of business generating intangible excess returns and low-tech activities generating routine returns. Under SA, a firm can shift reported excess returns to affiliates in low-tax countries. Under FA, the firm can shift income, including the high-tech excess returns, to the low-tax jurisdiction by including the routine low-tech stage there. And they can alter the share of profits taxed at high rates by outsourcing low-tech production in high-tax jurisdictions to independent firms or by insourcing what they might otherwise purchase from unrelated parties in low-tax jurisdictions.

In short, under SA, the firm can manipulate the allocation of profits within its own affiliates. But, under FA, the firm can adjust its boundaries by either contracting out to or contracting with independent entities with which it engages in arms-length transactions. And FA systems that depend on payroll or capital provide larger incentives than SA to shift routine production outside of the United States.

The authors' simulations confirm findings that FA would produce a substantial static revenue gain. However, they also conclude that FA is unlikely to raise substantial revenue once account is taken of behavioral responses.

Finally, an FA system could use a fully sales-based allocation formula, as do some U.S. states. Under such a formula, there would be no incentive for U.S. firms to shift real capital or employment to lower-tax jurisdictions overseas. However, U.S. firms could avoid tax under a sales-based FA formula by selling their goods through independent distributors located in low-tax countries, who would then resell them in the United States and other high-tax countries. The distributors would be taxable on a relatively low share of the profits that would be earned by vertically integrated firms in the high-tax countries with the most final sales, while a larger share of those profits would be taxable in the low-tax country, where the multinational company's sales to independent distributors occurred. Although, in this simple example, it might be possible to develop tracing rules that attribute the profit from the final sale back to the multinational company, Grubert has also pointed out that a very large share of international

transactions are sales of intermediate goods. Therefore, the final sales of a company may have little relationship to the ultimate retail sales from the activity in which it engages.

G. 2013: A Better Approach Would Combine Exemption of Normal Returns from Foreign-Source Income and a Minimum Tax on Super-Normal Returns

Although by 2013 most major countries had enacted so-called territorial systems, their systems were not purely territorial. Instead, as with the United States Subpart F rules, controlled foreign corporation (CFC) rules in other countries taxed some foreign-source income (mainly passive income, such as interest and dividends) of their resident multinationals as accrued (Altshuler, Shay, and Toder, 2015). Most forms of active foreign-source income continued to be either taxable only when repatriated as a dividend to the parent corporation (United States) or exempt (most other countries).

Grubert and Altshuler (2013) examined several reforms of the international taxation system. Their preferred option would have expanded the categories of foreign-source income taxable on an accrual basis. It would have combined a purely territorial system for normal returns from active foreign investments with a minimum tax at half the domestic rate (15 percent in their example, with base-broadening measures lowering the domestic corporate rate to 30 percent) on super-normal returns, which reflect returns to firms' unique intangible assets. They would have implemented this by taxing all active profits from investments of CFCs of U.S. multinational corporations as accrued at a 15 percent rate, while allowing companies an immediate deduction (expensing) for capital investments in foreign countries and eliminating taxation of repatriated dividends and associated foreign tax credits. Expensing would effectively eliminate the tax on normal returns on foreign investments. Eliminating the taxation of normal returns was intended to place U.S. multinationals on an equal footing with foreign firms making the same real investments, including local firms producing under licensing agreements with U.S.-resident multinationals. Taxing all remaining active foreign-source income at a 15 percent rate would reduce the benefit to multinationals from shifting profits to lower-tax jurisdictions. And royalty payments for foreign affiliates to the domestic parent would have been taxed as domestic-source income at a 30 percent rate.

Grubert and Altshuler claimed a number of advantages for the proposal. As with previous reforms Grubert (and Altshuler) advocated, it would have eliminated the lock-out effect that discouraged U.S. companies from repatriating profits from their foreign affiliates. It would have reduced the incentive for income shifting by increasing the marginal statutory tax rate on profits in low-tax foreign countries. It would have allowed U.S.-based multinationals to earn the same rate of return on routine investments in low-tax countries as foreign-based multinationals and eliminated any incentive to contract out production to or lease capital from locally owned firms.

