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## THE GAINS FROM TRADE How big and who gets them?

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**T**wo numbers have been bandied about (too much) recently in the never-ending trade debate: \$1 trillion and \$500 billion. The first is a purported measure of how much past trade agreements have added to the U.S. economy. Sometimes this \$1 trillion is divided by the number of American households to argue that trade has added \$9-10,000 to the typical household's income. The second number (\$500 billion) is a measure of how much *future* agreements will add to American incomes.

*"Today, U.S. annual incomes are \$1 trillion higher, or \$9,000 per household, due to increased trade liberalization since 1945." (Home page of the United States Trade Representative).*

*"...elimination of remaining global barriers [to trade flows] would add another \$500 billion to annual income or \$4,500 per U.S. household" (Testimony of the U.S. Trade Representative to the Senate Finance Committee, February 15, 2007)*

The office of the United States Trade Representative (USTR), the chief trade negotiating body for the United States, takes these numbers seriously. Should we? Not very, for a number of reasons.

Both numbers are derived from a 2004 study by Bradford, Grieco, and Hufbauer (BGH, henceforth), published by the Peterson Institute for International Economics. BGH undertake no original number-crunching in arriving at these numbers (this is no sin—review and interpretation definitively count as research); instead these numbers are derived from their review of a number of independent studies. In general, the problems with BGH studies can be summarized as follows:

- The underlying studies upon which the first (retrospective) number is based are of varying quality (from decent to excellent), but *not a single one* argues for benefits to the United States in anything close to the range expressed by BGH. Many of the studies are, in fact, not even attempting to measure the gains from trade liberalization. BGH give the impression that a large number of separate studies came to strikingly common conclusions, lending robustness

to the central finding. It is not so—BGH’s *reading* of these studies came to a strikingly similar conclusion. Their reading is consistently and extraordinarily generous to the case that trade liberalization significantly spurs large income gains.

- The second (prospective) number is based on a smaller range of studies. BGH again consistently take the maximal position in interpreting what these studies say about the gains from trade liberalization. Further, many of the underlying studies suffer from a major common problem: they assume benefits from removing barriers to trade *even when no existing barrier to trade can be identified*.

This working paper will lay out, in some detail, many reasons to be skeptical of the BGH claims of enormous gains from past and future trade agreements. It will review many of the studies cited by BGH as lending support to their claim and argue that the \$1 trillion and \$500 billion numbers are interpretations of these studies that are exceedingly generous to the cause of signing more trade agreements. Lastly, it will point out that the *costs* of expanded trade are radically understated by BGH.

## What does economics tell us in general about the gains from trade?

### ***Small net gains and large gross losses***

The two estimates referenced above are hugely provocative in their characterization of the economics of globalization and demand a skeptical response. First, they are well outside the bounds of what mainstream economics would argue are the straightforward benefits from trade liberalization. Given this, it is incumbent upon BGH to show why previous studies have been so wrong about the benefits of liberalization.

Second, they are based on an “everything and the kitchen sink” approach to thinking about the benefits of trade, larding up every possible channel through which trade liberalization could plausibly improve welfare and assuming that each channel is purely additive with respect to the others. For example, one study reviewed by BGH argues that existing price differences between similar goods (say, varieties of T-shirts) are evidence that

these goods are *non-competing* and hence provide benefits through increased variety. However, a separate study argues that existing price differences between similar goods (say, varieties of T-shirts) are evidence that future liberalization-induced competition can close these price differences and provide huge benefits. Both of these arguments cannot be true. Either the price differences themselves are evidence of benefits today, or closing them in the future will provide benefits tomorrow, but surely these are not additive.

Third, many of the benefits identified (and the lion’s share of *prospective* benefits) depend on the assumption that large policy barriers to trade flows exist *even when they cannot be identified*. Observed price difference between commodities or between countries are often chalked up to *de facto* barriers to trade even when the specific barrier cannot be identified. Many things besides trade policy can result in price differences, and putting concrete numbers on the benefits of removing trade barriers would seem to require *actually identifying the barriers*.

