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The Muddles over Outsourcing

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Every now and then, the United States political scene is clouded by fear of freer trade with the developing countries. President Clinton nearly failed to get NAFTA approved. The competition, first from the Far Eastern nations, then from China, has revived fears of the “yellow peril”, dating back to the panic over Japanese competition in the interwar period.¹ And now the alarm bells have been ringing over the offshore “outsourcing” of services, constituting what might be called the “brown peril” since the foreign country most famously involved is India.

But if we examine carefully the public policy pronouncements, indeed even the interventions by reputed economists (whether via press statements or in the form of empirical and theoretical analyses), it is clear that the question of outsourcing is handicapped by serious muddles over two questions: first, what precisely is the phenomenon we are addressing; and second, what types of effects are we contemplating?

In this paper, we plan to introduce clarity by distinguishing, in Section 1, among four different types of phenomena that are routinely addressed interchangeably under the rubric of “outsourcing”; and then differentiating between three different issues or consequences that follow from these alternative phenomena. For our analysis in the rest of the paper, we will however focus mainly on the phenomena which we consider to be the principal source of present-day concerns over freer trade.

¹ The “yellow peril” phraseology arose over the fear of cheap Japanese exports of textiles, lamps, hurricane lanterns and other labor-intensive products in the 1930s. The feared product that made it into popular consciousness was the “one-dollar blouse”. Voluntary export restrictions (VERs) were first imposed on Japan at the time, initiating the use of export protection as distinct from the conventional import protectionism.

I. Alternative Phenomena and Questions

1. Different Phenomena

Consider then the following four alternative ways in which outsourcing is being discussed today.

1. The “Outsourcing” of On-line Services Phenomenon:

When Council of Economic Advisers Chairman Greg Mankiw landed in hot political waters with his remark that outsourcing was just a “new” kind of trade, he clearly thought he was addressing a trade phenomenon. Evidently, since call centers in Bangalore and reading of x-rays transmitted digitally from Boston to Bombay were the cause of the gathering storm, he was defining the outsourcing phenomenon as one where services were being bought offshore on line.

When it comes to services, following the early contributions of Bhagwati (1984) who distinguished between what he called “long-distance” services and those requiring the provider and the user to get together², and of Sampson and Snape (1985) who further distinguished among different ways in which the provider and the user could get together, economists who work on international trade and World Trade Organization (WTO) issues now define services according to the mode by which the buyer and the seller transact.

² Bhagwati also initiated the analysis of what he called “splintering” of services from manufacturing, as when work such as painting (e.g. a car) is done within a manufacturing process and is therefore part of manufacturing value added, is splintered off from the manufacturing process when the painting job is done by contracting it out to a painting firm and the painting value added then becomes part of the service sector, with little change in the overall real situation. Some economists now call this the “fragmentation” phenomenon.

Using the WTO terminology and numbering of modes of delivery of services, we can distinguish among three different ways in which services can be traded³:

1. Mode 1: Mode 1 services involve arms-length or on-line supply of services with the supplier and buyer remaining in their respective locations. They include all electronic commerce and, like trade in goods, they do not require the movement of factors of production. They are generally distinguished from goods trade in that they cannot be readily subjected to customs inspection. Individuals or firms can provide these services. Independent designers, architects and consultants sell their services electronically to manufacturers around the world. Again, larger firms with call centers, back offices and software programmers also provide Mode 1 services.

2. Mode 2: Mode 2 services are those provided by moving the service recipient to the location of the service provider. Tourist services are the dominant form of Mode 2 services. Other examples include medical care received by a patient in a hospital located abroad and education received in foreign universities.

3. Mode 4: Mode 4 services, on the other hand, are those transacted by moving the service seller to the location of the service buyer. Construction and consulting services are often provided through this mode. Also included in this category are medical and educational services provided by moving doctors and teachers to the location of the recipient. The developing countries are agitated by the lack of progress on Mode 4 as it offers to their unskilled populations the possibility in principle of getting into the developed countries and offering their services. The principal problem, of course, is that

³ WTO, in its General Agreement on Trade in Services (GATS), considers also a fourth category, Mode 3, where the need to establish a commercial presence requiring an element of direct foreign investment, is present. This is ignored in the text.

while Mode 4 implies temporary migration, it can shade over into permanent migration since the experience with the guestworker (gastarbeiter) program in Western Europe has shown that it is enormously difficult to return temporary workers to their countries of origin. As the Swiss novelist Max Frisch remarked movingly when the German authorities could not bring themselves to return the guestworkers to their countries during the post-OPEC distressed 1970s, “we imported workers and got men instead”.⁴ (We might add that Mode 4 is often characterized as the movement of “natural persons” though this phrase can apply equally to Mode 2 and hence is inaccurately applied only to Mode 4.)

Much of the recent furor in the United States has arisen in the context of trade in Mode 1 services; and this is really what careful economists have meant when they discuss “outsourcing” offshore as a “trade issue” and whether outsourcing is good or bad. There is therefore an irony in this furor because at the time that trade in services was brought into the fold of international trade rules via the General Agreement on Trade in Services (GATS), concluded as a part of the Uruguay Round Agreements that created the World Trade Organization (WTO) in 1995, trade in Mode 1 services was the least controversial of all.

Much of the controversy at the time surrounded Modes 3 and 4 instead. The developed countries aggressively demanded the expansion of the right to commercial presence abroad (Mode 3) and vehemently opposed the inward movement of natural persons (Mode 4). Developing countries, on the other hand, resisted liberalization in Mode 3 services and pushed for the liberalization of Mode 4 services. Neither side

⁴ In the original German version, the remark is more compelling: “wir suchen arbeiten; es kam menschen”.

showed much resistance to the cross-border trade in services (Mode 1) perhaps because it precluded having to accept foreign presence on one's soil. Not surprisingly, the bulk of the liberalization commitments made as a part of the GATS negotiations under the Uruguay Round were under Mode 1. In the years immediately following the creation of the WTO, the United States aggressively pushed the idea that the WTO members commit to zero duty on the Internet trade. In the current Doha Round negotiations, the situation is dramatically different with the rich countries entirely disinterested in making offers of liberalization under Mode 1.

2. The “All Imports” Phenomenon

Often, the politicians define (offshore) outsourcing expansively to include all imports and argue that more and more jobs are being outsourced on account of rising total imports. In this view, all imports amount to treachery or, in popular parlance, “loss of jobs”. The phenomenon over which alarm exists is then *any* act of importation, whether goods or services. These complaints reduce to the witticism: trade is good but imports are bad. It is, of course, a well-known and all-too-pervasive fallacy.

3. The “Direct Foreign Investment” (DFI) Phenomenon

Recently, the U.S. Commerce Secretary Don Evans struck at the critics of outsourcing by highlighting the number of major foreign companies who "in- source," i.e. build manufacturing plants in the United States. Evans drew attention to companies like Honda, Toyota, and Mercedes-Benz that have opened plants in the United States, spending over \$1.5 billion and hiring thousands. When he did this, he was responding to politicians and to journalists such as Lou Dobbs of CNN who attacks as venal the

American companies that outsource jobs, investing abroad and divesting at home, making a list of them on his program.

