The Muddles over Outsourcing

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Note: Readers who are not theoretically inclined may skip Section III without loss of continuity.

Abstract

Critics have muddled the public debate over offshore outsourcing by using the term interchangeably to refer to altogether different phenomena such as on-line purchase of services, direct foreign investment and, sometimes, all imports. We argue that clarity requires distinguishing among these various phenomena and define outsourcing explicitly as the services trade at arm's length that does not require geographical proximity of the buyer and the seller—the so-called Mode 1 services in the WTO terminology— conducted principally via the electronic mediums such as the telephone, fax and Internet. The definition is appropriate because this is the phenomenon that is relatively new and scary in public consciousness and has fueled the recent "outsourcing" debate. Under this definition, the total number of the U.S. jobs outsourced annually is minuscule and is expected to remain so over the next decade, even on a gross basis (i.e., without adjusting for the jobs in-sourced from the U.S.). The fears that offshore outsourcing will lead to high-value jobs being replaced by low-value jobs down the road are also argued here to be implausible in view of several qualitative arguments to the contrary. We also demonstrate that offshore outsourcing of Mode 1 services raises no new analytical issues, contrary to what many fear. Thus, it leads to gains from trade (with the standard caveats applicable to conventional trade in goods) and, in specific cases, to income-distribution effects.

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In the early 1980s, "outsourcing" typically referred to the situation when firms expanded their purchases of manufactured physical inputs, like car companies that purchased window cranks and seat fabrics from outside the firm rather than making them inside. But in 2004, outsourcing took on a different meaning. It referred now to a specific segment of the growing international trade in services. This segment consists of arm's-length [or what Bhagwati (1984) has called "long-distance"] purchase of services abroad, principally, but not necessarily, <u>via</u> the electronic mediums such as the telephone, fax and Internet and includes, for example, phone call centers staffed in Bangalore to serve customers in New York and x-rays transmitted digitally from Boston to be read in Bombay.[1]

Thus, in February 2004, the members of President Bush's Council of Economic Advisers stated: "Outsourcing of professional services is a prominent example of a new type of trade" (Mankiw, Forbes, and Rosen, 2004). The chair of the CEA, Gregory Mankiw, made a similar point in a press interview (Andrews, 2004): "I think outsourcing is a growing phenomenon, but it's something that we should realize is probably a plus for the economy in the long run. We're very used to goods being produced abroad and being shipped here on ships or planes. What we are not used to is services being produced abroad and being sent here over the Internet or telephone wires. But does it matter from an economic standpoint whether values of items produced abroad come on planes and ships or over fiber-optic cables? Well, no, the economics is basically the same."

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[1] While the text refers to transactions by firms, "final consumption" by individuals can also include purchases of manufactured components and of on-line services. Thus, an individual might order a toner for her fax machine directly from an offshore manufacturing firm; and she may use an offshore firm to get her living room's interior redesigned. In the data that we discuss below, both purchases by firms and by individuals are included as the data do not distinguish among them; nor should they.

Mankiw's comments caused a considerable stir, with critics complaining that he had endorsed "shipping U.S. jobs overseas". Journalists jumped on the bandwagon, with Lou Dobbs of CNN going so far as to list on his program the American companies that presumably outsource jobs and "ship jobs abroad," without any clarity as to the definition of outsourcing since he was evidently not confining his list to firms that bought arm's-length services offshore. Senator Kerry joined in as well, again without clarity regarding the phenomenon that he was targeting, by castigating firms that bought components (not just arm's-length services) abroad or simply invested abroad as "Benedict Arnolds" that were shipping jobs abroad and thus being traitors. Many Americans had similar concerns; for example, an Associated Press-Ipsos poll in May 2004 found that 69 percent of Americans thought that outsourcing, again not unambiguously defined, hurts the U.S. economy, against only 17 percent who think it helps (reported at <http://www.pollingreport.com/trade.htm>).

The public debate over outsourcing has been marred by two sets of serious muddles. The first set of muddles relate to what is meant by outsourcing, with many of the concerned politicians and journalists, even some economists, going beyond trade in offshore arm's-length services to include, without analytical clarity, phenomena such as simple offshore purchase of manufactured components and even direct foreign investment by firms. The second set of muddles is more subtle: the few economists who use the phenomenon correctly to characterize the trade in arm's-length services, still tend to worry whether the outsourcing debate is just a replay of the long-standing disputes over free trade, or whether it presents different analytical issues.

In this paper, we first address the muddles over the definition of outsourcing. We discuss in some detail how outsourcing, properly defined as the offshore trade in arm's – length services, is addressed in the World Trade Organization in its General Agreement on Trade in Services. We also discuss recent estimates of the extent of outsourcing; and why the outsourcing issue erupted in 2004.

We then present some models to illustrate outsourcing; and we use them to consider how trade in offshore purchase of such arm's-length services might affect national output, wages, and distribution of income. Addressing the concerns that such outsourcing presents novel problems, we argue that outsourcing is fundamentally just a trade phenomenon; that is, subject to the usual theoretical <u>caveats</u> and practical responses, outsourcing leads to gains from trade, and its effects on jobs and wages are not qualitatively different from those of conventional trade in goods. We also distinguish between, first, the analysis of outsourcing which has to do with the effects on the United States of new trade possibilities which convert previously non-traded services into traded arm's-length services (at any given skills and factor endowments of countries) and, second, the analytically different issue of what prospects the United States faces as skills accumulate in countries such as India and China in IT-related activities that augment internationally traded arm's-length services.

I. Muddles over the Definition of Outsourcing

We will first consider here trade in services and discuss where offshore trade in arm's-length services, which is the proper definition of offshore outsourcing, fits into this broad category. We will then consider how such outsourcing is muddled with other phenomena that must be sharply distinguished analytically and empirically from it.

Categorizing Trade in Services

The economics literature on trade in services has long made distinctions based on the different ways in which the provider and the user could transact. For example, Bhagwati (1984) distinguished between "long-distance" (i.e. arm's-length) services and those requiring the provider and the user to get together.[2] Sampson and Snape (1985) offered further distinctions in the latter group. The language of the World Trade Organization (WTO), under its General Agreement on Trade in Services (GATS), actually categorizes four different ways in which services can be traded.

In Mode 1 of the WTO terminology, trade in services involves arms-length supply of services, with the supplier and buyer remaining in their respective locations. This category includes all electronic commerce.[3] This kind of trade in services is generally distinguished from goods trade in that it cannot be readily subjected to customs inspection. Both individuals and firms can provide Mode 1 services. In the former category, we have independent designers, architects and consultants who sell their services electronically to manufacturers around the world. In the latter, we have large firms that manage call centers, back offices and software programmers.

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[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.

