

### **3. Benchmarking the Advantages Foreign Nations Provide Their Manufacturers**

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Over the last decade, under the banner of free trade, the United States has lost millions of high-paying manufacturing jobs. This transfer of American jobs overseas to low-wage hubs in Latin America and Asia has depressed wages and materially reduced the standard of living of millions of Americans. This “hollowing out” of the manufacturing base has helped induce recessionary conditions throughout the United States.

Under the banner of free trade, the United States has also run chronic and historically large trade deficits. In fact, one country alone — China — accounts for more than half of the entire U.S. trade deficit once expenditures for oil imports are excluded.

As a long-term strategic threat, America’s chronic trade deficits have led to a dangerous buildup of U.S. dollar reserves in the sovereign wealth funds of several of those countries where the lion’s share of American jobs have been lost, again most notably in China. A clear and present danger is that these sovereign wealth funds will use their dollar reserves to purchase or gain controlling interests in American companies and then strip these companies of either their technologies or jobs, or both, further weakening the U.S. economy and manufacturing base.

Given these severe negative impacts, it is hardly surprising that America’s commitment to free trade has come under intense fire. This chapter seeks to shed light on whether the loss of American manufacturing jobs, depressed wages and the presence of chronic American trade deficits are the inevitable results of a free trade system that, on balance, will be both “good for America” and “good for the world” over time. Alternatively, are the negative effects of free trade the pernicious results of America’s trading partners adopting “beggar thy U.S. neighbor” mercantilist and protectionist trade policies that run contrary to free trade principles? If so, does the “end game” of free trade in a world of protectionism and mercantilism involve a permanent weakening of, and second-tier nation status for, the United States?

There is a difference between protectionist and mercantilist. In this analysis, a protectionist is defined as any country that adopts strategic trade policies to exclude or restrict access to its domestic markets. As described in this chapter, common protectionist tools include tariffs and quotas as well as a wide variety of “nontariff barriers” — from local content rules, restrictive import licensing, and port-of-entry restrictions to anti-competitive standards, a nontransparent regulatory environment and corruption and bribery.

In similar fashion, a mercantilist is defined as any country that adopts strategic trade policies that violate free trade principles to promote export growth at the expense of its free trading partners. Common mercantilist tools range from currency manipulation and illegal export subsidies to counterfeiting and piracy, lax environmental and health and safety standards, export restrictions on raw materials and the use of slave labor and repression of workers’ rights.

As a practical matter, most countries that engage in protectionism also engage in mercantilism. In fact, the two sets of policies often work hand-in-hand in the international trading arena to convey an unfair competitive advantage to those countries that adopt such policies. Nonetheless, it is useful to conceptually separate protectionism from mercantilism as a means of understanding the full scope of these powerful threats to a global system of free trade that benefits all nations.

Only one of America’s five major trading partners in manufactured goods systematically engages in a highly sophisticated and comprehensive set of protectionist and mercantilist trade policies that clearly violate the principles of free trade established by the World Trade Organization. That country is China. Because China is the world’s biggest protectionist and mercantilist nation, much of the focus of this analysis will be on China’s strategic trade policies. However, the trade policies of the Eurozone, Japan, Mexico and Canada — America’s four other major trade partners — will also be briefly examined.

### **The Promise — and Perils — of Free Trade**

Free trade advocates typically argue that free trade is a “positive sum” game in which all countries win. In particular, these advocates argue that both economic growth and job growth will be higher for all trading partners under free trade than they would be in a state of “autarky,” which is the absence of trade. This free trade argument dates back to the writings of 18th century classical economists like Adam Smith and

David Ricardo and is based on two of the most important concepts in all of economics — the “gains from trade” and the “principle of comparative advantage.”

To understand the gains from trade, consider a world in which there are only two countries, and neither country trades with the other. If these two autarkic countries enter into free trade, each country won't have to produce everything each needs. Instead, each country can specialize according to its own “comparative advantage,” where comparative advantage is simply a way of saying that each country will specialize in that which it does best. Through this process of specialization, each country will then benefit from a greater division of labor and greater economies of scale, and, in doing so, use its resources more efficiently. The result will be a higher level of total production and job growth in the two countries combined than would exist in a state of autarky.

Free trade advocates also argue that chronic trade imbalances cannot persist in a free trade environment. As with the concept of the gains from trade and the principle of comparative advantage, this faith in the balance of trade rests on economic concepts that again date back several centuries to the writings of classical economists, particularly David Hume.

The modern version of Hume's balanced trade argument rests on the crucial assumption that all free trading countries operate in a system of floating exchange rates without managed interventions. In a freely floating exchange rate system, if one country runs a trade deficit, the value of its currency will fall through the forces of supply and demand: surplus dollars abroad exert downward pressure on the dollar. Of course, once this exchange rate adjustment takes place and the deficit country's currency cheapens, the exports of the deficit country will become relatively cheaper and imports from the rest of the world will become relatively more expensive. As exports rise from the deficit country and imports fall, trade comes back into balance — or so the classical argument goes.

## **How Free Trade in the Real World Becomes A Zero-Sum Game**

While 18th century classical economic theory portrays free trade as a mutually beneficial positive-sum game for all participants, free trade in the 21st century may turn into a zero-sum game with big winners and

big losers *if* the critical assumptions underlying the free trade argument are violated.

The first critical assumption is that all free trading countries will refrain from the practices of either mercantilism or protectionism. The second critical assumption is that all free trading countries will participate in an exchange rate system that allows for currency adjustments to take place in a timely way so as to prevent chronic trade balances, with a floating exchange rate system the most effective. If these assumptions are violated, free trade will very likely not be mutually beneficial at all. Instead, any free-trading country that trades with a protectionist country will see a net loss of jobs to the protectionist country relative to a free trade environment while economic growth will be slower than it would otherwise be. Secondly, any free trading country that trades with a mercantilist country will not only lose jobs and experience slower growth but will also likely run chronic trade deficits with the mercantilist country.

It is for these two reasons that it is critical to understand the strategic trade policies that clearly violate free trade principles and result in a global market environment more akin to a mercantilist and protectionist zero-sum game than a mutually beneficial, positive-sum, free trade system.

### **Protectionism in the 21st Century**

Just as individual companies regularly adopt strategies to improve their competitive advantage in world markets so, too, do governments adopt strategic trade policies to enhance competitive advantage in the global marketplace. Table 1 on the next page describes each of the major protectionist policies used in the 21st century trade of manufactured goods. The primary goal of these protectionist policies is to shield a country's domestic manufacturers from foreign competition. In this way, a protectionist country increases its domestic output and job growth at the expense of would-be exporters to that domestic market.