In a similar vein, the election platform of the Democratic presidential candidate John Kerry refers to the movement of corporations abroad as outsourcing. The document outlining the platform notes, “John Kerry will save jobs by ending the unpatriotic practice of U.S. corporations moving jobs offshore,” and goes on to add, “John Kerry has proposed a new jobs tax credit to encourage manufacturing companies to stay and expand in America.”

The phenomenon underlying the statements of both Secretary Evans and the Presidential-candidate Kerry’s platform is what economists call direct foreign investment or DFI. Analytically, this is distinct from the trade phenomenon. The phenomenon where a firm in Boston closes down its plant and moves production to Bangalore is generally speaking distinct from the case where a firm in Boston buys on-line services (such as reading of x-rays) from Bangalore instead of from Cambridge. No equity investment is involved in the former; it is of the essence in the latter.

The pros and cons of DFI have been extensively studied in the massive literature on the subject. But it is broadly accepted today that DFI is desirable, even if the gains from it to the recipient and to the sending countries need not always be substantial and occasionally a downside can occur.⁵ It would therefore be astonishing if American politicians, even in the Democratic Party, truly wanted to shift to an anti-DFI policy, despite their confused rhetoric and hand-waving.

⁵ The voluminous literature has been reviewed by many, including Magnus Blomstrom, Richard Caves and others. A review and assessment from the perspectives of civil-society complaints about DFI, including whether multinationals exploit foreign workers in poor countries, can be found in Bhagwati (2004).

4. The “Growing Skills in India and China” Phenomenon

Fears have also been raised that the acquisition of the information technology (IT)-related, medical and other skills would lead to losses, both for the United States in the aggregate and for the skilled American workers. As with the DFI issue, however, this issue is distinct from that posed by the offshore outsourcing of Mode 1 services phenomenon. It is in fact a wholly conventional issue, often discussed in the public domain for half a century but in different contexts --- Europe raising it when US was growing faster in the 1950s, we raising it when Japan was rising rapidly in the 1970s and 1980s, now we raising it as China and India are growing fast.

In analytical terms, it is the broad question that arises as to the effects of a shift in comparative advantage due to capital accumulation and accumulating know-how by one or more members of the world trading system. In the current context, it is the narrow question of the effect on a country, the United States, due to the accumulation of factors used intensively in its export industries by its trading partners, India and China.

2. Alternative Questions

Having sharply distinguished among various phenomena, we now distinguish among three questions which are variously and at times interchangeably addressed in the public debate⁶:

1. The effect on economic efficiency (or size of the cake);
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⁶ It is often suggested that economists ignore the effects of outsourcing on workers. This is nonsense, of course. Not merely have international trade economists discussed --- as in the celebrated Stolper-Samuelson theorem and the extensive literature on it, reviewed and extended in Deardorff and Stern (1994) --- the effects of trade on real wages. They have also analyzed deeply the question of adjustment assistance programs in open economies for over a quarter of a century and indeed earlier. See, in particular, the many papers by Peter Neary, Michael Mussa and others in Bhagwati (1982) and the important work of Robert Baldwin and J. Mutti (1973) on these programs in the United States.

2. The effect on jobs; and
3. The effect on real wages

The distinction among these questions may be obvious to many but is nonetheless usefully illustrated, with respect to the different effects of trade, within the “popular” two-country, two-factor and two-country model used extensively by international trade theorists to analyze trade policy. Let the two factors be skilled and unskilled labor. Distinguish goods as skilled-labor- and unskilled-labor-intensive and the countries as skilled-labor- and unskilled-labor-abundant. Regarding the first question, this model says that free trade leads each country to produce more of the good that uses its abundant factor more intensively and enlarges the size of the pie available to each country in the process. Free trade raises the overall income of each nation over what it will have under autarky.

Because the model focuses on long-run analysis and therefore assumes full employment, it produces no effects of trade on the aggregate number of jobs. Instead, it allows the factor prices to adjust to maintain full employment and therefore gives rise to changes in income distribution as a consequence of trade. In particular, the model predicts that as long as the country remains fully diversified in production, trade increases (lowers) the real return to the factor used intensively in the production of the exportable (importable). For example, in a skilled-labor abundant country such as the United States that exports the skilled-labor-intensive good and imports the unskilled-labor-intensive good, trade raises the real income of skilled labor and lowers that of unskilled labor in

terms of both goods. If the economy comes to specialize completely in the exportable, however, it is possible for both factors to benefit in real terms.⁷

To recapitulate, in this popular model, trade improves overall national welfare⁸, does not affect jobs, and can harm the real wages of a factor such as unskilled labor but can also improve the real wages of both factors. So, in considering the effects of outsourcing, we must be explicit about these different types of effects.

In our further analysis in later, therefore, we concentrate on outsourcing of services as a trade phenomenon (the first of the four distinguished above), and address the consequences thereof for national welfare, jobs and wages. But since many economists have (mis)interpreted the issue as a problem regarding the impact on our welfare as India and China accumulate know-how and capital (the fourth of the four distinguished above), we begin with a brief analysis of that question in Section II.

II. The “Growing Skills in India and China” Phenomenon: Can it Harm Us?

The trade scene has also witnessed the rise of fear that the growth of skilled manpower in India and China, two gigantic countries with vast numbers of people, will harm the United States. The Intel CEO has been widely quoted as saying that we will be drowned into a sea of 300 million Indians and Chinese with skills, losing our prosperity and skilled jobs to boot. We are assured that, contrary to this view, many (surprisingly) believe, especially in the economics profession, that any growth of skills or accumulation

⁷ Since both factors can benefit from trade liberalization, it is important to reject the claims of some economists critical of trade that distributional outcomes are always important because trade will always hurt some groups.

⁸ What international economists call world, or cosmopolitan, welfare also goes up. In fact, each nation improves under free trade relative to autarky.

of capita, no matter where, will only benefit the United States. The obvious truth lies in between: growth elsewhere can harm, or help, the United States but it will not necessarily do either.

As we remarked earlier, the phenomenon of external growth of skills and capital has recurred in the public policy debate from time to time. In the 1950s, during the period of the “dollar shortage”, growth in the United States was considered as the danger to European welfare, for instance. At the time, Harry Johnson (1954) constructed a simple model where each of two countries was specialized in one good each, and therefore when the United States grew, its production of its own good increased and, provided the good was not inferior in US consumption, the effect was to increase US exports of its own good and to lower the price of US exports and hence help Europe. Johnson (1955) then proceeded to consider, in a classic article, a two-good model which permitted US growth to increase the production of both goods, establishing a taxonomy of production effects which permitted the US terms of trade to improve or deteriorate, harming or helping European welfare respectively. Where the terms of trade deteriorated for Europe, harming it, another way to understand what had happened was that American growth had caused Europe’s gains from trade to diminish. These were the first formal demonstrations of what growth abroad could mean for one’s own welfare, and that it could go up or down.