Perhaps more importantly for those who take trade theory seriously, the BGH characterization of that group losing from expanded trade (concentrated) and the scale of losses (small) is *literally the opposite* of what is implied by mainstream trade theory for an economy like the United States. This theory makes the case that trade (particularly trade between the rich U.S. economy and the poorer members of the global economy) is win-win *at the country level* but predicts quite plainly that such rich/poor trade is *not* win-win for productive factors (e.g., labor and capital) *within* countries.

Further, standard theory predicts that for the United States, the pattern of winnings and losses from rich/poor trade will result in a less equal distribution of income. Most relevantly, this theory predicts that *losers* outnumber *winner*s, even if *winnings* are greater than *losses*. Hence, for the United States it is a stylized fact that the *gains* from rich/poor trade are more concentrated than the losses.<sup>1</sup> For a demonstration of what globalization has meant to different grades of labor within the U.S. economy, see Bivens (2007).

There is one last and very important issue to note regarding the distributional consequences of trade. Mainstream trade theory predicts that the larger the net gains

from rich/poor trade, the larger the re-distribution of income and the larger the gross losses suffered by the (majority) losing group. Even worse, this theory predicts that more income will be re-distributed than created because of trade (one aspect of the so-called “magnification effect”). Given this, it is hugely inaccurate to refer to the losses spurred by trade as either small or concentrated.

## Economic theory and calculating gains from liberalization

The less relevant of the two numbers for today’s policy debates is the \$1 trillion that BGH claim past trade agreements have added to U.S. income. The true degree of its irrelevance can be found in the baseline against which they measure progress on liberalization: the Smoot-Hawley tariff. Nobody in today’s political debates is calling for a return to Smoot-Hawley. That said, even their characterization of the gains of moving from Smoot-Hawley levels of protection to today’s all-but-tariff-free U.S. economy is out of line with what standard trade theory would predict.

What follows is a quick calculation of the gains from trade using the staid old theory of (static) comparative advantage. It should be noted that, however staid, this is the theory that forms the intellectual foundation for economists’ case that trade liberalization is always win-win (again, at the country level).

BGH argue that between the passage of Smoot-Hawley and today the average tariff rate in the United States fell from roughly 40% to less than 2%.<sup>2</sup> We can use a 40% tariff cut to see what this implies for U.S. income growth, using a totally standard method for calculating the gains from trade.

A 40% tariff translates into a 28.5% increase in import prices (derived as  $t/(1+t)$ , where  $t$  is the tariff rate).

With a 28.5% tariff mark-up, some goods will be produced domestically even though they could have been produced for 28.5% less abroad. Some goods, however, will be produced domestically but would only be 1% cheaper from abroad. Taking the midpoint, assume a decline in the price of imports of 14.5% over the period in question.

Next, one needs to know the volume of imports that were displaced because of existing tariffs at each moment in time. To do this, one must choose a parameter for the

*elasticity of imports with respect to tariff cuts*—this is a measure of the responsiveness of import flows to tariff changes. A quite generous (for the BGH case) estimate for this parameter is three. A serious account would figure the degree of import displacement out year-by-year but, again, the generous treatment to the BGH case of using the average share of imports in U.S. GDP over the entire period will be used. This counts as generous treatment because the largest tariff reductions occurred when the import share was actually very low, and hence would provide small benefits.

Since 1970, the average tariff rate has fallen very slowly, while the import share in GDP has risen rapidly. The average import share over the 1947-2005 time-span was 8.3%.

This allows one to calculate the change in imports (measured as a share of GDP) following a tariff cut: multiply the share of imports in GDP (8.3%) by the tariff cut (28.5%) by the elasticity of import response to tariff cuts (3). This gives us a 7.1% increase in imports scaled as a share of GDP.