The most visible protectionist policies are those involving quotas or tariffs. A quota is simply a numerical restriction on the level of imports allowed into a domestic market. By restricting supply, market forces raise the price of the good. A tariff, on the other hand, represents a tax on imports. By effectively raising the price of the imported good, the tariff provides a price shield to higher-cost domestic producers. Note that for any given quota level, there is a corresponding equivalent tariff that will produce the same level of import restriction.<sup>1</sup>

**TABLE 1: PROTECTIONIST TRADE POLICIES IN THE 21ST CENTURY**

POLICY	DESCRIPTION
Quotas and Tariffs	<ul style="list-style-type: none"> <li>• Quotas set numerical limits on imports to directly restrict imports.</li> <li>• Tariffs tax imports and indirectly restrict imports through pricing.</li> </ul>
Port-of-Entry Restrictions	<ul style="list-style-type: none"> <li>• Block, slow down or otherwise impede the flow of imports into the domestic market at ports of entry.</li> </ul>
Inflated Customs Valuations	<ul style="list-style-type: none"> <li>• Inflate the price of an import using spurious customs valuations methods and thereby raise the associated import duties. They are often used to offset tariff reductions.</li> </ul>
Local Content Rules	<ul style="list-style-type: none"> <li>• Require domestic industries to use domestic content, thereby effectively locking out foreign competitors.</li> </ul>
Import Licensing Restrictions	<ul style="list-style-type: none"> <li>• Require and restrict the number of import licenses. Often used as a “bargaining chip” to impose local content rules (or force technology transfer).</li> </ul>
Technical Barriers to Trade	<ul style="list-style-type: none"> <li>• The use of discriminatory regulations, standards and certification and testing procedures to benefit domestic industries at the expense of foreign exporters.</li> </ul>
Discriminatory Tax Policies	<ul style="list-style-type: none"> <li>• Consumption, income and other tax policies that favor domestic industries, such as income tax refunds for the purchase of local content.</li> </ul>
Corruption and Bribery	<ul style="list-style-type: none"> <li>• Rigged bidding and other corrupt practices that often favor domestic industries.</li> </ul>

Beyond the imposition of tariffs and quotas, there are many other kinds of protectionist barriers that have been very loosely classified under the heading of “nontariff barriers.” As with tariffs and quotas, virtually all are prohibited under the rules and norms of the General

Agreement on Tariffs and Trade (GATT) and the World Trade Organization (WTO).

One common form of an illegal nontariff barrier involves any one of a number of port-of-entry restrictions. The goal of port-of-entry restrictions is to block, slow down or otherwise impede the flow of imports into the domestic market at ports of entry — a *de facto* form of protectionism.

Closely related to that problem is the hurdle of inflated customs valuations. Inflating customs valuation is a common strategy used by protectionist governments. The game is to offset any tariff reductions these governments have promised as part of free trade agreements. If customs officials use spurious methods that significantly overvalue imported goods, any lowered tariffs can be offset by higher customs valuations and attendant higher customs duties.

A third type of nontariff barrier involves the specification of domestic preference or local content rules that require a certain percentage of the components of a particular good be produced locally. Local content rules not only prop up the prices and profits that domestic producers can receive, but they also increase the market share of the domestic industries that benefit from the rules, while reducing sales and jobs in the countries where the foreign competitors are affected.

Local content rules are often strategically forced on foreign investors via another nontariff barrier, that of import licensing restrictions. Requiring importers to have a license to import and then placing significant restrictions on the number of licenses granted is, in itself, a very effective form of protectionism. So, too, is a more subtle method to restrict import licenses, making it very difficult, costly or time-consuming to obtain an import license. However, as in the case of China, import licensing restrictions also provide protectionist countries with a valuable “bargaining chip” to force both technology transfer and the adoption of domestic content rules otherwise prohibited by the WTO.

Yet another form of nontariff barrier involves various technical barriers to trade, such as discriminatory regulations, standards or certification and testing procedures. For example, a complex regulatory system that is not transparent can be impossible for foreign companies to navigate and penetrate. In such systems, foreign companies often encounter contradictory decisions, overlapping jurisdictions and long delays in regulatory decisions. The practical effect is a subtle but effective form of protectionism.

Similarly, a government may impose a national standard that runs contrary to well-established international standards to protect a domestic

industry. A well-known example involves China's specification of its home-grown cell phone standard of TD-SCDMA, despite well-accepted and more advanced standards in the United States and Europe.

Discriminatory tax policies likewise can be used both for protectionist and mercantilist purposes. In the case of protectionism, a government may adopt consumption and income tax policies that favor domestic industries through the use of income tax refunds for the purchase of local content.

Finally, there is the protectionist problem of corruption and bribery. Endemic corruption and bribery in a country may result in a de facto type of protectionism for several reasons. Bribes raise the cost of penetrating a market and thereby help protect domestic industries. At the same time, navigating a corrupt system can be very difficult for foreign companies unfamiliar with that system. Again, the result can be a de facto barrier to market entry.

## **Mercantilism in the 21st Century**

While the doctrine of mercantilism has been variously defined, the modern meaning of the term has come to be most closely associated with the failed trade policies of 17th century Spain. During that period, Spanish leaders believed that national wealth was measured by the amount of gold and silver a country possessed and that the road to prosperity therefore lay in selling exports to the world and accumulating as much gold and silver as possible. Of course, what Spain got out of its pursuit of mercantilism was hardly prosperity but rather a very nasty case of "demand pull" inflation, with too much money in its coffers chasing too few goods. It would take Adam Smith to figure out the flaw in mercantilism: that a nation's wealth is measured not by its money supply or foreign reserves but rather by its real, inflation-adjusted gross domestic product.

Today, the modern version of the 17th century mercantilist state involves any country that adopts any one of a number of the unfair "beggar thy neighbor" policies listed in Table 2 on page 113. These strategic trade policies are explicitly designed to boost exports at the expense of the mercantilist's trading partners. By artificially boosting exports, the mercantilist country thereby is able to accumulate large foreign reserves — the 21st century equivalent of the accumulated gold and silver of an earlier era.