Today, these truths have been demonstrated anew by other economists. Thus, Paul Samuelson (2004), in an interesting Ricardian analysis in this journal, constructs a model where technical change abroad results in all gains from trade vanishing for each of the two countries because the technical change brings the foreign country’s autarky price

equal to the US autarky price. This then causes the a necessary immiseration of the United States which has experienced no technical change of its own, while the other country benefits, of course, from its technical change. Obviously this would hold also if technical change (or, for that matter, change in endowments) in the Heckscher-Ohlin model were equally to equate the autarkic commodity price ratios in the two countries which were initially in gainful trade. Gomory and Baumol (2001, Chapter 2) also demonstrate that, in a Ricardian world where productivity parameters change, some countries can gain and others lose: a result that speaks to the same point, that growth of know-how in one place can cause harm elsewhere.

Similar questions were raised when Japan grew rapidly in the 1980s and many Americans feared that this would result in American immiseration. This too was a mistaken view; it was surely possible to envisage American welfare improvement from Japanese growth. In arguing for such welfare gain, many complicated their implicit models by arguing, for instance, that Japanese competition in the automobile market, for example, would eliminate x-inefficiency in Detroit and even spur the somnolent US auto industry into technical change; and that, under competitive pressure, Detroit would adopt innovative techniques such as “just-in-time” production methods and greater regard for consumer satisfaction, all adding up to massive welfare-enhancing innovation.

Now, the fear in the United States is over competition from China and India: the “yellow peril” and the “brown peril”. It is assumed that these countries, whose factor endowments are unskilled-labor-abundant, will come closer to our skilled-labor-abundance, and that this will reduce our gains from trade. Now, ceteris paribus, such narrowing of the difference in factor endowments will certainly tend to produce

“production effects” that militate against US exports. But, just remember the Johnson argument that the “consumption effect” (as incomes rise with production) may outweigh the production effect⁹, so that the argument that US terms of trade will deteriorate is not a slam-dunk.

Besides, we must consider in reality the fact that there is a continuum of goods and that the notion, for instance, that the US exports IT-intensive goods and imports IT-unintensive goods and hence will lose out on her terms of trade with Chinese and Indian growth of IT skills, is simplistic. Just as “intra-industry” trade has been the source of major gains from trade among countries with similar endowments, the countries that grow similar will reduce conventional trade but create gains from intra-industry trade, exactly as we see with India doing the low-value services such as call centers for the most part while the United States does higher-value services. Within the service sector also, therefore, we begin to see the rise of gainful “intra-service” trade.

Besides, the notion that India and China will quickly educate 300 million of their citizens to acquire the skills at stake borders on the ludicrous. This idea can be entertained only by people unfamiliar with the enormous difficulties in the educational sector in these countries, which more than match ours. Adding 300 million to the pool of the skilled will take several years, if it occurs at all; and by that time, our own educational systems will have gone on to produce superior skills, to be sure.

III. Recent Critiques that Free Trade will undermine National Welfare

Turning now to the question of outsourcing as trade, and recognizing that Mode 1 trade is just another form of trade, we now ask the question: does free trade, whether in

⁹ These are income effects, at constant goods prices.

goods or services, dominate autarky? In other words, will free trade lead to increase in national welfare over the level reached under autarky: this being the first of the three effects distinguished in Section I.

That free trade will increase national welfare relative to what would obtain under autarky is a well-known theoretical proposition, of course. Yet, questions have been raised about it recently in the context of the debate on offshore outsourcing (of on-line services), so clarification is necessary. Consider now the most-cited such critiques.

1. International Factor Mobility

First, the noted supply-side economist Paul Craig Roberts has asserted recently that, in a world with factor mobility, the “Ricardian” principle of comparative advantage breaks down. The resulting trade somehow turns into a zero-sum activity with some countries gaining at the expense of the others.¹⁰ That the pattern of trade will generally speaking change if free trade occurs with international capital mobility vis-à-vis where no such mobility obtains is not at issue. Rather, when Roberts speaks of the theory of comparative advantage being undermined, he means that the (national) welfare version of the theory collapses: i.e. “gains from trade” cannot be assured: we can no longer assert that free trade dominates no trade (i.e. autarky). But this is not correct.

For one thing, factor mobility had existed even in Ricardo’s time and became pervasive during the First Globalization extending from 1870 to the First World War. It

¹⁰ Thus, in an influential op-ed in the New York Times, Charles Schumer and Paul Craig Roberts (2003) have written: “However, when Ricardo said that free trade would produce shared gains undermined for all nations, he assumed that resources used to produce goods--what he called the ‘factors of production’--would not be easily moved over international borders. Comparative advantage is if the factors of production can relocate to wherever they are most productive: in today’s case, to a relatively few countries with abundant cheap labor. In this situation, there are no longer shared gains--some countries win and others lose.”

is implausible to think that international factor mobility escaped Ricardo's attention. If Ricardo did not model international factor mobility in his celebrated England-Portugal example of gains from trade, the answer is possibly to be found in two presumptions: first, like all great theorists, he was constructing the simplest example to demonstrate how gains accrued, contrary to mercantilist thinking, from specialization under trade; and, second, that the absence of international factor mobility, in his judgment, was an unnecessary complexity.

It is also readily shown that the gains from trade do not depend on the absence of factor mobility. We can demonstrate this in the Ricardian model which is cited by Paul Craig Roberts. Thus, consider Table 1, which offers three possible examples assuming the familiar Ricardian structure of two goods (X and Y), two countries (A and B) and one factor of production (labor).

Table 1: Comparative Advantage and Factor Mobility

Country	Output per person year					
	Example 1		Example 2		Example 3	
	X	Y	X	Y	X	Y
A	8	4	4	2	4	2
B	2	2	2	4	2	1

In Example 1, A has an absolute advantage in both goods but comparative advantage in X. Denoting by FT and NT the level of welfare under free trade and no trade (autarky), respectively, we know from the conventional Ricardian theory that $FT \geq NT$

for each country with strict inequality applying to at least one country.¹¹ In the trading equilibrium, real wages are higher in A so that allowing labor to move internationally results in the workers migrating from B to A. If only a part of B's labor force is allowed to migrate, the inequality $FT \geq NT$ still holds for the nationals of both countries at the post-migration labor endowments.¹² If all labor in B moves to A, the gains-from-trade issue is of course rendered irrelevant.

In Example 2, A has an absolute advantage in X and B in Y. Consequently, A also has a comparative advantage in X and B in Y so that $FT \geq NT$ continues to apply. In this case, it is possible for trade to equalize real wages, eliminating the incentive to migrate. If the real wages remain different, however, labor mobility will still be partial and the gains from trade will characterize the trade equilibrium under international factor mobility.

In Example 3, A has an absolute advantage in both goods but comparative advantage in none. With the opportunity costs being the same in A and B, there is no scope for trade so that opening to trade is neither beneficial nor harmful: we then have $FT = NT$. The real wages being higher in A than B, however, labor in B has an incentive to migrate to A. If such migration is permitted, it benefits migrants without hurting the workers in A. But we continue to have $FT = NT$ at the post-migration labor endowments.

