The Economic Effects Of Border Adjustments

by Alan D. Viard

Alan D. Viard is a resident scholar at the American Enterprise Institute. He thanks Alan J. Auerbach, Cody Kallen, Evan F. Koenig, Jason L. Saving, Michael R. Strain, and Stan Veuger for helpful comments. The views expressed in this article are those of the author and do not necessarily reflect the views of any other person or institution.

In this article, Viard discusses recent proposals for border-adjusted federal taxes, including the Brady-Ryan House Republican plan. He argues that a border adjustment would not permanently reduce the trade deficit because of an adjustment in relative prices facing Americans and foreigners. He identifies important effects of the border adjustment on the location of investments with above-normal returns and cross-border asset holdings and argues that evaluations of border adjustments should focus on those effects.

Copyright 2017 Alan D. Viard. All rights reserved.

In June 2016 House Republicans proposed a tax plan (the Brady-Ryan plan) featuring a border-adjusted business cash flow tax.1 The plan’s border adjustment would effectively impose a tax on imports and provide a subsidy to exports. As Congress prepares to consider tax reform in 2017, the Brady-Ryan plan, particularly its proposed border adjustment, is receiving considerable attention. Despite the extensive discussion, the economic effects of border adjustments continue to be widely misunderstood. In this article, I draw on my previous writings to examine the economic effects of border adjustment.2

Many supporters of a border adjustment claim that it would permanently boost exports and permanently reduce imports by making imports more expensive and exports more lucrative, an effect they apparently view as beneficial. The June 2016 blueprint presenting the plan asserted that the border adjustment “will end the self-imposed unilateral penalty for exports and subsidy for imports that are fundamental flaws in the current U.S. tax system” and “will allow the United States to compete on a level playing field.”3 In a December 2016 press release, House Ways and Means Committee Chair Kevin Brady, R-Texas, claimed that the border adjustment would “end the self-imposed ‘Made in America’ tax on U.S. exports — a backwards feature of our nation’s current tax code that gives foreign-made products an advantage over American-made goods.”4 Commentators supporting the Brady-Ryan plan have made similar claims,5 as have proponents of other border-adjustment plans.6 Some opponents of the plan’s border adjustment agree with supporters’ claims that the plan would make imports more expensive, and they have criticized it on that basis.7


6During the Republican presidential primary, Sen. Ted Cruz, R-Texas, claimed that the border adjustment of his proposed VAT would lead to the “trade deficit falling as the tax bias against American made goods is eliminated.” See Cruz, “The Simple Flat Tax Plan” (undated).

7In a December 13, 2016, letter to Brady and Ways and Means Committee ranking minority member Richard E. Neal, D-Mass., a coalition of business groups asserted that the border adjustment would cause an “increased cost of goods” for companies that rely on global supply chains. For media coverage of complaints about higher import costs, see Courtney Reagan, “How a Controversial GOP Plan Could Boost the Taxes on a Sweater From $1.75 to $17,” CNBC, Dec. 20, 2016; and Dylan (Footnote continued on next page.)
A long line of economists have pointed out that border adjustments would not have those trade effects. They have also observed that a permanent reduction in imports and a permanent increase in exports would lower Americans’ living standards, making it fortunate that border adjustments would not have those effects.

In the simple model presented below, an immediate permanent uniform border adjustment that taxed all imports and subsidized all exports at a single rate (a stylized representation of the Brady-Ryan border adjustment) would have no effect on real economic activity, including trade and investment flows. Instead, the border adjustment would raise prices paid and received by Americans relative to prices paid and received by foreigners when those prices are expressed in any common currency. Under plausible assumptions about monetary policy, most of that relative price change would occur through an appreciation of the dollar against foreign currencies.

In the simple model, the neutrality of an immediate permanent uniform border adjustment does not depend on the domestic tax system. Adding a uniform import tax and uniform export subsidy at the same rate to any tax system would leave trade unaffected, regardless of whether the import tax and export subsidy were larger or smaller than the taxes imposed on goods produced and consumed at home. The border adjustment would not add any trade distortions or remove any distortions created by the tax system or other features of the economy.

In more realistic models, border adjustments would have significant economic effects. Evaluation of border adjustments should be based on those effects, which are quite different from the illusory trade effects.

Attaching a border adjustment to a business cash flow tax would transform the cash flow tax from a tax on above-normal-returns investments made in the United States, whether by Americans or foreigners, into a tax on above-normal returns investments made by Americans, whether in the United States or abroad. The border adjustment would therefore attract investments with above-normal returns to the United States. Border-adjusting a cash flow tax would also remove the cash flow tax’s transfer pricing problems, eliminating any U.S. tax incentive to attribute above-normal returns to foreign investments.

Unfortunately, a border adjustment would also grant a large tax cut to foreigners holding U.S. assets when the border adjustment was introduced, giving them windfall gains at the expense of American taxpayers. That problem could be addressed to some extent through transition policy, particularly if the cash flow tax was relabeled as a VAT.

Any decision on whether and how to adopt a border adjustment must wrestle with the trade-off between its favorable effects on both above-normal-returns investments and transfer pricing and its unfavorable effects on initial wealth.

A. Simple Model

Consider an economy in which the following assumptions hold:

- no investments earn above-normal returns (returns greater than those available on marginal investments), and the tax system successfully applies arm’s-length pricing;
- no cross-border asset holdings are in place when the border adjustment is introduced;
- prices and wages adjust immediately to their market-clearing values; and
- the government buys and sells securities to offset changes in the timing of its revenue stream.

Businesses use capital and labor to produce capital and consumer goods. To make the discussion more concrete, I refer to capital as machines and


---

5 Lucky returns and risk premiums on risky investments are not above-normal returns if the same returns are available to investors on the margin. For example, suppose that safe investments have a marginal return of 3 percent and that a risky investment has a 50 percent chance of yielding a 2 percent marginal return and a 50 percent chance of yielding a 6 percent marginal return. The expected return on the risky investment is 4 percent, which is one percentage point higher than the 3 percent safe rate of return, and there is a 50 percent chance that the risky investment will yield a return that is 3 percentage points higher than the safe rate of return. Still, the risky investment has no above-normal returns because the same returns are available on marginal investments. As long as there are no above-normal returns, the analysis in the text is fully applicable to economies with risky investments.

For more Tax Notes content, please visit www.taxnotes.com.
consumer goods as apples. Businesses and individuals issue securities, including debt and equity, to each other.

A key property of the simple model is the trade balance condition. The present discounted value of total imports must equal the present discounted value of total exports.

The underlying logic of the trade balance condition arises from individuals’ budget constraints. No individual wants to buy less than she sells, and no individual is able to buy more than she sells, in present discounted value. Although an individual may not have balanced trade with each other individual (she may buy from some individuals while selling to others), her combined trade with all other individuals must be balanced.

Any pair of individuals must have balanced trade with the combination of all other individuals. Balanced trade continues to hold if a third individual is added to the group. If the world population is divided into any number of groups, each group will have balanced trade with the combination of all the other groups, although trade will generally not be balanced between any two groups.