[3] Though the Mode 1 purchases have come into prominence because of their sudden expansion made possible by the advances in the information technology that allow rapid flow of voluminous data across international boundaries, in principle, such transactions can also take place through conventional means of communications. For example accounting work for a firm in New York can be done in Bangalore with records going back and forth by snail mail.

Mode 2 services are those provided by moving the service recipient to the location of the service provider. Travel by foreign residents including tourists is the dominant form of Mode 2 exports and contributed $71.8 billion to the U.S. services exports in 2001. Other examples Mode 2 exports include medical care rendered to foreign patients and education provided to foreign students. The latter generated as much as $11.5 billion in export revenues for the United States in 2001.

In Mode 3, the service provider establishes a commercial presence in another country, requiring an element of direct foreign investment. The direct investment involved is assumed to be minuscule, considered instead as establishment of presence only so as to facilitate sales and purchases. Mode 3 is therefore held to entail merely the "right to establish", to distinguish it from full-scale direct investment. The most prominent examples of Mode 3 services are banking and insurance.

In Mode 4, the service seller moves 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. Thus, Mode 4 implies temporary migration, which it can shade often over into permanent migration since the experience with the guestworker (gastarbeiter) program in Western Europe has shown that it can be 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."

Trade in Mode 1 services is what most economists have meant when they discuss whether outsourcing is good or bad. Moreover, international trade in tourism (Mode 2), banking and insurance (Mode 3) and programs of temporary or permanent migration (Mode 4) present distinctive issues of their own, so that Mode 1 trade in services is the primary focus of this article. But it is worth noting the historical irony that when trade in services was brought into the fold of international trade rules <u>via</u> 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, while Modes 3 and 4 were most controversial. The developed countries aggressively demanded the expansion of the right to commercial presence abroad (Mode 3) and vehemently opposed the inward movement of people (Mode 4). Developing countries, on the other hand, resisted liberalization in Mode 3 services and pushed for the liberalization of Mode 4 services, which offers their unskilled populations the possibility of getting into developed countries and offering their services.   Neither side showed much resistance to the Mode 1 cross-border trade in services, perhaps because by definition, it did not involve accepting a foreign presence on one's soil. Indeed, 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 in 1995, the United States aggressively pushed the idea that the WTO members commit to zero duty on the Internet trade. In the current Doha Round WTO negotiations, the situation is dramatically different, and now high-income countries have become disinterested in making offers of trade liberalization for imports of Mode 1 services.

Muddles over Definitions

While it is clear therefore that offshore outsourcing from the United States refers to the purchase of long-distance services <u>a</u> <u>la</u> Mode 1 of WTO, the public controversy over outsourcing and its effects on American prosperity, jobs and wages is not so clear in its definition. Two other phenomena have been muddled up with it, making the discussion of the phenomenon opaque and misleading, to say the least.

First, the public outcry often slides over into imports of all services, not just Mode 1 services. Sometimes the critics of outsourcing appear to include even the imports by firms of manufactures components as under the early-1980s definition.[4] In fact, such enlargement of the scope of the phenomenon of outsourcing should include imports of products for final consumption as well: after all, there is no difference in principle between a wealthy American importing for his supper French brie and Burgundy, instead of consuming Milwaukee beer and Kraft cheese, and his importing a Japanese lathe rather than one manufactured in Ohio for his factory in Youngstown.

Second, and equally seriously, the politicians seem to add indiscriminately to the discussion of outsourcing of Mode 1 services the phenomenon of direct foreign investment, as when a firm closes its plant in Boston and invests in production in Bombay, or when a firm simply opens up a factory in Nairobi instead of in Nantucket.[5] This is to confuse the phenomenon of trade in services with direct foreign investment.

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[4] A notable example of such a lapse is Dobbs (2004), the jacket copy of whose book, <u>Exporting America</u>, condemns the fact that "Employment in the auto industry has dropped by 200,000 jobs over the past four years, while imports of Chinese auto parts have doubled."

[5] Thus, Dobbs(2004) again complains on the flap of his book jacket about "Carrier, maker of air-conditioning and heating units, closes its Syracuse, New York, plants --- and most of its 1,200 jobs go to Singapore and Malaysia."

Needless to say, politicians on all sides make this error. Thus, the election platform of Senator John Kerry refers clearly 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 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." Matching this confusion, Commerce Secretary Don Evans has 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 such as Honda, Toyota and Mercedes-Benz that have opened plants in the United States, spending over $1.5 billion and employing thousands.

But then direct foreign investment (DFI) is <u>not</u> the same as offshore outsourcing, even though sometimes both phenomena are tied together as, for example, when Dell invests in an outsourcing facility for call-answering in Bangalore. The two phenomena are both empirically and analytically distinct. The pros and cons of DFI are much discussed in the massive academic literature on the subject. But it would be fair to say that today DFI is considered to be 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.[6] Regardless, we will ignore this question, concentrating instead on analyzing outsourcing (of Mode 1 services), as defined and distinguished above.

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[6] The voluminous literature has been reviewed by many, including Magnus Blomstrom (19) and Richard Caves (19), among the two principal researchers in this area. 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).

II. How Many U.S. Jobs Have Been Outsourced?

Despite the heated rhetoric over outsourcing, the actual magnitude of jobs affected by outsourcing of Mode 1 services in the U.S. economy appears quite modest. The smallness of the number emerges whether we look at the buyer's side of the transaction or that of the seller.

On the buyer's side, perhaps the most frequently cited estimate is due to a 2002 report from Forrester Research, Inc., authored by McCarthy (2002), according to which the total number of U.S. jobs outsourced will reach 3.3 million—recently revised to 3.4 million in McCarthy (2004)—by 2015. Forrester does not explain whether the prediction is that the U.S. economy will have 3.3 million fewer jobs in 2015 than it would otherwise have because of outsourcing, which seems implausible given the common belief among economists that the number of jobs in the long run is determined by the natural rate of unemployment, or whether the prediction is that outsourcing will cause 3.3 million U.S. workers to shift from jobs that they might otherwise have had into different jobs, which is a more plausible claim. Nor does this Report focus fully on just Mode 1 services so that the estimate for outsourcing is likely to be overstated.

But even accepting these estimates at face value, Forrester is suggesting an average annual outflow of jobs of at most three hundred thousand as against the recent annual outflow estimated (without any offset for the inflow of jobs due to outsourcing by other nations from us) at roughly a hundred thousand. The Forrester report associates this outflow to nine occupational categories (for example, management, architecture and engineering and computer and mathematical operation) of the Standard Occupational Classification system employed by the Bureau of Labor Statistics, identified as subject to

outsourcing. The outflow turns out to be a minuscule 0.53 percent of the 56.7 million

jobs in 2002 in these nine occupational categories.[7] Alternatively, consider that the U.S.

economy destroyed as many as 30 million jobs in 2002 and created approximately as

many of them: the Forrester estimate of job outflows is thus only 1 percent of the number

of jobs destroyed and created annually currently.

