

## Dubious assumptions of the theory of comparative advantage<sup>1</sup>

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The theory of comparative advantage is the core of the case for free trade. However, contrary to orthodox myth, this theory is crippled by the dubious assumptions upon which it depends.

### Review of the theory

To understand comparative advantage, it is best to start with its simpler cousin absolute advantage. The concept of absolute advantage simply says that if some foreign nation is a more efficient producer of some product than we are, then free trade will cause us to import that product from them, and that this is good for both nations. It is good for us because we get the product for less money than it would have cost us to make it ourselves. It is good for the foreign nation because it gets a market for its goods. And it is good for the world economy as a whole because it causes production to come from the most efficient producer, maximizing world output.

Absolute advantage is thus a set of fairly obvious ideas. It is, unfortunately, also false. Under free trade, nations observably imports products of which *they* are the most efficient producer—which makes absolutely no sense by the standard of absolute advantage. This is why one must analyze trade in terms of not absolute but *comparative* advantage. Boiled down to its essence, the often-misunderstood theory simply says this:

*Nations trade for the same reasons people do.*

And the whole theory can be cracked open with one simple question:

*Why don't pro football players mow their own lawns?*

Why should this even be a question? Because the average footballer can al-most certainly mow his lawn more efficiently than the average professional lawn mower. The average footballer is, after all, presumably stronger and more agile than the mediocre workforce attracted to a badly paid job like mowing lawns. Yet nobody finds it strange that he would "import" lawn-mowing services from a less efficient "producer." Why? Obviously, because he has *better things to do with his time*.

The theory says that it is advantageous for America, for example, to import some goods simply in order to free up its workforce to produce more-valuable goods instead. We, as a nation, have better things to do with our time than produce these less valuable goods. And, just as with the football player and the lawn mower, it doesn't matter whether we are more efficient at producing them, or the country we import them from is. As a result, it is sometimes advantageous for us to import goods from less efficient nations.

This logic doesn't only apply to our time, that is our man-hours of labor, either. It *also* applies to land, capital, technology, and every other finite resource used to produce goods. So the theory of comparative advantage says that if we could produce something more valuable with the resources we currently use to produce some product, then we should import that product, free up those resources, and produce that more valuable thing instead.

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<sup>1</sup> This paper's ideas are explored further in my book [Free Trade Doesn't Work: What Should Replace It and Why](#).

Whatever we *give up* producing, in order to produce something else, is our opportunity cost. The opposite of opportunity cost is direct cost, so while the direct cost of mowing a lawn is the hours of labor it takes, plus the gasoline, wear-and-tear on the machine, et cetera, the opportunity cost is the value of whatever else these things could have been doing instead.

The opportunity cost of producing something is always the *next most valuable thing* we could have produced instead. If either bread or rolls can be made from dough, and we choose to make bread, then rolls are our opportunity cost. If we choose to make rolls, then bread is. And if rolls are worth more than bread, then we will incur a larger opportunity cost by making bread. It follows that the smaller the opportunity cost we incur, the less opportunity we are wasting, so the better we are exploiting the opportunities we have. Therefore our best move is always to *minimize our opportunity cost*.

Trade enables us to “import” bread (buy it in a store) so we can stop baking our own and bake rolls instead. In fact, trade enables us to do this for all the things we would otherwise have to make for ourselves. So if we have complete freedom to trade, we can systematically shrug off all our least valuable tasks and reallocate our time to our most valuable ones. Similarly, *nations* can systematically shrink their least valuable industries and expand their most valuable ones. This benefits these nations and under global free trade, with every nation doing this, it benefits the entire world. The world economy, and every nation in it, become as productive as they can possibly be.

This all implies that under free trade, production of every product will automatically migrate to the nation that can produce it at the lowest opportunity cost—the nation that *wastes the least opportunity* by being in that line of business.

The theory thus sees international trade as a vast interlocking system of tradeoffs, in which nations use the ability to import and export to shed opportunity costs and reshuffle their factors of production to their most valuable uses. And this all happens automatically, because if the owners of some factor of production find a more valuable use for it, they will find it profitable to move it to that use. The natural drive for profit will steer all factors of production to their most valuable uses, and opportunities will never be wasted.