Trade balance continues to hold if artificial entities, such as businesses, are assigned among the groups if arm’s-length pricing is used.

Because trade balance holds for any set of groups, it holds for the groups that we call countries. An individual American may export either more or less to foreigners than she imports from them, and an individual foreigner may export either more or less to Americans than she imports from them. But Americans’ aggregate exports to foreigners must match their aggregate imports from foreigners.

Trade balance holds in present discounted value, but not in each year. Just as each individual may buy more than she sells in some years and sell more than she buys in other years, Americans in the aggregate may buy more than they sell in some years and sell more than they buy in other years. The United States may therefore run trade deficits in some years and trade surpluses in other years. However, the annual trade deficits and annual trade surpluses offset each other in present discounted value over the country’s entire history.

Individuals and businesses borrow and lend by issuing debt and equity securities to each other. For each individual in each year, any excess of purchases over sales is financed by an inflow of funds, either borrowing (issuing securities) or the receipt of payoffs on outstanding assets (previously issued securities). For each individual in each year, any excess of sales over purchases results in an outflow of funds, either lending (purchasing securities) or making payoffs on outstanding debts (previously issued securities).

Trade and investment flows are similarly balanced for the country as a whole. When the United States runs a trade deficit, Americans receive a net inflow of investment funds from foreigners, consisting of borrowing from foreigners (buying foreign securities) or the receipt of payoffs from foreigners on U.S. securities. When the United States runs a trade surplus, Americans make a net outflow of investment funds to foreigners, consisting of lending to foreigners (issuing U.S. securities to them) or making payoffs to foreigners on foreign securities.

B. Uniform Border Adjustment

As shown below, an immediate permanent uniform border adjustment has no real economic effects in the simple model. Instead, the border adjustment raises the prices paid and received by Americans relative to the prices paid and received by foreigners.

A border adjustment is uniform if the tax applies at a single rate to all imports, the subsidy applies at a single rate to all exports, and the import tax rate equals the export subsidy rate when each is expressed as a share of border prices. Border prices are the net payments that cross international boundaries; an import’s border price is its before-tax price, and an export’s border price is its after-subsidy price.

Immediacy and permanence are the temporal dimensions of uniformity, guaranteeing that the border adjustment applies to the present and the entire future. The border adjustment’s failure to apply to the past is irrelevant under the simple model’s assumption that there are no cross-border asset holdings when the border adjustment is introduced. As discussed later in this report, the border adjustment has important effects under the more realistic assumption that those holdings exist.

The analysis considers the impact of introducing the import tax and the export subsidy while leaving the rest of the domestic tax system unchanged. In other words, the analysis considers the effect of the border adjustment in isolation. As shown below, that impact does not depend on what other taxes, if any, may be in place.

I consider a uniform border adjustment with import taxes and export subsidies equal to 25 percent of the border prices. (As discussed below, that is a stylized representation of the Brady-Ryan plan’s border adjustment.) An import with a before-tax price of $80 is subject to a $20 tax and has an after-tax price of $100. An export with an after-subsidy price of $80 receives a $20 subsidy and has a before-subsidy price of $100. With tax rates expressed in tax-inclusive terms (as fractions of the
after-tax or after-subsidy price), the border adjustment applies a 20 percent tax rate to imports and a negative 25 percent tax rate to exports. With tax rates expressed in tax-exclusive terms (as fractions of the before-tax or before-subsidy price), the border adjustment applies a 25 percent tax rate to imports and a negative 20 percent tax rate to exports.

C. Neutrality in Simple Model

It is usually difficult to find the new equilibrium after a tax policy change because it depends on numerous aspects of individuals’ preferences and production technologies. However, things are much simpler in the special case in which the tax policy change has no real effects and leaves everyone’s behavior unchanged. To check whether that is the case, one can simply find the relative prices that would lead everyone to choose the same behavior as they chose under the old tax policy. If those relative prices are consistent with the new tax policy and with the associated changes in government revenue, those relative prices represent the new equilibrium, and behavior is unchanged.

For the new relative prices to be consistent with the import tax, the prices that American buyers pay for imports must be 25 percent higher than the prices received by the foreign sellers. For the new relative prices to be consistent with the export subsidy, the prices that American sellers receive for exports must be 25 percent higher than the prices paid by the foreign buyers. The question at hand is whether relative prices with those properties are consistent with everyone’s behavior remaining unchanged.

The above discussion refers to relative rather than absolute prices because equilibrium depends only on relative prices in the simple model. Behavior would be unchanged if all prices (apple prices, machine prices, and wages) were 10 times higher or 10 times lower. We therefore need not specify absolute price levels, which would be determined by monetary policy, and we can measure all prices in a single currency without identifying the specific currency.

Suppose that foreign buyers pay the same prices as before for all their purchases, including purchases from Americans, and that foreign sellers receive the same prices as before for all their sales, including sales to Americans. Because foreigners have the same set of options as before, they choose the same behavior, including the same purchases from Americans and sales to Americans, as before.

If foreigners receive unchanged prices from their sales to Americans (U.S. exports), the prices received by the American sellers must rise by 25 percent as a result of the export subsidy. So Americans pay 25 percent more for purchases from foreigners and receive 25 percent more from sales to foreigners.

Now suppose that prices also rise 25 percent for transactions between Americans, with buyers paying 25 percent more and sellers receiving 25 percent more. Because the same price change applies to both buyers and sellers, it is consistent with the border adjustment, which applies no tax or subsidy to transactions between Americans. With that price change, Americans pay 25 percent more for all their purchases and receive 25 percent more from all their sales. Because Americans have the same set of options as before, they choose the same behavior as before, including the same purchases from foreigners and sales to foreigners. The equilibrium values of the relative prices have been identified.

The immediate permanent uniform border adjustment therefore causes the prices paid and received by Americans to rise 25 percent relative to the prices paid and received by foreigners when all prices are expressed in a common currency. Equivalently, it causes the prices paid and received by foreigners to fall 20 percent relative to the prices paid and received by Americans when all prices are expressed in a common currency. The changes apply to machine prices, apple prices, and wages.

The immediate permanent uniform border adjustment raises zero government revenue in present discounted value. Because exports and imports are equal in present discounted value, when evaluated at border prices, the revenue raised by a 25 percent import tax offsets the cost of paying a 25 percent export subsidy in present discounted value.

The border adjustment changes the timing of government revenue, raising revenue in years with trade deficits and losing revenue in years with trade surpluses. It can be shown that if the government engages in securities transactions so that it always holds U.S. securities equal to 25 percent of the U.S. securities held by foreigners and goes short in foreign securities equal to 20 percent of the foreign securities held by American individuals and businesses, the receipts and outlays from those transactions cancel the border adjustment’s revenue effects.