Multiplying this bloc of imports encouraged by liberalization with the average decline in import prices (14.5%) gives us the cost of this trade protection: 1% of GDP, or, well under a quarter of the BGH estimates. This, to be sure, is serious money, and, it is obviously a good thing that the US economy no longer has the Smoot-Hawley tariff in place. That said, it is nowhere near the BGH estimates.

If the above example does not convince, perhaps an appeal to authority will. Douglas Irwin, an economic historian who is an expert on American trade policy (and who has written a popular book that is an impassioned *advocacy* for trade liberalization) has examined U.S. trade barriers back to the Civil War. Irwin finds that the GDP costs of these barriers *peaked before 1900* at roughly 1% of GDP, when average tariffs were roughly twice as high as under Smoot-Hawley (the BGH baseline).

## Globalization or liberalization?

There is a very important thing to keep in mind here: BGH are not arguing about the benefits of expanded trade, or, globalization writ large. These benefits are surely quite large, larger than those just calculated or measured by Irwin (2007). Their costs are large, too, but leave that aside for a moment.

Instead, BGH are arguing about the benefits of trade liberalization, using the policy lever of reducing domestic barriers to foreign commerce. This is a much more restricted ground, especially going forward, as the United States has largely dismantled most serious barriers to foreign commerce. Could globalization writ large have added \$10,000 to each U.S. household in 2005? Maybe (it's a big claim). *Trade liberalization* absolutely has not.

## The Tooth Fairy

BGH invoke a number of non-traditional channels through which trade can raise incomes (for example, by assuming economies of scale), and this is how they argue the reasonableness of their estimates. As soon as one introduces things like scale economies, however, the unambiguously positive result that trade liberalization is always the optimal policy is lost. After all, scale economies could well argue that strategic trade policy that locks in a competitive edge vis-à-vis foreign competitors can be justified. Such considerations, derived from the New Trade Economics of the 1980s, spawned a whole debate on strategic trade policies in the not-so-distant past.

For example, scale economies dictate that the global economy will have very few producers of commercial aircraft. These scale economies, combined with history and contingency, gave the United States the dominant position in commercial aircraft production for much of the post-war period. There are reasons to think that the *de facto* national monopoly the United States enjoyed in commercial aircraft was a benefit to the U.S. economy—enough reasons, in fact, to spur European governments to create (and subsidize) a competitor (Airbus). The success of Airbus in terms of a cost/benefit analysis for Europe remains contested. What does not remain contested is that the creation of Airbus reduced the monopoly benefits accruing to the U.S. economy as the only producer of commercial aircraft.

In a (somewhat related) discussion about the benefits of liberalization of international financial (as opposed to goods) markets, economist Brad DeLong has referred to the willingness to bring in speculative hypotheses from outside the core of accepted economic theory as “invoking the Tooth Fairy.” This was not said pejoratively—sometimes the Tooth Fairy has valuable things to say, and all

branches of economics should strive to recognize good insights that are not currently enshrined in the textbook. That said, it is far from clear that in the trade debate the Tooth Fairy uniformly recommends liberalization; plenty of alternative theories would argue for greater *costs* (not benefits) stemming from liberalization than are currently recognized. BGH seem to characterize all possible channels through which trade could possibly impact an economy as necessarily positive for the case for liberalization. This just is not so.

## Notes on specific studies

This section has some detailed remarks on many of the studies surveyed in BGH. At this point, the authorial acronyms are going to fly fast and furious. This makes for some slow reading, to be sure, but it is necessary to dig into these studies in some depth. The large number of studies surveyed by BGH is implicitly invoked by them as arguing for a robustness check on their central findings. As we will see, these studies really do not converge on anything like an argument that past trade agreements have added \$1 trillion to the U.S. economy.