At the top of the list in Table 2 on page 113, there is the broad category of export subsidies. While any form of export subsidy is generally

prohibited under the World Trade Organization rules, many countries that are members of the WTO nonetheless choose to violate these rules for the simple reason that export subsidies represent a very effective strategy to lower a country's export prices and thereby gain competitive advantage. One common way to convey an export subsidy is through discriminatory tax policies. For example, an exporter may be given some type of tax credit or tax rebate. In China and throughout most of the world, value-added tax (VAT) rebates are commonly used.

Export subsidies that are far more difficult to detect are those that indirectly lower production costs through subsidizing inputs that go into the manufacturing process — anything from capital, energy and freight to land, water and other utilities. Any one of these indirect subsidies can contribute to lowering production costs, while the application of all of them can provide considerable competitive advantage. (Imagine you are opening a business in the United States and the government gives you free land, access to zero-interest loans that you do not have to pay back, and reduces by half your energy and utility bills? Don't you think that you could make a profit?)

In addition to export subsidies, a very effective way for a mercantilist to boost competitive advantage is through currency manipulation by undervaluing the domestic currency. This not only reduces the home country's export prices in world markets, thereby boosting exports, but also serves a protectionist function by discouraging imports. In this way, the mercantilist “makes exports cheap and imports dear,” improving the country's trade balance on both sides of the ledger — a classic form of “beggar thy neighbor.”

Counterfeiting and piracy likewise function as a means of enhancing strategic global advantage in a mercantilist country. Piracy refers to the unauthorized production, distribution or use of a good or service. The goal of a pirate is to create a look-alike “knockoff” that can be sold to a customer as such. Counterfeiting involves trying to pass off the pirated products as that of the real, branding corporation. Thus, a golf club that looks like a Callaway driver but has a name like “Hallaway” is a pirated knockoff, whereas a knockoff sold as a “Callaway” club is counterfeit.

Counterfeiting and piracy convey competitive advantage in several important ways. Intellectual property theft reduces the expenditures necessary on research and development to produce a product. In industries like autos and pharmaceuticals, the cost savings can be quite large along with an attendant large gain in competitive advantage. At the same time, counterfeiting eliminates the need for marketing expenditures as the counterfeiter “free rides” on the advertising, brand name and good

**TABLE 2: MERCANTALIST TRADE POLICIES IN THE 21ST CENTURY**

POLICY	DESCRIPTION
Export Subsidies	<ul style="list-style-type: none"> <li>• Direct export subsidies such as discriminatory tax rates on exported goods.</li> <li>• Indirect export subsidies through the subsidization of inputs such as capital, energy, freight, land, water and other utilities.</li> </ul>
Currency Manipulation	<ul style="list-style-type: none"> <li>• Undervaluing the domestic currency through currency manipulation to make “exports cheap” and “imports dear.”</li> </ul>
Counterfeiting And Piracy	<ul style="list-style-type: none"> <li>• Counterfeiting reduces marketing and production costs to hone competitive advantage. Piracy reduces R&amp;D and information technology costs.</li> </ul>
Forced Technology Transfer	<ul style="list-style-type: none"> <li>• Require technology transfer and/or the export of a country’s R&amp;D facilities as a condition of market entry. Steal or reverse-engineer technology through industrial espionage in violation of patent law.</li> </ul>
Lax Environmental And Health and Safety Regulations	<ul style="list-style-type: none"> <li>• Maintain regulations below international norms to reduce compliance and production costs. Encourages a “race to the bottom.”</li> </ul>
Unfair Labor Standards And Practices	<ul style="list-style-type: none"> <li>• Establish labor standards below international norms to suppress wage costs. Lack of a livable wage. Deny the right to organize. Tacitly allow sweat shops and the use of slave labor.</li> </ul>
Entrustment Or Direction	<ul style="list-style-type: none"> <li>• The use of companies under the direction of the government to boost the export trade. For example, a financially healthy company will be required to bail out a financially distressed company.</li> </ul>
Export Restrictions	<ul style="list-style-type: none"> <li>• Restrict the export of energy or raw materials to suppress factor input prices in the mercantilist country and raise world market prices for competitors.</li> </ul>
Mercantilist-Driven Foreign Direct Investment	<ul style="list-style-type: none"> <li>• Attract levels of FDI above what would otherwise exist through the lures of an undervalued currency, lax environmental and health and safety regulations, and unfair labor practices and standards.</li> </ul>

will of the authentic product. A pirate company can also enjoy huge savings on information technology expenditures by stealing both software and hardware.

Still another way for a mercantilist country to gain unfair advantage is through forced technology transfer. By forcing (or stealing) technology from a trading partner, the mercantilist is able to increase its rate of productivity to a level higher than it would otherwise be. Higher levels of productivity translate into lower costs and lower export prices. On top of this advantage, forced technology transfer also saves the mercantilist country on research and development expenditures in much the same way that piracy does.

As a practical matter, there are several methods mercantilist countries commonly use in the 21st century to force technology transfer — all of which are prohibited under the WTO. One method is to explicitly require the transfer of technology as a condition of market entry. This method is often used in conjunction with protectionist import licensing restrictions.

A second, more indirect method is to require the transfer of research and development activities from the exporting country to the mercantilist country as a condition of market entry. This type of mercantilist strategy — practiced, for example, with great success by China against the U.S. auto and pharmaceutical industries — has a much longer-term impact as intellectual capital is forced to migrate to the mercantilist country.

A third method to force technology transfer is through industrial espionage. This need not involve clandestine penetration of secure facilities. One common practice is to send large cadres of agents to various trade shows and fairs. By doing this, China keeps abreast of the latest product developments. Its agents obtain samples of products that can then be reverse engineered. These products are often manufactured in the mercantilist nation even before the original vendor has put the product on shelves.

Turning to yet another mercantilist practice, a country that maintains environmental or health and safety standards below world norms can gain a significant, unfair competitive advantage. This is because the country's domestic industries are able to forego the expenditures otherwise borne by industries in competing countries. For example, complying with EPA and OSHA regulations in the United States significantly increases costs for industries ranging from autos and chemicals to steel and textiles.

As a practical matter, this mercantilist problem can manifest itself in

one of two ways: a country may simply have lax standards, or it may have strict standards that are not enforced. Either way, the result is an unfair competitive advantage — one that can help trigger a “race to the bottom” in the areas of both environmental protection and worker health and safety.

In a related vein, countries that engage in unfair labor practices effectively suppress wage costs and thereby gain competitive advantage. Unfair labor practices include both the lack of a living wage and the suppression of the right to organize and unionize. In extreme cases, countries may also condone the use of slave labor. Not only is this extremely inhumane, but slave labor acts as a further depressant on wage levels and likewise conveys a substantial cost advantage.