Because foreigners make the same purchases and sales at the same prices as before, they hold an unchanged amount of U.S. securities each year and issue an unchanged amount of foreign securities. Because American individuals and businesses make the same purchases and sales as before but at 25 percent higher prices, they hold 25 percent more foreign securities and issue 25 percent more U.S. securities. Total securities transactions, including
the government transactions described in the preceding paragraph, are unchanged.

In the simple model, the immediate uniform permanent border adjustment does not increase investment in the United States. It might seem that the border adjustment would give businesses selling to American consumers an incentive to invest and produce in the United States rather than abroad because domestic production would allow the import tax to be avoided. Similarly, it might seem that the border adjustment would give businesses selling to foreign consumers an incentive to invest and produce in the United States rather than abroad because domestic production would trigger the export subsidy. In equilibrium, however, the border adjustment creates no advantage for investment in the United States. Although machines held by American businesses have 25 percent higher payoffs, they also have 25 percent higher production costs, leaving the rate of return unchanged. As discussed below, however, different conclusions arise under the more realistic assumption that some investments have above-normal returns.

The analysis does not depend on different countries being involved. Suppose that a country with no outside trade imposed a uniform tax on sales by right-handers to left-handers and provided a uniform subsidy at the same rate to sales by left-handers to right-handers. That scheme would also raise the prices paid and received by left-handers relative to the prices paid and received by right-handers, without changing either group’s behavior.

D. Monetary Policy and Exchange Rates

The discussion so far has not mentioned exchange rates or monetary policy because the conclusions do not depend on which currencies are used or on absolute price levels. Still, it is convenient to consider the most likely monetary policy responses and their implications for absolute price levels and exchange rates.

The U.S. price level is likely to remain unchanged because the Federal Reserve would have no apparent reason to depart from its commitment to price stability. A similar conclusion holds for foreign countries that pursue monetary policies independent of U.S. monetary policy, which requires that they use their own currencies and allow them to float against the U.S. dollar. Those countries’ central banks would have no apparent reason to change their price levels as expressed in their currencies.

If each country’s price level remained unchanged in its own currency, the 25 percent increase in Americans’ relative prices would occur through exchange rate movements. The immediate permanent uniform border adjustment would cause the dollar to appreciate 25 percent against foreign currencies; equivalently, it would cause foreign currencies to fall 20 percent against the dollar. If the euro and the dollar would otherwise have a one-to-one exchange rate, the border adjustment would cause the dollar to rise to €1.25 and the euro to fall to 80 cents. With all prices expressed in euros, the prices paid and received by Americans would rise 25 percent, and the prices paid and received by foreigners would remain unchanged, which was the representation used in the above discussion. With all prices expressed in dollars, the prices paid and received by Americans would remain unchanged, and the prices paid and received by foreigners would fall 20 percent.

Some commentators argue that exchange rate movements would not offset a border adjustment because exchange rates depend on many other factors. That argument is invalid. Although exchange rates depend on numerous other factors, the border adjustment would not change those factors in the simple model. The exchange rate would continue to reflect the impact of those factors both before and after the border adjustment; the only change in the exchange rate in the simple model would be the response to the border adjustment described above.

E. Comparison to Tariffs

It may seem surprising that the immediate permanent uniform border adjustment would not affect trade. After all, it consists of an import tariff and an export subsidy, either of which would distort trade if adopted alone. Indeed, economists have long condemned import tariffs and export subsidies, particularly the former, as threats to economic efficiency. However, a uniform border

Northern Marianas, Puerto Rico, and the U.S. Virgin Islands) also use the U.S. dollar because they are part of the United States.


12For example, see Furchtgott-Roth, supra note 5, at 1738.

13Wei Cui, “Destination-Based Taxation in the House Republican Blueprint,” Tax Notes, Sept. 5, 2016, p. 1419, attributes to

(Footnote continued in next column.)
An import tariff unaccompanied by an export subsidy would change behavior and distort trade patterns. Although relative price changes that left everyone's behavior unchanged were consistent with the border adjustment, they are inconsistent with a stand-alone import tariff. For example, foreigners would choose the same behavior as before if the prices they receive on U.S. imports and the prices they paid for U.S. exports remained unchanged. However, the prices that American buyers pay for imports would then rise 25 percent as a result of the import tariff while the prices that American sellers receive for exports would remain unchanged because of the absence of an export subsidy. The change in the price of imports relative to exports would prompt Americans to change their behavior. Conversely, any price changes that left Americans' behavior unchanged would result in foreigners changing their behavior.

An export subsidy, unaccompanied by an import tariff, would also change behavior and distort trade patterns. Foreigners would choose the same behavior as before if the prices they receive on U.S. imports and the prices they paid for U.S. exports remained unchanged. However, the prices that American sellers receive for exports would then rise 25 percent as a result of the export subsidy while the prices that American buyers paid for imports would remain unchanged because of the absence of an import tariff. The change in the price of exports relative to imports would prompt Americans to change their behavior. Conversely, any price changes that left Americans' behavior unchanged would result in foreigners changing their behavior.

A stand-alone import tariff would reduce imports. Under the monetary policy assumptions described above, the dollar would strengthen because of the import reduction, which would depress exports and counteract the import reduction until imports and exports were again equal to each other in present discounted value. The import tariff would therefore increase the volume of trade while strengthening the dollar.

If both policies are adopted together at equal rates, however, the reduction in trade caused by the import tariff and the increase in trade caused by the export subsidy cancel each other out. The dollar strengthens in response to both the tax and the subsidy. A recent analysis by Alan J. Auerbach and Douglas Holtz-Eakin provides further discussion of the tax's and subsidy's offsetting effects.14

Ryan Lirette and I recently presented a simple formula that explains how import and export taxes interact to determine the trade effects of a tax system.15 With tax rates expressed in tax-inclusive form, a tax system is trade neutral (neither expanding nor contracting trade) if the tax rate on goods both produced and consumed at home equals the tax rate on imports plus the tax rate on exports minus the product of the two tax rates. With tax-inclusive rates of zero on goods both produced and consumed at home, 20 percent on imports, and negative 25 percent on exports, the border adjustment satisfies that condition: 0 = 0.2 + (-0.25) - [(0.2)*(-0.25)] = 0.2 + (-0.25) - (-0.05).16

A uniform border adjustment therefore would not create any trade distortions. Any trade distortions that might arise from the country's domestic tax system or other features of its economy would remain in place, with the border adjustment neither offsetting nor reinforcing them.

In contrast, nonuniform border adjustments would have real effects. A border adjustment that applied to a single product would reduce imports and increase exports of that product. As with a uniform border adjustment, the dollar would strengthen or relative prices would otherwise change. That would increase imports and reduce exports of other products, allowing overall trade to remain balanced in present discounted value.17
It is fortunate that border adjustments would not have the trade effects claimed by some supporters. Permanently increasing exports and reducing imports would lower, not raise, American living standards. Americans would forever produce more goods with their toil and their natural resources to send to other people for them to enjoy while forever receiving fewer goods from them in return. The imports that we produce but do not consume are the costs of trade; the imports that we consume without having to produce them are the gains from trade. Attempting to increase exports and reduce imports is a manifestation of the mercantilism that Adam Smith condemned two centuries ago.18

Like an individual, a country benefits from an increased demand for its products. But the benefit does not arise from the ability to sell more while buying less. Instead, the increased demand is beneficial because it enables the country to sell more products (and possibly to sell them on better terms), which then allows it to buy and consume more products.