### OECD (2003)

The first study referenced by BGH is OECD (2003). It uses the trade share of overall GDP as an explanatory variable in a growth regression based on a panel of OECD countries. This is an inadequate and potentially misleading way to measure the impact of trade on growth, for a couple of reasons.<sup>3</sup> First, the causality is far from clear between trade and growth. Indeed, trade theory has much more to say definitively about the impact of growth on trade flows than the reverse.

Second, the trade share of GDP is an almost wholly uninformative measure of a nation's policy stance. The openness of Vietnam measured with this metric is 200% higher than that of the United States. Yet, nobody would seriously argue that Vietnam has a much more open economy in a policy relevant sense than the United States.<sup>4</sup> Third, while BGH cite Cline (1997) in arguing that half of the increase in trade over the relevant time-period is driven by falling trade costs, this includes costs that fall due to technology (transport costs) not just policy changes, which is what BGH explicitly claim they are focusing on.

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In short, the OECD (2003) study is almost a lesson in how not to disentangle the impacts of trade policy on growth. The authors of the study recognize this, writing:

*“The possible reverse causality problem in the relationship between trade and economic growth suggests some caution in interpreting empirical results. In particular, we treat the intensity of trade in the growth equation as an indicator of trade exposure—capturing features such as competitive pressures—rather than one with direct policy implications.”*

Given this and the misreading of the Cline (1997) findings on trade costs, it seems that BGH do not use the same caution as the authors of the OECD study in making policy pronouncements about the benefits of liberalization. This pattern continues throughout.

### **Bernard, Jensen, and Schott (BJS)**

A 2003 paper by Bernard, Jensen, and Schott (BJS1, henceforth) is cited by BGH to further justify their claim that trade added \$1 trillion in benefits to the U.S. economy. However, the results from BJS1 are from a simulation, not an estimation. The authors of the original study themselves say, *“Because our model is stylized, the particular numbers generated by these counterfactual simulations should be seen as suggestive more than definitive.”*

BGH cite a related paper (Bernard, Jensen, and Schott 2004) (BJS2) as empirical support for their reading of the BJS1 results. BJS2 estimate the effect of falling trade costs (either policy or technology-driven) on productivity growth in manufacturing firms. One regression specification from BJS2 finds a 1% fall in trade costs results in a 1% increase in productivity. The channel for this productivity improvement (this becomes important later) is the displacement of lower-productivity domestic firms by imports.

BGH essentially take the 40% tariff they posit as characterizing the 1947 U.S. economy and argue that manufacturing productivity is 40% higher today because of trade agreements signed in the past, which translates into roughly \$600 billion in trade benefits.

A careful reading of BJS2, however, argues that this is not a proper interpretation of their results. BJS2 do not

even find a statistically significant effect of falling trade costs on manufacturing productivity in the aggregate. Instead, they find this relationship in a sample restricted to trade with OECD countries within industries characterized by high levels of intra-industry trade—a sample that includes 65 out of a possible 450 industries.

In short, this sort of productivity-enhancing effects of falling trade barriers seems to characterize only trade with rich nations in industries with lots of intra-industry trade. This is an interesting and important finding, but it cannot be applied to the total manufacturing sector.

Lastly, it is worth noting that, since most of the heavy lifting in trade liberalization was done early on (since they are measuring from Smoot-Hawley peaks), BGH end up showing that the BJS channels suggest that trade liberalization has added all of \$9 (yes, nine) per U.S. household from 1982 to the present (see table 2.4 in BGH). Post-1982 is, remember, the era that saw the completion of the Uruguay Round of the General Agreement on Tariffs and Trade (GATT, which saw perhaps the most wide-ranging global commitment to liberalization of any of the GATT rounds), formation of the World Trade Organization (WTO, which replaced GATT), the passage of the North American Free Trade Agreement (NAFTA, along with many other bilateral agreements), the permanent normalization of trading relations with China, and China’s entry into the WTO. In short, when people today argue about globalization, they are arguing *essentially about the post-1982 period.*

### **Broda and Weinstein (2003)**

BGH next cite Broda and Weinstein (BW, henceforth), who argue that large benefits of trade liberalization come through product variety. BW cite continuing price differentials even within finely disaggregated industrial classifications (T-shirts, say) as evidence that these goods are actually non-competing and serve to boost welfare by providing greater choice to consumers.

