

TOO CLEVER BY HALF: THE POLITICS AND OPTICS OF THE TWO-PART VAT

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Some tax reform proposals, including the Hall–Rabushka flat tax and the Bradford X tax, split a conventional VAT into a household wage tax and a business cash flow tax. Supporters of the two-part VAT seek to preserve most of the VAT’s economic advantages while avoiding its regressivity and its politically toxic label in the United States. However, recent experience, culminating in the 2016–2017 discussion of the House Republican blueprint, demonstrates that the two-part VAT has faced severe political challenges due to misperceptions of its rationale and economic effects.

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I. INTRODUCTION

The value added tax (VAT) is the world’s most widely used broad consumption tax, currently employed by more than 140 countries, including all Organisation for Economic Co-operation and Development (OECD) nations other than the United States (Congressional Budget Office, 2016, p. 204). Public understanding of the tax, its accounting treatment, and its status under international trade rules are consistent with its economic status as a consumption tax. The VAT has significant simplicity advantages because it does not require any household information. The VAT is efficiently collected through the credit-invoice method and is invariably border adjusted. Like other consumption taxes, the VAT avoids the complexity of income tax accounting, with no distinction between interest and principal or between gain and recovery of cost basis, no depreciation, amortization, or inventory accounting, and no realization principle.¹

¹ All references to VATs in this article are to consumption-type VATs in which firms obtain immediate tax relief for all purchases from other firms. Bradford (2000, pp. 95–97) discusses income-type VATs that provide tax relief for purchases of capital goods through depreciation or amortization and which are economically similar to flat-rate income taxes.

Nevertheless, the VAT has the drawback of being regressive. It is widely agreed that relying solely on the VAT for revenue would impose excessive burdens on households that are less well off. As discussed by the Congressional Budget Office (2016, pp. 204–206), many countries attempt to mitigate the VAT's regressivity through the complex and distortionary strategy of providing zero or preferential tax rates for items that are perceived to be necessities. The other major step that most countries have taken to counteract the VAT's regressivity is to maintain an income tax system alongside it.²

Nevertheless, one might view the combination of a VAT and an income tax as deficient on economic grounds. Suppose one believes that consumption taxation is superior to income taxation in terms of intertemporal efficiency, intratemporal efficiency, and simplicity. (Each of those premises has considerable plausibility, although each of them is contestable.³) Then, one might think that it would be preferable to adopt a tax system that included only consumption taxation, if sufficient progressivity could be maintained. In particular, that policy would fully remove the complexity of income tax accounting. Moreover, one might think that having one revenue source rather than two would result in a smaller government, which, to state another contestable premise, might be seen as preferable.

Some tax policy scholars have therefore sought a progressive consumption tax that could be used as a full replacement for the income tax system. One option, discussed further in Section VI, is a personal expenditure (or consumed income) tax. But a different approach, the focus of this article, attempts to make the VAT progressive while preserving most of its economic advantages by splitting it into two parts, a household wage tax and a business cash flow tax. As discussed later, two-part VATs include the Hall–Rabushka flat tax and the Bradford X tax.

The two-part VAT also appeared to offer political advantages for Republican policymakers seeking to move the federal tax system toward consumption taxation. The VAT label has been politically toxic in the United States, as evidenced by some VAT advocates' reluctance to label their proposals as VATs. Supporting the two-part VAT offered a way for policymakers to promote consumption taxation without explicitly embracing a VAT.

Although space limitations preclude a complete history of the two-part VAT, the article examines why the idea has failed to gain political traction. The problem has not been the discovery of a fatal substantive problem with the tax structure. Although the two-part VAT faces some substantive challenges (as does any tax structure), they have played little role in its failure to win support. Instead, the two-part VAT's biggest problems have been optical. The two-part VAT has not been properly understood by the public and policymakers, who have generally perceived it to be a modified income

² Of the 119 countries with VATs that are included in Ernst & Young Global (2017a), 111 are listed in Ernst & Young Global (2017b) as also having income taxes.

³ Auerbach (2008) and Bankman and Weisbach (2006) provide economic comparisons of consumption and income taxation.

tax rather than a modified VAT. Accounting rules and international trade rules also treat the two-part VAT as a modified income tax. Judged as an income tax, the two-part VAT appears to lack a coherent rationale and to be poorly designed.

If there was any chance to make a convincing case for the two-part VAT, it would have required policymakers to offer a forceful explanation of its kinship to a conventional VAT. Although economists supporting the two-part VAT have offered such explanations, policymakers either have not understood them or have been unwilling to forfeit the two-part VAT's perceived political advantage as a non-VAT.

In any event, it might not have been possible to overcome the misperception of the two-part VAT. Policymakers and the public might never have understood the relationship between a two-part VAT and a conventional VAT, as that relationship depends on economic equivalence relationships that are opaque to most non-economists. In particular, non-economists do not view the combination of a household wage tax and a business cash flow tax as equivalent to a value added tax, which they view as being paid by consumers at the cash register.