Another common mercantilist practice is a government policy known as entrustment or direction. In effect, a mercantilist government will direct either state- or privately-owned companies to engage in practices that advance the country’s overall export mission. A common practice in China is to require a financially healthy company to bail out or cross-subsidize a financially struggling company that is successful in the export market.

The use of various export restrictions on energy and raw materials constitutes yet another practice used by mercantilist countries. If a country imposes an export quota on domestic supplies of iron ore to help the domestic steel industry, for instance, the effect is to ensure the domestic industry preferential access to the raw material. But a secondary impact is an increase in the world price for the raw materials that are affected, thereby raising costs in competing countries. The mercantilist country is provided with further and considerable cost advantages for its industries that are heavily dependent on those raw materials.

One of the most important indirect effects of mercantilism is how these various practices can lead to an unfair distribution of foreign direct investment (FDI) across free trading countries. FDI is a very important driver of strategic trade advantage because it accelerates the transfer of the most technologically advanced production and process technologies. FDI also brings managerial best practices and skills to the host country because many of the financed enterprises are managed by foreign talent. FDI is often tied to the improvement of both the marketing and distribution skills of domestic enterprises.

These observations are important because the mercantilist practices of export subsidies, currency manipulation and lax environmental and health and safety standards all conspire to raise levels of FDI in the mercantilist country to levels higher than they otherwise would be in a

regime of free and fair trade. FDI is higher in the presence of export subsidies because foreign investors are attracted by higher profits. Foreign companies can produce more cheaply in the mercantilist country because of laxer environmental and health and safety regulations. Japan, South Korea and the United States export their pollution by offshoring to China. Additionally, an undervalued currency is a very powerful magnet for FDI: It allows foreign money to buy into the mercantilist country at a much lower rate.

### **America's "Big Five" Trade Deficit Partners**

This analysis began by examining the arguments in support of free trade and illustrating how the introduction of protectionist and mercantilist practices effectively eliminate the global benefits of free trade. This analysis then systematically catalogued each of the major 18th century protectionist and mercantilist practices used in today's 21st century global trading environment.

The next task is to determine the extent to which America's chronic trade deficits and associated economic problems may be attributed to the application of various protectionist and mercantilism strategies by America's five major trading partners. These major trading partners are listed in Table 3. Together, China, the Eurozone, Japan, Mexico and Canada account for almost 75 percent of the U.S. trade deficit.

What is perhaps most interesting about Mexico and Canada is that they are America's two treaty partners in the North America Free Trade Agreement. The interesting question raised by their being on this list is whether NAFTA is a misnomer, given that this "free trade agreement" has resulted in such large trade imbalances. Upon closer inspection, however, it turns out that roughly half of the trade deficits with both Canada and Mexico may be attributable to large quantities of imported oil from these countries. It is Canada, not Saudi Arabia, that is America's largest source of imported oil. Mexico ranks a very close third behind Saudi Arabia.

As for the third largest entry on the list, there is Japan, with a trade imbalance of \$83 billion with the United States. In a review of Japan's trade policies, the single biggest mercantilist culprit driving this trade imbalance is Japan's own particular version of currency manipulation. In addition, Japan continues to heavily protect key markets such as its automobile industry.

**TABLE 3: AMERICA’S ‘BIG FIVE’ TRADE DEFICIT PARTNERS**

(BY SIZE OF TRADE DEFICIT)

<b>Country or Trading Zone</b>	<b>U.S. 2007 Trade Deficit</b>	<b>Percent of Total</b>
China	\$256 billion	32%
Eurozone	\$107 billion	14%
Japan	\$83 billion	10%
Mexico	\$74 billion	9%
Canada	\$64 billion	8%
<b>Total</b>	<b>\$584 billion</b>	<b>74%</b>

*(Source: 2008 National Trade Estimate Report on Foreign Trade Barriers, Office of the United States Trade Representative, March 2008, Appendix.)*

As for the second largest entry on the list, the Eurozone countries generate a trade imbalance of \$107 billion, with \$44 billion of this deficit accounted for by Germany alone. While there is considerable free and fair trade between the United States and Europe, there are notable instances of protectionism, particularly in Europe’s aircraft industry.

Finally, China stands head and shoulders above all other trading partners as a source of America’s chronic trade deficits. In 2007, America’s trade deficit with China reached a historic high of \$256 billion. This sum represents almost one-third of America’s overall trade deficit of \$700 billion (32 percent) and fully 55 percent of America’s trade deficit excluding purchases of imported oil.<sup>2</sup> Moreover, the China-U.S. trade imbalance dwarfs all others. In fact, China turns out to be the poster child for world mercantilism and protectionism and arguably the greatest impediment to free and fair trade in manufacturing goods in the international arena.

### **18th Century Protectionism in 21st Century China**

Each year, the United States Trade Representative publishes its National Trade Estimate Report on various protectionist and mercantilist practices practiced around the world. This report provides scant — or no — coverage of the many mercantilist and protectionist policies catalogued in this chapter. This problem is particular evident for the policies of China, to which we now turn.<sup>3</sup>

### **Chinese Tariffs and Quotas**

While China has reduced tariffs in many industries since joining the WTO, it has often sought to offset any tariff reductions through the application of numerous nontariff barriers. In addition, there remain very troublesome aspects of China's tariff policy. China continues to maintain "high duties on some products that compete with sensitive domestic industries."<sup>4</sup> These industries range from motorcycles and audio recorders to video and digital video. Tariff rate quotas remain a common fixture of China's protectionist landscape. While they are mostly reserved for the restriction of agricultural rather than manufacturing imports, one important exception is fertilizer. At least partly as a result, U.S. fertilizer exports to China have declined sharply.

### **Port of Entry Restrictions**

China sends container ships all over the world filled to the brim with its exports. From Long Beach to Europe, these container ships are efficiently processed, and Chinese goods find their way quickly into the marketplace. This is not always the case in China, however. As noted by the United States Trade Representative, "massive delays are not uncommon, and the fees charged appear to be excessive and are rising rapidly."<sup>5</sup>

### **Inflated Customs Valuations**

According to WTO rules, imported goods should be valued on the basis of their "transaction price," that is, the price the importer actually pays. In China, however, customs officials frequently use "reference pricing," which typically results in much higher duties.