The BW study is high-quality and quite convincing as to trade providing gains through variety. The problem with BGH’s treatment of its findings, however, is that they simply add the implied benefits from variety effects directly to other findings—including the BJS findings on competition-induced productivity effects.

This, of course, raises an important question of interpretation. BJS1 and BJS2 posit that increasing global competition causes less-productive domestic firms to wither and die while more-productive domestic firms scale up production. This reallocation effect boosts productivity.

However, if imports are largely adding to variety and often do not directly compete with domestically-produced output (a la BW), then one must ask why they are killing domestic plants and leading to productivity enhancement through the allocation effects identified by BJS. Simply adding these two benefits together seems odd.

### **Bradford and Lawrence (BL)**

This same issue of interpreting simulation results as empirical findings clouds the results from Bradford and Lawrence (2004b) (BL). BGH report results from this paper as supportive of their large number on the gains from trade. However, the BL (2004b) results stem from a simulation performed on a computable general equilibrium (CGE) model. CGE models are commonly used in trade policy, and the outcomes of each particular model hinge entirely on the assumptions underlying the structure of the model. For example, BL (2004b) assume in their model that there are economies of scale in production. This adds to the gains from trade, as globalization allows producers to spread large production runs over more consumers. However, it is far from clear that this is the proper assumption—many other CGE models assume constant (not increasing) returns to scale. Further, it is also far from clear that economies of scale always imply gains from trade liberalization, especially for a large country like the United States, where the domestic market (the world's largest) provides plenty of room for domestic industries to realize most conceivable benefits from scale. Lastly, gains from trade stemming from economies of scale necessarily come at the expense of gains from trade coming through variety.

Economies of scale allow firms to spread production runs over very large consumer markets, but utility gains from consuming a wide array of goods work directly against the use of scale. As Taylor and Ocampo (1997) have put it:

*“It makes little sense to introduce one more yuppie automobile marque if its intended consumers’*

*preferences for diversity are going to limit sales to an uneconomical 100,000 units per year.”*

Again, a judgment on which effect dominates or the degree to which there is tension among the different channels through which trade affects the domestic economy would have been useful. Instead, the gains are stacked on top of each other and the authors move on to another piece.

While the full set of BL (2004b) assumptions are not identified in BGH, it is worth noting at least an issue that seems to plague most CGE models of trade policy. Tariffs are a tax and, like all taxes, cause economic distortions that can reduce potential output. CGE models of trade policy calibrate what economic output would be in the absence of this tax. Since, however, governments in the real world would need to find a way to reclaim some of the revenue foregone by tariff cuts, the CGE models need to specify how non-tariff taxes are raised. Almost across the board, CGE models assume that “lump-sum taxes” replace the tariff. A lump sum tax is a tax of a fixed amount that has to be paid by everyone regardless of the level of his or her income. Lump sum taxes are considered more efficient than almost all other taxes because they do not influence a person's decision on how much to work. The problem, however, is that lump-sum taxes do not exist anywhere in the real world. In essence, some of the gains from trade embedded in trade policy CGE models rest in the fact that a real-world tax (tariffs) are assumed to be replaced by a theoretically optimal tax that doesn't actually exist anywhere in the real world (lump-sum taxes). This surely overstates the gains from trade.

### **Richardson (2004)**

In an appendix, BGH use work sourced to Richardson (2004, unpublished) to further bolster the \$1 trillion number. They undertake an *aggregate* growth accounting exercise that finds that a rising share of imported intermediate inputs per worker has led to a massive increase in aggregate productivity.

This cannot be true: aggregate growth accounting does not count the influence of inputs, imported or otherwise. Inputs are subtracted out of all output measures to yield value-added, the relevant metric here. This is a truly odd mistake to make.