The effects of the proposal on incentives of U.S. firms to expatriate, however, were ambiguous. The proposal would have reduced the incentive for U.S. firms to expatriate by making returns from routine investments by U.S. companies in low-tax countries

effectively tax exempt, but could have increased their incentive to expatriate by raising the tax rate that U.S. multinationals, but not foreign-resident multinationals, paid on intangible profits reported in low-tax jurisdictions.

The proposal would have reduced some, but not all, sources of complexity. It would have eliminated foreign tax credits for active income, although they have would been retained for passive income and for "intangible" profits on a much smaller pool of income. It would have eliminated the need for allocating expenses to foreign-source income, which was not required under the proposal. It would have allowed increasing the threshold for including foreign base company income in Subpart F because all foreign income would bear at least a 15 percent tax. It would, however, have required new rules for taxation of branch income.

Grubert and Altshuler considered variations of the proposal that do and do not allow foreign tax credits earned in one country to offset taxes paid in another country. While they found a per-country limitation superior and estimated that it would raise more revenue or allow a lower corporate tax rate than a proposal that allowed pooling of foreign tax credits from different countries, they also found that the outcome from an overall credit limitation would not be much worse than a per-country limitation and it would be much simpler.

Grubert and Altshuler concluded that combining a minimum tax with expensing of foreign investment was superior to other alternatives, including proposals for full worldwide taxation, dividend exemption, or formulary apportionment.

H. 2016: An Even Better Approach Would Be to Shift a Large Share of the Corporate Tax Base from the Corporate to the Individual Taxpayer Level

Were you tired of thinking about how to reconcile the conflicting criteria for minimizing the distortions from taxing the income of multinational corporations? Is it possible that at a 35 percent tax rate there was only so much that could be done to reduce incentives for income shifting and expatriation? Then, perhaps, you might have considered proposals to sharply lower the corporate tax rate and shift the liability for taxes on profits earned by multinational corporations to the individual shareholder level. After all, taxes on dividends and capital gains are already applied on a residence basis to worldwide income. And U.S. individual taxpayers have much higher costs from expatriating, which requires them to leave the United States and abandon the benefits of U.S. citizenship, than do U.S. corporations, which can change their tax residence without altering the location of their sales, employment, investments, or even their headquarters activities.

Although the 2013 recommendations by Grubert and Altshuler would have streamlined the international taxing system and arguably struck a better balance between worldwide and territorial taxation, it could still have placed U.S. multinationals with intangible assets at a competitive disadvantage compared with multinationals in countries with territorial systems and still encouraged U.S. multinational corporations to shift reported income to and invest in low-tax countries instead of the United States.

In their last co-authored paper, therefore, *Grubert and Altshuler (2016)* proposed shifting the burden of taxation from the corporate to the personal level. They would have reduced the U.S. corporate tax rate to 15 percent and recouped the lost revenue by raising personal tax rates on capital gains and dividends received by individuals. And, to prevent higher capital gains tax rates from causing shareholders to defer or avoid realizing capital gains, they would have imposed an interest charge on deferred realizations and taxed all unrealized gains at death.

Grubert and Altshuler wished to maintain some corporate income taxation to raise revenue from foreign and tax-exempt domestic shareholders. They argued further that at a 15 percent rate the incentives for income shifting and expatriation would be minimal.

There were two big issues in shifting taxation from the corporate to the individual taxpayer level. The first was how to recover the lost revenue. Recent research (Rosenthal and Austin, 2016) finds that only about 25 percent of equities issued by U.S. corporations are held by taxpaying U.S. residents. The remaining U.S. corporate shares are held by individuals investing through qualified retirement plans and by employer-sponsored defined benefit plans, non-profit organizations, and foreign investors. Although the tax shift proposal would have also taxed income U.S. investors received from shares in foreign-resident companies, this would still have left upwards of 65 percent of the corporate tax base exempt from the tax shift proposal.

The second issue was how to tax capital gains of U.S. shareholders. Simply raising the tax rate on realized capital gains would increase the lock-in distortion because taxes on gains are deferred until realization and exempt if transferred at death. And raising the rate would not raise that much revenue because realizations would decline.