Despite the economic attractions of the two-part VAT, the future path of tax reform is more likely to involve a conventional VAT or other options that can be readily communicated to the public and policymakers.

II. THE TWO-PART VAT

A. History

The basic idea, apparently first suggested by Hall and Rabushka (1983), is simple. Because the value added by each firm is equal to its wage payments plus its business cash flow, the combination of a flat-rate employer payroll tax and a flat-rate business cash flow tax with the same tax rate is identical to a VAT with that tax rate. Moreover, a flat-rate employer payroll tax is economically equivalent to a flat-rate household wage tax if wages are perfectly flexible. Therefore, a VAT can be replicated by a flat-rate household wage tax and a flat-rate business cash flow tax.

The purpose of the split is not to replicate the VAT, however, but to improve it. Hall and Rabushka (1983) proposed that the household wage tax apply only to wages above a fixed exemption amount, thereby mitigating the VAT's regressivity. Bradford (1986, pp. 81–82) extended that idea to include a full set of progressive rates for the household wage tax, with the top bracket matching the flat tax rate imposed on business cash flow. Refundable tax credits can also be added. Bradford referred to this tax as the X tax.

The flat tax was considered by Congress during the second half of the 1990s, as recounted by LiPari (2002), but was not adopted. The President's Advisory Panel on Federal Tax Reform (2005) included an X tax in its Growth and Investment Tax plan, though the plan also retained a 15 percent flat-rate tax on capital income. As Shaviro (2018, p. 5, n. 33) observes, that proposal "was widely regarded as dead on arrival."

On January 13, 2016, Rep. Devin Nunes (R-California) introduced H.R. 4377, the proposed American Business Competitiveness Act, which would have adopted one part of the X tax, namely the business cash flow tax, alongside an individual income tax system that taxed capital income at lower rates than wages. The House Republican blueprint, House Republicans (2016), adopted an approach similar to the Nunes bill. As discussed in Sections IV and V, the House Republican blueprint encountered serious objections, many of them attributable to the widespread failure to understand that its proposed business cash flow tax was a VAT with a wage deduction. The Tax Cuts and Jobs Act adopted in December 2017 did not feature a business cash flow tax.⁴

There is no fundamental difference between adopting an X tax alongside an income tax, as in the 2005 President's Advisory Panel's plan, and adopting a business cash flow tax alongside an income tax, as in the Nunes bill and the House Republican blueprint. Both arrangements include a business cash flow tax, a household tax on wages, and a household tax on capital income. The first two taxes can be combined into an X tax or the last two taxes can be combined into an income tax.

B. Economic Advantages

The change in the rate structure that occurs when moving from a conventional VAT to a two-part VAT does not change its status as a consumption tax. Neither component of the two-part VAT imposes a net tax burden on marginal new investments; the household wage tax does not apply to capital income and the business cash flow tax allows new investments to be expensed.

The X tax's rate structure allows significant progressivity. A broad-based uniform-rate VAT applies a single flat tax rate to the entire consumption tax base, which consists of wages, above-normal returns, and initial capital. Under an X tax, different tax rates apply to different components of the tax base. The highest tax rate applies to above-normal returns and initial capital, which are taxed under the business cash flow tax, and to wages earned by high-wage households. Lower tax rates apply to wages earned by middle-wage households. Zero or negative tax rates apply to wages earned by low-wage households. With sufficient rate graduation, the X tax could completely replace the individual and corporate income tax system without a reduction in progressivity. In practice, however, as Shaviro (2018, p. 6) noted, the X tax might not match the income tax system's progressivity at the very top of the income distribution; the high statutory tax rates required to achieve that goal might not be politically feasible.

Part of the VAT's simplicity arises because it does not track consumption to households; unfortunately, that strategy compels the use of a single flat tax rate for all households, regardless of economic status. The X tax introduces significant progressivity by undertaking the relatively simple task of tracking *wages* to households while retaining much of the VAT's simplicity by refraining from tracking financial flows to households.

⁴ The Tax Cuts and Jobs Act took small steps toward cash flow taxation by limiting interest deductions and expanding expensing for equipment investment.

Of course, the X tax also retains the VAT's other major simplicity advantage because it does not use income tax accounting.

To be sure, the X tax's progressivity may be viewed as crude. For example, the X tax applies the top tax rate to all business cash flow reflecting the premise that affluent households receive most of the returns to initial capital and above-normal returns.⁵ Nevertheless, households that are less well-off may receive some of those returns and therefore face inappropriately heavy taxation. Also, the household tax's rate graduation is based on the level of each household's wages rather than a broader measure of the household's economic status.