¹¹ The strict equality holds for one country if it is so large that the relative free-trade price settles at its autarky price, which equals its opportunity cost ratio. As long as the free-trade price lies strictly between the opportunity cost ratios of the two countries, we have $FT > NT$ for each country.

¹² A different comparison can be done between the welfare levels enjoyed by a country at the free trade equilibriums with and without labor mobility. If the country is small in the goods market so that the terms of trade effects of labor mobility are ruled out, opening to the latter cannot harm the national welfare. If the country is large, however, the ranking between free-trade equilibrium with and without factor mobility compares two sub-optimal equilibriums and can go either way. Our discussion below sheds more light on this question.

The outcomes are not dramatically different in the Heckscher-Ohlin model, which in its conventional version assumes identical technologies across countries and allows for two factors whose relative endowments differ across the two trading nations. As long as the countries do not specialize completely in production, free trade in commodities (free movement of factors) with no movement of factors (commodities), by equalizing commodity (factor) prices, equalizes factor (commodity) prices, thus eliminating the incentive, that exist in autarky, for movements of factors (trade commodities).¹³ By the same token any restrictions on commodity trade (factor movements), by preventing equalization of factor (commodity) prices, could prevent factor (commodity) price equalization, thus leaving positive incentive for factor (commodity) movement as under autarky.

If we allow for complete specialization by one country or for differences in technologies across countries, free trade fails to equalize factor prices. In this case, factors do have an incentive to move internationally even under free trade in goods. But such movement does not eliminate the benefits of trade. With resources having moved to new locations, the trade equilibrium will still be characterized by a superior outcome for the nationals of each country than under autarky, so that $FT \geq NT$.

2. Optimal Tariff for a Large Country

A second point to remember is that trade economists have long recognized that while free trade is beneficial for each country relative to autarky in the sense that it is possible for winners in a country to compensate the losers in that country and still enjoy higher real incomes, free trade does not maximize the gains from trade (except in the case of a

¹³ This is the celebrated Factor Price Equalization theorem of Paul Samuelson.

small country, i.e. one that faces fixed terms of trade). Specifically, a large country can improve its welfare over the free-trade equilibrium through the so-called optimum tariff. Thus, we have the ranking, $OT \geq FT \geq NT$, where OT stands for the level of welfare under the optimum tariff.¹⁴

But this qualification, known to trade economists for nearly two centuries, is not considered to be of importance in reality. Indeed, few economists approve of tariffs aimed at exploiting the market power in this manner. Quite apart from the fact that these tariffs harm global efficiency, they invite retaliation from the trading partners. The presence of other large countries makes the use of the tariffs to redistribute income in one's favor a double-edged sword: tariffs by the United States to redistribute income in its favor may be met by retaliatory tariffs by her trading partners such as the European Union. In this realistic case, it is possible, arguably probable, that both the US and her trade partners will suffer losses relative to the equilibrium where the US was not implementing an optimal tariff.¹⁵

3. Economies of Scale

A third set of critiques has come from economists who believe that scale economies, resulting in multiple equilibria, require intervention in trade. That scale economies lead to multiple equilibria, and that free trade may be characterized in consequence by wrong

¹⁴ For a small country, the optimum tariff is zero so that $OT = FT \geq NT$. In the limiting case when the free-trade price coincides with the autarky price, we have $OT = FT = NT$. The possibility $OT > FT$ arises because a large country enjoys monopsony power in the world market and therefore benefits from the improvement in its terms of trade when it reduces its demand for imports through the imposition of a tariff. This improvement in the terms of trade shifts the burden of the tariff partially to the exporters so that even though the world efficiency suffers, the tariff-levying country is able to benefit at the expense of the exporter.

¹⁵ The theoretical basis of the retaliation argument militating against the use of an optimal tariff is discussed in our text, Bhagwati, Panagariya and Srinivasan (1998, Chapter 21). See also the analysis in Bhagwati (2002, Chapter 1).

specialization that may either make that specific FT equilibrium inferior to the NT equilibrium or that a better global maximum can exist that is superior to the local FT equilibrium, has been known in the literature that grew around R.C.O.Matthews' (1950) pioneering article on increasing returns. This literature including, in particular, Murray Kemp (1969), Arvind Panagariya (1981) and Wilfred Ethier (1982), employed the assumption that scale economies were external to the firm though internal to the industry and thus got around the Sraffa problem that scale economies internal to the firm would be incompatible with perfect competition. The recent work on scale economies combining scale economies with imperfect competition, attributed to the pioneering work principally of Avinash Dixit and Victor Norman (1980), Paul Krugman (1980), Elhanan Helpman (1981), Kelvin Lancaster (1980) and Ralph Gomory and William Baumol (2001), has extended the analysis to the case where scale economies are internal to the firm.¹⁶

But once again, trade economists ask the question: is trade intervention on these grounds of multiple equilibria desirable? Is it likely that governments will be able to credibly establish a better equilibrium to nudge the system to? The information requirements are staggering; they are also critical. On the different issue of externalities, the problem is similar. As Robert Solow has said wittily: I know that there are several industries with externalities where a dollar worth of output is really more dollars worth socially; my problem is that I do not know which ones they are! Similar caution attends those who advocate intervention simply because we know that path-dependence can

¹⁶ A different strand of the literature on imperfect competition, to which scale economies are not central, follows the lead of James Brander and Barbara Spencer (1985) and Jonathan Eaton and Gene Grossman (1986).

obtain: do we know ahead of time, at least with some plausibility, what these paths are and whether they are good or bad?

IV. Outsourcing and Welfare: Anything Different?

So far, we have argued that the effect on national welfare of offshore outsourcing in Mode 1 services cannot be anything different from that of other trade, and considered and discounted in the preceding section the current critiques of trade generally. Yet, many may dismiss our argument as having not been demonstrated. So, in this Section, we consider three alternative models that capture the essence of trade in services according to Mode 1. The first model is a stripped-down one-good model where the import of labor services at constant prices leads unambiguously to welfare gains from such importation, while leading to distributive effects among the two factors. The second model is more complex and allows for conventional trade in goods while allowing the importation of labor services. The third model shifts the nature of outsourcing to one where, with two traded goods, the third non-traded good becomes tradable on line. In this model, allowing the non-traded good to be imported at a lower price, thanks to offshore trading becoming feasible, leads to welfare gain and to both factors becoming better off, thus refuting the presumption that outsourcing will necessarily harm the real wages of particular factors of production. All three models therefore illustrate how offshore outsourcing is generally beneficial¹⁷, exactly as conventional trade in goods is, but also that the distributional effects are not necessarily divisive.

¹⁷ When the country has monopoly power in trade, i.e. is a large country, the qualifications noted earlier in the text follow, of course, and are duly noted.

Model 1: Gains from Outsourcing in the Absence of Trade

Assume diminishing returns to factors as usual and let the MP_L curve in Figure 1 represent the marginal product of labor, given the fixed endowment of capital in the economy. Letting L^0 be the endowment of labor, the wage in terms of the final good is represented by W^0 . The wage bill is the area formed by the rectangle $O^0W^0E^0L^0$. The return to capital is the area under the MP_L curve and above W^0E^0 .