Grubert and Altshuler had no proposal on how to recoup the revenue directly from lower corporate-level taxes on shares held through qualified retirement plans and by non-profits. On the capital gains issue, they proposed to reduce the lock-in distortion by applying an interest charge to deferred capital gains realizations, based roughly on Auerbach (1991) with some modifications. They also proposed to tax unrealized gains at death. This tax on deferred realizations raised some major design issues, such as what interest rate to apply, what assumptions to make about the pattern of growth of asset values, and how to tax large dividend payments or stock repurchases that might substitute for deferred realizations. Grubert and Altshuler discussed ways to address these issues. They rejected an alternative approach advanced by Toder and Viard (2016) to tax gains on publicly traded companies on a mark-to-market basis, because selective mark-to-market taxation would create a distortion between taxation of publicly traded and other firms and deter new firms from going public.

Grubert and Altshuler suggested other avenues through which their proposal could be revenue neutral. These included modest broadening of the corporate tax base, increased revenues from higher rates on dividends and capital gains, revenues from the taxation of realizations of death and the interest charge on deferred gains, revenues from reduced income shifting at a lower corporate rate, revenues from increased investment in the United States, and revenues from a proposed new minimum tax on foreign-source income.

III. INFLUENCE ON POLICY

Grubert's papers represent careful and well-reasoned arguments for reforms of international tax rules, backed by substantial empirical research. They have had a significant influence on policy formation. They contributed to the growing consensus in the United States to eliminate the tax on most foreign-source income, even when repatriated, and to substitute other measures to limit erosion of the U.S. corporate tax base through income shifting. And they exerted an important influence on the international provisions in the TCJA, although these provisions differ in important details from Grubert's proposals.

A. The Growing Consensus to Eliminate the Tax on Repatriated Dividends

Beginning with the President's Commission on Tax Reform in 2005, there have been numerous proposals in recent years to eliminate the taxation of repatriated dividends. This idea was finally enacted in the TCJA:

(1) The President's Advisory Panel on Federal Tax Reform (2005), on which Grubert's frequent co-author Rosanne Altshuler served as the senior economist, favored a territorial tax system as part of its Simplified Income Tax Plan. President Obama's Commission on Fiscal Reform (National Commission on Fiscal Responsibility and Reform, 2010) also endorsed territorial taxation.

(2) Representative Dave Camp's 2014 tax reform proposal, introduced in the House Ways and Means Committee, included a 95 percent deduction for dividends U.S. multinationals received from their foreign affiliates.

(3) Senators Charles Schumer and Rob Portman of the Senate Finance Committee developed a bi-partisan international tax reform plan that also would have, among other provisions, eliminated the taxation of repatriated dividends.

(4) President Obama's Budget for Fiscal Year 2016 included a proposal that would have ended the taxation of repatriations while imposing a substantial minimum tax on accrued foreign-source income of U.S. multinational corporations.

(5) Finally, the international reforms in the TCJA, enacted in December 2017, provided for a 100 percent deduction for dividends U.S. companies receive from their foreign subsidiaries.

Grubert's research no doubt contributed to the growing agreement to substitute other provisions to tax foreign-source income for the tax on repatriations.

B. New Tax on Accrued Intangible Income in the TCJA ("GILTI")

The new provisions for taxing foreign-source income in the TCJA incorporate the basic idea in the 2013 Grubert–Altshuler paper to distinguish between tax rules applied

to normal returns from physical assets and excess returns attributable to intangibles, with normal returns exempt and excess returns taxable at a reduced rate on an accrual basis. The TCJA reduces the corporate tax rate from 35 to 21 percent on domestic-source income and divides foreign-source income of U.S. multinationals into three categories: Subpart F income, exempt income, and global intangible low tax income (GILTI). Subpart F income continues to be defined as under pre-TCJA law, with minor modifications, and is taxable at the domestic rate of 21 percent, with a credit for 100 percent of foreign income taxes attributable to Subpart F income, up to the 21 percent rate. The first 10 percent of returns on the adjusted (for depreciation) basis of foreign capital assets are exempt from U.S. income tax, both when earned and when distributed to the U.S. parent, and foreign income taxes attributable to that income are not creditable.