Evidence on job losses from yet other sources reinforces the conclusion that the

aggregate effect of outsourcing has so far been negligible. Companies that lay off 50

workers or more are asked by the U.S. Department of Labor 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. Evidently, Mode 1

outsourcing of services must be only a small part of these 2 percent of the total layoffs.

Likewise, Mann (2003) calculates that once we cut through the dotcom boom and

bust and adjust for the business cycle downturn, and compare more meaningfully

therefore the employment in the information technology-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. These figures do not directly measure the

extent of outsourcing but insofar as the occupational categories they represent are the

ones subject to outsourcing, a stable or rising employment trend in them suggests

relatively little impact of outsourcing on the total employment.

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[7] Kirkegaard (2003) offers a detailed and careful analysis of the job losses in the nine
occupational categories between 2000 and 2002. Though manufacturing accounted for less than
10 percent of employment in these categories, it accounted for the vast majority of the job losses
in them. Services experienced a net gain in jobs in the categories. Among the nine occupational
categories, management accounted for 60 percent of the job losses.

The number of outsourced jobs can also be measured from the seller's side. India is by far the largest provider to date of offshore Mode 1 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 percent 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. [8]   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.

Moreover, remember that even if outsourcing sometimes appears to reduce jobs at certain firms or in certain sectors, in other cases it probably helps to 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. For example, the Information Management Consultants (IMC) of Reston, Virginia, several years ago considered producing software that would allow biotech companies to better exploit the new human genome research. The project seemed financially nonviable if undertaken entirely in the United States. But having its

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[8] We take the numbers cited in this paragraph so far from the 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.

Indian subsidiary do the bulk of the coding work made the project viable. 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 (Pearlstein, 2004).

Besides, the proximate job losses due to outsourcing must be set against the proximate job gains due to others outsourcing to the United States. The United States is a substantial exporter of services in fields as diverse as legal, medical and accounting services. And these include outsourcing of Mode 1 services, of course. We analyze in Section II below the consequences of outsourcing for jobs in the United States but we may remark here that while linking sectoral trade balances to aggregate jobs is inappropriate on theoretical grounds, if we were to disregard this caveat and join the policy debate on whether we proximately export more jobs than we import, the answer surely has to favor outsourcing. Besides, since we offer high-value Mode 1 services while importing low- value ones instead, the net trade balance in Mode 1 services is also almost certainly in our favor, just as it is on services more generally.

Given then the meager evidence that outsourcing has been or will be quantitatively important in U.S. labor markets, why has the issue risen to such prominence? One answer is that the stagnant job growth since the recession of 2001 has led to a search for possible causes. This attempt to draw a connection between international trade in services and slow U.S. job growth in the early 2000s is surely linked to the crude and incorrect view often used by protectionists that all imports, whether of goods or services, cause a "loss of jobs" for Americans. These complaints reduce to the witticism: trade is good but imports are bad. This is, of course, a well-

known and all-too-pervasive fallacy, but it has regained popularity at a time when trade deficits are large and job generation has been slow. Another reason for the furor over outsourcing is that the technological advances in computing, communications and information technology have made the outsourcing of services a practical possibility in a way that was not possible in the past, trading fear of job loss among white-collared workers. A presidential election campaign in 2004 has added intensity to this volatile mix of ingredients.

III. Analyzing Outsourcing

The consequences of outsourcing are also a source of controversy. Even some reputed economists have registered suspicion that there is a serious difference that makes outsourcing less likely to be beneficial to overall prosperity and more likely to be harmful to the workforce. So, we respond by modeling trade in Mode 1 services, using three alternative ways of doing so, and trace the impact on overall welfare and on income distributional effects. This analysis shows that, exactly as with trade in goods, the results are invariably to improve economic welfare (with the usual <u>caveats</u>) and to affect real wages of workers, but not always (just as we know from the conventional theory of the impact of trade on real wages).

Some Simple Models of Outsourcing

Conventional analysis of commercial policy distinguishes among three types of issues: how does trade affect aggregate economic welfare, what is its effect on the level of employment; and how does it affect income distribution, especially the real wages of

workers? In short, prosperity, jobs and wages are the focus of much of the postwar literature on commercial policy.

The popular textbook models of trade, like the two-country, two-factor and two-country model (Bhagwati, Panagariya and Srinivasan, 1998, Chapters 5, 6 and 10) used extensively by international trade theorists and associated with Paul Samuelson's stripped-down version of the Heckscher-Ohlin model, typically has three features.

First, free trade in the model raises the overall income of each nation over what it will have under autarky; it enlarges the size of the pie available to each country in the process. This is a conclusion that is totally robust: the "gains from (free) trade" can be demonstrated in perfectly general settings. Second, this model focuses on long-run analysis and therefore assumes full employment, which means it <u>assumes</u> that trade has no effect on the aggregate number of jobs. Third, the model allows factor prices to adjust to maintain full employment and therefore can <u>cause</u> changes in income distribution as a consequence of trade.

In particular, imagine a country which is relatively abundant in skilled labor, like the United States and which begins to trade with a country that is relatively abundant in unskilled labor, like India. In such a case, trade may increase the real income of skilled labor in the United States and lower that of unskilled labor. More narrowly, the need for the reallocation of resources may cause workers to experience dislocation – that is, the loss of a job, followed by a period of unemployment, followed perhaps by finding that the available jobs pay less than the ones held earlier (this being the case where real wages decline with trade). In models with flexible real wages but unwillingness to move out of import-competing industries, workers there can experience serious decline in their real

wages. Where this situation obtains, resistance to trade liberalization can follow even though trade enhances prosperity in the aggregate.

Nothing changes in such conventional analysis of commercial policy when we consider outsourcing. This is seen readily by considering now three alternative models that variously capture the essence of trade in services according to Mode 1. In the first model, there is one (aggregate) final good and we have two factors of production. With only one final good, there is no basis for trade initially. But the introduction of outsourcing opens the possibility of trading labor services for the final good. This outsourcing leads unambiguously to welfare gains, with the usual distributive effects between the two factors. The second model contains two goods and three factors and is therefore more complex. The new feature is that it allows for conventional trade in goods at fixed world prices initially and then introduces outsourcing. It shows that the country still gains overall from outsourcing with the income-distribution effects just as in the first model. The third model has three goods and two factors and it shifts the nature of outsourcing to one where, with two traded goods, the third non-traded good becomes tradable online. 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. The overall message of these models is that offshore outsourcing is generally beneficial to an economy (with conventional caveats), and also the distributional effects are not necessarily divisive.

Model 1: Gains from Outsourcing in a One-Good Model

Let's start with a model that has only one good, which is produced with two factors of production, labor and capital. Assume diminishing returns to the factors 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 $OW^0E^0L^0$. The return to capital is the area under the MP_L curve and above the horizontal line W^0E^0.