It follows that any policy *other* than free trade just traps nations producing less-valuable output than they could have produced. It saddles them with higher opportunity costs—more opportunities thrown away—than they would otherwise incur. In fact, when imports drive a nation out of an industry, this must actually be good for that nation, as it means the nation *must* be allocating its factors of production to producing something more valuable instead. If it weren't doing this, the logic of profit would never have driven its factors out of their former uses. The nation's revealed comparative advantage must lie elsewhere, and it will now be better off producing according to this newly revealed comparative advantage.

### **A quantifying thought experiment**

Suppose an acre of land in Canada can produce either 1 unit of wheat or 2 units of corn.<sup>2</sup> And suppose an acre in the U.S. can produce either 3 units of wheat or 4 units of corn. The U.S. then has absolute advantage in both wheat (3 units vs. 1) and corn (4 units vs. 2).

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<sup>2</sup> These are not necessarily the same size units, and prices are left out to keep things simple. The example would work the same way with these complexities added.

But we are twice as productive in corn and thrice as productive in wheat, so we have *comparative* advantage in wheat.

Importing Canadian corn would obviously enable us to switch some of our corn-producing land to wheat production and grow more wheat, while importing Canadian wheat would enable us to switch some of our wheat-producing land to corn production and grow more corn. Would either of these be winning moves?

Every 3 units of wheat we import will free up 1 acre of our land because we will no longer need to grow those 3 units ourselves. We can then grow 4 units of corn on that acre. But selling us that wheat will force Canada to take 3 acres out of corn production to grow it, so it will cost Canada  $3 \times 2 = 6$  units of corn. Canadians obviously won't want to do this unless we *pay* them at least 6 units of corn. But this means we'd have to pay 6 units to get 4. So no deal.

What about importing Canadian corn? Every 4 units of corn we import will free up 1 acre of our land, on which we can then grow 3 units of wheat. Selling us those 4 units will force Canada to take  $4 \div 2 = 2$  acres out of wheat production, costing Canada  $2 \times 1 = 2$  units of wheat. So we can pay the Canadians what it cost them to give us the corn (2 units of wheat) and still come out ahead, by  $3 - 2 = 1$  unit of wheat. So importing Canadian corn makes economic sense.

The above scenario all works in reverse on the Canadian side, so it benefits Canada, too. And because the world now contains one more unit of wheat, it's a good move for the world economy as a whole.

### **Poor nations have low opportunity costs**

The opportunity cost of producing a product can vary from one nation to another even if the two nations' *direct* costs for producing the product are the same, because they can face different alternative uses for the factors of production involved. So having a low opportunity cost for producing a product can just as easily be a matter of having poor alternative uses for factors of production as having great efficiency at producing the product itself.

Opportunity costs in underdeveloped nations are low because they don't have a lot of other things they can do with their workers. The visible form this takes is cheap labor, because their economies offer workers few alternatives to dollar-an-hour factory work. As a result, the productivity of any one job does not determine its wage. Economy-wide productivity does. (This is why it is good to work in a developed country even if the job you yourself do, such as sweeping floors, is no more productive than the jobs people do in developing countries.)

If wages, which are paid in domestic currency, don't accurately reflect differences in opportunity costs between nations, then exchange rates will (in theory) adjust until they do. So if a nation has high productivity in most of its internationally traded industries, this will push up the value of its currency, pricing it out of its lowest-productivity industries. But this is a good thing, because it can then export goods from higher-productivity industries instead. This will mean less work for the same amount of exports, which is why advanced nations rarely compete in primitive industries, or want to.

### **What the theory does not say**

The theory of comparative advantage is sometimes misunderstood as implying that a nation's best move is to have as much comparative advantage as it can get—ideally,

comparative advantage in every industry. This is actually impossible by definition. If America had superior productivity, therefore lower direct costs, and therefore absolute advantage, in every industry, we would still have a greater margin of superiority in some industries and a lesser margin in others. So we would have *comparative* advantage where our margin was greatest and comparative disadvantage where it was smallest. This pattern of comparative advantage and disadvantage would determine our imports and exports, and we would still be losing jobs to foreign nations in our *relatively* worse industries and gaining them in our *relatively* better ones, despite having absolute advantage in them all.