F. Irrelevance of Other Taxes

The immediate permanent uniform border adjustment’s neutrality does not depend on its relationship to the rest of the tax system. Indeed, the neutrality result holds even if there are no other taxes and the export subsidy and import tax are adopted as free-standing measures. Because border adjustments are usually linked to components of domestic tax systems, however, it is useful to consider the implications of that linkage. For example, as explained below, the Brady-Ryan plan links its border adjustment to a business cash flow tax.

As long as the border adjustment is immediate, permanent, and uniform, linkage to a component of the domestic tax system does not change the neutrality result under the simple model’s assumptions. However, the linkage may cause the border adjustment to be nonuniform and to therefore have real effects, which may be either harmful or beneficial.

A common way to link a border adjustment to a component of the domestic tax system is to impose the same taxes on each import as the domestic tax component would impose on a similar product produced at home and to provide a subsidy to each export that offsets the taxes imposed on it by the domestic tax component. International trade rules allow border adjustments that are applied in that product-specific manner.19 If the domestic tax component is an immediate permanent uniform VAT, a border adjustment linked to it in that manner is immediate, permanent, and uniform. The above analysis then applies, and the border adjustment remains neutral under the simple model’s assumptions.

For any other type of domestic tax component, however, a border adjustment linked to it in that product-specific manner is nonuniform and therefore has real effects. For example, consider a border adjustment linked to a tobacco excise tax, which transforms it from an origin-based tax on domestic tobacco production into a destination-based tax on domestic tobacco consumption. Because Americans die from lung cancer caused by domestic tobacco consumption, not by domestic tobacco production, the border adjustment reorients the tax to protect Americans. (Other countries can similarly protect their residents by border-adjusting their tobacco taxes.) The border adjustment has real effects, reducing tobacco imports and increasing tobacco exports while increasing other imports and reducing other exports. The United States and other countries generally border-adjust tobacco taxes and other excise taxes, a practice permitted by international trade rules.

In the tobacco tax case and many other cases, the real effects of nonuniform border adjustments are beneficial if the border adjustment is linked to a domestic tax component in the manner described above. It is therefore not surprising that international trade rules encourage that linkage. However, an immediate permanent uniform border adjustment creates no trade distortions, regardless of what taxes are imposed within the country and regardless of whether the border adjustment is linked to a domestic tax component. There is therefore no reason for international trade rules to limit that adjustment.

For simplicity, I assume that the Brady-Ryan plan replaces business income taxes with a business cash flow tax imposed at a uniform tax-inclusive rate of 20 percent. Under a cash flow tax, purchases from other companies are deductible, with investments expensed rather than depreciated; wages are deductible; and businesses’ financial transactions are ignored. The tax base equals value added minus wages. A business cash flow tax is therefore equivalent to a VAT with a wage deduction; conversely, a VAT is equivalent to a business cash flow tax plus an employer payroll tax.


If the Brady-Ryan border adjustment was linked to the cash flow tax in the manner described above, it would be nonuniform and would have real effects. Consider a country that produces two types of products, each of which sells for $100. In the first industry, the combined wages paid by all the businesses along the production chain are $60 and the businesses’ combined cash flows are $40, so the combined cash flow taxes are $8. In the second industry, the combined wages are $80 and the combined cash flows are $20, so the combined cash flow taxes are $4. A border adjustment linked to the cash flow tax in the manner described above would impose an $8 tax on an import of the first product and an $8 subsidy to an export of it while imposing a $4 tax on an import of the second product and a $4 subsidy to an export of it.

If that type of border adjustment could be implemented, it would be nonuniform and would therefore have real trade effects. It would tend to increase exports and reduce imports of the second product while reducing exports and increasing imports of the first product.

The Brady-Ryan border adjustment does not feature that type of linkage, however. Instead, the border adjustment disallows deductions for imports and exempts export proceeds from tax while allowing exporters to deduct their costs, in line with a design proposed by Auerbach. The import disallowance effectively imposes a $20 tax on imports of both products, and the export exemption effectively provides a $20 subsidy to exports of both products.

The import tax then exceeds the tax on a comparable domestic product, and the export subsidy exceeds a full rebate of the taxes imposed on the export. Although the discrepancy between the Brady-Ryan border adjustment and the taxes on domestic products may cause the border adjustment to violate international trade rules, it does not cause any trade distortion. On the contrary, the border adjustment diverges from the nonuniform domestic tax system precisely because it is uniform, applying a tax equal to 25 percent of border prices to all imports and providing a subsidy equal to 25 percent of border prices to all exports.

Because of that uniformity, the border adjustment creates no trade distortions. The border-adjusted cash flow tax has the same trade effects as a non-border-adjusted cash flow tax. Because the border adjustment has no real effects, it neither offsets nor reinforces any trade distortions created by the cash flow tax, other taxes, regulations, monopolies, or other features of the U.S. economy.

There is a widespread misperception that the neutrality of a border adjustment depends on the import tax and the export subsidy offsetting domestic taxes. For example, one commentator states that a border adjustment that is not calibrated to domestic taxes “intuitively . . . seems unfair to U.S. trade partners as well as distortionary (welfare-impairing).” Another commentator says that “the reason that [border adjustments] do not harm trade like a conventional tariff is because the tax rate at each destination is the same for domestic and foreign goods.” In reality, however, the border adjustment’s neutrality depends on the import tax and the export subsidy offsetting each other.

G. Moving Beyond the Simple Model

In the simple model, immediate permanent uniform border adjustments have no real effects. Under that model’s assumptions, there would be no reason to adopt them, no reason not to adopt them, and no reason to prefer any potential tax and subsidy rate over any other tax and subsidy rate. However, border adjustments have significant economic effects under more realistic assumptions. The evaluation of border adjustments should be based on those effects rather than the illusory trade effects.

In my policy analysis, I focus on how border adjustments affect the well-being of the American people rather than the well-being of all the planet’s inhabitants. In accord with Michael J. Graetz, Daniel N. Shaviro, and real-world policymakers, I believe that U.S. tax policy should be set to promote American well-being, because the U.S. government exists primarily to serve the American people.

In the simple model, the immediate permanent uniform border adjustment had no real effects regardless of the domestic tax system. Under the

20That type of border adjustment would probably be impractical because it would be very difficult to track the cash flow taxes paid along the production chain.

more realistic assumptions considered below, the border adjustment has real effects, some of which depend on the border adjustment’s interaction with the rest of the tax system. It is therefore useful to make assumptions about the tax system. To make the analysis applicable to the Brady-Ryan plan, I assume that a 20 percent cash flow tax is in place.