### **Local Content Rules**

Perhaps the most visible form of local content rules exists in the importation of copyright-intensive products such as movies, DVDs, music and books. Despite intense pressure from Washington, "China has not yet given foreign entities trading rights for the importation of these goods."<sup>6</sup>

In addition, all layers of China's government have adopted varying forms and practices of "buy domestic." While China is not a signatory to the WTO Agreement on Government Procurement, it did commit in its protocol of accession to the WTO to abide by that agreement as soon as possible. To date, little progress has been made. China continues to follow internal rules that "direct central and sub-central government entities to give priority to 'local' goods and services, with limited exceptions."<sup>7</sup>

Most broadly, China's complex matrix of local content rules loom as a key protectionist measure to breed its "national champions" and to protect its "pillar industries." One Chinese industry where local content rules have played a key role is telecommunications equipment. Since 1998, the Ministry of Information Industry has had in place an internal circular "instructing telecommunications companies to buy components and equipment from domestic sources."<sup>8</sup>

In addition, some of the biggest beneficiaries of China's protectionist local content rules are China's auto and auto parts manufacturers. These industries have been strategically targeted for growth as part of China's comprehensive industrial policy.

China has used a very potent combination of protectionist and mercantilist policies to create a cycle of offshoring U.S. parts production to China. On the strength of these policies, "in less than 20 years, China has gone from a country with an extremely small and undeveloped automotive (including auto parts) sector to the third largest automobile producer in the world [and] the second largest national supplier of auto parts to the United States."<sup>9</sup>

### **Import Licensing Restrictions**

Import licensing restrictions play a key role in China's strategy to offset tariff reductions with nontariff barriers. Import licensing restrictions also represent an important "bargaining chip" used by China to force both technology transfer and the adoption of local content rules otherwise prohibited by the WTO.

One industry that has been particularly victimized by China's use of licensing requirements is that of scrap recycling. Scrap exports constitute one of the largest U.S. exports to China by value. Under the Chinese system, overseas exporters must apply for the right to export to the Chinese market. If the license is denied, companies must wait for three years before reapplying.<sup>10</sup>

Another industry that has been stymied almost completely by import restrictions is telecommunications. As the United States Trade Representative has noted, "the lack of foreign participation in the telecommunications sector... is indicative of a licensing regime that has generally, with few exceptions, not been conducive to foreign investment."<sup>11</sup> Protectionist national standards that deviate from well-established international standards have served as significant barriers to entry in this industry.

A third industry victimized by China's import licensing restrictions is the auto and auto parts industry. This example is particularly telling because it helps illustrate how China strategically and synergistically uses import licensing restrictions to achieve goals related to both local content and forced technology transfer that are clearly prohibited under WTO rules. Here's how this strategy works in China:

China first limits the number of licenses granted for final automobile assembly. Foreign automakers then must compete for the licenses in the dimensions of local content and technology transfer, and the winners of this competition are the companies most willing to agree to conditions that are otherwise prohibited by the WTO. As professor Eric Thun of Princeton has described this process: "The central government would announce that it was going to approve one final assembly joint venture, and foreign firms, desperate not to be locked out of one of the last great auto markets, would claw over one another to get the contract."<sup>12</sup>

A typical case in point involves General Motors. Not only has GM "been a major conduit of technology,"<sup>13</sup> but in exchange for licenses, GM "has committed to purchasing \$10 billion annually in Chinese-produced auto parts by 2009." Moreover, Ford also has "made at least \$3 billion in commitments to buying substantial quantities of Chinese-produced parts for export to four plants worldwide."<sup>14</sup>

As another example of the collusion of a protectionist Chinese government and American corporate interests, there are the events surrounding a dispute before the WTO over the doubling of tariffs on imported parts and components by China. In the ensuing negotiations, China agreed to postpone imposing the higher tariffs "but only after holding high-level meetings with the CEOs of BMW and Daimler-Chrysler Northeast Asia. These meetings produced commitments to increase local parts purchases by \$274 million and \$740 million respectively."<sup>15</sup>

In observing this behavior, it is hard to assess which is the most disturbing: the flagrant and blatant use of illegal protectionist and mercantilist policies by the Chinese government — or the eagerness of American corporations to kowtow to those protectionist measures as a condition of entry into the Chinese market.

## **Technical Barriers to Trade**

As noted by the United States Trade Representative, in its Protocol of Accession to the WTO, "China committed to ensure that its regulatory

authorities apply the same standards, technical regulations and conformity assessment procedures to both imported and domestic goods and use the same fees, processing periods and complaint procedures for both imported and domestic goods.”<sup>16</sup> This is, however, yet another area where China has failed miserably in meeting its WTO commitments.

In fact, technical barriers to trade have actually increased as China has sought to use such technical barriers as a further means of offsetting tariff reductions. That China has been guilty of this is revealed by a strategy report that was issued in September of 2004 by a key government agency: the Standardization Administration of China. This report explicitly promoted “China’s development of standards and technical regulations as a means of protecting domestic industry as tariff rates fall.”<sup>17</sup>

### **National Standards**

One type of technical barrier China has used to protect its pillar industries is the development of unique national standards as the basis for its technical requirements. These national standards have been promulgated despite the existence of well-established international standards. In effect, these national standards serve as a shield for domestic industries. The sectors that have been most affected include automobiles, automotive parts, telecommunications equipment, wireless local area networks, radio frequency identification technology, audio and video coding, fertilizers, food products and consumer products, such as cosmetics.<sup>18</sup>

The most high-profile example of China seeking to promote a national standard to exclude foreign competition is the case of China’s homegrown “3G” telecommunications standard known as TD-SCDMA. A second case involves mobile telephone battery standards. China has sought to develop a national standard that diverges significantly from international standards.

### **Certification**

China is also using certification procedures as a subtle form of protectionism. One example involves the compulsory product certification system that was put into place in August 2003. This system created a safety mark called the China Compulsory Certification (CCC) mark. This mark is now required for over 130 products, ranging from electrical machinery and information technology equipment to household appliances.

This certification requirement is posing a number of difficulties for

would-be foreign importers. First, many domestic products are allowed to be sold without the mark. Second, the “certification requirements and procedures remain difficult, time-consuming, onerous and costly.”<sup>19</sup> Third, companies must submit their applications in person at the Beijing offices of China’s National Certification & Accreditation Administration (CNCA). This is difficult for many small- and medium-size companies without a presence in China.<sup>20</sup> Fourth, “many U.S. testing labs as well as the U.S. exporters that rely on their services, find China’s foreign accreditation requirements for CCC mark certification unwarranted and overly restrictive.”<sup>21</sup> Finally, “U.S. companies also cited problems with a lack of transparency in the certification process, burdensome requirements and long processing times for certification.”<sup>22</sup>

China may even be using the certification process as a subtle means of forced technology transfer. The problem, as noted by the United States Trade Representative, is that companies that submit sensitive technology and intellectual property for mandatory testing are vulnerable to intellectual property theft.<sup>23</sup>

### **Regulatory Barriers**

China frequently uses a complex web of nontransparent regulations to block entry into its markets. The biggest victims of these particular types of barriers are not manufacturing firms, but rather service-sector providers such as those in banking, insurance and packaging delivery.