So what's the significance of absolute advantage, if it doesn't determine which nation makes what? It *does* determine relative wages. If the U.S. were exactly 10 percent more productive than Canada in all industries, then Americans would have real wages exactly 10 percent higher. But because there would be no *relative* differences in productivity between industries, there would be no differences in opportunity costs, neither country would have comparative advantage or disadvantage in anything, and there would be no reason for trade between them. There would be no corn-for-wheat swaps that were winning moves. All potential swaps would cost *exactly* as much as they were worth, so there would be no point. (And under free trade, none would take place, as the free market isn't stupid and won't push goods back and forth across national borders without reason.)

Conversely, the theory of comparative advantage says that whenever nations do have different relative productivities, mutual gains from trade *must* occur. This is why free traders believe that their theory proves free trade is always good for every nation, no matter how poor or how rich. Rich nations won't be bled dry by the cheap labor of poor nations, and poor nations won't be crushed by the industrial sophistication of rich ones. These things simply can't happen, because the fundamental logic of comparative advantage guarantees that only mutually beneficial exchanges will ever take place. Everyone will always be better off.

### **The theory's seven dubious assumptions**

The flaws of the theory of comparative advantage consist in a number of dubious assumptions it makes. To wit:

#### **Assumption #1: Trade is sustainable.**

This problem divides into two parts: unsustainable imports and exports.

When America, for example, does not cover the value of its imports with the value of its exports, it must make up the difference by either selling assets or assuming debt. If either is happening, America is either gradually being sold off to foreigners or gradually sinking into debt to them. We are poorer simply because we own less and owe more.<sup>3</sup>

And this situation is unsustainable. We have only so many existing assets we can sell off, and can afford to service only so much debt.<sup>4</sup> By contrast, we can produce goods indefinitely. So deficit trade, if it goes on year after year, must eventually be curtailed—which

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<sup>3</sup> Note that a nation *can* assume *some* debt to foreigners and sell off some of its assets without courting crisis. The point here is not that doing this in exchange for imports is problematic *per se*; the point was that if the quantities involved are unsustainable, that nation will maximize short-term consumption at the expense of long-term prosperity.

<sup>4</sup> Obviously, this limit can change over time, but that is not the same as its being infinitely elastic at any given time. Bond rating agencies exist for a reason.

will mean reducing our consumption one day.<sup>5</sup> We get a decadent consumption binge today and pay the price tomorrow, but because mainstream economics doesn't traffic in concepts like "decadent," it doesn't see anything wrong.<sup>6</sup>

The implied solution is to tax imports. And that is not free trade.

Now consider unsustainable exports. This usually means a nation that is exporting nonrenewable natural resources. The same long vs. short term dynamics will apply, only in reverse. A nation that *exports* too much will maximize its short term living standard at the expense of its long-term prosperity. But mainstream economics—which means free trade—will a-gain perversely report that this is "efficient." The oil-rich nations of the Persian Gulf are the most obvious example, and it is no accident that OPEC was the single most formidable disruptor of free trade in the entire post-WWII era. But other nations with large land masses, such as Canada, Australia, Russia, and Brazil, also depend upon natural resource exports to a degree that is unhealthy in the long run.

The implied solution is to tax or otherwise restrict nonrenewable exports. And that is also not free trade.

### **Assumption #2: There are no externalities.**

The theory of comparative advantage, like all theories of free market economics, is driven by prices, so if prices are wrong due to positive or negative externalities, it will recommend suboptimal policies.

For example, goods from a nation with lax pollution standards will be too cheap. As a result, its trading partners will import too much of them. And the exporting nation will export too much of them, overconcentrating its economy in industries that are not really as profitable as they seem, due to ignoring pollution damage. Free trade not only permits problems such as these, but positively encourages them, as skimping on pollution control is an easy way to grab a cost advantage.

Positive externalities are also a problem. If an industry generates technological spillovers for the rest of the economy, then free trade can let that industry be wiped out by foreign competition because the economy ignored its hidden value. Some industries spawn new technologies, fertilize improvements in other industries, and drive economy-wide technological advance; losing these industries means losing all the industries that would have flowed from them in the future.