The simple model’s assumptions about the government’s asset policies are unrealistic. The model assumes that the government uses the temporary revenue gains arising in trade deficit years to buy both U.S. and foreign securities and that it finances the temporary revenue losses in trade surplus years by selling both types of securities. If the government devoted the temporary revenue gains to deficit reduction and allowed the temporary revenue losses to increase the deficit, the assumption would be partly correct. Although there would presumably be no transactions in foreign securities, the temporary revenue gains would effectively be used to buy U.S. securities (through reduced issuance of Treasury debt), and the temporary revenue losses would be financed by selling U.S. securities. The assumption would be incorrect if the government kept its deficit unchanged and altered taxes and benefits in response to the revenue flows. The government might use the temporary revenue gains arising in trade deficit years to provide tax cuts and benefit payments, which might spur Americans to make additional purchases, thereby increasing the trade deficit. The government might finance the temporary revenue losses arising during trade surplus years by raising taxes and cutting benefits, which might spur Americans to make fewer purchases, thereby increasing the trade surplus. The border adjustment could therefore lead to greater volatility in trade deficits and surpluses.

The simple model’s assumption that prices adjust immediately to the new equilibrium has drawn considerable attention, probably much more than it warrants. If the U.S. price level or foreign price levels had to change, the adjustment could be quite slow. As explained above, however, the price level need not change in the United States or in foreign countries that pursue independent monetary policies. For those countries, the only change would be in their floating exchange rates, which should be capable of instantaneous adjustment.

It is not clear that things would be much different for countries that peg their currency against the dollar. To be sure, if those countries maintained unchanged pegs, their price levels would need to decline by 20 percent. That slow and disruptive arrangement could be avoided with the stroke of a pen, however, through a 20 percent devaluation, which would allow the country to keep its real economic policies unchanged. Even countries that are slow to change their pegs in response to real changes in trade and investment flows should immediately offset the mechanical change posed by a border adjustment. To invoke an analogy that Robert Carroll and I have used, traffic authorities should immediately reset posted speed limits to offset the mechanical change posed by a measurement change from miles to kilometers, even if they are slow to reset speed limits in response to changes in traffic patterns and other risk factors. Still, it is hard to be certain how foreign central banks might react. Although the adjustment would surely be slow for countries that use the U.S. dollar as their currency (because they cannot change their one-to-one exchange rate and would have to reduce their price levels), those jurisdictions are a tiny part of the world economy.

Markets might respond sluggishly because of confusion about the border adjustment’s effects. In general, economists are not good at predicting the pace of market movements. If the exchange rate adjustment was delayed, imports would fall and exports would rise as the adjustment took place. Those effects would be offset, in present discounted value, by a rise in imports and fall in exports in subsequent years. On the other hand, if the market anticipated the implementation of the border adjustment, an opposite set of effects would occur.

I focus my attention on the simple model’s most important assumptions: the absence of above-normal returns (and the associated use of arm’s-length transfer pricing) and the absence of cross-border asset holdings on the announcement date. As Auerbach has noted, the significance of a border adjustment arises from its treatment of above-normal returns and existing assets.

H. Above-Normal Returns

Above-normal returns are returns earned by private parties that are greater than the marginal returns available in the economy. There must be limitations on the volume in which the above-normal-return investments can be undertaken; otherwise, investors would expand those investments until they became the marginal investments in the economy. Those returns, which are often referred to as inframarginal returns, pure profits, or economic rents, generally arise from the exploitation of market power.

25Viard and Carroll, supra note 2, at 116-117. For a similar point, see Auerbach, supra note 17, at 19.
26Ecuador, El Salvador, and Panama had a combined GDP of $178 billion, or 0.24 percent of world GDP, in 2015. World Bank, “World Development Indicators” (2015). The GDP of the other dollarized jurisdictions was surely even smaller.
27Auerbach, supra note 17, at 17.
It is useful to consider the effects of a non-border-adjusted cash flow tax and then examine the changes caused by border adjusting it. Because of expensing, a cash flow tax imposes no net tax burden on a marginal new machine, assuming that the tax rate remains constant. Because the machine’s future payoffs are equal in present discounted value to its cost, the 20 percent tax imposed on the machine’s payoffs results in tax payments with a present discounted value equal to 20 percent of its cost, which is the tax saving from the expensing deduction. Expensing effectively removes the tax on an investment’s normal returns.

If the machine generates above-normal returns, however, the present discounted value of its future payoffs exceeds its cost. The cash flow tax then collects net revenue from the machine because the taxes on the payoffs have a higher present discounted value than the tax savings from the expensing deduction. Nevertheless, the tax still has no disincentive effects in a closed economy. Because the tax merely removes 20 percent of the surplus that the machine offers relative to the return available on a marginal investment, the investor retains 80 percent of the surplus. Because any surplus is sufficient to justify the investment, it would still take place. Indeed, even a 99 percent cash flow tax would not deter the investment, because the investor would retain 1 percent of the surplus.

In a closed economy, the cash flow tax appears quite attractive. It eliminates investment disincentives while continuing to collect tax revenue from investments with above-normal returns. The tax rate on above-normal returns could be set quite high without causing economic difficulties because investors would still have an incentive to earn those returns even if they were heavily taxed.

Things are different in an open economy. Because a non-border-adjusted U.S. cash flow tax would apply only to investments made in the United States, it could be avoided by making the investment abroad. Americans and foreigners would both pay U.S. tax on above-normal-return investments in the United States and would not pay U.S. tax on above-normal-return investments made abroad.

Replacing depreciation by expensing and switching from a business income tax to a non-border-adjusted business cash flow tax would remove tax disincentives for investments with normal returns. It would also remove tax disincentives for geographically fixed above-normal-return investments that can be made only in the United States. But there would still be a tax disincentive to make geographically mobile above-normal-return investments in the United States. Martin A. Sullivan has noted that the long-standing economic argument for applying high tax rates to above-normal returns is turned on its head if above-normal-return investments are highly mobile across international boundaries.

When above-normal-return cross-border investments are made between related parties, transfer pricing also becomes an issue. A non-border-adjusted cash flow tax creates a U.S. tax incentive to attribute above-normal returns to foreign capital rather than U.S. capital.

Although a non-border-adjusted business cash flow tax or income tax can address transfer pricing problems through tighter regulations applying the arm’s-length standard, that strategy faces severe challenges because there is no clear-cut way to determine the correct location of intangible assets. Moreover, regulations that prevented businesses from avoiding U.S. tax through transfer pricing manipulations would increase their incentives to avoid U.S. tax by making investments abroad.

A border adjustment offers a way to sidestep that trade-off by removing both the incentive to make above-normal-returns investments abroad and the incentive to manipulate transfer prices. The key is to apply the border adjustment at the same rate as the business cash flow tax rate. If the cash flow tax has a 20 percent tax-inclusive tax rate, which is a 25 percent tax-exclusive tax rate, the import tax and export subsidy should be 25 percent of the border prices. A simple way to implement the border adjustment is to exempt export sale proceeds from tax and to deny a deduction for the costs of imports, as in the Brady-Ryan and Auerbach plans.