In practice, a two-part VAT is likely to differ from a conventional VAT in ways other than the tax rate structure. As discussed by Viard (2017c), a two-part VAT may function better than a conventional VAT in some respects, but may function less well in other respects.⁶

Two-part-VAT proposals invariably and sensibly call for the household wage tax to apply to wages received by employees of governments and nonprofit institutions. Conventional VATs should also tax that component of value added by imposing an employer payroll tax on governments and nonprofit institutions, but many VAT proposals and most actual VATs do not include such payroll taxes (Carroll and Viard, 2012, pp. 171–172). Unlike proposed two-part VATs, most conventional VATs also exempt small businesses (Weisbach, 2017, p. 1563).

Base-narrowing pressures are also likely to differ across the two taxes, as discussed by Carroll and Viard (2012, p. 161). While conventional VATs often provide preferential rates for favored consumer purchases, as discussed earlier, a two-part VAT would be unlikely to feature lower tax rates for workers and firms producing such goods. On the other hand, a two-part VAT's business cash flow tax might feature lower tax rates for favored producers and its household wage tax might provide deductions and credits for favored consumer purchases. Transition relief also might take different forms under the two taxes. Unlike a conventional VAT, a two-part VAT must undertake the difficult task of distinguishing wages from business cash flow when owners work for firms.

Also, as explained in Section III, conventional VATs use the credit-invoice method while a two-part VAT would use the subtraction method. The two methods are equivalent if implemented perfectly, but the credit-invoice method offers potential enforcement advantages, as Weisbach (2017) emphasizes.

The two-part VAT and the conventional VAT both impose a tax wedge between the marginal product of labor and workers' after-tax wages, but the two-part VAT imposes that tax at the employee level while the conventional VAT imposes it at the employer level. Although the collection point would not matter in a textbook frictionless economy, it has important implications in the actual economy. As Carroll and Viard (2012, pp. 172–174) discuss, a two-part VAT and a conventional VAT have different implications

⁵ Toder, Nunns, and Rosenberg (2011, p. 26) conclude that above-normal returns are "much more concentrated at the very top of the income distribution than income from capital generally."

⁶ One non-substantive difference is that two-part VAT rates are usually quoted in tax-inclusive form while conventional VAT tax rates are usually quoted in (the higher) tax-exclusive form (Carroll and Viard, 2012, p. 24; Weisbach, 2017, p. 1561, n. 8).

for the Social Security system, which links payroll taxes and benefits to net-of-employer-tax-gross-of-employee-tax wages.

Moreover, net-of-employer-tax-gross-of-employee-tax wages appear to exhibit downward nominal rigidity, which is likely to induce different monetary policy responses to the two taxes, as discussed by Carroll and Viard (2012, pp. 166–169) and Weisbach (2017, pp. 1570–1571). To avoid the need to force down nominal wages, central banks are likely to accommodate an employer-level tax on labor, such as a conventional VAT, through an increase in the consumer price level. In contrast, central banks are unlikely to change the consumer price level in response to an employee-level tax on labor, such as a two-part VAT (or an individual income tax). Due to the difference in price levels, the tax burden on initial capital is distributed differently under a two-part VAT than under a conventional VAT.⁷

If the two-part VAT had been properly understood, the debate would have focused on these and other substantive differences between it and a conventional VAT, as well as the relative merits of consumption and income taxation. The debate has not taken that direction, however, because the two-part VAT's status as a consumption tax and its relationship to a conventional VAT have not been widely understood.

III. PROFOUND MISPERCEPTIONS

Splitting the VAT in two profoundly transforms the public perception of the tax, as can be seen in a simple example with two firms. Suppose that a manufacturing firm pays \$60 of wages to workers and sells \$70 of output to a retail firm. The retail firm pays \$20 of wages to workers and sells its output for \$100 to the two households.

Under a two-part VAT, the manufacturing firm remits tax on \$10 of business cash flow (\$70 sales minus \$60 wage payments) and its workers remit tax on \$60 of wages. The retail firm remits tax on \$10 of business cash flow (\$100 sales minus \$70 purchases minus \$20 wage payments) and its workers remit tax on \$20 of wages. The two-part VAT is administered using a subtraction method (similar to that used under a business income tax) in which firms deduct costs from receipts.

Remittances are different under a conventional VAT, which does not provide firms tax relief for their wage payments. The conventional VAT also uses the credit-invoice method, under which each firm remits tax on its sales, with credit for the tax (as shown on invoices) that was paid upstream on its purchases. The manufacturing firm remits tax on \$70. The retail firm remits tax on \$100 with a credit for the tax remitted by the manufacturing firm, with a net remittance equal to the tax on \$30. The tax on the \$100 is deemed to be collected by the retail firm from the consumers, who are deemed to actually pay the tax. The base on which each firm remits tax under the conventional

⁷ Under a two-part VAT, equity holders, who are firms' residual claimants, bear virtually all of the burden on initial capital because the real value of debt is largely unchanged. Under a conventional VAT, debt-holders share in the burden as the increase in the price level reduces the real value of (unindexed) debt. For further discussion, see Bradford (2000, pp. 100–101) and Carroll and Viard (2012, pp. 166–170).