At the industry level, input-deepening *can*, by itself, raise productivity. However, this deepening only results in higher *aggregate* productivity if the reallocation of inputs from one industry to another results in more efficient production. For example, if some activities are outsourced from one sector to another (say GM firing its own janitors and hiring a cleaning service from the business services sector), and if the new provider of inputs is more efficient (the cleaning service can raise cleaning productivity), then productivity gains will show up in the “reallocation effects” that are calculated. But simple input-deepening—using more inputs per unit of gross output—cannot raise aggregate productivity.

In short, this appendix is utterly silent on the issue of past gains from trade.

### ***\$500 billion in future benefits?***

Some more forward-looking advocates of signing more trade agreements have pointed to the prospective gains identified in BGH (2004).

These prospective gains have been criticized earlier in Bivens (2007), but, some of the those criticisms will be repeated here.

### ***Again, what does staid theory say?***

As before, we can quickly generate the estimate of what future liberalizations should add to U.S. incomes based on traditional (static) trade theory. It is here where the BGH estimates start to get hugely out of bounds with what other studies and economic theory would generally suggest about the benefits of liberalization.

The United States today has an average tariff rate of less than 2%. This low *average* rate may mask some higher peak tariffs on particular goods and non-tariff barriers that keep imports out of the country. Say (generously to the case for trade liberalization) that the *effective* tariff rate into the U.S. economy is five times as large as the simple average—the equivalent of a 10% tariff on all imports (most estimates of the *effective* rate of protection are actually only around twice as high as the *average* rate). One can then calculate what removing all of these trade barriers would imply for U.S. income.

With a 10% tariff, some goods are produced domestically even though they could be produced for

10% less abroad. Some goods, however, are produced domestically, but would only be 1% cheaper if purchased from abroad. Taking the midpoint, it can be assumed that removing a 10% tariff lowers the average price of imports by 5%.

Next, one estimates how much imports will increase following the tariff cut. The literature on this argues that three is a pretty generous estimate of the elasticity of imports with respect to tariff cuts (this is essentially a measure of how robustly imports respond to cuts in tariffs), so, imports will rise from the current 18% of GDP to 23.4%—that is, they rise by 30%, the product of the fall in import prices due to the tariff cut (10%) times the elasticity of import demand (three).

Now each parameter needed to calculate the gains from liberalization is in place. From here, just multiply the decrease in import prices by the increase in imports resulting from the tariff cut to yield the estimate of the gains from trade liberalization: 5.0% times 5.4% equals 0.26% of GDP, or roughly \$30 billion. This is the rough estimate that can be banked. The other \$470 billion-ish needs a lot of explaining.

It should also be noted that it is a little odd to claim \$1 trillion in benefits in going from Smoot-Hawley tariffs (40%) to less-than 2% tariffs, but then claim that going from 2% to zero will still add another \$500 billion in benefits. The marginal costs of each 1% in tariff levels are actually supposed to shrink, not increase, the closer they get to zero.

### ***Where does the \$500 billion number come from?***

BGH essentially invoke three studies to justify the \$500 billion estimate of prospective gains from liberalization. The first one was a 2001 study by Brown, Deardorff, and Stern (BDS, henceforth) using the Michigan Model of World Production and Trade. The second is a 2004 study by Bradford and Lawrence (BL, henceforth). Results from both studies regarding the gains from trade can be described (uncharitably, perhaps, but largely accurately) as premised overwhelmingly on the assumption that barriers to trade exist *even when no explicit price or quantity restrictions on imports or foreign investment can be identified*.

The third study uses a finding by Rose (2003) in a paper generally unrelated to the issue of gains from trade and applies its findings to coefficients derived from the OECD (2003) study referenced above.