Given only one potential good, there is no scope for conventional international trade in this model. Suppose, however, that an innovation allows the economy to buy the services of labor abroad electronically at the fixed wage W' . If these services are allowed to be bought freely, the economy buys L^0L' labor abroad paying the rectangle $L^0L'E'R$ for it. Domestic labor receives OL^0RW' and capital the area under the MP_L curve and above $W'E'$.

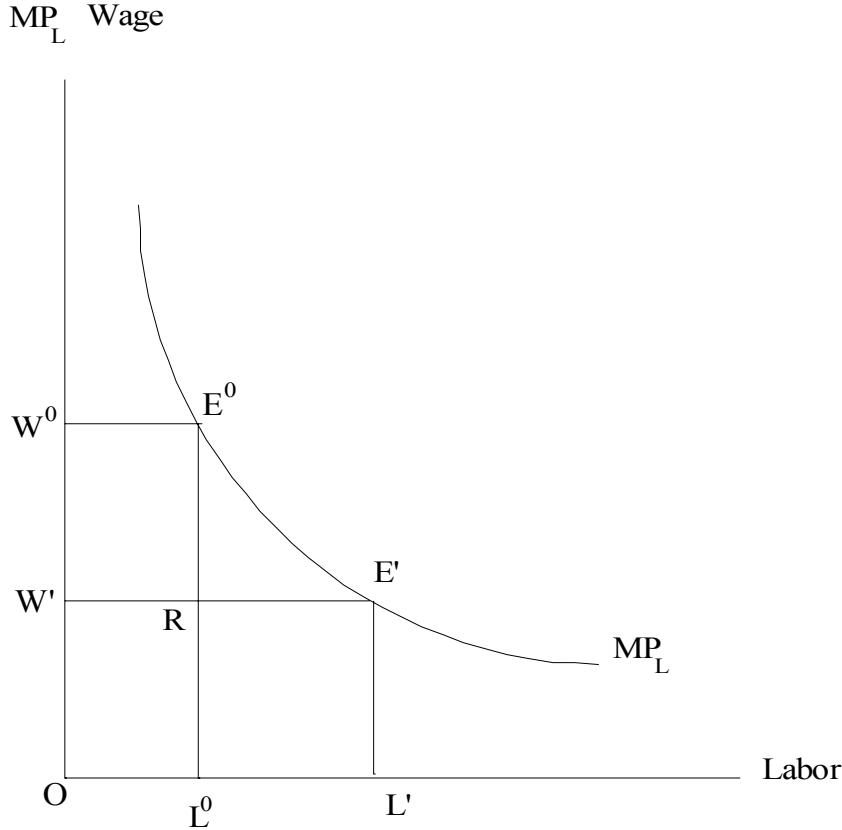


Figure 1: Simple Economics of Outsourcing

Even from this very simple model, we can deduce the main effects of outsourcing. The country's total income rises by the triangular area E^0RE' , which is the net gain from outsourcing. Defining free outsourcing as free trade, we again obtain $FT \geq NT$. The income of labor, the "import-competing" factor, declines by area W^0E^0RW' and is redistributed to capital. Thus, capital owners make a gain of $W^0E^0E'W'$.

This analysis can be modified readily to allow for a rising price of the outsourced factor of production. In this case, the home country has monopsony power in buying the services of the outsourced factor so that it can do better than under free trade through the equivalent of the optimum tariff in the large country case discussed above in the context of final-goods imports above.

Model 2: Gains from Outsourcing in the Presence of Trade

But what if we are in a multi-good model in which the country already trades in the world markets and an innovation makes outsourcing possible? As long as we rule out any terms of trade effects, we can demonstrate that outsourcing remains beneficial, with the income-distribution effects along the lines of the aggregate-good model continuing to obtain. This is illustrated most easily using the two-sector, specific-factors model of the Samuelson (1971)-Jones (1971) variety.

Thus, suppose there are two final goods with each produced using a sector-specific factor and another factor that is common to both goods. For concreteness, label the factors specific to the import competing and exportable goods as unskilled labor and capital respectively, and the common factor as skilled labor. We think of skilled labor as the one to be outsourced.

Taking the world prices as given, Figure 2 shows the initial trading equilibrium in the absence of outsourcing. Axis O_1O_2 represents the total endowment of skilled labor in the economy. We measure skilled labor employed in sector 1 to the right from O_1 and that in sector 2 to the left from O_2 . Thus, any point on O_1O_2 represents an allocation of skilled labor between the two sectors. The $VMPL_1$ and $VMPL_2$ denote the value-of-marginal-product curves in sectors 1 and 2, respectively. The equilibrium allocation of skilled labor between the two sectors is given by S^0 where the skilled wage offered by the two sectors is the same, R^0 . The GDP can be then measured by the sum of the areas under the two curves up to the point indicating the employment of skilled labor, S^0 .

Suppose now that an innovation allows the country to purchase the services of skilled labor abroad at a lower wage shown by R' . At this wage, there is excess demand

for the services of skilled labor equaling GE' . This demand is satisfied through outsourcing, which expands the skilled-labor supply by O_2O_2' such that $O_2O_2' = GE$. To locate the new equilibrium, we shift the $VMPL_2$ curve horizontally to the right by $O_2O_2' = GE'$ as shown by $VMPL'_2$. Because $E^0A = GE'$ by construction, sector 1 employs S^0S' of the outsourced supply and sector 2 employs $S''S''$. It is then readily verified that there is a net (of payments to the workers abroad) increase in the national income equal to the sum of triangles E^0FE' and ABE' . Moreover, with the skilled wage having declined, unskilled wage and the rental on capital rise.

As long as we assume fixed terms of trade and there are no other distortions in the form of prior tariffs or distortionary taxes, outsourcing remains beneficial. Indeed, even the assumption of a rising foreign wage with increased outsourcing will obviously not negate this result: free outsourcing remains beneficial, although it does not maximize welfare.