These problems are the tip of an even larger iceberg known as GDP-GPI divergence. Negative externalities and related problems mean that increases in GDP can easily coincide with *decreases* in the so-called Genuine Progress Indicator or GPI.<sup>7</sup> GPI includes things like resource depletion, environmental pollution, unpaid labor like housework, and unpaid goods

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<sup>5</sup> There is an exception to this fact if we are running a deficit to import capital goods rather than consumption goods, because the output generated by these goods pays the interest on the foreign debt and the return to foreign asset holders. The U.S. was in this position in the early 19<sup>th</sup> century, but is not doing this today.

<sup>6</sup> In technical language, the time discount on consumption is exogenous, i.e. economics takes it as a given and can't tell us whether it's good or bad. See Ian Fletcher, "A Neoclassical Hole in Neoclassical Free Trade," *Post-Autistic Economics Review*, August 2004.

<sup>7</sup> "Genuine Progress Indicator," Redefining Progress, [http://www.rprogress.org/sustainability\\_indicators/genuine\\_progress\\_indicator.htm](http://www.rprogress.org/sustainability_indicators/genuine_progress_indicator.htm).

like leisure time, thus providing a better metric of material well-being than raw GDP.<sup>8</sup> This implies that even if free trade *were* optimal from a GDP point of view (it isn't), it could still be a bad idea economically.

**Assumption #3: Factors of production move easily between industries.**

The theory of comparative advantage is about reshuffling factors of production from less-valuable to more-valuable uses. But this assumes that the factors of production used to produce one product can switch to producing another. Because if they can't, then imports won't push a nation's economy into industries better suited to its comparative advantage. Imports will just kill off its existing industries and leave nothing in their place.

Although this problem actually applies to all factors of production, we usually hear of it with regard to labor and real estate because people and buildings are the least *mobile* factors of production. When workers can't move between industries—usually because they don't have the right skills or don't live in the right place—shifts in an economy's comparative advantage won't move them into an industry with lower opportunity costs, but into unemployment.

Sometimes the difficulty of reallocating workers shows up as outright unemployment. This happens in nations with rigid employment laws and high *de facto* minimum wages due to employer-paid taxes, as in Western Europe. But in the United States, because of our relatively low minimum wage and hire-and-fire labor laws, this problem tends to take the form of *underemployment*. This is a decline in the quality rather than quantity of jobs. So \$28 an hour ex-autoworkers go work at the video rental store for eight dollars an hour.<sup>9</sup> Or they are forced into part-time employment. This implies that low unemployment, on its own, doesn't prove free trade has been a success. The human cost is obvious, but what is less obvious is the purely economic cost of writing off investments in human capital when skills that cost money to acquire are never used again.

In the Third World, decline in the quality of jobs often takes the form of workers pushed out of the formal sector of the economy entirely and into casual labor of one kind or another, where they have few rights, pensions, or other benefits. Mexico, for example, has over 40 percent of its workers in the informal sector.<sup>10</sup>

There is also a risk for the economy as a whole when free trade puts factors of production out of action. As Nobel Laureate James Tobin of Yale puts it, "It takes a heap of Harberger triangles to fill an Okun gap."<sup>11</sup> Harberger triangles represent the benefits of free trade on the standard graphs.<sup>12</sup> The Okun gap is the difference between the GDP our economy *would* have, if it were running at full output, and the GDP it does have, due to some

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<sup>8</sup> John Cavanagh, Jerry Mander et al, *Alternatives to Economic Globalization: A Better World is Possible* (San Francisco: Berrett-Koehler, 2002), p. 204.

<sup>9</sup> The commonly quoted figure of \$70-\$73 per hour for autoworkers includes health benefits and legacy costs. Their cash wages were about \$28/hr, plus \$2.25 for payroll taxes and \$7 for a health insurance package. Source: United Auto Workers.

<sup>10</sup> World Bank figure, quoted in John MacArthur, *The Selling of Free Trade: NAFTA, Washington, and the Subversion of American Democracy* (New York: Hill & Wang, 2000) p. 81.

<sup>11</sup> Quoted in Robert Kuttner, *Everything for Sale: the Virtues and Limits of Markets* (New York: Knopf, 1997), p. 25.

<sup>12</sup> See <http://upload.wikimedia.org/wikipedia/en/4/4d/EffectOfTariff.svg>.

of its factors of production lying idle.<sup>13</sup> Tobin's point is simply that the benefits of free trade are quantitatively small, compared to the cost of not running our economy at full capacity due to imports.