Given only one 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'. The economy continues to hire the same endowment of domestic labor, but now paying the lower wage. In this case, 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 the horizontal line W'E'.

The following economic effects obtain. The country's total income rises by the triangular area E^0RE', which is the net gain from outsourcing. 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 model captures much of the popular rhetoric that expresses doubts about outsourcing. That is, the model shows that outsourcing may benefit society as a whole, and thus that a policy of free trade with compensation from winners to losers (or widespread ownership of capital assets by workers) could benefit all parties. But in the

absence of a method for some of the social benefits received by capital to be transferred to workers, firms or owners of capital receive more than 100 percent of the social benefits from outsourcing, while workers experience losses.

Model 2: Gains from Outsourcing in the Presence of Trade

Now consider a two-good model in which the country already trades in the world markets and a technological innovation makes outsourcing possible. As long as we rule out any terms of trade effects, we can demonstrate that outsourcing remains socially beneficial, with the income-distribution effects along the lines of the aggregate-good model continuing to obtain.

Following Samuelson (1971) and Jones (1971), let there be two final goods, each produced using a sector-specific factor and another factor that is common to both goods. For concreteness, say that the import-competing good uses unskilled labor as its specific, while the exportable good uses capital as its specific factor, while the common factor to producing both goods is skilled labor. Now imagine that a technological change makes it possible for skilled labor to be outsourced.

Taking the world prices as given for the moment, 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 of import-competing goods to the right from O_1 and that in sector 2 of exportable goods 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 for skilled labor 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, which will show the total production of both goods.

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 $VMPL'_2$ (alternatively, we could shift the $VMPL_1$ curve to the left by the same amount). Because the size of this horizontal shift to the right is the same at every point, E^0A = GE' by construction, sector 1 employs S^0S' of the outsourced supply and sector 2 employs S'S". The quantity of outsourced labor is O_2O_2', and it is paid the wage R'.

The arrival of outsourcing increases national income. To see this on the diagram, first consider sector 1 and then sector 2. Before outsourcing, the original total value of output of sector 1 at the original wage R was given by the area under the $VMPL_1$ curve, up to the quantity of skilled labor input O_1S^0. After outsourcing, the value of output is the area under the $VMPL_1$ curve up to the quantity of skilled labor input O_1S'. However, the extra rectangle $S^0FE'S$'' represents wages that need to be paid to the workers who provided the outsourced services, so the output value gain in sector 1 is the triangle E^0FE'. Now consider sector 2, where in graphical terms, the addition of outsourced labor has "pulled" both the right-hand axis and the $VMPL_2$ curve to the right. Because of this horizontal shift, the original value of output of sector 2, which was the area under $VMPL_2$

given the skilled labor input O_2S^0 (measuring from right to left), is exactly equal to the area under VMPL'$_2$ given the input of skilled labor from O'$_2$ to S''. However, sector 2 can also increase output by making use of outsourced labor from S'' to S'. The rectangle S'E'BS'' must be paid to foreign workers in sector 2, but the triangle ABE' represents a social gain. Thus, the increase in output for the home country consists the sum of the two triangles E^0FE' and ABE'.

The distributional issues become more complex in this setting. However, assuming diminishing returns to all factors of production as in Figure 2, the increase in quantity used of skilled labor and a decline in the skilled wage will cause the unskilled wage and the rental on capital to 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 in this setting. However, if we assume that the country is large, the introduction of outsourcing will not necessarily lead to a welfare gain, because the opening to outsourcing can shift the terms of trade in the final goods. There are two alternative ways to understand this result.

First, imagine that at the initial prices, outsourcing expands the output of the exportable more than the demand for it, which raises the possibility that the terms of trade in the goods market deteriorate (that is, it will cost a nation more in terms of exports to purchase a fixed quantity of imports). This deterioration may more than offset the direct benefits from outsourcing. Alternatively, if outsourcing largely expands the output of the import-competing good, the demand for imports declines, which lowers the price of the imported good and improves the terms of trade. In this case, the direct gain from outsourcing is reinforced by the improvement in the terms of trade.

A second way to understand how outsourcing can lead to welfare losses draws on the generalized theory of immiserizing growth, developed in Bhagwati (1968). Bhagwati demonstrated that a nation's own growth in the presence of distortions could be immiserizing to the nation itself when it occurred in the presence of an uncorrected distortion. The secondary loss from the distortion can be accentuated from the growth, outweighing the primary gain from the growth. When trade opportunity increases, this is analytically the equivalent of growth. But when the country is following a free trade policy instead of exploiting its monopoly power in trade by adoption an optimal tariff, the free trade policy is a distortion; and the loss from it may be accentuated by the enhanced trade opportunity such as that resulting from the IT technology that converts the hitherto non-tradable service into a Mode 1 service (see Bhagwati. Panagariya and Srinivasan, 1998, Ch. 29).

In thinking about the welfare consequences of Mode 1 services in this model, it is worth stressing that there are really three scenarios: autarky, free trade before outsourcing, and free trade after outsourcing. Either of the trade outcomes will be preferable to autarky in welfare terms. However, while free trade with outsourcing will be preferable to free trade without outsourcing in an economy with fixed terms of trade and no other distortions, this conclusion can, but need not, be overturned if those assumptions change.

Model 3: Both Factors Gain

In the previous model, outsourcing leads to an adverse impact on the real income of the factor of production imported online. But this outcome is not inevitable. Consider a 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. Assume, as before, that the country is small and produces both traded goods. Perfect competition ensures that the average cost of each trade good, which is a function of the two factor prices, equals the exogenously given goods price. The two average-cost-pricing equations then ensure that the factor prices themselves are fixed as long as the traded-good prices re fixed. Given these fixed factor prices, the average cost of good three is fixed as well implying that its supply curve is horizontal with its equilibrium quantity determined entirely by demand.[9]

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

These models 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 (and are set out in Bhagwati, 2002). With trade in either goods or services, 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,

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[9] This is the well-known Komiya (1967) model that has been generalized to a dynamic context by Findlay (1970).

with customized software or designs supplied at lower costs through outsourcing to the firms producing, say, automobiles in the United States. On 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.

These three models can be thought of as describing several possible outcomes of a technological change that leads to increased outsourcing. In the first model, outsourcing benefits society, but the benefits arrive in a combination of higher returns to capital and lower wages. In the second model, with multiple factors of production and fixed goods prices, outsourcing again provides aggregate benefits, but that some workers gain while others lose. In the final model outsourcing provides benefits in a way that, at least after workers make a transition to other industries, leads to higher real incomes for all workers.

So, while distributional outcomes on factor rewards can vary among the models, as with conventional trade models, the conclusion is robust that outsourcing, like conventional trade, enhances aggregate welfare.