VAT equals the sum of the bases on which it and its workers remit tax under the two-part VAT.

However, the difference in perceived tax payments is much greater than the difference in remittances. Although using the credit-invoice method rather than the subtraction method does not make an economic difference in this example, the change of methods dramatically alters perceptions of who pays the tax. Under the credit-invoice method, the tax is perceived as being paid by consumers at the cash register, with firms merely collecting and remitting the tax. In contrast, the subtraction-method two-part VAT is perceived as being paid by workers and firms rather than by consumers. The difference in perceptions is reinforced if the central bank raises the consumer price level under the conventional VAT (appearing to place the tax burden on consumers) and keeps it unchanged under the two-part VAT (appearing to place the tax burden on producers); as discussed in Section II.B, such a differential monetary policy response is likely.

Economic analyses of tax incidence have struggled with the question of whether to view the VAT as paid by consumers or to view it as paid by workers and recipients of returns on initial capital and above-normal returns. The former approach is called the “uses” method and the latter approach is called the “sources” method. In a simple model with no transfer payments and no other taxes, the two would yield the same result for a permanent VAT if properly applied on a lifetime basis, as the present discounted value of each household’s future consumption must equal the present discounted value of its future wages and above-normal returns plus the value of its initial wealth. The two methods typically yield different results, however, because households are classified by annual income and the burden is allocated based on annual wages and above-normal returns or based on annual consumption.

As economists have long recognized, the inherent limitations of annual analysis prevent either method from being completely correct. Whatever the methods’ relative merits, the conventional VAT and the two-part VAT should be evaluated using the same method to avoid reporting spurious distributional differences between them, as distinguished from the genuine distributional differences arising from the taxes’ rate structures.⁸ The sources method is employed for income taxes and is commonly employed for two-part VATs; Toder, Nunns, and Rosenberg (2011) argue that it should also be employed for conventional VATs to ensure consistency.

Ironically, if distributional analyses employed the uses method for the conventional VAT and the sources method for the two-part VAT, unwary readers of distributional analyses would have an exaggerated view of the two-part VAT’s distributional advantage. However, policymakers and the public have not been subject to that bias. Rather than exaggerating the two-part VAT’s relative progressivity, they have overlooked or denied its progressivity.

⁸ The choice between the sources and uses methods also should not depend on whether the central bank raises the consumer price level; the monetary policy response should not change the reported incidence, except for the differential impact on unindexed debt (*supra* note 7), unindexed transfer payments, and other fixed nominal amounts.

The household tax looks problematic from a distributional perspective because it taxes wages while exempting dividends, interest income, and capital gains. The current individual income tax applies a preferential 20 percent tax rate to qualified dividends and long-term capital gains, prompting complaints that investors such as Warren Buffett and Mitt Romney pay too little tax. The two-part VAT is even more vulnerable to such complaints because the preferential rate is lowered to zero and is extended to nonqualified dividends, short-term capital gains, and interest income.

Similar concerns may be expressed about the business cash flow tax. Although the burden of the tax actually falls on (the generally well off) households who receive returns on initial capital and above-normal returns, the burden is often viewed as falling on consumers in general, perhaps through an increase in the consumer price level. The two-part VAT therefore appears to combine a tax that applies solely to workers with a tax on consumers, suggesting that little of the burden falls on the affluent.

These perceptions would not necessarily cause the two-part VAT to be perceived as distributionally inferior to the conventional VAT. But they cause its distributional advantage, which is the primary economic reason for preferring a two-part VAT to a conventional VAT, to be overlooked.

The perception difficulties could have been combatted by describing the business cash flow tax as a VAT with a wage deduction. Economists who support the two-part VAT have generally explained its relationship to a conventional VAT; see, for example, Bradford (1986, pp. 76–78; 2000, pp. 67–68), Carroll and Viard (2012, pp. 27–29), and Auerbach (2017, pp. 410–411). Even so, a full explanation of why the two-part VAT is a consumption tax is not a simple task, as illustrated by Carroll and Viard’s lengthy and less than pellucid effort. Moreover, the relevant nomenclature does not explicate the relationship of the two-part VAT to a conventional VAT. Hall and Rabushka referred to their proposal as a “flat tax,” naming it after its rate structure rather than its base. (Even on those terms, the name was misdirected because the purpose of the tax was to be *less* flat than a conventional VAT, as Carroll and Viard (2012, p. 29) and Shaviro (2018, p. 2) noted.) Bradford’s X-tax name was even less informative.⁹

In any event, policymakers supporting the two-part VAT have downplayed or concealed its VAT connection,¹⁰ presumably to avoid the toxic VAT label. Unfortunately, supporters did not provide any alternative framework that would allow people to understand the tax. As Graetz (2008, p. 77) aptly commented, “To date, the looks and labels of both the flat tax and the [2005 panel’s proposed X tax] have deflected the public from learning that both these proposals are unusual and untested types of value

⁹ Bradford (2000, pp. x, 70) later stated that he chose that name for the tax because he was “attempting to duck the politically charged question of its identity as an income or consumption tax” and that he viewed the meaning of consumption and income as “necessarily a policy choice” about the distribution of the tax burden.