**Assumption #4: Trade does not raise income inequality.**

When the theory of comparative advantage promises gains from free trade, these gains are only promised to the economy as a whole, not to any particular individuals or groups thereof. So it is entirely possible that even if the economy as a whole gets bigger thanks to freer trade, many (or even most) of the people in it may lose income. This is not a trivial problem: it has been estimated that freeing up trade reshuffles five dollars of income between different groups of people domestically for every one dollar of net gain it brings to the economy as a whole.<sup>14</sup>

Free trade squeezes the wages of ordinary Americans largely because it expands the world's effective supply of labor, which can move from rice paddy to factory overnight, faster than its supply of capital, which takes decades to accumulate at prevailing savings rates. As a result, free trade strengthens the bargaining position of capital relative to labor. This is especially true when combined with growing global capital mobility and the entry into capitalism of large formerly socialist nations such as India and China. As a result, people who draw most of their income from returns on capital (the rich) gain, while people who get most of their income from labor (the rest) lose.

The underlying mechanism of this analysis has long been part of mainstream economics in the form of the Stolper-Samuelson theorem.<sup>15</sup> This theorem says that freer trade raises returns to the abundant input to production (in America, capital) and lowers returns to the scarce one (in America, labor). Because America has more capital per person, and fewer workers per dollar of capital, than the rest of the world, free trade tends to hurt American workers.

Free trade also affects different kinds of labor income differently. The impact of free trade on a worker in the U.S. is basically a function of how easy it is to substitute a cheaper foreign worker by importing the product the American produces.<sup>16</sup> For extremely skilled jobs, like investment banking, it may be easy to substitute a foreigner, but foreign labor (some yuppie in London) is just as expensive as American labor, so there is no impact on American wages. For jobs that cannot be performed remotely, such as waiting tables, it is impossible to substitute a foreign worker, so again there is no direct impact. The occupations that suffer most are those whose products are easily tradable *and* can be produced by cheap labor abroad. This is why unskilled manufacturing jobs were the first to get hurt in the US: there is a huge pool of labor abroad capable of doing this work, and manufactured goods can be

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<sup>13</sup> See [http://upload.wikimedia.org/wikipedia/commons/0/0a/Actual\\_potential\\_GDP\\_output\\_gap\\_CBO\\_Jan\\_09\\_outlook.png](http://upload.wikimedia.org/wikipedia/commons/0/0a/Actual_potential_GDP_output_gap_CBO_Jan_09_outlook.png)

<sup>14</sup> Dani Rodrik, *Has Globalization Gone Too Far?* (Washington: Institute for International Economics, 1997), p. 30.

<sup>15</sup> Wolfgang Stolper and Paul Samuelson, "Protection and Real Wages," *Review of Economic Studies*, November 1941, p. 58.

<sup>16</sup> This is not, of course, the entire story, but close enough for purposes of the present analysis.

packed up and shipped around the globe. Because low-paid workers are concentrated in these occupations, free trade hurts them more.<sup>17</sup>

There is another problem. Suppose that opening up a nation to freer trade means that it starts exporting more airplanes and importing more clothes than before. (This is roughly the situation the U.S. has been in.) Because the nation gets to expand an industry better suited to its comparative advantage and contract one less suited, it becomes more productive and its GDP goes up, just like the theory says. So far, so good. But here's the rub: suppose that a million dollars' worth of clothes production requires one white-collar worker and nine blue-collar workers, while a million dollars of airplane production requires three white-collar workers and seven blue-collar workers. This means that for every million dollars' change in what gets produced, there is a demand for two more white-collar workers and two fewer blue-collar workers. Because demand for white-collar workers goes up and demand for blue-collar workers goes down, the wages of white-collar workers will go up and those of blue-collar workers will go down. But *most* workers are blue-collar workers—so free trade has lowered wages for most workers in the economy!

It follows from the above problems that free trade, *even if* it performs as free traders say in other respects (it doesn't), could still leave most Americans with lower incomes. And even if it expands our economy overall, it could still increase poverty. Taking an approximate mean of available estimates, we can attribute perhaps 25 percent of America's three-decade rise in income inequality to freer trade.<sup>18</sup> It was estimated in 2006 that the increase in inequality due to freer trade cost the average household earning the median income more than \$2,000.<sup>19</sup>

#### **Assumption #5: Capital is not internationally mobile.**

Despite its wide implications, the theory of comparative advantage is, at bottom, a very narrow theory. It is *only* about the best uses to which nations can put their factors of production. We have certain cards in hand, so to speak, the other players have certain cards, and the theory tells us the best way to play the hand we've been dealt. Or more precisely, it tells us to let the free market play our hand *for us*, so market forces can drive all our factors to their best uses in our economy.

