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Border-Adjusted Taxes: A Primer

The "Better Way" tax reform blueprint issued by House Speaker Paul Ryan on June 24, 2016, proposed replacing the current corporate and business income tax with a destination-basis cash-flow tax (with some minor modifications). A destination-basis tax is a border-adjustable tax that exempts exports from the tax and imposes the tax on imports. It taxes production consumed in the United States, whereas the current corporate tax is (largely) imposed on income produced in the United States.

The most broadly known destination-based consumption tax in the world is the value-added tax (VAT). A VAT that taxes imports and exempts exports is sometimes mistakenly viewed as permitting an export subsidy and an unfair advantage to countries that have them. These border adjustments are irrelevant to any real trade effects in the case of a uniform VAT, which imposes the same rates on all products—that is, it does not affect real imports, real exports, or the trade balance. (Taxes could have other effects unrelated to border adjustments, such as influencing savings or the composition of demand through distributional effects, but these would occur regardless of the border adjustment.) The imposition of a tariff or an export subsidy in isolation, however, does have real effects.

See CRS Report R40735, *International Competitiveness: An Economic Analysis of VAT Border Tax Adjustments*, by Donald J. Marples, for a more detailed discussion of the material presented below. See CRS Report R44342, *Consumption Taxes: An Overview*, by Jeffrey M. Stupak and Donald J. Marples, for a discussion of consumption taxes generally.

The Impact of Border Adjustments on Trade for a Uniform Tax

Border adjustments can best be explained with a simple equation for the balance of payments. Generally, the balance-of-payments framework holds that if a country maintains a trade deficit, the country must borrow foreign capital to finance the purchase of imports. The balance-of-payments relationship (which says that dollars sold equal dollars bought) is shown in equation (1):

$$(1)\ P \times X - e \times P_f \times M - P \times F = 0$$

where P is the U.S. price level, X is the quantity of exports, P_f is the foreign price level, e is the exchange rate relating dollars to foreign currency, M is the quantity of imports, and F is the quantity of net capital outflows and other financial flows for the United States. The value of e is the ratio of the dollar to foreign currency. For example, $1 for ¥115 (Japanese Yen) would be 1/115. Although there are many trading partners and currencies, and many products and thus multiple exports and imports, treating these as composites does not change the analysis.

This relation reflects the requirement that dollars bought must equal dollars sold. Foreign purchasers must buy dollars to buy exports from the United States. Analogously, U.S. purchasers must buy foreign currency (sell dollars) to buy imports or investments abroad. The demands for exports and imports are dependent on the relative prices of U.S. goods and domestic goods and on the exchange rate, $P/(eP_f)$. When the U.S. price rises, exports become more expensive in foreign markets and thus the quantity of X (exports) falls. If foreign prices rise, U.S. exports are more attractive. Imports become more attractive when the U.S. prices rise because imports become relatively cheaper than domestic goods. This relative price is the only price that matters, which can be seen by dividing each term in equation (1) by P to obtain equation (2); the relative price will appear inverted in the equation in the middle term.

$$(2)\ X - (e \times P_f/P) \times M - F = 0$$

The relative price appears in three locations: it determines the demand for exports, it determines the demand for imports, and it determines the price of imports (the inverted price relationship in the second term of equation (2)). The crucial point is that if the relative price $P/(eP_f)$ remains fixed, the balance of payments remains equal to zero with the same quantities and nothing changes.

Suppose the United States were to enact a VAT of x% on all goods consumed in the United States, including imports, such that the U.S. price, P, rose by x%. By rebating the tax on goods exported, the price, for the purpose of export demand, is its original pretax level. Thus, the relative price that drives export demand is unchanged. In the case of imports, the U.S. price rises by x%, but at the same time a tax is imposed on the foreign price also at x%, so the numerator of the relative price term rises but the denominator rises by the same percentage. These effects cancel out, leaving the same fixed relationship. The tax on imports has increased the foreign price, for purchasers, by the same percentage as the increase in the domestic price, and imports are no more or less attractive relative to home-produced goods.

Suppose the border adjustments were not made. Now the U.S. price level rises by x%, export demand falls, and import demand rises. But these price and demand effects create an imbalance in payments. In response, the exchange rate e will increase (the price of the dollar will fall). For example, if x is 10%, e will rise by 10% (this movement is referred to as dollar depreciation, because it now takes more dollars to purchase a given amount of foreign currency). All that is required to restore the original balance with unchanged quantities is a percentage change in the exchange rate of the same magnitude.