Accumulation of Skills Abroad

So far, however, we have analyzed outsourcing as involving technical change that entails converting a nontradable service, initially requiring proximity of provider and user, into a Mode 1 traded service. The phenomenon is analytically analogous to a reduction in transport costs that turns some initially non-traded goods into traded goods. It therefore has effects on the United States similar to those of conventional freeing of trade, holding the factor endowments including skill levels constant. But offshore outsourcing can also be augmented, holding the technology of outsourcing constant, with skills levels increasing abroad (e.g. in India and China) instead.

Some of the recent outsourcing fears have arisen from precisely this analytically distinct possibility. For example, in his numerous presentations during the last two years, Craig Barrett, the chief executive officer of Intel, has argued that India and China will soon have 300 million high-skilled workers, and that this situation poses a danger to the U.S. prosperity and to skilled workers in the U.S. economy (Sickinger, 2004; "Q & A: Intel CEO Craig Barrett," 2003). Fears have also been raised that the acquisition by foreign workers of the information-technology-related, medical and other skills would lead to losses, both for the United States in the aggregate and for the skilled American workers.

While we will later question the empirical relevance of these fears, we focus immediately on the key analytic issue they raise: taking now the outsourcing technology as given, what is the effect of an increase in the number of skilled workers abroad on U.S. prosperity and U.S. skilled workers? The three models we have outlined above readily permit the analysis of this question as well.

The important point to understand is that the effect of the expansion of skilled labor force abroad feeds into the U.S. economy through the wage paid to the workers providing outsourcing services in Models 1 and 2 and through the price of good 3 in Model 3. In order for the increased supply of skilled labor to be absorbed in the home economy, the skilled wage must necessarily decline in Models 1 and 2. In Model 1, the change necessarily increases overall welfare but makes the workers at home worse off.

In Model 2, the same results follow, of course, provided we maintain the small-country assumption in the goods market; otherwise, as we outline below, the terms of trade will shift and we should take this induced (secondary) effect into account to

determine the overall welfare effect. One possibility is deterioration in the terms of trade of trade, which if sufficiently large, may outweigh the primary gain from the decline in the skilled wage and lead to a net decline in welfare.

In Model 3, the expansion of skills abroad will manifest itself in a decline in the price of good 3, with beneficial effect for the United States. Moreover, under the small-country assumption, since the two factor prices continue to be determined by the average-cost-pricing conditions in the goods market, the real returns are unchanged in terms of the traded goods but rise in terms of good 3. Both factors therefore benefit equally, so neither factor is harmed.

As it happens, the question whether growth due to factor accumulation or increased productivity of foreign workers will necessarily benefit a country is a wholly conventional, even though a controversial, issue. It has been discussed in the public domain for half a century but in different contexts. When the U.S. economy was growing briskly in the 1950s, Europeans were concerned that this pattern might injure their standard of living. When Japan was growing rapidly in the 1960s and 1970s, many Americans were concerned that it was injuring the U.S. economy. The same argument is now surfacing again in the context of outsourcing services to China and India.[10] In light of our analysis, we can see immediately that the answer turns on whether the goods terms

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[10] In the 1930s, fear of cheap Japanese exports of textiles, lamps, hurricane lanterns and other labor-intensive products led to talk of the "yellow peril." The most feared product that made it into popular consciousness was the "one-dollar blouse." Recent years have seen revived fears of the "yellow peril," involving either exports from Asian "tiger" economies like South Korea, Thailand and Indonesia, and also from China. The offshore "outsourcing" of might be called the "brown peril" since the foreign country most prominently involved in media reports is India.

of trade will worsen or improve for the United States as a result of the postulated change abroad.

For example, in the 1950s, when growth in the United States was considered as the danger to European welfare, Harry Johnson (1954) constructed a two-country, two-good model in which each country was specialized entirely in one good. Therefore when the United States economy grew, the production of its own good increased and, provided the good was not inferior in U.S. consumption, the effect was to increase U.S. exports of its own good, lower the price of U.S. exports and hence help Europe. This is the essential result with respect to expansion of skills abroad in the three outsourcing models we have just described: outsourcing makes the factor (in models 1 and 2) or good (in Model 3) imported by the United States cheaper.

In yet another article, regarded as a classic in trade literature, Johnson (1955) generalized the above analysis by allowing the production of both goods by the United States. He demonstrated that, under plausible assumptions, growth associated with the expansion of the U.S. exportable benefited Europe and that with importable hurt it. These were the first formal demonstrations that growth in a trading partner could decrease or increase a nation's welfare.

We can readily apply the logic underlying Johnson's model to our Model 2 under the assumption of variable terms of trade. The simplest way to think of it is to assume that increased skill accumulation abroad leads to greater availability of already traded on-line skilled services to the United. If the demand for skilled labor in the sector producing the exportable good, good 2, is highly elastic ($VMPL_2$ is flat) and that in the sector producing the importable good, good 1, is highly inelastic ($VMPL_1$ is steep), much of the

extra skilled labor is absorbed by sector 2, increasing the supply of good 2 relative to

good 1. Unless the change in the relative demand at new income levels offsets entirely

this supply change, the relative price of good 2, exported by the United States, falls

generating a loss that must now be weighed against the gain from the cheaper availability

of skilled labor. If the loss from the terms of trade deterioration dominates, welfare

declines on net.[11]

IV. Implications for the United States: Welfare, Jobs, Wages and Dislocation

Let us now turn to a consideration of the implications of outsourcing for the

United States. There are four separate issues to consider: overall welfare; the total

number of jobs; the quality of jobs; and dislocation.

Overall Welfare

Our theoretical analysis established a strong presumption that outsourcing that

turns previously nontraded services into Mode 1 tradable services is beneficial to the

United States. We have also shown that taking the phenomenon of outsourcing as given,

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[11] Recently, the basic Johnson (1955) results have had their revival in the works
of Samuelson (2004) and Gomory and Baumol (2001, Chapter 2). In addition, a variety of
arguments have been offered over the last two centuries for trade protectionism but since these
arguments are not specific to the debate over outsourcing and trade in services, we will sidestep
them here. For example, the "optimal tariff" argument holds that a large country that has some
monopsony power in world markets can benefit from imposing a tariff on its trading partners,
even though world efficiency suffers as a result. Another classic argument, tracing back to Frank
Graham (1923) and clarified fully by Panagariya (1981) is that a country may be able to improve
upon its free trade welfare through protection when it imports an increasing returns good.
Closely related, we have the standard infant-industry argument that countries may benefit from
providing protection to industries subject to learning-by-doing economies of scale. The standard
responses of free traders are that these kinds of arguments hold in theory, but they are very
difficult for governments with limited information to enact in the way that theory suggests, and
they will lead to retaliation from other countries so that the ultimate result will probably be losses
for all parties.

the expansion of skills abroad that we already import is also beneficial for us since it makes the imported services even cheaper. The main qualification results from the possibility of the deterioration of the terms of trade in other goods—specifically, that the primary beneficial impact of the introduction of outsourcing or expansion of skills abroad may give rise to a sufficiently strong adverse secondary terms of trade effect in the traded goods to offset the former. This may happen, for example, because we export goods that are more intensive in information technology services and import goods that are less intensive in information technology. Taking outsourcing as given, foreign (e.g. Indian and Chinese) growth then makes the outsourced information technology services cheaper to us, which is beneficial, but it also has the harmful effect that it expands the world supply of the information-technology-intensive good that we export and thus worsens our terms of trade.