¹⁰ For example, House Republicans (2016, p. 15) boasted that “this blueprint does not contain a value added tax.”

added taxes.” Shaviro (2018, p. 7) refers to the House Republican blueprint’s business cash flow tax as “an optical device that might aid [enactment of a VAT] by reducing the visibility of a new tax instrument’s VAT character.”

I now examine the challenges that the two-part VAT has encountered, focusing on the 2016–2017 debate about the business cash flow tax. I begin with the domestic challenges that would apply even in a closed economy.

IV. DOMESTIC CHALLENGES

Although the business cash flow tax looks similar to a corporate income tax, there are three key differences. First, the business cash flow tax applies to non-corporate firms as well as corporations. Second, the business cash flow tax does not allow an interest deduction (and does not tax firms’ financial income). Third, all real investments, including structures, land, and inventories, are immediately expensed.

A. Lack of Interest Deduction

VATs around the world routinely deny interest deductions without arousing objection or comment. Although a business cash flow tax is a VAT with a wage deduction, its denial of an interest deduction is frequently criticized because the tax is perceived to be a business income tax. The lack of an interest deduction in the House Republican blueprint’s business cash flow tax drew objections throughout the 2016–2017 debate and supporters of the blueprint began to leave room open for an interest deduction, as detailed by Batchelder (2017, pp. 904 n. 3, 914).

B. Expensing

The built-in expensing of conventional VATs also does not arouse objection or comment. Because a VAT with a wage deduction is viewed through an income-tax lens, however, expensing is often seen as a subsidy rather than as an element of proper tax design. For example, the House Republican blueprint, without explanation, denied expensing for inventories. Yet, as detailed by Viard (2017b, pp. 256–258), many discussions of the blueprint, including some comments by advocates for inventory-intensive firms, viewed the blueprint’s maintenance of the last-in-first-out inventory accounting method as favorable treatment for inventories. The conventional VAT is more likely to result in uniform expensing.

Moreover, the expensing built into a conventional VAT is likely to be more effective than the expensing provided by a business cash flow tax (or by the ad hoc expensing provisions of the current income tax system), due to differences in accounting treatment. Economists typically dismiss accounting as having no real implications, although firms often state that they are concerned about after-tax income as measured under generally accepted accounting principles. The assumption that accounting has no real effect lacks a strong microeconomic foundation. Although accounting would have no real effect in

a world with costless information, no resources would be spent on accounting in such a world; if resources are spent on accounting, then accounting must have real effects.¹¹ Although it is not entirely clear why managers and investors do not “see through” some of the more transparent distortions of financial accounting, substantial evidence indicates that corporate managers emphasize accounting measures of their tax burdens, as discussed by Batchelder (2017, p. 905).

The relevance of accounting in this context is that generally accepted accounting principles ignore the time value of money, preventing the benefit of expensing from being recognized on financial statements. Although a new investment would face a zero effective marginal tax rate at the business level under a business cash flow tax (with no interest deduction), financial accounting would continue to show a positive effective tax rate. Batchelder (2017, pp. 904–909) surveys the evidence indicating that expensing is likely to provide a smaller boost to investment than standard economic models would suggest.

As Batchelder (2017, p. 908, n. 10) points out, however, the accounting treatment of expensing under a VAT is completely different. Generally accepted accounting principles treat a VAT as imposing no tax on investment, thereby recognizing its zero effective marginal tax rate on new investment. Under a VAT, there is no danger that accounting rules will deceive firms into thinking that the tax imposes a positive marginal burden on investment.

C. Negative Cash Flows

As documented in a microsimulation by Patel and McClelland (2017, p. 16), a non-border-adjusted business cash flow tax is likely to feature a significant number of firms with negative tax bases, as does the current income tax. (The implications of border adjustment are discussed in Section V.D). If a business cash flow tax does not provide refundability or its economic equivalent for negative tax bases, some firms will face positive effective tax rates on new investments. Yet, political resistance to “corporate welfare,” accompanied by concerns about spurious negative cash flows, is likely to preclude refundability.