Unfortunately, this all relies upon the impossibility of these same market forces driving these factors right *out* of our economy. If that happens, all bets are off about driving these factors to their most productive use *in* our economy. Their most productive use may well be in another country, and if they are internationally mobile, then free trade will cause

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<sup>17</sup> Dani Rodrik, *Has Globalization Gone Too Far?* (Washington: Institute for International Economics, 1997), p. 12.

<sup>18</sup> See Peter H. Lindert and Jeffrey G. Williamson, "Does Globalization Make the World More Unequal?" National Bureau of Economic Research, April 2001, p. 33. This is also the upper end of the estimate in "The U.S. Trade Deficit: Causes, Consequences and Recommendations for Action," U.S. Trade Deficit Review Commission, 2000, pp.110-18. According to William Cline in *Trade and Income Distribution* (Washington: Institute for International Economics, 1997), 37 percent of the recent increase in inequality is due to trade. Also see Thomas Palley, "Accounting for income inequality in the U.S.," AFL-CIO Technical Papers, 1999, in which 34 percent of increased inequality is attributed to increased trade, taking into account trade's negative impact on unionization rates.

<sup>19</sup> Josh Bivens, "Globalization and American Wages: Today and Tomorrow," Economic Policy Institute, October 10, 2007, p. 2. Technically, this paper quantifies the impact of larger trade flows as such, not free trade *per se*.



them to migrate there. This will benefit the world economy as a whole, and the nation they migrate to, but it will *not* necessarily benefit us.

This problem actually applies to all factors of production. But because land and other fixed resources can't migrate, labor is legally constrained in migrating, and people usually don't try to stop technology or raw materials from migrating, the crux of the problem is capital. Capital mobility replaces comparative advantage, which applies when capital is forced to choose between alternative uses within a single national economy, with our its cousin absolute advantage. And absolute advantage contains no guarantees whatsoever about the results being good for *both* trading partners. The win-win guarantee is purely an effect of the world economy being yoked to comparative advantage and dies with it.

Absolute advantage is really the natural order of things in capitalism and comparative advantage is a special case caused by the existence of national borders that factors of production can't cross. Indeed, that is basically what a nation *is*, from the point of view of economics: a part of the world with political barriers to the entry and exit of factors of production. This forces national economies to interact indirectly, by exchanging goods and services *made from* those factors, which places comparative advantage in control. Without these barriers, nations would simply be regions of a single economy, which is why absolute advantage governs economic relations *within* nations. In 1950, Michigan had absolute advantage in auto-mobiles and Alabama in cotton. But by 2000, automobile plants were closing in Michigan and opening in Alabama. This benefited Alabama, but it did not necessarily benefit Michigan. (It only would have if Michigan had been transitioning to a higher-value industry than automobiles. Helicopters?) The same scenario is possible for entire nations if capital is inter-nationally mobile.

Capital immobility doesn't have to be absolute to put comparative advantage in control, but it has to be significant and as it melts away, trade shifts from a guarantee of win-win relations to a possibility of win-lose relations. David Ricardo, who was wiser than many of his own modern-day followers, knew this perfectly well. As he put it:

The difference in this respect, between a single country and many, is easily accounted for, by considering the difficulty with which capital moves from one country to another, to seek a more profit-able employment, and the activity with which it invariably passes from one province to another of the same country.<sup>20</sup>

Ricardo then elaborated, using his favorite example of the trade in English cloth for Portuguese wine and cutting right to the heart of present-day concerns:

It would undoubtedly be advantageous to the capitalists of England, and to the consumers in both countries, that under such circumstances the wine and the cloth should both be made in Portugal, and therefore that the capital and labor of England employed in making cloth should be removed to Portugal for that purpose.<sup>21</sup>

But he does not say it would be advantageous to the workers of England! This is precisely the problem Americans experience today: when imports replace goods produced here, capitalists like the higher profits and consumers like the lower prices—but workers *don't* like the lost jobs. Given that consumers and workers are ultimately the same people, this means they may lose more as workers than they gain as consumers. And there is no theorem

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<sup>20</sup> David Ricardo, *The Principles of Political Economy and Taxation* (Mineola, NY: Dover Publications, 2004), p. 83.

