

# **Professional Protectionists: The Gains From Free Trade in Highly Paid Professional Services**

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## **Professional Protectionists: The Gains From Free Trade in Highly Paid Professional Services**

### **Executive Summary**

The term “free trade” has been grossly misused in trade debates. Free trade has generally meant removing barriers on trade in goods, the effect of which is to put downward pressure on the wages of the three quarters of the work force without a college degree. A consistent proponent of “free trade” would also be arguing strongly for the removal of barriers to trade in professional services. Putting highly paid professionals in direct competition with professionals in developing countries would lead to large gains to consumers and the economy. In addition, it would be a more equitable approach to trade.

For the last fifty years U.S. trade policy has focused primarily on removing barriers to trade in goods. Trade policy has not only reduced or eliminated direct barriers, such as tariffs and quotas, it has also worked to reduce indirect barriers, such as rules governing foreign investment, product safety and environmental standards.

However, U.S. trade negotiators have made no comparable effort to reduce barriers to trade in highly paid professional services, such as doctors’, dentists’, lawyers’ and accountants’ services. To the contrary, in some cases barriers to foreign professionals working in the United States have increased in recent years. This paper documents some of the barriers that prevent foreign professionals from working in the United States. It also produces calculations of the potential gains to consumers and the economy if free trade applied to highly-paid professional services. The paper also discusses some of the mechanisms that could be put in place to ensure that developing countries share in the gains from an increased flow of professionals to the United States.

The paper notes that:

- The issue of foreign professionals working in the United States is one of trade, not immigration. Even a very large influx of foreign professionals would barely make a dent in the total number of immigrants to the United States. Also, current professional restrictions do not prevent foreign professionals from living in the United States, only from providing their services.
- There is a long list of explicit and implicit barriers that make it difficult for foreign professionals to work in the United States. Comparable barriers in the case of goods would be blatant violations of numerous trade agreements. For example:
  - 1) Current law prohibits the U.S. government from hiring foreigners (including green card holders), unless no U.S. citizen could be found to do the job. A comparable restriction for goods would prohibit the

government purchase of any imported item, as long as the same good was produced in the United States.

- 2) The requirement for a green card can be a substantial obstacle to employment for foreign professionals. The delays and the uncertainties in the process provide a strong incentive for employers not to hire foreign professionals.
  - 3) Prevailing wage laws would prevent an employer (for example, a hospital) from explicitly hiring foreign professionals with the purpose of saving money. A comparable law for goods imports – one that prohibited companies from importing goods in order to save money – would be a blatant violation of numerous trade agreements.
- The potential gains to consumers from freer trade in professional services are enormous. Assuming that a reduction in trade barriers led to a 15 percent increase in the supply of four types of highly paid professionals – doctors, dentists, lawyers, and accountants – the paper calculates that the gains to consumers would range from \$160 billion to \$270 billion a year. By comparison, the cost to consumer of the steel tariffs imposed last year has been estimated at just \$3 billion a year.
  - The efficiency gain from having access to an influx of foreign professionals would be between \$12 and \$20 billion annually. This efficiency gain is a benefit to the economy beyond the transfer from professionals to consumers.
  - The United States could easily design mechanisms to ensure that developing countries would share in these gains. Even with no governmental action, developing countries would benefit from an increased flow of remittances from emigrant professionals. The United States could also ensure that part of the earnings of foreign professionals would be paid to home-country governments to compensate for those countries' investment in educating professionals. Since professionals must have their licenses renewed on a regular basis, coordinating this transfer should be straightforward. If, in addition, the U.S. government increased its foreign assistance by an amount equal to the efficiency gains from the inflow of foreign professionals (ignoring the gains to consumers), the resulting transfer of funds would more than double the foreign aid budget.