Despite the economic importance of tax relief for negative cash flows, House Republicans (2016, p. 26) proposed to eliminate carrybacks and to allow carryforwards to offset only 90 percent of future cash flows. The plan attempted to offset those restrictions by crediting interest on carryforwards and having carryforwards never expire. As Batchelder (2017, p. 913) notes, however, interest credits are unhelpful if a firm goes out of business before being able to use its carryforwards. The political feasibility of crediting interest on carryforwards is also uncertain.¹²

¹¹ Similarly, Grossman and Stiglitz (1980) formally demonstrated that financial markets cannot attain perfect informational efficiency in the presence of information costs; if markets were perfectly efficient, nobody would have an incentive to gather the information required to achieve efficiency.

¹² It should be noted that the Tax Cuts and Jobs Act eliminated carrybacks and restricted carryforwards, but did not offer interest credits on carryforwards.

A conventional VAT faces much less of a challenge in this area. Because firms do not deduct wage payments under a conventional VAT, negative tax bases are uncommon (outside the export sector, which is discussed in Section V.D). Moreover, firms with negative value added are often granted refunds (Weisbach, 2017, p. 1566).¹³ Because the VAT is perceived as a tax paid by consumers, refunds to firms are viewed as a way to prevent overtaxation of consumers rather than as a form of corporate welfare.

V. BORDER-ADJUSTMENT DIFFICULTIES

The business cash flow tax encounters even greater difficulties in the international context. Most of the difficulties pertain to border adjustment. Every VAT in the world is border adjusted, meaning that the tax is imposed on imports and rebated on exports in order to make the tax destination-based.

A business cash flow tax can, but need not, be border adjusted. The President's Advisory Panel on Federal Tax Reform (2005) and House Republicans (2016, pp. 27–28) called for a border adjustment, an approach endorsed by Auerbach (2010). However, the Nunes bill did not include a border adjustment, Hall and Rabushka (1983) did not propose a border adjustment, Bradford (2004, pp. 45–46) suggested omitting a border adjustment, and Carroll and Viard (2012, p. 104) recommended against border adjustment.

A. Economics of Border Adjustment

During the 2016–2017 political debate about border adjustment, supporters and opponents frequently expressed views with little or no support from economic theory. House Republicans (2016, pp. 15, 27) implicitly embraced the common view that the border adjustment, by taxing imports and subsidizing exports, would permanently reduce imports and increase exports. Although any such permanent reduction in the trade deficit would actually lower domestic living standards by using domestic resources to produce more goods that would be enjoyed by foreigners, the House Republican blueprint appeared to embrace that mercantilist objective.

As discussed by numerous economists, including Bradford (1986, pp. 328–329), Carroll and Viard (2012, pp. 104–107), Viard (2017a), and Auerbach (2017, p. 425), economic theory predicts that such trade effects would not occur in equilibrium. In a simple model with no initial cross-border investments, above-normal returns, or income shifting, the tax treatment of imports and exports under an immediate permanent uniform border adjustment¹⁴ would be fully offset by an increase in the prices paid and received by domestic residents relative to the prices paid and received by foreigners (when expressed in any common currency). Depending on monetary policy responses,

¹³ Some countries delay or deny refunds, except on exports; Ernst & Young Global (2017a) includes descriptions of VAT refund rules in 119 countries.

¹⁴ As discussed by Viard (2017a), a border adjustment is uniform if all imports face the same tax rate, all exports receive the same subsidy rate, and the import tax rate is equal to the export subsidy rate (expressed as a fraction of border prices).

the relative price change caused by the border adjustment could occur in any of three ways or mixture thereof: domestic prices and nominal wages could rise, foreign prices and nominal wages could fall, or the domestic currency could strengthen against foreign currencies.

Auerbach (2010, 2017), Carroll and Viard (2012, pp. 102–114), and Viard (2017a) discuss the economic effects of border adjustment under more general assumptions. A border adjustment has the drawback, from a national-interest perspective, of transferring wealth to foreigners by granting them a subsidy on some of their initial claims against domestic residents. However, as Auerbach (2010) emphasizes, a border adjustment also has significant economic advantages. Because the locations of production and profits are irrelevant under a border-adjusted cash flow tax, there is no domestic tax incentive to book profits abroad by manipulating transfer prices on related-party transactions or to move above-normal-return investments abroad. Auerbach et al. (2017) discuss the limited scope for tax planning under a border-adjusted business cash flow.

B. Mechanics of Border Adjustment

A border adjustment is a natural feature of a credit-invoice VAT. The border adjustment is essentially automatic on the import side; a domestic firm that purchases an item from a foreign firm cannot claim credit for any upstream VAT payment because no domestic VAT was paid. On the export side, the principle that the final tax liability on an export should be zero implies that the exporting firm should be allowed to claim a refund of the cumulative VAT paid throughout the production chain. Although exporting firms may receive large persistent cash payments from the government, such payments arouse no objection because the firm's invoices indicate that it is merely recovering taxes that it paid as part of the cost of its purchases from upstream firms.