<sup>21</sup> *Ibid.*

in economics which guarantees that their gains will exceed their losses.<sup>22</sup> Things can go either way, which means that free trade is sometimes a losing move for them.

**Assumption #6: Short-term efficiency causes long-term growth.**

The theory of comparative advantage is a case of static analysis. That is, it looks at the facts of a single instant in time and determines the best response to those facts at that instant. This is not an intrinsically invalid way of doing economics—balancing one’s checkbook is an exercise in static analysis—but it is vulnerable to a key problem: *it says nothing about dynamic facts*. That is, it says nothing about how today’s facts may change tomorrow. More importantly, it says nothing about how one might cause them to change in one’s favor.

The problem here is that even if the theory of comparative advantage tells us our best move today, given our productivities and opportunity costs in various industries, it *doesn’t* tell us the best way to raise those productivities tomorrow. That, however, is the essence of economic growth, and in the long run much more important than squeezing every last drop of advantage from the productivities we have today. Economic growth, that is, is ultimately less about *using* one’s factors of production than about *transforming* them—into more productive factors tomorrow.<sup>23</sup> The difference between poor nations and rich ones mainly consists in the problem of turning from Burkina Faso into South Korea; it does not consist in being the most efficient possible Burkina Faso forever. The theory of comparative advantage is not so much wrong about long-term growth as simply silent.

Analogously, it is a valid application of personal comparative advantage for someone with secretarial skills to work as a secretary and someone with banking skills to work as a banker. In the short run, it is efficient for them both, as it results in both being better paid than if they tried to swap roles. (They would both be fired for inability to do their jobs and earn zero.) But the path to personal success doesn’t consist in being the best possible secretary forever; it consists in upgrading one’s skills to better-paid occupations, like banker. And there is very little about being the best possible secretary that tells one how to do this.

Ricardo’s own favorite example, the trade in English textiles for Portuguese wine, is very revealing here, though not in a way he would have liked. In Ricardo’s day, textiles were produced in England with then-state-of-the-art technology like steam engines. The textile industry thus nurtured a sophisticated machine tool industry to make the parts for these engines, which drove forward the *general* technological capabilities of the British economy and helped it break into related industries like locomotives and steamships.<sup>24</sup> Wine, on the other hand, was made by methods that had not changed in centuries (and have only begun to change since about 1960, by the way). So for hundreds of years, wine production contributed no technological advances to the Portuguese economy, no drivers of growth, no opportunities to raise economy-wide productivity. And its own productivity remained static: it did the same thing over and over again, year after year, decade after decade, century after century,

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<sup>22</sup> In technical terms, there is no theorem guaranteeing that partial-equilibrium losses to import-competing producers are more than offset by gains to consumers due to reduced prices. This problem has been formally modeled in Masao Oda and Robert Stapp, “Factor Mobility, Trade, and Wage Inequality,” in Tak-ashi Kamihigashi and Laixun Zhao, eds., *International Trade and Economic Dynamics* (Berlin: Springer, 2008).

<sup>23</sup> Michael Porter, *The Competitive Advantage of Nations* (New York: The Free Press, 1990), p. 21.

<sup>24</sup> Nathan Rosenberg, *Inside the Black Box: Technology and Economics*. (New York: Cambridge University Press, 1982), p. 73.

because this was where Portugal's immediate comparative advantage lay. It may have been Portugal's best move in the short run, but it was a dead end in the long run.

Today, the theory of comparative advantage is similarly dangerous to poor and undeveloped nations because they tend, like Portugal, to have comparative advantage in industries that are economic dead ends. So despite being nominally free, free trade tends to lock them in place.

**Assumption #7: Trade does not induce adverse productivity growth abroad.**

Gains from free trade derive from the difference between *our* opportunity costs for producing products and the opportunity costs of our trading partners. This opens up a paradoxical but very real way for free trade to back-fire. When we Americans trade with a foreign nation, this will generally build up that nation's industries, i.e., raise its productivity in them. Now it would be nice to assume that this productivity growth in our trading partners can only reduce their direct costs, therefore reduce their opportunity costs, and therefore increase our gains from trading with them. Our foreign suppliers will just become ever more efficient at supplying the things we want, and we will just get ever cheaper foreign goods in exchange for our own exports, right?