More broadly, “laws and regulations in China tend to be more general and ambiguous than in other countries. While this approach allows the Chinese authorities to apply laws and regulations flexibly, it also results in inconsistency and confusion in application.” The problem is further complicated by the fact that “regulations are also promulgated by a host of different ministries and governments at the central, provincial and local levels, and it is not unusual for the resulting regulations to be at odds with one another.”<sup>24</sup> The United States Trade Representative has correctly concluded that “this lack of a clear and consistent framework of laws and regulations can be a barrier to the participation of foreign firms in the Chinese domestic market.”

### **Discriminatory Taxation**

Discriminatory income taxes, consumption taxes and particularly VAT taxes play an important role in China’s protectionist and mercantilist trade policies. For example, “China uses a substantially different tax

base to compute consumption taxes for domestic and imported products.”<sup>25</sup> Foreign imports that have been affected by its discriminatory tax system include alcoholic beverages, automobiles and cosmetics.

### **Corruption and Bribery**

Corruption and bribery are rampant practices in China. Indeed, in international surveys, China regularly ranks as one of the most corrupt business environments in the world of any major country.<sup>26</sup> Corruption and bribery raise the cost of penetrating a market and thereby help protect domestic industries. At the same time, navigating a corrupt system can be very difficult for foreign companies unfamiliar with that system. In China, the result has been a significant de facto barrier to market entry. As one important example of the problem, “U.S. suppliers complain that the widespread existence of unfair bidding practices in China puts them at a competitive disadvantage.”<sup>27</sup>

## **18th Century Mercantilism in 21st Century China**

While China employs a sophisticated suite of policies to protect its domestic markets and grow its pillar industries, its use of an even more sophisticated and comprehensive set of mercantilist policies means that China truly stands head and shoulders above the rest of the world.

### **Export Subsidies**

China’s complex web of export subsidies constitutes the “Mercantilist Kingdom’s” most potent weapon (along with currency manipulation) as an accelerator of China’s export-driven economy. This vast network for subsidies exists despite the fact that as a condition of entry into the World Trade Organization in 2001, the Chinese government promised to eliminate, or at least greatly scale back, virtually all of its export subsidies. Today, however, those industries that continue to be hardest hit by China’s export subsidies include “steel, petrochemical, high technology, forestry and paper products, textiles, hardwood plywood, machinery, copper, and other nonferrous metals industries.”<sup>28</sup>

What makes it extremely challenging for these industries to individually fight back is “a general lack of transparency [that] makes it difficult to identify and quantify possible export subsidies provided by the Chinese government.”<sup>29</sup> Al Lubrano, president of Technical Materials, Inc., provides insight into the problem:

“The subsidization of manufacturing by the Chinese government extends beyond what might be considered normal bounds to even include the acquisition of raw materials. A fellow NAM [National Association of Manufacturers] member in the copper industry tells us that exports of copper and brass scrap to China have increased about 50 percent a year for several years, driven in large part by a special subsidy of 30 percent of the VAT tax applied by the Chinese government to imports of scrap. This subsidy is given to the scrap consumer to invest in upgrading facilities. This subsidy amounts to about seven cents a pound of the copper content in a market where the successful bidder may be determined by a margin of a quarter cent.”<sup>30</sup>

While the exact levels of China’s export subsidies remain difficult to quantify, it is relatively easy to catalogue them. First, energy and water remain heavily subsidized.<sup>31</sup> Many manufacturers benefit from subsidized rent, cheap or free land and preferential access to land by local and regional governments.

Second, China’s state-owned banks continue to hold a large portfolio of nonperforming loans, often issued without expectation of repayment. The biggest beneficiaries of this “free money” policy have been struggling state-owned enterprises (SOEs), which are concentrated in heavy industries like steel and petroleum. Because of continued inefficiencies, many of these industries run at a loss.

However, the Chinese government is loath to allow them to go bankrupt because of the loss of jobs that this would entail. Accordingly, nonperforming loans historically have represented a major lifeline to these enterprises, with the enterprises responsible neither for interest payments on these loans nor repayment of principal. In the area of credit subsidies, it is also worth noting that government ownership of key export companies and industries plays a key role. As Andrew Szamosszegi of the Economic Strategy Institute has noted, “Government ownership is a virtual guarantee of access to capital, either in the form of loans, additional equity infusions or excess retained earnings.”<sup>32</sup>

Third, China uses a very complicated list of tax preferences to both attract foreign direct investment and to encourage exports. The cornerstone of this discriminatory tax policy is an extensive value-added tax rebate system for its export industries.<sup>33</sup> China’s VAT is imposed over multiple stages of the domestic production and distribution process, gen-

erally in the range of 13 percent to 17 percent. In some cases, the Chinese government first collects, and then rebates, this tax for exports. In other cases, exporting firms are simply exempted from the tax.<sup>34</sup>

Such VAT tax preferences are, of course, a blatant violation of the WTO rules. Not surprisingly, China has come under great pressure to eliminate these rebates; at least some small progress has been achieved in this area.

For example, China has reduced its rebates on the export of textiles, apparel, shoes, hats, paper products, goods made from plastic and rubber and furniture. China has also eliminated the rebates as a means of directing funds to clean up its environment for a number of polluting industries including leather, chlorine, dyes, chemicals, some fertilizers, metal carbide and activated carbon products and lumber, to name a few. Nonetheless, VAT tax preferences continue to riddle the Chinese export economy and are particularly prevalent in pillar industries. Moreover, the shifting sands of China's VAT tax policies have created significant disruptions. Consider how China's VAT tax machinations have rippled across the Pacific to affect the U.S. steel industry:

“In November 2006 and in April 2007, China reduced export VAT rebates that had been available on a wide range of semi-finished and finished steel products, as part of its efforts to discourage further unneeded creation of production capacity for these products in China. At the same time, these export VAT rebate reductions did not target all steel products, and the result was that Chinese steel producers shifted their production to steel products for which full export VAT rebates were still available, particularly steel pipe into products, causing a significant increase in exports of these products — many of which found their way into the U.S. market.”<sup>35</sup>