## Introduction

The term “free trade” has consistently been misused in trade debates. “Free trade” has generally been used to refer to the removal of trade barriers that protect less-skilled workers in the United States -- the almost three-quarters of the U.S. work force that does not have a college degree. The term has rarely been used in the context of efforts to extend protectionist barriers that benefit powerful industries – for example, patent protection for the pharmaceutical industry or copyright protection for the software and entertainment industry. It also has not been used in the context of maintaining or increasing the obstacles to foreign professionals working in the United States. A consistent proponent of “free trade” would be opposed to all these barriers to the free exchange of goods and services, not just the barriers that help to maintain the living standards of less-skilled workers.

While both Democratic and Republican administrations have actively sought to lower some types of trade barriers, most notably on manufactured goods, U.S. trade negotiators have done little or nothing to lower other barriers. In particular, the United States has done little or nothing to reduce the barriers that restrict competition in highly paid professional services, such as those that protect doctors, dentists, lawyers and accountants from foreign competition.<sup>2</sup>

As a result, while recent trade agreements have effectively placed auto workers, textile workers and other manufacturing workers in direct competition with some of the cheapest labor in the world, highly paid professionals continue to work in a well-protected labor market. This protection is one reason that wage growth for these professionals has consistently outpaced the rate of wage growth of most other workers in the United States over the last two decades.

It is important to recognize that the issue here is trade – in professional services – and not immigration policy. Even if foreign professionals were able to live in the United States, education and licensing requirements have often been constructed to prevent them from practicing their profession. Because the actual number of immigrants entering the United States is large (it averaged 1.3 million annually over the nineties)<sup>3</sup>, if just a small fraction of the current group of immigrants – for example one twentieth -- was replaced with professionals, the increase in supply would drastically alter the shape of labor markets for doctors, dentists, lawyers, and accountants.

Opening doors in the United States to professionals from developing nations does not imply a “brain drain” from developing nations. As is shown below, the potential gains to the United States from such a policy are enormous. According to standard economic theory, this means that it is possible to design mechanisms whereby some of the gains to the United States are transferred to the developing nations that are losing highly educated professionals. Such mechanisms could take the form of payments to home country

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<sup>2</sup> Recent trade agreements have actually been focused on increasing some types of protection – most notably copyright and patent protection.

<sup>3</sup> U.S. Census Bureau, 2001. Table QT-02, "Profile of Selected Social Characteristics," 2000 Census.

governments that immigrating professionals would be obligated to make as compensation for their education and training.<sup>4</sup> The nature of such mechanisms will be discussed in somewhat greater detail below, but the fact that an inflow of foreign professionals would offer large gains to the U.S. economy ensures that a mechanism can be designed that will guarantee developing countries a substantial portion of these gains.

It is standard practice for economists to note that highly skilled labor is in relatively greater supply in rich nations than poor nations, while less skilled labor is in greater supply in poor nations. However, this perspective ignores the fact that skilled labor, unlike physical geography, is not an unalterable fact of nature. Skilled labor is in fact a produced input – the production of skilled workers requires students to get the education and training necessary to become doctors, lawyers, or other highly skilled professionals. In the same way that developing countries can often produce steel or apparel at a lower cost than in the United States, developing countries will often be able to educate doctors, dentists, lawyers, or accountants -- to U.S. standards – at a far lower cost than in the United States.

The next section briefly discusses some of the ways in which foreign professionals are prevented from working in the United States. The second section presents some simple calculations of the potential gains from free trade in professional services. The third section describes in somewhat greater detail the sorts of mechanisms that could be put in place to ensure that developing countries share in these gains. This is followed by a brief conclusion.

## **Barriers to Foreign Professionals**

The first point that is important to establish is that U.S. trade policy has been designed to sustain, or even increase, the barriers to foreign competition in the highly trained professions. To recognize this fact, it is only necessary to examine the long and complicated process involved in removing barriers to trade in manufactured goods. This process, which has been going on for the last fifty years, has involved not only the removal of import tariffs and quotas, but also the removal of more indirect barriers.