Recall that the immediate permanent uniform border adjustment causes prices paid and received by Americans to rise by 25 percent relative to prices paid and received by foreigners. Consider a foreigner who makes an above-normal-return investment through an American business. The payoffs between foreigners could be made only in the United States. But there would still be a tax disincentive to make geographically mobile above-normal-return investments in the United States. Martin A. Sullivan has noted that the long-standing economic argument for applying high tax rates to above-normal returns is turned on its head if above-normal-return investments are highly mobile across international boundaries. (C) Tax Analysts 2017. All rights reserved. Tax Analysts does not claim copyright in any public domain or third-party content.

28More precisely, the non-border-adjusted cash flow tax would apply to investments by American businesses. The non-border-adjusted tax is assumed to be effectively territorial, with businesses operating in the United States classified as American.

30Indeed, the incentive to make above-normal-return investments abroad can be viewed as a transfer pricing issue, reflecting the failure to tax the American’s transfer of the idea to the foreign business as an export. See Auerbach and Michael P. Devereux, “Consumption and Cash-Flow Taxes in an International Setting,” National Bureau of Economic Research Working Paper 19579, at 4-5 (Oct. 2013); and Viard and Carroll, supra note 2, at 112-113.
from the investment are worth 25 percent more than if they were made through a foreign business because the apples sell for 25 percent more. Of course, the machine costs 25 percent more. As discussed above, those effects were offsetting for investments with normal returns, so the border adjustment provided no net incentive to invest in the United States. But they are not offsetting for the above-normal-return investment. Increasing both the cost and the payoff by 25 percent is a net gain to the foreign investor because the present discounted value of the payoffs exceeds the cost.

The cost of the subsidy is reflected in the government’s budget. The initial inflow of funds from the foreigner’s investment is accompanied by a trade deficit, which causes the border adjustment to raise revenue, and the subsequent outflow of funds from the payoff is accompanied by a trade surplus, which causes the border adjustment to lose revenue. Because the outflow exceeds the inflow in present discounted value, the revenue loss exceeds the revenue gain in present discounted value.

Now consider an American making an above-normal-return investment. If the investment is made through an American business, both the costs and the payoffs are 25 percent higher in dollar terms, but that is not a real change when all other dollar prices are 25 percent higher. If the investment is made through a foreign business, the real costs and payoff of the foreign investment are 20 percent lower in dollar terms. Because the payoffs have a present discounted value greater than the cost of the investment, reducing both the real cost and the real payoff by 20 percent is a net loss to the American investor.

The tax is reflected in the government’s budget. The initial outflow of funds from the American’s investment abroad is accompanied by a trade surplus, which causes the border adjustment to lose revenue, and the subsequent inflow of funds from the payoff is accompanied by a trade deficit, which causes the border adjustment to gain revenue. Because the inflow exceeds the outflow in present discounted value, the revenue gain exceeds the revenue loss in present discounted value.

The above table illustrates the interaction between the border adjustment and the cash flow tax. As shown in the first column, the non-border-adjusted cash flow tax imposes tax on above-normal-return investments made by Americans and foreigners in the United States, but does not impose tax on investments made abroad by either group. The second column shows that a border adjustment, in isolation, subsidizes above-normal-return investments by foreigners in the United States and taxes above-normal-return investments abroad by Americans.

The third column combines the effects of the two policies to obtain the effects of a border-adjusted cash flow tax. Tax is imposed on above-normal-return investments made by Americans either at home or abroad, but not on investments made by foreigners in either location. Therefore, neither group has a U.S. tax incentive to make investments abroad rather than in the United States.

Auerbach and Michael Devereux recently discussed some of the trade-off confronting policymakers in their choice between location-based taxes (such as non-border-adjusted business cash flow taxes) and destination-based taxes (such as border-adjusted business cash flow taxes). The source-based tax promotes national well-being by extracting revenue from foreigners who earn above-normal returns inside the country but impairs national well-being by driving investments with above-normal returns abroad. A low tax rate on foreigners’ above-normal returns is more likely to be beneficial if those investments are highly mobile across international boundaries and if businesses have latitude to manipulate transfer prices. Because many investments with above-normal returns are mobile, the border adjustment’s overall effects on those investments are likely to be beneficial.

The increase in above-normal-return investments made in the United States would lower the net present value of U.S. trade deficits. In that respect, it may be the closest that the border adjustment comes to fulfilling the promises made by many of its supporters. Note that the inflow of investment

---

31 Auerbach and Devereux, supra note 30, at 3-4, 28-38, and 44. See also Sullivan, “Border Adjustments Key to GOP Blueprint’s Cash Flow Tax,” Tax Notes, July 18, 2016, p. 303. The economic literature on optimal tariffs discusses a similar trade-off, in which tariffs on imports and exports extract revenue from the foreigners with which the country trades but also reduce the volume of mutually beneficial trade.
would initially increase the trade deficit but that the subsequent payoffs would reduce the trade deficit.

Because the border-adjusted cash flow tax would not tax investments based on their location, there would be no U.S. tax incentive to manipulate transfer prices. Attributing profits to an American business would yield no U.S. tax savings. That point is particularly easy to see when the border adjustment is implemented by exempting export proceeds and denying a deduction for imports. Because imports and exports are disregarded, no business could lower its tax liability by charging low prices on exports to, or paying high prices for imports from, its foreign affiliates. Auerbach and Holtz-Eakin elaborate on this point.\textsuperscript{32} As the Urban-Brookings Tax Policy Center noted, the Brady-Ryan plan’s border adjustment and the removal of the interest deduction would “eliminate U.S. corporations’ incentives to move their tax residences overseas (i.e., ‘corporate inversions’) and to recharacterize domestic corporate income as foreign-source income... because the amount of U.S. income tax a corporation paid would not depend on where it was incorporated, where its product or service was produced, or where its shareholders resided.” \textsuperscript{33}

Some critics incorrectly assert that businesses could still avoid U.S. tax through transfer pricing manipulation.\textsuperscript{34} The Brady-Ryan blueprint may have created some confusion by repeatedly describing the plan as “territorial.”\textsuperscript{35} The scope for transfer pricing manipulation can increase when a non-border-adjusted tax moves to territoriality. However, the term “territoriality” has no clear application to a border-adjusted tax because the tax base is sales to Americans. Auerbach notes that the tax is actually superterritorial because it ignores international trade flows as well as income flows, a combination that prevents transfer pricing manipulation.\textsuperscript{36}

Like other taxes, border-adjusted business cash flow taxes can be evaded by failing to report sales proceeds, reporting personal expenditures as business expenses, and deducting hobby losses. Also, the border adjustment raises some distinctive compliance issues. For example, sales made to Americans could be falsely labeled as sales to foreigners. To prevent tax avoidance, the border adjustment would need to be accompanied by a tax on imports directly purchased by American consumers.\textsuperscript{37} Of course, that tax might itself be evaded. Because VATs are invariably border-adjusted and because a cash flow tax is equivalent to a VAT with a wage deduction, a border-adjusted cash flow tax would generally face compliance challenges similar to those faced by VATs.