There are good reasons to believe that this last possibility does not capture the reality of outsourcing, however. For one thing, growth in China and India in the near future is likely to remain concentrated in low-end information-technology services that they are already exporting to us. The often-repeated notion that India and China will quickly educate 300 million of their citizens to acquire sophisticated and complex skills at stake almost borders on the ludicrous. The educational sectors in these countries face enormous difficulties. Adding 300 million to the pool of the skilled will take some decades.

But even if we were to grant the possibility of substantial expansion of complex skills in China and India, we must recognize that the conventional Johnson (19955)-type model that predicts losses due to the deterioration of the terms of trade becomes less

relevant at skill levels in these countries that are comparable to those in the United States. Instead, it is the "intra-industry" trade model describing two-way trade in similar products between high-income countries with similar factor endowments that becomes more relevant. As China and India acquire more skills and become technologically more sophisticated, we will observe them increasingly trading in services that are of "intra-industry" variety: what we might call "intra-service" trade will arise increasingly. Increased skills in such a setting lead to newer varieties of services and need not spillover into adverse terms of trade effects.

One final source of the gains from outsourcing that we have not discussed is the gain in productivity that lower-priced services used as intermediate inputs can bring. Mann (2003), drawing on Mann and Kirkegaard (2003), points to very substantial productivity gains for the United States from the globalization of information technology hardware production. She reports that the globalized production and trade made information technology hardware 10 to 30 percent cheaper than it would have been otherwise. Taking the mid-point of these estimates, she 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 that globally integrated production of information technology software and services will follow a similar pattern, reduce the prices of these products and promote further diffusion of information technology throughout the U.S. economy. In turn, this would give further boost to productivity growth.

The Total Number of Jobs

Consider now the effects of outsourcing on the total number of jobs in the United States. Economists typically argue that macro-economic policy determines the total number of jobs, whereas trade policy affects the composition of jobs**.** The <u>caveat</u> must be entered however that, in certain situations, trade policy will indeed affect the total number of jobs. In a Keynesian economy, tariffs can shift a given expenditure towards home goods, yielding an expansionary effect on output and employment. Again, in a situation of sticky real wages with associated unemployment, trade policy can affect total employment, as analyzed in pioneering articles by Brecher (1974a, 1974b). But neither possibility applies in a significant manner to the US economy currently**.**

Thus**,** Brainard and Litan (2004) note in their recent analysis of outsourcing that 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 to its payrolls since 1985—including the 2001 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 last two decades.

Moreover, those who contend that all service jobs will be outsourced to India and China are both empirically and theoretically mistaken. The empirical mistake is that it is not feasible to outsource all service jobs. About 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 (Agrawal and Farrell, 2003). The theoretical mistake is that the possibility that all jobs will go to China and India, whether through outsourcing or other trade because their costs are lower than ours, is perilously close to being based on confusion between absolute and comparative advantage.[12]

But even if outsourcing and trade are unlikely to reduce <u>total</u> employment, <u>specific</u> types of jobs can certainly be lost, like jobs in telephone call centers or in routine tax preparation. The interesting question is whether the new jobs that workers displaced by outsourcing will find are going to be "better" jobs that pay more or "worse" jobs that pay less. Are computer programmers earning $60,000 going to be bumped down (not just temporarily) into $15,000 jobs stocking shelves and bagging groceries at the local Wal-Mart?

Will there be other high-value jobs?

There are several reasons why we can expect that there will be other high-value jobs available for the workers displaced by outsourcing, so that outsourcing is unlikely to lower the wage level of the displaced U.S. workers except in the short-term.

First, outsourcing from the U.S. economy is generally for low-value jobs, like back-office operations, phone centers and data entry. There are admittedly some exceptions where R&D laboratories have been set up in India, for instance, but this process seems unlikely to go very far in the short to intermediate run, since the labs often have to be closer to home where new products tend to be developed and bugs sorted out. This is not unlike the first stage of what Raymond Vernon (1966) famously called the "product

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[12] For, remember that those who fear this are also convinced that the United States is rapidly losing the production of manufactures; and agriculture offers a minuscule fraction of American workers.

cycle" where innovating firms introduce and debug the product in the domestic market and once the product matures and is standardized, they shift its production to countries where it is cheapest to produce with the home country eventually becoming an importer of the product. On the other hand, insourcing from the United States -- where others buy American-produced legal, medical, educational and other services online -- leads clearly to higher-value jobs. We lose call centers, which would have offered low wages, 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, seems likely to offer 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, offshore outsourcing is not always practical and, even when technically possible, may not be able to compete with geographically proximate supply of the service. Thus, in an ageing population, where technical know-how is limited among the customers, repairs and debugging of equipment such as PCs on the phone can be beyond grasp.[13] The senior citizens among us are about the worst workers to work with to fix problems; what we need is technicians to work for us. So, we see increased numbers of firms springing up everywhere that will manage PC and IT products for consumers. They

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[13] Remember the funny story where the father asks an eight-year old son of his to put the chip into the TV so that "I can prevent you from watching x-rated films"!

get paid well; these "plumbers", like all plumbers, make more money than many Professors.

Fourth, in a dynamic economy that grows by the continuous infusion of new products and processes, there is an endless stream of new possibilities. Thus, if radiologists have no work left reading x-ray charts, we now have the obesity epidemic that is throwing up a vast number of new jobs, not just in liposuction and as personal trainers, but also in related diseases such as diabetes.

Then again, plastic surgery has taken off, and will explode, as millions of women in the ageing population will turn to facelifts, chin tucks, and much else. In short, doctors face no threat from lack of new high-value jobs, even as some of them lose the jobs they are currently in.

Fifth, 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. We recognize that the OOH predictions are not especially reliable so that one need not take the precise growth rates seriously. Nevertheless, their direction does not support those raising the specter of the collapse of IT-related jobs.

Finally, not all outsourcing results in direct displacement of the U.S. workers. In some cases, it may be creating services not previously available, which is like opening an economy 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 as a U.S.-based service, it 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 other cases, outsourcing may replace capital rather than (any) workers in the United States. For example, outsourcing allows some human operators to answer the phone for many billing and business inquiries, rather than having such tasks replaced by fully automated electronic response systems 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.[14]

Job Dislocation

Economic models of trade, at least the relatively simple ones used in this paper, typically assume that workers who lose one job can readily find another (although the wage may change, and not necessarily for the worse, as we have just argued). But in the real world, workers may suffer through a period of joblessness and displacement.