Or suppose the money supply did not accommodate the tax and was passed backward in lower nominal wages and asset values (a consumption tax is effectively a tax on wages and existing assets). This outcome would be expected for an alternative version of a VAT, the flat tax. A VAT is a sales tax imposed at each stage of production, and it consists of receipts minus costs of goods and investments. A flat tax splits the VAT into two parts: it imposes a cash-flow tax on business (receipts minus expenditures and wages) along with a wage tax on workers, which is the equivalent of a VAT. Not making a border adjustment would preserve all of the original nominal prices and lead to no effects. However, if a border adjustment is nevertheless made, so the price of exports falls, while the price of imports rises, the exchange rate will fall as a result (dollar appreciation), again leaving relative prices—and therefore quantities of imports and exports—unchanged in the long run.

This latter point is important because the cash-flow tax in the Better Way blueprint is the type of tax that would not require a price accommodation. Unlike a VAT, it would not collect a large tax from producers (because wages are not in the base) who would need to increase prices to pay the tax and maintain their profit margins. Making a border adjustment would, in the case of no domestic price increase, result in a currency adjustment.

Why Border Adjustments Are Important

Border adjustments are important because many VATs are not imposed at a uniform rate across goods. The United States itself has border-adjusted excise taxes on specific products, such as alcohol and tobacco. A border tax adjustment is appropriate when different tax rates are imposed on commodities to allow each country to choose its own consumption tax regime. Exchange-rate adjustments allow only for addressing the general price level.

Another reason that border adjustments matter is that the consumption base and the production base may differ. Because of financial flows, imports can be larger than exports or vice versa. In the United States, imports historically have been larger than exports, and that trend is expected to continue in the future. A consumption tax base that includes imports and excludes exports is larger than one that does not do so and therefore collects more revenue for a given tax rate.

Also, in the case of the Better Way tax, taxing domestic consumption eliminates the many complications of taxing income on a source basis. One of those complications is income-tax avoidance stemming from profit shifting.

Tariffs, Export Subsidies, and the WTO

The neutrality of border-tax adjustments does not apply with taxes and rebates that apply only on exports or only on imports. For example, imposing a tariff (imposing the tax only on imports and not rebating the tax on exports) will affect the quantities of imports and exports. The World Trade Organization (WTO) agreements are in conflict with practices such as allowing border adjustments for corporate income taxes. The United States was embroiled in a three-decade controversy involving a series of provisions of the income tax that other members of the WTO regarded as prohibited export subsidies. Ultimately, as a WTO panel found the third version of this provision to be in violation and members of the European Union prepared to impose retaliatory tariffs, the United States repealed that provision in 2004.

The Better Way border adjustments would affect both imports and exports and, from an economic view, are considered, in general, consistent with the WTO agreement. Nevertheless, since the cash-flow tax system in the Better Way tax plan has a number of features that differ from a VAT (such as the deduction of wages and no allowance for immediately refundable rebates on exports for firms without sufficient tax liability, as losses will instead be carried forward with interest), whether the border adjustments will be found to be WTO compliant is in question. (See CRS Report RS20088, *Dispute Settlement in the World Trade Organization (WTO): An Overview*, by Daniel T. Shedd, Brandon J. Murrill, and Jane M. Smith, for a discussion.) The border adjustments also may be incompatible with U.S. tax treaties.

Further Caveats

Although economic analysis indicates that exchange rates should adjust to keep imports and exports constant with a border-adjustment tax as outlined in the Better Way tax plan, the size of the adjustment is large. For the 20% tax rate in the Better Way, the exchange rate should fall by 20%. If that is expressed as dollar appreciation (the amount of currency a dollar can now purchase), it is t/(1-t) or 25%. (In the illustration of the exchange rate of $1 to ¥115, 80 cents now buys ¥115 and $1 buys ¥143.75, or 25% more). This effect is very large, and there may be some lag in the adjustment.

Some analysts point to the difficulty of predicting exchange-rate movements with macroeconomic models in the near term. This difficulty may be tied in part to the large speculative component of exchange-rate trading. Nevertheless, although the forces affecting the exchange-rate adjustments may be obscured, they should still be operating.

Another issue is that some countries manage their currency (by changing investments, the *F* in equation (1), which can affect the exchange rates). Presuming these countries' objective is competitiveness, however, they should recognize that the exchange-rate adjustment is needed to keep exports and imports at the same level (i.e., achieve their original export and import goals) and not intervene in this case.

Note that this discussion does not address exchange rate effects that might occur due to other aspects of the Better Way tax proposal, such as repatriation of foreign profits, exempting dividends from foreign subsidiaries of U.S. firms, or increasing investment incentives in the United States.

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