The implementation of a border adjustment takes a different form under a subtraction-method business cash flow tax. Firms are denied deductions for the costs of any imported inputs and are allowed to exclude gross receipts from export sales while still deducting the costs (other than imports) associated with those sales.

Throughout the 2016–2017 debate, misunderstandings about the nature of a business cash flow tax reinforced misunderstandings about the effects of border adjustment.

C. Perceived Burden on Importers and Consumers

As explained in Section II.B, central banks normally accommodate VATs by raising the tax-inclusive consumer price level, thereby avoiding the need to force down potentially rigid nominal wages. If an origin-based tax is replaced by a border-adjusted destination-based VAT, nominal exchange rates should remain roughly unchanged because the increase in the domestic price level supplies the equilibrium change in relative domestic and foreign prices. That prediction appears to command broad acceptance by policymakers.

As discussed in Section II.B, however, central banks have no labor-market reason to accommodate business cash flow taxes because they do not impose employer-level taxes on labor. If the domestic price level remains constant, the equilibrium change in relative domestic and foreign prices generally occurs through the domestic currency strengthening against foreign currencies.¹⁵ Despite the straightforward economics, a host of commentators asserted that exchange rates would not fully respond or would respond with a long lag, as Weisbach (2017, pp. 1571–1572) and Shaviro (2018, p. 3, n. 15) observed.

One might have imagined that the alleged lack of exchange-rate response would have provided political support for the border adjustment because it would have reinforced the House Republican blueprint's mercantilist arguments. Instead, importing firms vigorously resisted the border adjustment, pointing to the dramatic increase in their tax remittances. For example, a firm that paid \$50 of wages, purchased \$40 of imported inputs, and sold its output for \$100 would have had a tax base of \$50 although its value added was only \$10. At a 20 percent tax rate, its tax remittance would be 100 percent of its value added. The perceived increase in importing firms' tax burdens was widely seen as resulting in higher prices for consumers purchasing imported products.

Although the firms would have had even larger tax remittances under a conventional VAT (due to the absence of a wage deduction), it is unlikely that they would have raised similar objections. Under a conventional VAT, the firms would have understood that their higher tax remittances would be offset by increases in tax-inclusive prices along the production chain. Under the business cash flow tax, however, the importing firms failed to understand that their higher tax remittances would be offset by lower import costs due to the stronger domestic currency.

D. Exporter Refunds

Political problems also arose on the export side. Because a border adjustment exempts export gross receipts from tax while still allowing a deduction for the associated costs, it significantly increases the number of firms with negative tax bases, as confirmed by Patel and McClelland (2017, p. 16). As discussed by Viard (2017b, pp. 262–263) and Shaviro (2018, p. 9), the success of the border adjustment requires that exporters receive tax relief for their negative tax bases. Although refunds are routinely provided to exporters under VATs, the prospect of providing such refunds under the business cash flow tax did not receive serious consideration. Exporter refunds were viewed as corporate welfare, with concerns raised that Boeing would receive a check from the government

¹⁵ If a foreign country pegs its currency against the domestic currency and refuses to reset its peg, the equilibrium change in relative domestic and foreign prices occurs through a decline in foreign prices and nominal wages.

every year. The House Republican blueprint's provision for the treatment of negative tax bases, described in Section IV.C, did not include any accommodation for exporters.

Under a conventional VAT, firms selling in the domestic market would not have viewed the export subsidy as unfair because they would have understood that they, unlike exporters, could charge a higher tax-inclusive price. Under a business cash flow tax, in contrast, firms selling in the domestic market viewed the export subsidy as unfair because they did not understand that exporters suffered sale price reductions due to the stronger domestic currency.

At worst, the failure to provide full exporter refunds would have turned the border adjustment into a trade barrier by imposing an import tax that was not fully offset by a corresponding export subsidy. At best, it would have encouraged costly self-help measures in which exporters and importers merged or in which importers served as export brokers.

E. International Trade Rules

Although the World Trade Organization (WTO) rules expressly allow border adjustments for conventional VATs, those rules might have barred a border adjustment for a business cash flow tax, as noted by Shaviro (2018, p. 9) and Weisbach (2017, pp. 1572–1574). The perceived problems are that, in the presence of a wage deduction, applying a border adjustment based on the statutory tax rate would impose a tax on imports greater than the tax on similar domestic products and would provide a subsidy to exports greater than the cumulative taxes that were imposed on exported products along the production chain. These properties do not actually impair the trade neutrality of the border adjustment, which requires only that the export subsidy be equal to the import tax.

Graetz (2008, pp. 81–82) argued that border-adjusting a business cash flow tax would violate the General Agreement on Tariffs and Trade and all of the United States' bilateral tax treaties and argued that it was “essentially unrealistic” to adopt a proposal that would require the renegotiation of those agreements. Grinberg (2017) argued, however, that the border adjustment could be harmonized with the WTO rules by making several formalistic changes to the business cash flow tax.