One of the most influential studies of the costs of trade displacement, by Lori Kletzer (2001), divides manufacturing industries into low, medium and high import competing, based on the change in the import share during 1979-94. For example, the import-competing group includes the usual labor-intensive industries such as apparel, footwear, knitting mills, leather products, textiles, blast furnaces, radio and television,

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

and toys and sporting goods and accounts for 6.5 million or 38 percent of the total jobs displaced in manufacturing during 1979-99. Interestingly, she find that across all three groups of industries, those who are displaced about two-thirds are reemployed within two years, with about half of that group ending up with job as that paid roughly as much or more than their previous job, and the other half experiencing a wage cut of 15 percent or more.

Set aside methodological questions about how the industries are categorized. Also, set aside the fact that Kletzer's study focuses on manufacturing rather than services or outsourcing, and that job-specific or industry-specific skills are likely more important in manufacturing firms while service-oriented skills like accounting or payroll may transfer across firms and industries more easily. These concerns duly noted, it is intriguing to note that the rate of reemployment and wage changes for workers that Kletzer characterizes as trade-displaced are quite similar to those for other workers. In other words, a common factor, most likely technological change, is behind the displacement in all categories.

The issue of how society should deal with displaced workers will arise in any dynamic market-oriented economy as firms rise and fall for a variety of reasons, with or without the presence of outsourcing or other forms of international trade. For example, society will have to decide the extent to which it will provide transitional support to all workers who are displaced -- regardless of whether the cause of the displaced workers is poor management, a shift in demand, domestic competition, foreign competition, or outsourcing – or whether society will provide greater support to workers displaced for particular reasons. For example, the U.S. has unemployment assistance that applies

regardless of the reason a worker loses a job, but it also has had specific assistance programs in varying forms for the manufacturing-sector employees displaced by imports (with injury established as attributable to imports) for over four decades.

Since however all societies seem to think that any job disturbance coming from foreign competition needs additional assistance, the provision of such assistance seems prudent if openness to international trade is to be maintained. Evidently, therefore, we can only endorse the proposal to extend such trade adjustment assistance to workers who have been displaced by outsourcing. Even when new high-value jobs are available to someone who has been bumped down to a $15,000 job from a $60,000 job, some retraining will be necessary to climb back to the better jobs. This is particularly so when older workers are involved. Wage insurance schemes, such as the one proposed by Kletzer and Litan (2001) and experimentally built into the Trade Promotion Authority legislation of 2003, are also an important innovative idea.

V. Concluding Remarks

If we are to have a productive public debate about outsourcing, a useful starting point would be to restrict the "outsourcing" phraseology to the services traded internationally at arm's length, principally on line: what the WTO calls Mode 1 services. Since outsourcing is a "trade phenomenon", it follows that its effects are not qualitatively different from those of conventional trade in goods. Thus, outsourcing leads to gains from trade, with the theoretical caveats that are standard in this literature (e.g. possible deterioration in the terms in trade if the country has monopoly power in trade). While outsourcing will increase aggregate income, it can, like international trade in goods, also lead to displacement of workers from certain sectors.

Next, it would help to admit that outsourcing is a relatively small phenomenon in the U.S. labor market and economy. It is possible that a small step may still bring us to the edge of an abyss. But qualitative analysis also underlines the fact that we do not face a precipice. High-value jobs arise and can be expected to continue to grow, even as low-value jobs disappear.

We hope that our analysis will dispel some of the fear of outsourcing. However fear, as the Russian proverb says, has big eyes. It also can have deaf ears. But we remain optimistic.

References

Agrawal, Vivek and Diana Farrell. 2003. "Who Wins in Offshoring." The McKinsey
    Quarterly, Special Edition: Global Directions, pp. 37-41.

Agrawal, Vivek, Diana Farrell and Jaana K. Remes. 2003. "Offshoring and Beyond." The
    McKinsey Quarterly, Special Edition: Global Directions, pp. 25-35.

Andrews, Edmund L., 2004. "Democrats Criticize Bush Over Job Exports." New York
    Times. February 11. p. A26.

Bhagwati, Jagdish. 1968. "Distortions and Immiserizing Growth: A Generalization."
    Review of Economic Studies 35, pp. 481-85.

Bhagwati, Jagdish. 1984. "Splintering and Disembodiment of Services and Developing
    Nations." *The World Economy* VII, pp. 133-44.

Bhagwati, Jagdish (ed.) 1982. *Import Competition and Response.* Chicago: University of
    Chicago Press.

Bhagwati, Jagdish. 2002. *Free Trade Today*. Princeton, NJ: Princeton University Press.

Bhagwati, Jagdish. 2004. *In Defense of Globalization*. New York: Oxford University
    Press.

Bhagwati, J., Panagariya, A. and Srinivasan, T.N. 1998. *Lectures in Trade Theory*.
    Cambridge, Mass.: MIT Press, 1998.

Brainard, Lael and Robert E. Litan. 2004. "'Offshoring' Service Jobs: Bane or Boon and
    What to Do?" Policy Brief #132, Washington, DC: Brookings
    Institution.

Brecher, Richard. 1974a. Minimum Wage Rates and the Pure Theory of
    International Trade." *Quarterly Journal of Economics* 88, pp. 98-116.

Brecher, Richard. 1974b. "Optimal Commercial Policy for a Minimum Wage Economy." Journal of International Economics 4, pp. 139-49.

Deardorff, Alan and Robert Stern (Eds.). 1994. *The Stolper-Samuelson Theorem*. Ann Arbor: university of Michigan Press.

Findlay, Ronald. 1970. "Factor Proportions and Comparative Advantage in the Long Run." *Journal of Political Economy* 78: 27-34.

Gomory, Ralph and William Baumol. 2001. *Global Trade and Conflicting National Interests*. Cambridge, Mass.: MIT Press.

Graham, Frank. 1923. "Some Aspects of Protection Further Considered." *Quarterly Journal of Economics* 37, 199-227.

Johnson, Harry. 1954. "Increasing Productivity, Income-price Trends and Trade Balance." *Economic Journal* 64: 462-85.

Johnson, Harry. 1955. "Economic Expansion and International Trade." *Manchester School of Economic and Social Studies* 23: 95-112.

Jones, R.W. 1971. "A Three-Factor Model in Theory, Trade and History," in Bhagwati, J. et al., *Trade, Balance of Payments and Growth*, North Holland, 1971.

Kletzer, Lori. 2001. *Job Loss from Imports: Measuring the Costs*. Washington, DC: Institute for International Economics.

Kletzer, Lori and Robert Litan. 2001. "A Prescription to Relieve Worker Anxiety." Policy Brief 01-2, Washington DC: Institute for International Economics.