It's not just the VAT tax that China uses as an important mercantilist tool. As part of its industrial policy to stimulate technological development, China “allows qualified high-technology companies registered in special economic zones to be exempt from income taxes for the first two years.”<sup>36</sup>

For a graphic example of the discriminatory tax policies that the Chinese government uses to drive its export machine, look at the China-Singapore Suzhou Industrial Park, which is typical of China's Special Economic Zones. This industrial park was founded as a joint undertaking by the governments of Singapore and China. As reported by Andrew

Szamosszegi of the Economic Strategy Institute, tax incentives available to exporters are incredibly extensive. The very long list includes the following:

- A preferential corporate income tax of 15 percent (rather than 30 percent);
- A local income tax exemption of 3 percent;
- A full tax exemption in the first two years and a 50 percent tax exemption in the third year;
- A 10 percent preferential income tax rate for enterprises that export 70 percent of their output;
- A preferential 10 percent tax rate on dividends, interest, rental, royalty and other incomes;
- VAT tax exemptions for companies that export at least 50 percent of their output,
- The refund of all VAT taxes on the purchases of domestic machinery, equipment, raw materials, spare parts, components, packing materials and construction materials; and
- Refundable VAT taxes on water, power and gas purchased by firms producing for export.<sup>37</sup>

Here is the question that must be asked: How does a company in Michigan, Ohio, California or Pennsylvania compete against a Chinese counterpart that enjoys such a vast array of government subsidies?

### **Currency Manipulation**

Since 1994, China has pegged its currency, the yuan, to the U.S. dollar at roughly an 8-to-1 ratio. Under pressure from the United States and the international community, China adopted a “managed float” regime in 2005 based on a market basket of currencies. For all practical purposes, however, the dollar peg remains intact, and the yuan remains, by most estimates, considerably undervalued. Table 4 provides a representative sample of some of the more credible estimates of the degree of this undervaluation, as well as the estimation methods used.<sup>38</sup>

As noted by the U.S.-China Economic and Security Review Commission, “China’s undervalued currency encourages undervalued Chinese exports to the U.S. and discourages U.S. exports because U.S. exports are artificially overvalued. As a result, undervalued Chinese exports have been highly disruptive to the U.S. and to other countries as well, as evidenced by trade remedy statistics.”<sup>40</sup>

In thinking about the global effects of currency manipulation, it is critical to also take into account the import content of exports. Any ben-

**TABLE 4: ESTIMATES OF CHINESE CURRENCY MANIPULATION<sup>39</sup>**

Source	Range	Method
Coudert & Couharde (2005)	44%	Fundamental Equilibrium Exchange Rate
Preeg (2002)	40%	Fundamental Equilibrium Exchange Rate
Williamson (2003)	Over 25%	Fundamental Equilibrium Exchange Rate
Goldstein (2003)	15-25%	Fundamental Equilibrium Exchange Rate
Funke & Rahn (2005)	8-12%	Permanent Equilibrium Exchange Rate
Yang and Bajoux Besnainou (2004)	0%	Purchasing Power Parity

efits from selling exports with an undervalued currency will be at least partially offset by the need to buy from foreigners the raw materials, electronic components and other imported inputs used in the manufacturing process with that same weak currency. In fact, the import content of most Chinese manufactured goods has been estimated to be quite high, which substantially mutes the currency effect.

Lawrence Lau (2003)<sup>41</sup> and William Overholt (2003) suggest that this content is in the range of 75 percent.<sup>42</sup> This dynamic notwithstanding, there are several larger problems with China’s currency manipulation that extend well beyond artificially stimulating Chinese exports and suppressing U.S. exports to China.

### **The Myth of the Asian Savings Glut**

One problem is that China’s currency manipulation has forced other Asian nations — most prominently Japan, South Korea and Taiwan — to engage in their own brands of currency manipulation to defend their own shares of the U.S. market against Chinese incursion. The result has been a huge U.S. trade deficit with Asia often mythologically portrayed in the media — and by current Federal Reserve Chairman Ben Bernanke — as the result of an “Asian glut of savings.” The image

this myth projects is that of the thrifty Asian citizen versus profligate Americans. In fact, the “Asian savings glut” is much more the product of forced savings behavior imposed by Asian currency manipulation.

The Japanese brand of currency manipulation is particularly interesting since currency manipulation is Japan’s primary mercantilist tool to penetrate U.S. markets, particularly with automobiles. Japan does not maintain a fixed peg with the dollar. Instead, it uses a combination of a “managed float” and an ultra-easy monetary policy to suppress the value of the yen. The easy money form of currency manipulation is particularly clever: By maintaining short-term interest rates at close to zero, Japan has spawned a “carry trade” in bonds that keeps significant downward pressure on the yen.

In this carry trade, investors borrow yen at low short-term interest rates and then use the yen to purchase long-term bonds at much higher interest rates in other countries. However, in order to purchase these foreign bonds, carry-trade investors must first convert yen for the foreign currency; that depresses the value of the yen through the laws of supply and demand operating the currency markets. While Japanese exporters benefit from the cheapened yen, carry-trade investors make money on the “spread” between the short-term loans and the long-term bonds.

### **China’s Currency Manipulation Sovereign Wealth Fund Threat**

In addition to forcing other Asian nations to engage in currency manipulation as a defensive mechanism, China’s currency manipulation has led to an extremely large buildup of U.S. foreign reserves in China’s central bank — and the potentially very dangerous emergence of China’s sovereign wealth funds. In order to maintain its fixed peg between the yuan and the dollar, China recycles its export dollars back into U.S. financial assets.

Some years ago, China’s “dollar recycling” efforts were limited to purchasing U.S. government bonds. Now, however, China’s reserves have grown so large that China is using some of its excess reserves to form sovereign wealth funds. A clear and present danger is that these sovereign wealth funds will use their dollar reserves to either purchase or gain controlling interests in American companies and then quietly over time strip these companies of either their technologies or jobs, or both, further weakening the U.S. economy and manufacturing base.