For example, a key part of many recent trade agreements has been the investment provisions, which ensure that multinationals from the United States and other rich countries can establish manufacturing facilities in developing countries and have both their plant and profits protected from the host country government. Foreign investment is crucial, because in many cases the low-cost imports that compete with domestic manufactured goods are produced by developing country subsidiaries of multinational companies.. In the absence of foreign investment, low-cost labor in developing countries would not be placed in competition with manufacturing workers in the United States.

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<sup>4</sup> Alternatively, developing countries may opt to have lengthy home country work requirements (e.g. five to ten years) as a payback for the cost of their education.

Recent trade agreements, such as the Uruguay round of the WTO, have gone a step further to facilitate the flow of goods between countries. They sharply limit the ability of countries to impose safety or environmental standards on imported products – in effect requiring that such standards can be subject to scrutiny by a trade panel, which has the power to assess whether the rules put in place by governments are acceptable.

International trade negotiations have made no comparable effort to standardize rules in order to facilitate trade in highly paid professional services. Such a process would involve standardizing education and licensing requirements, so that professionals who have demonstrated specified levels of expertise could practice their profession wherever they choose -- as the European Union, for example, has done with medical doctors. Such standardization need not mean that all countries have the same educational and licensing requirements. Wealthier nations could opt to have more stringent rules than poorer nations. However, the rules could still be standardized so that there would be established levels of competency enforced with standard systems of testing, which would set up the same ladder everywhere. Such a uniform ladder would allow training to be structured so that it was sequential – if five years of training is the norm in poorer countries and eight years of training is the norm in rich countries, then doctors in poorer countries could meet the standards of rich countries with three years of additional training, rather than starting from scratch.<sup>5</sup> Also in keeping with the procedures set in place by the WTO for health, safety, and environment standards, the legitimacy of licensing requirements could be assessed by a panel established by international agreement.

This assessment of standards could be especially important for the practice of law in the United States. Each state currently sets its own rules for who is allowed to practice law, often applying criteria that serve no obvious purpose, except to exclude potential lawyers. In effect, each state's lawyers set up protectionist barriers for the purpose of not having to compete with lawyers from other states. In the context of eliminating national (and state) barriers to legal services, it would be essential that each country or state reserve the right to set its own penalties for crimes or civil actions. However, there is no reason that countries could not adopt common procedures for filing briefs and motions. Such standardization would allow a lawyer who learned the legal procedures in Malaysia or Peru to be prepared to work with the legal procedures in Germany or the United States. It would take a great deal of time to standardize legal procedures across countries, but the potential gains – at least in the United States – suggest that such a process should be near the top of the agenda for those committed to free trade.

In fact, U.S. trade policy toward highly paid professional services has largely gone in the opposite direction in recent years, increasing barriers to foreign professionals. This is clearly the case with foreign doctors. In 1997, after the American Medical Association complained that the inflow of foreign doctors was depressing wages for doctors already in the country, a new set of restrictions on foreign medical residents was put in place ("Caught in the Middle," *Washington Post*, March 19, 1996, Health Section,

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<sup>5</sup> As a practical matter, it may not be possible to have it be exactly additive. The completed training path in a poorer country may include developing expertise in some areas which will not advance a doctor toward meeting their training requirements in rich nations.

page 10; "A.M.A. and Colleges Assert There is a Surfeit of Doctors," *New York Times*, March 1, 1997, page A7 ). The following year, a new test – which only applied to foreign trained doctors -- was put in place as part of the licensing requirements for foreign physicians. As a result of these restrictions, the inflow of foreign residents was cut almost in half ("Test Tied to Slip in Foreign Applicants for Medical Residences," *New York Times*, September 4, 2002, page A19).

While there may have been no comparable increase in restrictions in law, dentistry, or other highly paid professions, there certainly has not been a major effort to reduce restrictions either. There are numerous restrictions limiting the ability of foreign professionals to work in the United States, which would be clear violations of trade agreements, if analogous restrictions were placed on trade in goods.