Komiya, R. 1967. "Non-traded Goods and the Pure Theory of International Trade." *International Economic Review* 8: 132-52.

Mankiw, N. Gregory, Kristin J. Forbes and Harvey S. Rosen. 2004. "Testimony before the Joint Economic Committee, U.S. Congress: 'The Economic Report of the President.'" February 10, 2004.
<*http://www.whitehouse.gov/cea/economic_report_20040210.html*>

Mann, Catherine. 2003. "Globalization of IT Services: and White Collar Jobs," Policy Brief PBO 3-11, Washington, DC: Institute for International Economics.

Mann, Catherine L., with Jacob Kirkegaard. 2003. Globalization of Information Technology Firms and the Impact on Economic Performance. Institute for International Economics. Mimeo. (May 2).

McCarthy, John, 2002, "3.3 Million US Jobs to Go Offshore," November 11, Cambridge, Mass.: Forrester Research, Inc.

McCarthy, John, 2004, " Near-Term Growth of Offshoring Accelerating: Resizing US Services Jobs Going Offshore," May 14, Cambridge, Mass.: Forrester Research, Inc.

Panagariya, Arvind. 1981. "Variable Returns to Scale in Production and Patterns of Specialization." *American Economic Review 71*: 221-30.

Pearlstein, Steven. 2004. "Still Short Of the Offshoring Ideal," Washington Post. March 12. p. E1.

"Q & A: INTEL CEO Craig Barrett," 2003. Mercury News, December. 27.

Sampson, G.P. and R.H. Snape. 1985. "Identifying the Issues in Trade in Services." *The World Economy* VIII, pp. 171-81.

Samuelson, Paul. 1971. An Exact Hume- Ricardo-Marshall Model of International Trade." *Journal of International Economics* 1: 1-18.

Samuelson, Paul. 2004. Journal of Economic Perspectives. Summer.

Sickinger, Ted, 2004. "Outsourcing' not bad, Intel chief says." The Oregonian, May 12.

Vernon, Raymond. 1966. "International Investment and International Trade in the

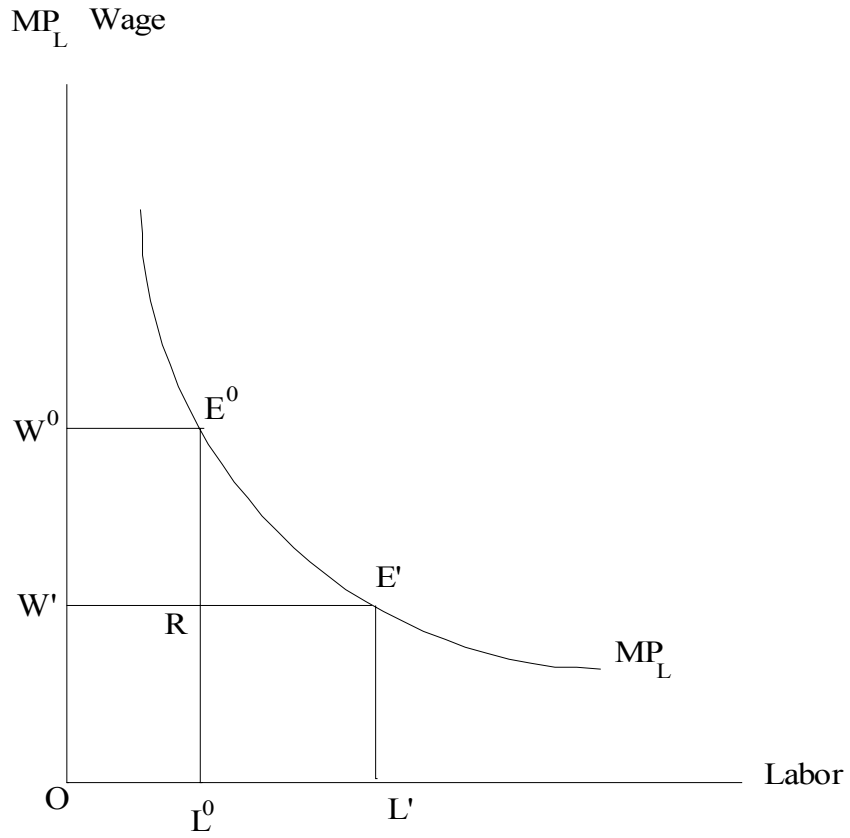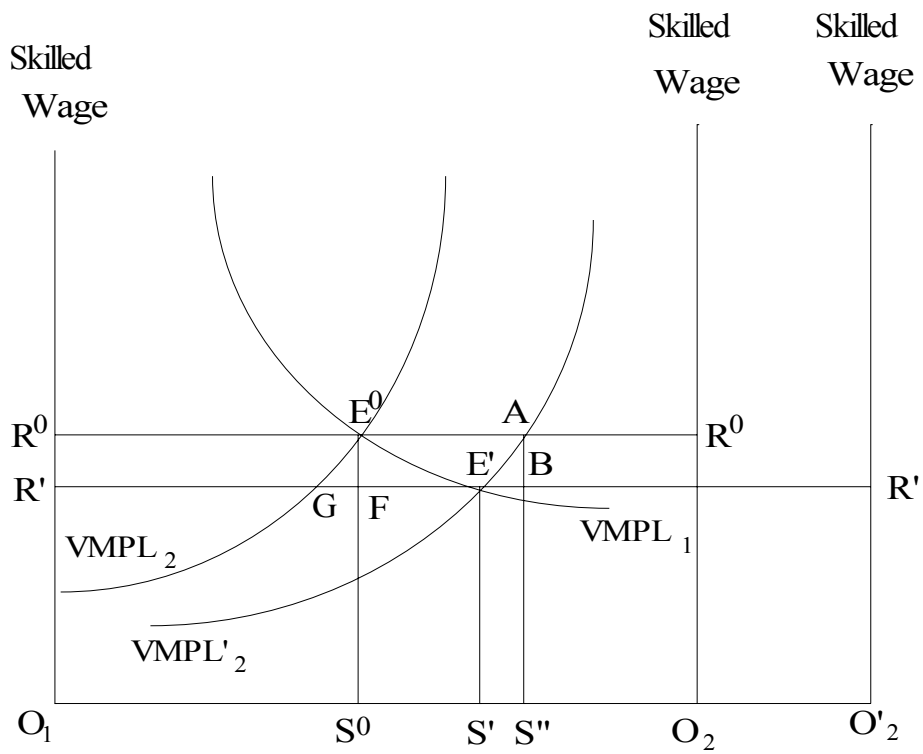Product Cycle." *Quarterly Journal of Economics* 80, 190-207.

Figure 1: Economics of Outsourcing

Figure 2: Outsourcing with pre-existing trade in goods