The third and new category, GILTI income, is defined as income (other than Subpart F income) above a 10 percent return on the depreciated basis of foreign capital assets.[2] Taxpayers may deduct 50 percent of GILTI income, making the effective tax rate on that income equal to 10.5 percent, or half the domestic corporate rate. Taxpayers may claim credits for 80 percent of the taxes associated with GILTI income, which means that the tax on GILTI applies up to a foreign tax rate of 13.125 (10.5/0.8) percent. Foreign tax credits from one country can offset foreign tax credits earned in other countries, but foreign credits earned on one of the categories of income cannot offset taxes paid on any of the other categories. After 2025, the GILTI deduction declines to 37.5 percent, making the effective rate increase to 13.125 percent and the tax apply up to a foreign rate of 16.406 percent (13.125/0.8).

The GILTI proposal incorporates the main conceptual insight of the 2013 Grubert–Altshuler proposal by making a distinction between "normal returns" to foreign investment and excess profits, exempting the former from U.S. income tax while taxing the latter at a reduced rate. In enacting the TCJA, Congress viewed excess returns as a proxy for returns from unique intangible assets of multinational corporations. The economic rationale for the distinction between these two components of foreign-source income (normal returns to physical assets and super-normal returns or returns to intangibles) is that there is a high elasticity of substitution between the reporting of intangible profits in the United States and those in low-tax foreign countries, making a minimum tax on intangible income necessary to protect the domestic tax base. In contrast, there is a high substitutability between routine production carried out in U.S.-owned firms and that in foreign-owned firms, so that taxing U.S.-owned firms on their normal returns from production overseas at a higher rate than the rate on the same production by local firms will encourage U.S. multinationals to avoid the extra tax by contracting out routine production or by leasing capital assets from local firms (Grubert and Altshuler, 2013).

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[2] GILTI income is net of allocable interest expense.

There are, however, two major differences between the 2013 Grubert–Altshuler proposal and the new tax on GILTI in the TCJA:

(1) GILTI is computed by allowing a deduction of 10 percent of the depreciated basis of tangible assets. Grubert–Altshuler would allow expensing of intangible assets. At a 10 percent discount rate, the GILTI deduction is equivalent in present value to expensing for new investment,[3] but the timing of the deduction differs.[4]

(2) The TCJA allows corporations to claim tax credits for only 80 percent of taxes attributable to GILTI, while Grubert–Altshuler would retain a 100 percent credit. The reduced foreign tax credit in the TCJA partially offsets the benefit of the 50 percent deduction and provides some incentive for U.S. corporations to report profits in low-tax instead of higher-tax foreign countries.

Despite these differences, the GILTI tax clearly incorporates the basic idea of distinguishing between intangible profits that are more likely to benefit from artificial income shifting and tangible profits that more closely reflect the location of real investments. And the substitution of this form of minimum tax for the dividend repatriation tax clearly reflects the basic direction of Grubert's thinking on international tax reform, even if the details differ.

C. Reduced Corporate Tax Rate (TCJA)

The TCJA substantially reduced the corporate rate from 35 to 21 percent, going most of the way towards Grubert's proposal to reduce the rate to 15 percent. It did not, however, incorporate the other half of the 2016 Grubert–Altshuler proposal, leaving rates on capital gains and dividends unchanged and continuing to tax capital gains as realized with no deferral charge and continued step-up in basis at death. Nonetheless, the lower corporate rate substantially reduces many of the distortions Grubert's research highlighted.

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[3] Without transition relief, expensing would impose a lump sum tax on old capital, which would lose the benefit of future depreciation deductions, while the 10 percent allowance applies to both old and new capital in the TCJA. However, under prior law, old capital invested overseas was taxed only when repatriated, not as profits were accrued. The TCJA also imposed a lump tax on foreign assets held as of November 2017, equal to 15.5 of cash and cash-equivalent assets and 8 percent of all other assets.

[4] The GILTI approach to exempting the normal return to corporate income follows the approach of the Allowance for Corporate Equity (ACE) proposal of the Institute of Fiscal Studies (IFS, 1991; also, Auerbach, Devereux, and Simpson, 2010). Instead of allowing immediate expensing, the ACE would allow an annual deduction for the return to capital, or r. If r were equal to the firm's discount rate, the present value of equity allowances would be invariant to the depreciation schedule; an additional dollar of depreciation claimed would reduce the present value of future deductions by the same amount as the current year's additional deduction. Similarly, Kleinbard (2007) has proposed an annual cost of capital allowance for all companies, equal to the normal return to the capital, while eliminating interest deductions.