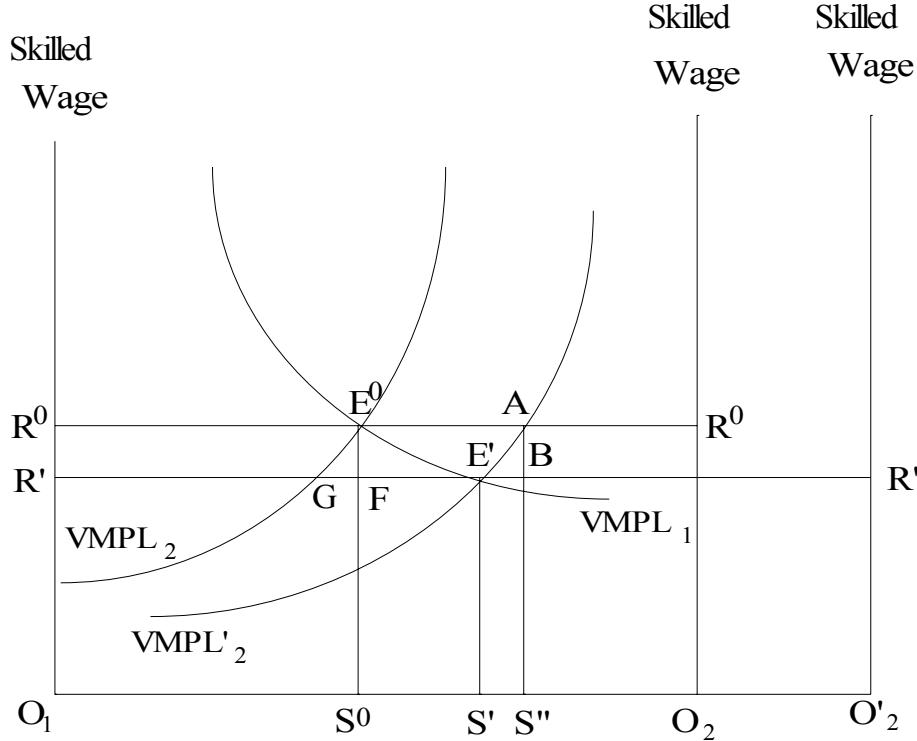


Figure 2: Outsourcing with pre-existing trade in goods

However, if we assume that the country is large in the goods market and trade is free, the introduction of outsourcing will not necessarily lead to a welfare gain. There are two ways to understand this result. The first is to note that, if outsourcing lowers the cost of production in the exportable sector and expands exports, the terms of trade in the goods market may deteriorate. This deterioration may then more than offset the direct benefits from outsourcing. Alternatively, if cost reductions apply largely to the import-competing products, the demand for imports declines, which lowers the prices of imported goods and improves the terms of trade. In this case, the direct gain from outsourcing is reinforced by the improvement in the terms of trade. The second way to understand the result is deeper and draws on the theory of immiserizing growth, as generalized in Bhagwati (1968). Bhagwati demonstrated that (one's own) growth in the presence of distortions could be immiserizing (to oneself) whenever it occurred in the

presence of an uncorrected distortion, i.e. in the presence of sub-optimal policies. For, the primary gain that would follow, if measured at optimal policies before and after the growth, could be outweighed by the incremental loss imposed by the uncorrected distortion in the post-growth situation. This important insight can be immediately extended --- see Chapter 29 on Immiserizing Growth in the graduate textbook by Bhagwati, Panagariya and Srinivasan (1998) --- to the case where the trade opportunity improves, augmenting the trade possibility set: the issue at stake here, where offshore outsourcing improves the trade opportunity for the country whose welfare is being analyzed. Since the country is large, it must have an optimal tariff. Instead, it has free trade, a sub-optimal policy. No wonder then that outsourcing with free trade policy in place can be immiserizing.

Again, it is worth stressing that if we were to ask a different question, namely how do we rank-order welfare-wise the equilibrium under an autarkic policy of no trade in goods and outsourced services to that under a policy of free trade in goods and outsourced services, the latter remains superior. I.e. the ranking $FT \geq NT$ continues to apply to free trade and autarky in goods and outsourced services considered together.

Model 3: Both Factors Gain

In the previous model, outsourcing leads to an adverse impact on the real income of the factor imported online. But this is not an inevitable outcome. Thus, take the three-good, two-factor model such that two of the goods, 1 and 2, are traded and the third, 3, is initially a non-traded service. Assuming, as before, that the country is small and produces both traded goods, the factor prices are fully determined and fixed by the exogenously given goods prices (as Samuelson demonstrated long ago). The supply

curve of the non-traded good is then horizontal with its total quantity determined entirely by demand.¹⁸

Suppose now that due to an innovation, the service becomes tradable and is available from abroad at a lower price than the one at which it is supplied at home. It is then immediate that the domestic supply of the service will disappear altogether with the resources released by it absorbed by goods 1 and 2. As long as both of these goods continue to be produced, the factor prices in terms of them will be unchanged. But since the price of the service, good 3, has declined, the returns to the two factors in terms of it rise. Thus, outsourcing ends up making the owners of both factors better off.

In conclusion, we may add that these models only underline the fact that trade in outsourced services is “just another kind of trade”, subject to the same principles that the theorists of commercial policy have developed in the postwar period.¹⁹ In the same vein, as with trade in goods, we may note that the precise manner in which the benefits of outsourcing filter through the economy depends on the structure of the economy. Thus, if outsourcing principally takes the form of an intermediate input into the production of other goods, it will act like input-saving technical change, augmenting productivity. This is the case, for example, with customized software or designs supplied at lower costs through outsourcing to the firms producing, say, automobiles in the United States. On

¹⁸ This is the well-known Komiya (1967) model. The statement in the text about the constant-cost supply of the non-traded good depends on the economy remaining in the McKenzie-Chipman diversification cone, of course. Once we get out of the diversification cone, the supply curve of the non-traded good will be upward-sloping and the exact argument in the text would have to be modified. Some of the best theoretical model using the Komiya model is by Ronald Findlay; see, in particular, his use of it (Findlay 1970) in extending the Heckscher-Ohlin theorem to the “long run” with capital accumulation.

¹⁹ These have been set out fully in Bhagwati (2002).

the other hand, if outsourcing takes the form of a new product or an old product supplied at a lower price to the final consumers, it will directly add to real income.

The important recent work by Catherine Mann (2003), which draws on Mann and Jacob Kirkegaard (2003) and concentrates on the effect of outsourcing on productivity of firms, points to very substantial productivity gains for the United States from the globalization of the Information Technology (IT) hardware production. She estimates that the globalized production and trade made IT hardware 10 to 30 percent cheaper than it would have been otherwise. Taking the mid-point of these estimates, Mann calculates that the price decrease translated into higher productivity growth and a faster real GDP growth of 0.3 percent per year from 1995 to 2002 in the United States. She hypothesizes, as in the case of hardware, that globally integrated production of IT software and services will reduce the prices of these products and promote further diffusion of IT use and transformation throughout the US economy. In turn, this would give further boost to productivity growth.

V. Outsourcing and Jobs

Consider next the impact of outsourcing on jobs. This question can refer to either the total number of jobs or to jobs of a certain type or in certain sectors.

(i) Total Number of Jobs: Now, economists argue that macro-economic policy determines the total number of jobs, whereas trade policy affects the composition of jobs. This is generally speaking true, except that there are situations, which do not obtain currently in the United States, where trade policy will affect the total number of jobs. Thus, if we have Keynesian unemployment, trade policy will determine the allocation of

given domestic and foreign demand between home and foreign goods, affecting domestic employment.

Similarly, even in conventional value-theoretic models, the assumption of sticky real wages can give trade policy a role in determining the level of employment: as analyzed in depth in the pioneering articles by Richard Brecher (1974a, 1974b). These possibilities do not apply to the United States where labor markets are generally characterized by wage flexibility. But some additional remarks are in order.