There is no way to know what fate the border-adjusted business cash flow tax might have encountered at the WTO. In any event, a conventional VAT would face no similar uncertainty because the WTO rules expressly permit VAT border adjustments.

VI. POLICY IMPLICATIONS AND CONCLUSION

Like any proposed tax, the two-part VAT can be criticized on a variety of substantive grounds. Nevertheless, its political difficulties largely arise from widespread misperceptions about the tax. Because the two-part VAT relies on economic equivalences that are opaque to non-economists, it is unclear whether it could have been successfully explained to the public and policymakers. The unwillingness of some of its supporters to explain its relationship to a VAT reinforced that difficulty.

A federal tax proposal that cannot be properly understood is likely to face numerous challenges. The most obvious potential problem, which obviates any others, is that Congress will not properly consider the proposal and will therefore fail to adopt it. If that problem is avoided, however, more serious problems may arise, as misunderstandings about the proposal may cause it to be adopted in a flawed form or to fail to function properly.

As Shaviro (2018, p. 10) notes, such an outcome would have been likely if Congress had adopted a border-adjusted cash flow tax in 2017. Imagine a business cash flow tax that featured an interest deduction and denied expensing to inventories and that included a border adjustment under which exporters could not obtain refunds while some importers received relief for their perceived burdens. Further imagine that the WTO authorized other countries to impose retaliatory tariffs on U.S. exports. Finally, imagine that firms never fully responded to the incentives offered by expensing because of accounting rules.

The insuperable challenges confronting the two-part VAT suggest the need to find an alternative path. One option is to maintain an income tax system without a consumption tax. That approach may become unattractive, however, as revenue needs grow in upcoming decades.

Another option is to adopt a personal expenditure tax (sometimes called a “consumed income tax”) as a replacement of, or a supplement to, the income tax system. Households would be taxed at graduated rates on before-tax consumption spending, computed by subtracting saving from income and adding dissaving. Like an income tax, a personal expenditure tax must track financial flows (as well as wages) to households. A personal expenditure tax is easily understood to be a consumption tax, although there may be political resistance to the inclusion of borrowing proceeds in the tax base and the absence of a business tax. Viard (2017c) discusses the advantages and disadvantages of a personal expenditure tax, relative to a VAT and a two-part VAT.

The third option, the one most in line with international experience, is to adopt a conventional VAT alongside the income tax system and to adjust the other components of the tax-transfer system to maintain the desired level of progressivity. Graetz (2008, p. 82) comments, “It is puzzling that U.S. economists and policymakers have struggled to fashion novel consumption tax alternatives, like the flat tax or the [X tax], when there is a well-functioning consumption tax — the value added tax — being used throughout the OECD and in nearly 150 countries worldwide.” Weisbach (2017, p. 1575) concludes that the VAT is superior to the cash flow tax in “most places where they differ.” Shaviro (2018, pp. 7, 10) states that he would “personally favor VAT enactment in the United States” under the right conditions and urges a “return to discussing fundamentals such as overt VAT enactment.” This author has also come to view the VAT approach as the most promising.

The direction taken by recent proposals undermines the economic case for the two-part VAT. As discussed in Section I, the primary economic advantage of the two-part VAT is that using it to completely replace the income tax system may be a more economically efficient way to achieve progressivity than adopting a conventional VAT alongside

an income tax system. However, President's Advisory Panel on Federal Tax Reform (2005), the Nunes bill, and House Republicans (2016) all retained household capital income taxes alongside the two-part VAT. If income taxes are retained, it is not clear that a two-part VAT has any significant economic advantages over a two-part VAT.¹⁶ Moreover, although the adoption of a VAT would not be accompanied by the elimination of individual and corporate income taxes, it probably would be accompanied by reductions in those taxes. Saving and Viard (2015) note that most VAT proposals, including Graetz (2008), feature income tax reductions and argue that such reductions are consistent with optimizing behavior by policymakers.

The primary remaining argument for preferring the two-part VAT over the conventional VAT is the desire to avoid the latter's politically toxic label. However, it has become clear that misperceptions about the two-part VAT pose political obstacles at least as great as those posed by the hostility to a conventional VAT.

Although economists must continue to help policymakers understand subtle economic relationships, they need to recognize that proposals that rely too heavily on opaque economic equivalences are unlikely to be adopted in proper form or to function as intended if they are adopted. And, like everyone else, economists must beware the triumph of hope over experience.

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¹⁶ Those proposals eliminated the corporate income tax, but that might not be desirable. Shaviro (2018, pp. 9–10) observes that retention of a corporate income tax may serve the national interest by taxing rents foreigners earn on U.S. investments.

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