D. Other TCJA Provisions

Two other major new international provisions in the TCJA are the deduction for foreign-derived intangible income (FDII) and the base erosion alternative tax (BEAT). FDII is a subsidy for U.S. exports produced with intangible assets, while the BEAT is a minimum tax on a measure of domestic profits that denies deductions for certain purchases from foreign affiliates. Grubert and Altshuler (2013), in their latest paper on international reform options, do not include among the alternatives they consider subsidies for income from U.S.-owned intangibles or limits on payments to foreign affiliates.

FDII allows U.S.-resident multinational corporations to deduct 37.5 percent of their export income that is attributable to domestically held intangible assets, where income from intangible assets, as in GILTI, is defined as income above 10 percent of the depreciated basis of tangible assets. This deduction makes the effective rate on these profits equal to 13.125 percent. FDII is a version of "patent box" provisions in other countries that allow preferential rates for domestic profits their resident multinational corporations earn from intangible assets. From what I can recall from conversations with him, I believe Grubert was not enthusiastic about patent box proposals and believed that the research credit was a much more effective way to subsidize research by U.S. firms. And I doubt that Grubert would have wanted an incentive to be limited to export revenue, thereby effectively creating a new export subsidy.

The BEAT is an alternative minimum tax on a base that disallows certain deductible payments, such as interest, royalties, and certain service payments, by U.S. corporations to related foreign parties. The BEAT tax rate is 5 percent in 2018, 10 percent in 2019–2025, and 12.5 percent in 2026 and later. Although the BEAT applies to U.S. affiliates of both domestic and foreign-owned multinationals, its major goal is to limit the ability of foreign-based multinationals to strip profits from their U.S. affiliates.

Grubert's major policy proposals concerned the treatment of outbound investment. Much of his research not elsewhere cited in this review examined the effects of income-shifting techniques by U.S.-resident multinational companies to reduce reported profits in high-tax countries (Grubert and Mutti, 1991; Grubert, 2012). However, in their most recent paper advancing their proposed international reforms of outbound investment, Grubert and Altshuler (2013) also noted that U.S. companies may choose to expatriate because it facilitates using intercompany debt to strip profits from the United States and referred to the weakness of U.S. interest-stripping provisions in preventing this. It seems likely, therefore, that Grubert would have supported measures to reduce profit shifting by foreign multinational corporations from their U.S. affiliates, although not necessarily the details of the BEAT.

GILTI, FDII, and the BEAT are complex proposals with interactions among each other and effects that are not well understood by tax practitioners today and surely were not fully understood by the drafters of the TCJA. If Grubert had the opportunity, he surely could have suggested improvements in the design of these provisions.

E. Overall Assessment of Grubert and the TCJA

Grubert would no doubt not have been totally pleased with the TCJA. He would have preferred proposals that were revenue neutral and were better designed. But the legislation did incorporate many of his insights and was better than it would have been because of them.

F. Other Reforms

This discussion of Harry Grubert's influence on policy is necessarily incomplete, because I am not aware of all the ways his internal memos influenced the formation of policies. While I was at Treasury, he played a key role in finalizing rules for allocating research and experimentation expenses that had been in temporary status for many years. And, over the years, his ideas were incorporated in many budget proposals, for example, the Obama Administration proposals to impose a minimum tax on foreign-source income and tax capital gains transferred at death. Harry was a key advisor to many top Treasury officials over the years and no doubt had a hand in influencing many other legislative proposals and regulatory outcomes.

IV. CONCLUSIONS

Harry Grubert was a very creative thinker whose views on international tax policy evolved over time, as conditions changed. He was especially attentive to the details of how different policy choices influenced corporate decision-making along many margins. Applying these insights, he and his co-authors (principally, Rosanne Altshuler) developed policy options that addressed real trade-offs and sought to minimize the costs of distortions. He did not pretend that only some distortions mattered, but instead sought to reduce those that in his view imposed the largest economic costs.

Harry had an immense influence both on how we think about international tax rules and on the policy choices by numerous administrations and Congress. The designers of recent international tax reforms were clearly influenced by his research. We will miss him immensely. But he leaves behind a great legacy not only in the body of work he produced, but most importantly in the education of those still working on tax policy within and outside of the Treasury Department who benefited from his teaching.

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