First, Lael Brainard and Robert Litan (2004) note in their excellent recent analysis of outsourcing that, historically, the number of jobs has flexibly adjusted to the growth in the labor force in the United States. Despite declining barriers to trade, rapid expansion of the volume of imports and the innovation of what appear to be job-displacing technologies, the United States economy has added 30 million workers on a net basis to its payroll since 1985. This figure even takes into account the recent recession and the relatively slow growth in jobs during the recovery. Moreover, the growth in jobs has been attended by a rise in the median family income by 20 percent during the period.

Second, for those who contend that all service jobs will be outsourced to India and China, it bears pointing out that it is simply not feasible to outsource all jobs. According to Vivek Agrawal and Diana Farrell (2003), 70 percent of the jobs in the United States are in service industries such as retailing, catering, restaurants and hotels, tourism and personal care that require the consumer and producer to be present in the same place and, therefore, cannot be outsourced.

Third, those who worry that all jobs will go to China and India, whether through outsourcing or through other trade, because their costs are lower than ours, are simply confusing absolute and comparative advantage.

(ii) Specific Jobs: This discounting of fears over the impact of outsourcing on US jobs relates to total employment. But specific types of jobs, e.g. call center jobs, or in certain sectors, e.g. in routine tax preparation, could well be lost; and indeed they are. The really interesting question, considered in the next section, is whether the new jobs that replace them, and which the displaced workers in these occupations will find, are going to be “better” jobs (i.e. which pay more) or “worse” jobs (i.e. which pay less). Related issues concern the appropriateness, and if so the provision, of adjustment assistance to displaced workers in the service industries, much as the US has had such assistance in varying forms for the manufacturing sector employees displaced by imports (with injury established as attributable to imports) for over four decades.

VI. Outsourcing and Wages

Is it correct to argue that, in contrast to the conventional view (supported by many empirical studies of the wage earnings in import-competing and exporting industries in the United States) that trade replaces bad jobs with good jobs, the current prospect is that high-value service jobs will be lost through outsourcing to low-value jobs? Thus, are programmers earning \$60,000 going to be bumped down (not just temporarily) into \$15,000 jobs stocking shelves and bagging groceries at the local Safeway or Wal-Mart?

This fear also seems to be misplaced. It was rampant when Vice President Fritz Mondale famously said, in the Presidential campaign, that the United States was destined to become a nation of hamburger-flippers. Well, we did not; instead we became a nation

of hamburger-eaters, one might quip, turning obese with a vengeance! The threat is no more realistic now. Consider several contrary arguments.

First, outsourcing may be creating services not previously available. This is like opening to trade leading to the imports of products not produced in the country. For example, getting telephone numbers through 411 and 555-1212 had become very expensive and would have been virtually eliminated by now. Instead, the availability of call centers abroad at cheaper (though high) prices has made it possible to retain this service. [In due course, the service will have died out there also as most users learn to use the Internet to find the phone numbers.]

Second, outsourcing may, in some cases, replace capital rather than (any) workers in the United States. This is true, for example, of the replacement of fully automated electronic responses to billing and other business inquiries by human operators abroad. Likewise, outsourcing may permit a return to manual inputting of checks into the computer system instead of using expensive imaging software.²⁰

Third, outsourcing itself may directly create new jobs in the United States. This happens when the availability of the cheaper lower-end skilled workers abroad makes an activity that also uses higher-end skilled workers in the United States financially feasible. The Information Management Consultants (IMC) of Reston, Virginia provides a concrete example of this possibility. Several years ago, IMC considered producing software that would allow bio-tech companies to better exploit the new human genome research. The project seemed financially unviable, however, if undertaken entirely in the United States. But having its Indian subsidiary do the bulk of the coding work made the project viable.

²⁰ The example here has been drawn from Agrawal, Farrell and Reemes (2003) who cite several others.

The outcome was a thriving line of business in bio-informatics for IMC and employment for many Ph.D. holders at six-figure salaries in the United States. For each engineer in India, the firm now employs six engineers in the United States.²¹

Fourth, the magnitude of jobs lost through outsourcing of services, in any event, is so small that it is hard to imagine why the scare is so great. The smallness of the number emerges whether we look at the buyer's side of the transaction or that of the seller.

On the seller's side, India is by far the largest provider to date of the offshore services. According to India's National Association of Software and Service Companies (NASSCOM) employment of workers such as software developers and call center operators serving clients outside India increased by 353,000 between March 2000 and March 2004 reaching 505,000. Of the increase, 70% or 247,000 workers went into serving clients in the United States. This works out to 61,750 jobs per year. In Ireland, the number of jobs created by the U.S. multinationals between 2000 and 2002 was 2,277 or just 1,139 per year. In the Philippines, the increase in the number of workers doing back-office work for non-Philippine companies between 2002 and 2003 was 14,500.²² Adding up all these numbers and accounting for some missing countries and categories, the number of workers engaged in providing offshore services to the United States companies could not have averaged more than 90,000 per year. If we then take into account the facts that some of these workers provided services that were not previously available (typing services); some performed jobs that were performed by machines; some created additional jobs in the United States; some formed a part of the overseas expansion

²¹ See the *Washington Post*, March 12, 2004, front page of the Business Section.

²² We take the numbers cited in this paragraph so far from the excellent report "Behind Outsourcing Debate: Surprisingly Few Hard Numbers" in the *Wall Street Journal*, April 12, 2004. The inferences in the remainder of the paragraph are ours.

programs of the U.S. multinationals; and that when jobs were lost each worker abroad replaced less than one U.S. worker due to the deployment of more labor-intensive techniques abroad, outsourcing could not have accounted for more than 65,000 job losses per year.²³ As a proportion of the 15 million voluntary job losses per year over the past decade in the United States, this loss is just 0.4 percent. As a proportion of the total labor force of 137 million, it is barely 0.05 percent.

Hard numbers on the buyer's side are less readily available but whatever evidence can be mustered reinforces the impression that the number is astonishingly low. The data on services collected by the Bureau of Economic Analysis do not show any shift in the imports of services from countries supposed to be providing offshore services.²⁴ Likewise, companies that lay off 50 workers or more are asked by the Labor Department to explain the reason. Only 2 percent of the layoffs in the past five years are reported to have come from companies reallocating operations overseas or from import-competition pressure.²⁵ Evidently, outsourcing could represent only a small part of these 2 percent of the total layoffs. Finally, Mann (2003) calculates that once we cut through the dotcom bust and adjust for the business cycle downturn, and compare more meaningfully therefore the employment in the IT-related industries during end-1999 to October 2003, employment in architecture and engineering occupations is stable, that in computer and mathematical occupations is 6 percent higher and in business and financial occupations is 9 percent higher. And the gross outflow of outsourced jobs during this period, as a

²³ Over a period of four years, this figure translates into 260,000 job losses, which is close to the estimate of 300,000 U.S. jobs outsourced to-date provided by John McCarthy of Forrester Research, Inc. (see the *Wall Street Journal* article cited in the previous footnote).

²⁴ Brainard and Litan (2004, p. 2).

²⁵ See *Wall Street Journal*, op. cit.

proportion of the stock of such jobs in 2002 is just a little over 1.3%, paling in significance relative to the churning of jobs that takes place in these sectors!