Wrong. Because, as noted, while productivity (output per unit of input) does determine direct costs, it *doesn't* on its own determine opportunity costs. The alternative uses of factors of production do. As a result, productivity growth in some industries can actually *raise* our trading partners' opportunity costs in other industries, by increasing what they give up producing in one industry in order to produce in another. If the number of rolls they can make from a pound of dough somehow goes up (rolls get fluffier?), this will make it more expensive for them to bake bread instead. So they may cease to supply us with such cheap bread!

Consider our present trade with China. Despite all the problems this trade causes us, we do get compensation in the form of some very cheap goods, thanks mainly to China's very cheap labor. The same goes for other poor countries we import from. But labor is cheap in poor countries because it has poor alternative employment opportunities. What if these opportunities improve? Then this labor may cease to be so cheap, and our supply of cheap goods may dry up.

This is actually what happened in Japan from the 1960s to the 1980s, as Japan's economy transitioned from primitive to sophisticated manufacturing and a lot of cheap Japanese merchandise disappeared from America's stores. Did this reduce the pressure of cheap Japanese labor on American workers? Indeed. But it also deprived us of some very cheap goods we used to get. (And it's not like Japan stopped pressing us, either, as it moved upmarket and started competing in more sophisticated industries.) The same thing had happened with Western Europe as its economy recovered from WWII from 1945 to about 1960 and cheap European goods disappeared from our stores.

Here things get slippery. Because gains from trade don't derive from absolute but comparative advantage, these gains can be killed off *without* our trading partners getting anywhere near our own productivity levels. So the above problem doesn't merely consist in our trading partners catching up to us in industrial sophistication. But if their *relative* tradeoffs for producing different goods cease to differ from ours, then our gains from trading with them will vanish. If Canada's wheat vs. corn tradeoff is two units per acre vs. three and ours is four vs. six, all bets are off. Because both nations now face the same tradeoff ratio between

producing one grain and the other,<sup>25</sup> all possible trades will cost Canada *exactly* as much they benefit the US—leaving no profit, no motivation to trade, and no gain from doing so. And if free trade helped raise Canada’s productivity to this point, *then free trade deprived us of benefits we used to get*.

Thus free trade can “foul its own nest” and kill off the benefits of trade over time. Even within the most strictly orthodox Ricardian view, only the *existence* of gains from free trade is guaranteed.<sup>26</sup> It is not guaranteed that changes *induced* by free trade will make these gains grow, rather than shrink.<sup>27</sup> So free trade can do billions of dollars worth of damage *even if Ricardo was right about everything else* (he wasn’t).

### **Conclusion: trade yes, free trade no**

Given that the theory of comparative advantage has all of the above-de-scribed flaws, how much validity does it really have? Answer: some. Asking what industries a nation has comparative advantage in helps illuminate what kind of economy it has. And insofar as the theory’s assumptions do hold to some extent, some of the time, it can give us some valid policy recommendations. *Fairly open trade, most of the time, is a good thing*. But the theory was never intended to be by its own inventor, and its innate logic will not support its being, a blank check that justifies 100 percent free trade with 100 percent of the world 100 percent of the time. It only justifies free trade insofar as its assumptions hold true,<sup>28</sup> and they largely do not.

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<sup>25</sup> Remember that this toy example only works if all trade between Canada and the U.S. is barter of corn and wheat. For a fully computed analysis of this whole problem, see Paul A. Samuelson, “Where Ricardo and Mill Rebut and Confirm Arguments of Mainstream Economists Supporting Globalization,” *Journal of Economic Perspectives*, Summer 2004, p. 141.

<sup>26</sup> Assuming nations have different opportunity cost ratios.

<sup>27</sup> For a fully elaborated exposition of this fact, see Paul A. Samuelson, “Where Ricardo and Mill Rebut and Confirm Arguments of Mainstream Economists Supporting Globalization,” *Journal of Economic Perspectives*, Summer 2004.

<sup>28</sup> *Pace*, for now, other problems.