For example, since 1976, the Federal government has had a policy of refusing to hire foreign citizens, unless no qualified citizen can be found for a position.<sup>6</sup> The analogous policy for goods would be a federal buying policy that required the government to purchase only U.S. made products, unless there were no domestic producers of a specific item. Such a policy would be a blatant violation of NAFTA, the WTO, and numerous other trade pacts. Since the federal government employs tens of thousands of doctors, lawyers, accountants, and economists, this rule almost completely excludes foreign professionals from a substantial segment of the U.S. market.

At the state level, there are numerous restrictions on both professional licensing (doctors, lawyers, dentists, and accountants all must be licensed at the state level) and employment by the state (often including public hospitals and universities) which have the effect of making it more difficult for foreign professionals to work in the United States. While these restrictions do not constitute absolute prohibitions -- there are many non-citizens or foreign-born professionals working in the United States -- they do substantially tilt the playing field in favor of professionals who were born and/or educated in the United States. Comparable restrictions on imported goods would certainly violate U.S. trade agreements. (Appendix 2 gives a partial list of the restrictions that limit the ability of foreign professionals to work in the United States.)

### **The Cost of Professional Protectionism**

While the number of highly paid professionals in the United States is relatively small (these four professions account for approximately 2.4 percent of the labor force), the potential gains to consumers from freer trade in professional services is quite large, because their pay is so high relative to most workers. Table 1 shows the average current annual salary for four types of professionals – doctors, dentists, lawyers, and accountants. The table also shows the potential impact of an increase in the labor supply in each profession of 15 percent.

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<sup>6</sup> Executive order 11935.

**Table 1**

**The Impact of Freer Trade on Professionals' Salaries**

| Profession  | Current Number | Current Annual Salary | Additional Foreign Workers | Annual Salary With Increased Immigration |                |
|-------------|----------------|-----------------------|----------------------------|--|----------------|
|             |                |                       |                            | High Elasticity                          | Low Elasticity |
|             |                |                       |                            | (0.3)                                    | (0.15)         |
| Doctors     | 761,000        | \$203,000             | 114,150                    | \$126,400                                | \$74,100       |
| Dentists    | 170,000        | 187,000               | 25,500                     | 116,437                                  | 68,259         |
| Lawyers     | 612,000        | 155,000               | 91,800                     | 96,512                                   | 56,578         |
| Accountants | 1,657,000      | 85,500                | 248,550                    | 53,237                                   | 31,209         |
| Total       | 3,200,000      |                       | 480,000                    |  |                |

Source: Bureau of Labor Statistics, Census Bureau and author's calculations (see appendix 1).

While the numbers in table 1 are very inexact, they should provide a basis for assessing the potential impact of an increase in the supply of foreign professionals. A first point worth noting about these numbers is the relatively small size of the increase in immigration. The assumption of a 15 percent increase in the supply of workers in all four professions implies a total increase in immigration of 480,000, approximately 3.7 percent of the immigration into the United States in the decade of the nineties. More than half of this increase would be attributable to accountants, the lowest paid profession in the table. If the increased immigration took place just among doctors, dentists, and lawyers, the total would be just over 230,000 (23,000 a year), less than 1.8 percent of the total number of immigrants over the last decade. The fact that the number of people working in these professions is so small means that immigration policy would barely be affected by changes in the rate of inflow of foreign professionals.

The second point worth noting from this table is the potential impact on the salaries in these professions that could result from even a modest increase in supply. This impact is a direct result of the assumption that the price elasticity of demand for these services is relatively low. The "high elasticity" assumption assumes that a 10 percent decline in wages in these professions would result in a 3 percent increase in the demand for their services.<sup>7</sup> The "low elasticity" assumption assumes that a 10 percent decline in their wages would lead to a 1.5 percent increase in demand for their services. These assumptions imply that demand for these professional services are far less sensitive to price than goods like cars or computers. But this is probably a reasonable assumption. Most people will go to a doctor, if they feel they need to see one, as long as they have the means to afford the visit. A modest reduction in the price of the visit probably will not increase the number of doctors' visits to any great extent.