The other important effect of a border adjustment concerns its effects on the value of cross-border asset holdings in existence when it is introduced.

I. Windfall Tax Cuts for Foreigners

I consider the replacement of the corporate income tax by a non-border-adjusted cash flow tax to their replacement by a border-adjusted cash flow tax. The stylized discussion below describes the most important effects and provides a sense of the magnitudes involved.

I assume throughout that the Federal Reserve does not alter the U.S. price level in response to corporate tax repeal, the introduction of the cash flow tax, or the possible introduction of a border adjustment. The assumption is reasonable because both the corporate income tax and the business cash flow tax allow wage deductions and therefore do not impose employer-level taxes on labor.\textsuperscript{38} I similarly assume that foreign central banks do not change foreign price levels and that the nominal exchange rate adjusts. I also assume that American and foreign businesses each issue only two kinds of securities: debt denominated in the business’s home currency, and equity. I assume that the production cost of new capital is fixed.

Transitional effects of tax policy changes depend on their effects on capital levies and deferred tax liabilities.

1. Capital levies, deferred tax liabilities, and transitions. Some tax systems are back-loaded, imposing greater tax liabilities, as a share of net income, during the later years of a machine’s life than during the earlier years. Relative to a tax system
that imposed the same overall burden at a uniform rate over the machine’s life, the back-loaded tax system effectively provides a loan during the machine’s early years that must be repaid during its later years. Under the back-loaded tax system, machines that have already received their early tax savings carry deferred tax liabilities, reflecting the future repayments they must make.

Cash flow taxes are back-loaded because of expensing. Consider a 20 percent cash flow tax. Although the present discounted value of the taxes paid on a new $100 machine is zero, tax is not imposed at a zero uniform rate throughout the machine’s lifetime. Instead, tax liability is negative $20 on the investment date and is 20 percent of gross-depreciation cash flows throughout the rest of the machine’s lifetime. The machine effectively receives a $20 loan on the investment date, which is repaid in later years. At the moment after the investment date, the machine carries a $20 deferred tax liability. Throughout the machine’s lifetime, it carries a deferred tax liability equal to 20 percent of its market value. An existing machine that has already been expensed is therefore worth 20 percent less than an otherwise identical new machine that is about to be expensed. The existing machine faces higher future taxes than the new machine because it has already received the tax savings from expensing.

Deferred tax liabilities do not arise under concurrent tax systems, in which the tax payment is a constant fraction of net income throughout the asset’s lifetime. Under an income tax that uses depreciation allowances identical to true economic depreciation, with no up-front credits, there are no deferred tax liabilities, and existing machines have the same value as new machines.

Tax timing would not matter for an eternal tax system with no beginning or end. Investment incentives depend on the present discounted value of tax liabilities, not their time pattern. However, tax timing becomes important if the tax system is introduced or repealed midstream during machines’ lifetimes.

In the absence of transition relief, the introduction of a back-loaded tax system imposes a capital levy on assets then in existence. Those enactment-date assets incur deferred tax liabilities under the new system, which causes them to decline in value relative to otherwise identical new assets. In the absence of transition recapture, the repeal of a back-loaded tax system grants a capital subsidy to assets then in existence. Those repeal-date assets’ deferred tax liabilities are forgiven, which restores their value relative to otherwise identical new assets. In contrast, the introduction or repeal of a concurrent tax system does not change the value of existing assets relative to otherwise identical new assets.

I now consider the effects of replacing the corporate income tax with a business cash flow tax in the absence of transition arrangements. I first consider a non-border-adjusted cash flow tax and then consider the addition of a border adjustment.

2. Corporate income tax repeal. In the absence of transition recapture, the repeal of the corporate income tax would forgive any deferred tax liabilities borne by U.S. capital. If the corporate income tax was a concurrent income tax similar to the one described above, there would be no deferred tax liabilities to forgive. However, the corporate income tax offers accelerated depreciation for most types of capital, including bonus depreciation for equipment and software, and provides investment tax credits for a few types of capital. Those provisions reduce taxes early in capital goods’ lifetimes relative to later taxes, thereby creating deferred tax liabilities. Repealing the corporate income tax without transition recapture would forgive those liabilities.

I assume that deferred tax liabilities under the corporate income tax system are 13 percent of market value, so that an existing machine is worth 87 percent as much as a new machine. The forgiveness of the deferred tax liabilities raises the value of existing machines to 100 percent of the value of new machines.

With an unchanged price level, the tax switch does not alter the real value of businesses’ outstanding debt. As businesses’ residual claimants, equity holders then bear the full effects of the changes in business-level taxes. Suppose that before the cash flow tax was introduced, debt was equal to one-third the value of capital, and equity was equal to two-thirds the value of capital. Then, the rise in the value of existing capital from $87 to $100 increases the value of existing equity from $58 to $71 while leaving the value of existing debt unchanged at $29.

The increase in the value of U.S. equity would benefit both American and foreign shareholders of U.S. companies. At the end of 2015, foreigners held $11.2 trillion of U.S. equity.30 If the reform had been adopted then, foreigner shareholders would have gained $2.5 trillion.

30The asset holdings data are from Elena L. Nguyen, “The U.S. Net International Investment Position at the End of the First Quarter of 2016, Year 2015, and Annual Revisions,” Survey of Current Business (July 2016). The equity holdings are the sum of “direct investment of market value-equity” and “portfolio investment-equity and investment fund shares” listed in Table D.
3. Non-border-adjusted cash flow tax. Next, introduce a non-border-adjusted cash flow tax. That tax reduces the value of existing U.S. machines from 100 percent of the value of new machines to 80 percent of the value of new machines. With an unchanged real value of debt, equity holders bear the full burden of the value reduction. If this change was adopted in conjunction with the corporate tax repeal, the value of existing capital would fall from $100 to $80, the value of existing equity would fall from $71 to $51, and the value of existing debt would remain fixed at $29.

The stylized calculations suggest that foreign shareholders would suffer a net $1.4 trillion loss from the replacement of the corporate income tax by a 20 percent cash flow tax. Although the specific numbers are little more than guesswork, it seems clear that existing equity would be harmed by such a change, since the cash flow tax is much more heavily back-loaded than the corporate income tax. The burden on existing equity would be larger if the cash flow tax rate was higher.

Transition relief would likely offset part of the burden on existing equity. The capital levy imposed by the cash flow tax would surely not be fully eliminated, because doing so would require expensing the market value of existing capital when the tax was introduced. But the cost basis of existing capital would likely be depreciated in accordance with prior-law schedules, which would offset part of the net burden on equity holders. Foreign shareholders would therefore probably bear a modest burden from the replacement of the corporate income tax by a non-border-adjusted cash flow tax.