### **Brown, Deardorff, and Stern (BDS)**

For example, BDS estimate that about 85% of projected U.S. gains from future trade liberalizations will come from liberalization of the service sector. This will surprise many, since it is not common to think of the U.S. service sector as benefiting greatly from trade protection. However, BDS use a very expansive definition of protection to get their results.

Essentially, they look at *gross operating* margins across industries and countries. As a baseline, they take the lowest gross operating margin that exists in any country for each particular industry, and from there they assume that the difference between this and operating margins in the same industry located in other countries is *solely the result of a policy barrier to trade that can be removed*.

This method yields the hard-to-believe result that the service sector in the United States is notably inefficient and protected relative to the rest of the world, as gross operating margins are higher in three of four categories in the United States relative to the rest of the world. (See **Table 1**, reproduced from BDS as derived by from Hoekman (2000). Note that higher gross operating margins implies a more protected and less efficient sector).

Dornan (2001) notes that BDS cite Hoekman (2000) as the source for this methodological approach. However, Hoekman (2000) actually cites this approach as just one of many. Another method used by Hoekman (2000) is to identify actual trade barriers and weight them according to interviews with selected businesses who work in the protected areas.

Using this approach, the United States is far and away the least protected service market identified, not more restrictive than the average, which the BDS results suggest (unlike the gross margin numbers, in the qualitative ranking, a lower number implies greater openness and less protection). This second approach implies very little gain to the United States from further liberalizing its service sector, as access to it is already as free as the global economy allows anywhere.

**TABLE 1**

### **Ranking of service-sector openness, two methods**

	<b>Gross operating margin</b>	<b>Qualitative</b>
<i>United States</i>	9	1
<i>Hong Kong</i>	3	2
<i>New Zealand</i>	4	3
<i>Japan</i>	8	4
<i>Australia</i>	1	5
<i>Canada</i>	6	6
<i>Singapore</i>	2	7
<i>Malaysia</i>	5	8
<i>Mexico</i>	10	9
<i>China</i>	14	10
<i>Indonesia</i>	11	11
<i>Philippines</i>	13	12
<i>Korea</i>	7	13
<i>Thailand</i>	12	14

SOURCE: Table derived from Hoekman (2000).

Further, as noted in this context by Baker and Weisbrot (2002), it is a general fact that even different firms within the same industry in a given country often have very different gross operating margins—Safeway’s margin (29%) is over 50% higher than its industry average (18%). Target’s margin is 50% greater than Wal-Mart’s, yet very few people think there are explicit policy barriers to Target competing with Wal-Mart within the United States.

BDS acknowledge that their method does not provide an airtight estimate of the trade barriers faced by service-sector firms, allowing that “these estimates of services barriers are intended to be indirect approximations of what the actual barriers may in fact be” (BDS 2001, 18).

When the World Bank adopted a similar approach to forecasting gains from service trade, it noted “the quantification of services sectors’ trade barriers and other forms of protection is still more art than science” (World Bank 2002, 170).

Art has its place. But, it is not in ginning up huge numbers to throw around in policy debates that should be largely based in numbers that we know about, not what those that we imagine we see in the gaps.

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## **Bradford and Lawrence (BL)**

The BL study takes price differences between commodities classified similarly (t-shirts, say) as evidence of barriers to trade that should erode these differences, again, without actually pointing to identifiable trade barriers.

Further, while the BL study does not examine the service sector, BGH “scale up” the BL results on merchandise trade by looking at the ratio of service sector to merchandise liberalization benefits identified by BDS. What looks to be a robust result (two studies converging on a common number for what future trade agreements can bring the U.S. economy) hinges largely on how convincing only one of the studies is.

## **Rose (2003)**

Lastly, BGH point to a study by Andrew Rose (2003) on the effect of signing trade agreements on the volume of trade conducted in a nation. Rose, it should be noted, finds very little impact of multilateral trade agreements (joining the World Trade Organization, for example) on the volume of trade. He does, however, find that signing regional trade agreements (RTAs, an example being the North American Free Trade Agreement (NAFTA)) increases the volume of bilateral trade between nations.