The price declines that result from these elasticity assumptions are dramatic. In the "high elasticity" scenario, salaries in these professions would fall by almost 38.0

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<sup>7</sup> A recent literature survey placed the average estimate of the demand elasticity for health care as -.017 (Ringel, et al. 2002).



percent. The average wage for doctors would decline from \$203,000 to \$126,400. (This wage is net of expenses, such as malpractice insurance.) The decline is even more dramatic in the “low elasticity” scenario, with salaries falling by more than 63.0 percent. In this scenario, the average wage for doctors falls to just \$74,100. Table 2 shows projections of the gains to consumers and the economy that would result from such sharp declines in the price of these professional services.

**Table 2**

**The Impact of Freer Trade on Professionals’ Salaries**

|                    | Column 1                       | Column 2              | Column 3               | Column 4              |
|--------------------|--------------------------------|-----------------------|------------------------|-----------------------|
|                    | <b>Savings to Consumers</b>    |                       | <b>Efficiency Gain</b> |                       |
| <b>Profession</b>  | <b>High Elasticity</b>         | <b>Low Elasticity</b> | <b>High Elasticity</b> | <b>Low Elasticity</b> |
|                    | (billions of dollars annually) |                       |                        |                       |
| <b>Doctors</b>     | \$58.3                         | \$98.1                | \$4.4                  | \$7.4                 |
| <b>Dentists</b>    | 12.0                           | 20.2                  | 0.9                    | 1.5                   |
| <b>Lawyers</b>     | 35.8                           | 60.2                  | 2.7                    | 4.5                   |
| <b>Accountants</b> | 53.5                           | 90.0                  | 4.0                    | 6.7                   |
| <b>Total</b>       | 159.5                          | 268.5                 | 12.0                   | 20.1                  |

Source: Author’s calculations, see appendix.

The savings shown in table 2 are quite dramatic. For example, the total gains in the “high elasticity” scenario of \$159.5 billion annually, would come to \$2,200 per year for an average family of four. The savings for an average family of four in the “low elasticity” scenario would be more than \$3,700 a year.

The reduction in the salaries in these professions should also result in a pure efficiency gain to the economy (as opposed to simply a transfer from professionals to consumers). These gains are shown in columns three and four. These gains are considerably smaller than the transfers to consumers, but still quite large compared to other trade agreements.

The potential economic impact of freer trade in professional services is at least an order of magnitude higher than most of the items that currently dominate the trade agenda. For example, a study of the impact of President Bush’s tariffs on imported steel found that the cost to consumers would be approximately \$3.5 billion a year (Hufbauer and Goodrich, 2001). This cost is just over 2.0 percent of the projected gains from freeing trade in professional services in the high elasticity scenario, and less than 2.0 percent of the projected gains in the low elasticity scenario.

In short, the potential gains from freer trade in professional services are quite large. Increased competition from foreign professionals could lead to dramatic reductions in the salaries of workers in the highly paid professions. This would result in large gains

to consumers and would also lead to substantial efficiency gains for the economy as a whole.

It is important to remember that the professions listed here are just a subset (albeit a large one) of the highly paid professions. A full list would include engineers, pharmacists, computer scientists, chemists, economists, and many others. The barriers to foreign professionals obviously differ greatly between professions, but in no case has there been anywhere near as much effort to reduce these barriers as there has been in the case of trade in manufactured goods.

### **Ensuring That Developing Countries Share the Benefit**

There are several ways in which developing countries can benefit from an increased outflow of professionals to the United States or other rich nations. The first, foreign remittances from emigrant professionals, would take place without any additional measures by the governments of either the developing or developed nations. However, it would be reasonable to expect that developing countries would want to recoup the costs of educating professionals who have left the country, and possibly to claim part of the premium that these professionals receive as a result of working in the United States. It would be fairly simple to implement a mechanism that would ensure that such payments were made. Finally, it would be reasonable to expect that a rich nation like the United States would be willing to share some of the economic gains that it receives as a result of an increased supply of highly educated workers from poor nations. This would involve a mechanism that transfers some of the gains from the United States to developing countries. These points are discussed in turn below.