Fifth, even these estimates refer to gross outflows. But the United States is a huge exporter of services, including Mode 1 services in fields as diverse as legal, medical and accounting services. The net balance is surely in favor of the United States, though hard numbers are hard to come by.

Sixth, looking ahead, the available numbers on expected gross outsourcing are inherently speculative but no estimate puts them at levels which are anywhere alarming or even significant. The most frequently cited estimate is due to Forrester Research, Inc., according to which the total number of U.S. jobs outsourced will reach 3.5 million by 2015, suggesting only a doubling of the annual outflow of the minuscule outsourced jobs today. But, because Forrester does not explain its methodology, it is difficult to judge the validity of this estimate.

But if outsourcing is negligible, is even a net inflow, and cannot therefore be expected to put downward pressure on overall wages of the skilled workers of the United States, should we still fear that those displaced by outsourcing will be bumped down into low-value jobs? This is hardly likely since there are reasons to believe that new high-value jobs are being continually created by both outsourcing and by technical change.

First, the outsourcing from the United States is for low-value jobs, except for a few cases where R&D laboratories have been set up in India, for instance, just as they were set up in Europe decades earlier when they had cheaper scientists --- a process that cannot go far as the labs often have to be closer to home. On the other hand, insourcing from the United States (where others buy our legal, medical and other services) leads clearly to

higher-value jobs. Call centers which would have offered low wages are lost by us; but we gain from offering medical, legal and other services that have high-value jobs.

On balance, therefore, the outsourcing phenomenon, or the expansion of trade in Mode 1 services offers America a transition to higher-value jobs.

Second, the technology driver that dominates the US economy and its growth is also one that continually economizes on unskilled labor and creates new jobs for skilled labor. Thus, PCs have virtually eliminated the low-wage secretarial jobs (which used to be filled by many educated and gifted women who were largely excluded from high-paying occupations) on campuses. But then we have better paid technicians who now manage the PCs.

Third, evidence noted by Mann (2003) also points in the direction of optimism about the American potential for creation of high-value jobs.. Citing the BLS *Occupation Outlook Handbook* (OOH), she argues persuasively that the pessimistic future painted in the popular press is misleading. According to OOH, three of the 10 largest numerical increases in job categories are projected to be computer-related occupations: computer support specialists, computer software applications engineers, and computer software systems engineers. OOH also predicts that 13 percent of the total number of jobs created in the economy up till 2010 will be IT-related. The growth in these occupations will be 43 percent, compared with an economy-wide job growth rate of 13 percent. The key point is that the higher-paid IT jobs are projected to grow very rapidly in the United States.

What are we then to make of the recent work by Lori Kletzer (2001) that suggests that trade does bump several displaced workers into lower-wage jobs? Based on the *change* in

the share of imports in the total output in manufactures, Kletzer divides industries into low, medium and high import competing. With some modifications, she classifies the top 25 percent industries according to the change in the import share during 1979-94 as high import competing. This group includes the usual labor-intensive industries such as apparel, footwear, knitting mills, leather products, textiles, blast furnaces, radio and television, and toys and sporting goods and accounts for 6.45 million or 38.4 percent of the total jobs displaced in manufacturing during 1979-99. These are the workers characterized by Kletzer as *trade-displaced*.

Kletzer examines reemployment within two years of displacement and the post-reemployment wage changes according to the level of import competition. Of the trade-displaced, 64 percent were reemployed within two years and of the reemployed, 36 percent moved up the job ladder ending up in better jobs. But 35 percent ended up receiving wage cuts of 15 percent or more. The rate of reemployment was not dramatically higher for the other two categories: 65 and 67 percent for medium and low import-competition categories, respectively. The wage declines of 15 percent or more for the reemployed were also similar across categories: 34 and 38 percent of the reemployed workers in the case of medium- and low-import-competing sectors, respectively.

There are at least three problems with this evidence as pointing to trade bumping workers to significantly lower-paid jobs. First, the identification of the “trade-displaced” workers is itself problematic. The change in the import share in the total output can occur for reasons quite different from increased competition from abroad. For example, technical change originating within the United States may shift comparative advantage and cause imports to decline more in some sectors than others. It is also problematic to

define *all* workers in the industries experiencing a large increase in the imports-to-output ratio as “trade displaced” and all workers in the other industries as not trade displaced.

More likely, trade-displaced workers are spread across all industries. This fact may actually explain why Kletzer finds so little variation in the results across her three groups (see our third point below).

Second, if we nevertheless accept Kletzer’s classification, the results do suggest that a significant proportion of the trade-displaced workers end up being employed in jobs worse than they left. But this refers only to what happened within two years, thus pointing robustly only to short-run adjustment problems rather than to medium-term decline to low-wage jobs.

Finally, the rate of reemployment and wage changes for workers characterized as trade-displaced are not very different than those for other workers. In other words, a common factor, most likely technological change, is behind the displacement in all categories. Technological change, which shifted demand away from unskilled to skilled workers, has likely pushed the wages of the unskilled workers down across the board with trade having relatively little to with the observed change.

VII. Concluding Remarks

In conclusion, we would stress the following central propositions from our analysis.

First, the public discourse has been confused and corrupted by muddles over what precise phenomenon we are discussing as offshore outsourcing. As the U.S. Presidential election approaches, with Senator Kerry embracing alarmism over outsourcing and President Bush avoiding it vigorously, it is important that both know what exactly they are talking about!

Second, we have made the case for restricting the use of the offshore outsourcing phraseology to the trade in services on line: what the WTO in its GATS terminology calls Mode 1 services.

Third, when we have done that, it remains true that this phenomenon is just a “trade phenomenon,” like trade in goods. It leads to gains from trade (with the usual theoretical *caveats* and practical responses) and its effects on jobs and wages are no different in quality from those from conventional trade in goods.

Fourth, these effects, especially the fears that offshore outsourcing will create deleterious effects on jobs and wages are unjustified on closer analysis.

Finally, the different fear, no less than over outsourcing correctly defined, is over the growth of skills in India and China and its adverse effects on U.S. prosperity and wages of skilled Americans, does not withstand careful scrutiny either. Yes, this can happen; but the probability that it *will* happen is negligible.

Our analysis should remove the muddles and dispel these fears. But the capacity of economists to end muddles is limited by the political necessities to spread obfuscation to partisan advantage. And fear, as the Russian proverb goes, has big eyes. It also can have deaf ears. But we remain optimistic.

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Table 2: Post-displacement outcomes by manufacturing industry level of import
competition, 1979-999

Outcomes	Medium		
	High Import	Import	Low Import
	Competition	Competition	Competition
	(Percent)	(Percent)	(Percent)
Share Reemployed at the Survey Date	63.4	65.4	66.8
For Reemployed			
Mean Change in log Earnings	-13.2	-12.6	-8.6
(Standard Deviation)	(0.475)	(0.469)	0.475)
Share with the same or higher earnings	36	34	38
Share with 15% or larger earnings losses	35	36	34
Share with 30% or larger earnings losses	25	25	26

Source: Kletzer (2001, Table 3.3). Calculations are based on Displaced Worker Surveys, 1984-2000.