4. Border-adjusted cash flow tax. I now consider the addition of a border adjustment. The border adjustment’s effects on existing capital are similar to its effects on new investments yielding above-normal returns. For new investments with above-normal returns, payoffs exceed investment costs in present discounted value. For existing capital, payoffs exceed investment costs in present discounted value while the border adjustment is in effect because the costs were incurred before the border adjustment took effect.

As mentioned above, the border adjustment’s effects on investments with above-normal returns were desirable for mobile investments that could be drawn to the United States but were undesirable for immobile investments, for which they merely granted an unnecessary tax reduction to foreigners.

Because existing capital is completely immobile, the border adjustment results in an undesirable tax cut for foreigners.40

As previously discussed, the border adjustment raises foreigners’ real payoffs on U.S. machines by 25 percent. For new machines that yield only normal returns, the higher payoffs are fully offset by a 25 percent increase in the real cost of U.S. machines. For new machines that yield above-normal returns, the higher payoffs are partly offset by the cost increase. For existing machines, when the costs were incurred before the border adjustment took effect, there is no offset.

The border adjustment would therefore increase the real value of foreigners’ holdings of U.S. capital by 25 percent. The value changes would be spread equally across debt and equity.41 Foreigners held $30.6 trillion of U.S. capital at the end of 2015, including the $11.2 trillion of equity holdings mentioned above. However, those holdings would be worth only $29.2 trillion after the $1.4 trillion value decline caused by moving from the corporate income tax to the non-border-adjusted cash flow tax. If the border adjustment was adopted in conjunction with those other changes, it would increase the real value of those holdings by $7.3 trillion.42

Netting the $3.9 trillion loss from the introduction of a non-border-adjusted cash flow tax against the $7.3 trillion gain from the border adjustment reveals that the introduction of a border-adjusted cash flow tax would confer a $3.4 trillion net gain on foreigners. Adding in the $2.5 trillion gain from

40The transition effects would be altered if capital could move before the relevant price changes took place.

41As stated in the text, the analysis assumes that residents of each country issue debt in their home currencies. The outcome would be different under other assumptions. For example, foreigners with outstanding dollar-denominated debt would be harmed by the border adjustment. Currency denomination would not matter for transactions entered into after the border adjustment is in place because the transactions would be priced to reflect the effects of the border adjustment. However, transactions already in place cannot be re-priced to reflect the unexpected introduction of a border adjustment.

42The border adjustment would also reduce the real value of Americans’ holdings of foreign assets by 20 percent, which would be a $4.7 trillion reduction based on Americans’ $23.3 trillion of foreign asset holdings at the end of 2015. The border adjustment would therefore reduce the present discounted value of revenue by $2.6 trillion (the $7.3 trillion tax saving for foreigners minus the $4.7 trillion tax on Americans holding foreign assets). The cost of subsidizing exports will exceed the revenue from taxing imports over the long run because the present discounted value of future exports will exceed the present discounted value of future imports, reflecting the need to run future trade surpluses to service the net debts that Americans owe to foreigners. Ironically, the border adjustment will raise revenue in the next few decades as the United States runs trade deficits.
corporate income tax repeal suggests that foreigners would gain $5.9 trillion from the replacement of the corporate income tax with a border-adjusted cash flow tax.

5. Addressing the windfall tax cut. If care was not taken, transition policy could increase the windfall gains to foreign holders of existing U.S. assets. Suppose that transition relief was offered at the business level, perhaps by preserving depreciation allowances for existing capital, as discussed above. That relief would mistakenly seek to compensate foreign, as well as American, shareholders for the burden of moving from the corporate income tax to the cash flow tax, even though foreign shareholders would have already been more than compensated by the border adjustment.

A different transition policy would be preferable. Measures to recapture deferred tax liabilities could be imposed at the business level, negating part or all of the $2.5 trillion gain that foreigners would otherwise receive from corporate tax repeal. Transition relief for the new border-adjusted cash flow tax could then be offered at the household level to Americans. Limiting the relief to Americans would be appropriate because they would bear the burden of the new tax. Any transition relief should include Americans’ holdings of foreign assets because they would be subject to the new tax.

Even if foreigners’ gain from corporate income tax repeal was offset, however, they would still reap a $3.4 trillion gain from the introduction of the border-adjusted cash flow tax. Although it would be difficult to offset that gain within the context of a cash flow tax, it could be eliminated by relabeling the cash flow tax as a VAT.

Converting the 20 percent border-adjusted cash flow tax into a 20 percent border-adjusted VAT would be equivalent to adopting a 20 percent employer payroll tax. The resulting burden on workers could be offset by reducing tax rates on wages by 20 percentage points within the individual income tax system. The overall tax burden would then be unchanged, except for the changes associated with the monetary policy response discussed below.

A 20 percent border-adjusted VAT would reduce the real value of existing U.S. capital by 20 percent, just as the 20 percent border-adjusted cash flow tax did. However, the Federal Reserve would likely accommodate the VAT through an increase in the consumer price level, causing the real value of debt to fall 20 percent. The 20 percent decline in the real value of capital would then be spread equally across debt and equity. Under those conditions, foreigners would bear a 20 percent decline in the value of all their U.S. assets — equity, debt issued by U.S. businesses, and other U.S. debt (including treasury debt). The 25 percent value increase from the border adjustment would offset that value decline, leaving foreigners unaffected. Foreigners would reap no net gain, and bear no net burden, from the border-adjusted VAT.

In contrast, the above analysis showed that foreigners would gain from the imposition of a 20 percent cash flow tax because it would presumably not be accommodated by the Federal Reserve. As a result, the decline in the value of capital would be borne solely by equity, less of which is held by foreigners, and there would be no burden on foreigners holding non-business debt, including Treasury debt. In principle, of course, those results could be changed by arranging for the Federal Reserve to accommodate the cash flow tax.

Relabeling the business cash flow tax as a VAT would also have other implications. It would ensure that the border adjustment was consistent with international trade rules and would allow the tax to be administered on a credit-invoice basis, which might improve compliance and increase public understanding of the border adjustment. However, it might make it easier for the government to increase spending, particularly if the VAT was less visible than the individual income taxes on wages that would be reduced as part of the relabeling. Sullivan has discussed the implications of relabeling the plan’s cash flow tax as a VAT.44

J. Conclusion

Border adjustments do not have the trade effects that are commonly claimed for them. Nevertheless, the border adjustment offers real advantages in attracting mobile investments with above-normal returns to the United States and eliminating transfer pricing problems. Unfortunately, it also offers large windfall tax cuts to foreign holders of U.S. assets. The debate about border adjustments should focus on those effects, not the illusory trade effects. In a coming article, I will further address the issues posed by the Brady-Ryan plan, including its proposed border adjustment.

43As discussed in note 38, supra, the Federal Reserve would likely increase the price level in response to the adoption of a VAT because it imposes an employer-level tax on labor.