An increased flow of professionals from developing countries to the United States is sure to result in an increase in remittances from these professionals back to their family and relatives. The flow of remittances from emigrant workers is already substantial for many countries. For example, remittances to Mexico from emigrant workers were estimated at \$5.8 billion, or more than 1.0 percent of Mexico's GDP in 2000.<sup>8</sup> For El Salvador, its 1.5 billion in remittances in 2000 exceeded 10 percent of its GDP. There is no reliable basis for determining the portion of emigrants' earnings that is likely to be remitted back to their country of origin, since workers in these professions would be much more highly educated and paid than the bulk of workers from developing countries who are currently employed in the United States. However, if 10.0 percent of these professionals' pay was sent back to their home country, then this would amount to an increase in annual remittances of more than \$2.3 billion a year in the low elasticity scenario and nearly \$4 billion a year in the high elasticity scenario. This would amount to an increase of between 5.0 and 10.9 percent from the current level of foreign remittances.

Of course, foreign remittances would be paid primarily to the family members of emigrant workers. In many cases, the education of these workers will involve a

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<sup>8</sup> Data on foreign remittances is taken from Adams (2003) table 1. This data was in turn compiled from data in the International Monetary Fund's Balance of Payments Statistics Yearbook (various years).

substantial cost to the governments of developing countries. It is reasonable to expect that they would receive some return from this expenditure. In the context of international trade agreements, it should be fairly simple to design a mechanism whereby some fraction of the pay of emigrant professionals (e.g. 10 to 20 percent) is returned to their country of origin. For example, there could be a special withholding, in connection with domestic income-tax payments, which would collect a portion of the income received by emigrant workers. Since workers in these professions must be licensed at regular intervals, it should not be difficult to verify that payments are being made, when a license is renewed. Certainly, the enforcement problems involved in this sort of fee collection are trivial compared with enforcement problems associated with collecting other types of fees – such as royalty payments on copyrighted material. While emigrant professionals may not be pleased with being forced to make these payments, it is likely that many would earn far higher salaries in the United States, even after paying these fees, than they could have earned if they stayed in their home country.

Finally, it would be reasonable to expect that the United States would share some of the gains that it receives from having access to a large pool of highly educated workers. The calculations in Table 2 showed pure efficiency gains of between \$12.0 and \$20.1 billion annually. These gains are in addition to the savings to consumers that would result from reducing payments to professionals. As noted earlier, these savings could be in the range of \$160 billion to \$270 billion annually. A substantial portion of these savings would accrue directly to the government, since its payments to doctors through Medicare, Medicaid and other government health care programs would be substantially reduced as a result of an influx of foreign professionals. However, if the United States were to just commit the efficiency gains to developing countries, it would imply an increase in the annual level of foreign aid of between 100 and 160 percent. In short, this would be a substantial dividend to compensate developing countries for the loss of some of their highly skilled workers.

Of course any policy put in place could easily be adjusted through time. If it turned out that developing countries were not getting a fair share of the gains from the flow of emigrating professionals, then new mechanisms could be put in place. There is no shortage of economic tools available to ensure that all sides benefit from freer trade in professional services.

## **Conclusion**

For the last fifty years, the trade agenda of the United States has been dominated by efforts to remove barriers to trade in manufactured goods. This has had the effect of placing manufacturing workers in the United States in direct competition with low paid workers in developing nations. This competition has been one of the key factors in reducing the relative wages not only of manufacturing workers, but of the less-skilled workers that make up the vast majority of the labor force in the United States.

However, the decision to focus on removing barriers to trade in manufactured goods is a political decision, not an economic one. Economic theory implies that there would be large potential gains from removing barriers to trade in highly paid professional services. This paper produces some simple calculations suggesting the potential magnitude of the gains to consumers in the United States from removing barriers for four categories of highly paid professionals –doctors, dentists, lawyers, and accountants. These calculations indicate that the annual gains to consumers could be between \$160 billion and \$270 billion, or between \$2,200 and \$3,700 a year for an average family of four.