BGH take a finding from Rose that signing an RTA increases bilateral trade by 118% between nations and apply it to an assumption of what would happen if “FTAs were concluded with all [U.S.] trading partners.” They make an adjustment (knocking off 25% of the coefficient) to reflect that some of the increase in trade that occurs with the signing of RTAs reflects trade diversion, not a net increase in trade.

This leaves, however, the strange result that somehow one form of liberalization (FTAs) leads to trading increases, yet another form of liberalization (arguably more comprehensive and ambitious multilateral agreements like the WTO) does not.

This is a genuine puzzle, and it seems odd to argue that one finding can be applied to a hypothetical world of comprehensive liberalization while the other can be thrown in the waste-bin. This seems especially inappropriate given that there is a well-known concern about interpreting simple correlations between existing FTAs and high volumes of bilateral trade: often countries that al-

ready conduct lots of bilateral trade are more likely to sign FTAs (this is called the “natural trading partner” effect). In short, the judgment that a weight of 100% should be given to Rose’s FTA coefficient and 0% to his findings on multilateral trade institutions seems too generous to the argument that liberalization increases trade flows.

Thinking for a second what this argues, BGH seem to imply that the United States should not be working for multi-lateral global liberalization through the WTO but, rather, should try to encourage each country in the world to sign bilateral FTAs with each other. This is not fleshed out in their study.

Setting this aside for a moment, BGH apply the Rose finding and argue that a series of thousands of global bilateral FTAs would increase trade between the United States and all its trading partners by 60%. They then apply the coefficient from the OECD (2003) study referenced earlier and argue that this necessarily implies a \$1.3 trillion increase in GDP for the United States.

Again, however, what looks to be a robustness check of several different studies converging on relatively common outcomes turns out to depend crucially on how reliable one finds a much smaller number of underlying studies: if one does not find the OECD (2003) finding convincing, then the BGH reading of Rose will be similarly unconvincing.

## **Conclusion**

Flatly said, past trade liberalization has not added \$10,000 per U.S. household, and future liberalization will not add \$5,000. These numbers come from a consistently too-generous reading of a small sub-sample of the literature on the gains from trade liberalization and from imagined trade barriers that have not been proved to actually exist.

Generally in trade debates it can be safely stipulated (even by those concerned about the impact of globalization on working Americans) that economic theory predicts that removal of trade barriers leads to higher national incomes. This can be stipulated because it is true, because the optimal progressive response to the long-run problems posed by globalization to American workers does not include trade protection, and because it helps move the debate along to more contested areas (who gets the net benefits generated by liberalization).

However, these numbers are clearly meant to intimidate those who express any concern about the impacts of globalization on American workers. There is an honest and rigorous case to be made about why the United States should keep barriers to foreign commerce open. There is an honest and rigorous case to be made why such policies demand some recompense for those who are harmed by them. BGH's numbers do not fit in this debate and should be retired from public discussion.

## Endnotes

1. As evidence, the single most used proxy for factor groupings examined in the trade and wages literature is production vs. non-production labor, with the former assumed to be hurt by trade and the latter helped. Production labor is about 80% of the workforce.
2. This is not quite right. It is true that the average tariff imposed by Smoot-Hawley (SH) was 40%, but many imports were not affected by SH. The average tariff rate relative to the total value of U.S. imports was roughly 20%. Lerdaу (1957) constructed an annual "effective weighted tariff rate" to get a better gauge of commercial policy restrictiveness, and he finds that SH peaks were just a shade over 30%. For this paper, the high-end 40% estimate will be used.
3. For exhaustive reasons why, see Rodriguez and Rodrik (2001) and Frankel and Romer (1999).
4. While the OECD study tries to control for one aspect of this difference (country-size), there are many other reasons (geography, in particular) as to why one country might see larger trade volumes than another even given the same trade policy regime.

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