It is also easy to design mechanisms that will ensure that developing countries share in these gains. One such mechanism, foreign remittances, would ensure some gain to developing countries, even without any government action. However, it would be desirable to have measures in place, such as a tax on the earnings of foreign professionals, which would ensure that governments in developing countries are compensated for the expenses associated with educating these workers. It would also be reasonable for the United States, as a rich nation, to share some portion of the efficiency gains associated with having access to a large number of foreign professionals, with poorer nations. The efficiency gains calculated in this paper would allow an increase of between 100 and 160 percent in the current annual level of foreign aid.

## Appendix 1

The estimates of the number of people employed in each profession are taken from U.S. Census Bureau (2002), table 588. It is difficult to get reliable data on average pay of these professions because many of the most highly paid workers in each profession are self-employed, and therefore their wages do not appear in most payroll surveys. It also appears that they grossly understate their earnings in household surveys such as the Current Population Survey. The method used to construct this table is somewhat ad hoc. For doctors' salaries the table relies on a survey by the Center for Studying Health System Change [CSHSC] (2003, available at [<http://www.hschange.com/CONTENT/544/>]). Since the estimate in this survey is for 1999, the figure (\$187,000) is updated to 2001 using the Bureau of Labor Statistics employment cost index. This adjusted figure is then included in the table for doctors salaries.

To get the salaries for the other professions, the pay estimates from the Bureau of Labor Statistics 2001 Occupational Employment and Wage Survey (OEWS) [<http://www.bls.gov/news.release/ocwage.t01.htm>] were used, with the salaries reported in this survey adjusted upward by the same ratio (1.69) as was found when comparing the CSHSC survey data with the data in the OEWS data. The wage for the high elasticity assumption is based on a constant elasticity of demand function with an elasticity of 0.3. This would imply, for example, that a 10 percent reduction in doctors' wages would lead to a 3 percent increase in the demand for doctors' services. The low elasticity scenario assumes a constant elasticity of demand function with an elasticity of demand of 0.15. This implies that a 10 percent reduction in doctors' wages leads to a 1.5 percent increase in demand for their services. These calculations assume no supply response from the workers in these professions. While lower wages would presumably reduce supply – other things equal – if alternative areas of employment experienced comparable reductions in pay, then it is not clear what sort of supply response there would be.

## Appendix 2

There are a large number of barriers that apply across professions although the actual impact may differ depending on the profession. At the top of this list would be Executive Order 11935, which excludes non-citizens (including green card holders) from working for the U.S. government except under extraordinary circumstances. Since the federal government employs tens of thousands of professionals (doctors, lawyers, economists, accountants, etc.) this excludes foreign professionals from a substantial segment of the U.S. labor market.

A second barrier is the requirement for a green card itself (or equivalent special work visa, such as an H1-B). While this requirement does not impose an insurmountable barrier to foreign professionals, it certainly places them at a competitive disadvantage with U.S. citizens. Green card approval can be delayed for a variety of reasons, and an

employer may opt to hire a citizen simply to avoid the delay and uncertainty in the green card process. Also, many employers simply refuse to act as a sponsor for a foreign worker, which means that unless this worker independently has a friend or family member who will act as a sponsor, then they are ineligible to work as a professional in the United States.

The immigration laws are also, in principle, designed to prevent immigration from bringing downward pressure on U.S. wages. Work related visas require that foreign workers are paid the prevailing wage for the work that they will be doing. While this provision of the Immigration and Nationality Act is unevenly enforced, it is likely that if a hospital were to attempt to obtain a large number of visas for foreign doctors, with the explicit purpose of paying lower wages, they would be stopped by the government. By contrast, firms quite explicitly seek lower-priced imports when they buy manufactured goods. A comparable rule applied to goods – that they must be purchased at the prevailing price in the United States – would be a blatant violation of numerous trade agreements.

(A fuller list of barriers to foreign professionals work in the United States is available in Freeman 2003.)

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