## **The Mercantilism of China's Counterfeiting and Piracy**

China is not the only country engaged in counterfeiting and piracy. Other hotbeds include Russia, India, Vietnam and South Africa. However, China is considered to be the largest pirate nation; it accounts for an estimated two-thirds of the entire world's pirated and counterfeited goods and 80 percent of all counterfeit goods seized at U.S. borders. Moreover, professor Oded Shenkar at Ohio State's Fisher School of Business estimates that intellectual property theft contributes anywhere from 10 percent to an astonishing 30 percent of China's total GDP.<sup>43</sup>

It's critical to understand that Chinese counterfeiting and piracy extends way beyond the high-profile theft of Hollywood movies, music, publishing and expensive fashion items. As noted by Frank Vargo of the National Association of Manufacturers:

“China is the epicenter of the counterfeits boom.... Just a few years ago, counterfeiting was all Gucci bags and fake perfume. Now it's everything. It has just exploded. It is many times larger a problem than it was only a few years ago. The counterfeit inventory ranges from cigarette lighters to automobiles to pharmaceutical fakes that can endanger a life. I would bet that there are companies in this country [the U.S.] that don't even know they're getting screwed around the world.”<sup>44</sup>

In this regard, the United States Trade Representative notes a dizzying array of industries affected by Chinese counterfeiting and piracy. It includes “business and entertainment software, pharmaceuticals, chemicals, information technology, apparel, athletic footwear, textile fabrics and floor coverings, consumer goods, food and beverages, electrical equipment, automotive parts and industrial products, among many others.”<sup>45</sup>

A key problem is that “legal measures in China that establish high thresholds for criminal prosecution and/or conviction preclude criminal penalties for many instances of commercial scale counterfeiting and piracy” and “create a ‘safe harbor’ for pirates and counterfeiters” while “other procedural burdens, such as an inability to investigate based on suspicion of criminality also weaken the criminal intellectual property rights system.”<sup>46</sup> Despite repeated anti-piracy campaigns in China and an increasing number of civil intellectual property rights cases in Chinese courts, “overall piracy and counterfeiting levels in China remained un-

acceptably high in 2007.”<sup>47</sup> The USTR said, “Levels of piracy in China across all lines of copyright business range between 80 percent and 95 percent based on data for 2007, which indicates little or no overall improvement over 2006.”<sup>48</sup>

China’s counterfeiting and piracy has a strong mercantilist element because it lowers the research and development, marketing and IT costs of those Chinese manufacturers that engage in IP theft. Consider, for example that the rate of software piracy in China is well over 90 percent. This provides substantial savings in both the operating and capital budget portions of the balance sheet for most Chinese enterprises. In addition, Chinese counterfeiters need not incur either significant research and development expenditures or substantial advertising and marketing costs to promote their “brand.” As noted by A.T. Kearney, “counterfeiting allows skipping the investment necessary to create, develop and market products and go directly to profits. No R&D headaches. No brand building. No advertising.”<sup>49</sup>

In addition, industries such as autos, biotechnology, semiconductors and pharmaceuticals are particularly R&D-intensive, with R&D expenditures as a percentage of revenues in the range of 15 percent or more. More broadly, based on sector-level data reported by *Technology Review*, the weighted average of R&D spending across all sectors of the global economy is estimated to be 8.5 percent.<sup>50</sup> Chinese exporters that do not have to bear these costs thereby gain a significant competitive edge.

There are also more diffuse cost savings and far more difficult-to-estimate effects of counterfeiting and piracy not accounted for in these calculations. Legitimate companies face warranty costs that often must be honored even when a counterfeit part leads to failure. Legitimate companies incur costs of protecting their own intellectual property. Companies like Nike, Louis Vuitton, Microsoft and IBM now spend considerable sums on IP protection, funds that could be spent on developing innovative products. They also suffer damage to their goodwill and reputation when counterfeit products fail — and when they fail to be recognized as counterfeits.

According to Ohio State law professor Daniel Chow, “no problem of this size and scope could exist without the direct or indirect involvement of the state.”<sup>51</sup> Much of China’s counterfeiting and piracy is state-sanctioned because counterfeiting and piracy boost the Chinese economy in at least three ways: by lowering marketing and advertising expenses; by lowering research and development expenditures; and by reducing software and other information technology expenditures. The result is the creation of millions of jobs, better control of inflation and a higher

standard of living for hundreds of millions of Chinese consumers — all at the expense of shareholders and workers around the world who bear the costs of the IP theft.

## **Forced Technology Transfer**

A key element of China's industrial policy has been to rapidly move up the value chain from low-technology, lower-wage products such as toys and cheap electronics into higher value-added and higher-wage industries such as automobiles, aircraft and pharmaceuticals. One of the most potent weapons China has used to move up the value chain is forced technology transfer. It is only through the acquisition (rather than internal development) of sophisticated technologies that Chinese companies have been able to rapidly enter and expand in sophisticated industries such as automobiles, aircraft, pharmaceuticals and other high-tech areas.

Forced technology transfer is an extremely effective mercantilist tool because China has the capability to “absorb and apply technology.” As noted by GlobalSecurity.org: “China has no shortage of well-trained scientists, engineers, mathematicians or other technical experts, unlike the United States. Chinese scholars educated abroad over the last decade reportedly make up more than half of the top scientific researchers now working on key research projects and receiving priority in conducting this research.”<sup>52</sup>

Consider the development of China's auto industry. China has very effectively used import licensing restrictions as a “bargaining chip” to effect technology transfer from companies like General Motors and Ford when they are setting up production facilities in China with the intention of selling into the Chinese market. The dynamic working here is that “China is a buyer's market. As such, the leverage of such an enormous potential market allows Chinese officials to frequently play foreign competitors against one another in their bids for joint venture contracts and large-scale, government-funded infrastructure projects in China. The typical result is usually more technology being transferred as competitors bid up the level or type of technology that they are willing to offer.”<sup>53</sup> In fact, “most U.S. and other foreign investors in China thus far seem willing to pay the price of technology transfers — even ‘state-of-the-art technologies’ — in order to ‘gain a foothold’ or to ‘establish a beachhead’ in China with the expectation that the country's enormous market potential eventually will be realized.”<sup>54</sup>

The case of pharmaceuticals in China is equally interesting. In this industry, China has used both counterfeiting and pirating of prescription drugs like Viagra and Lipitor to develop a large-scale manufacturing capability. However, an even more effective method for the longer term has been to force (or lure) American pharmaceutical companies in China to set up research and development facilities in China as a condition of market entry.

As for the aircraft industry, much of the technology that China has acquired for both its civilian and military aircraft production has been through industrial espionage. As noted by the Heritage Foundation, “China’s government-sanctioned theft of advanced-technology intellectual property is another regular feature of China’s industrial policy.”<sup>55</sup>

It’s not just the aircraft industry that has been subject to the theft of advanced technology. Chinese agents have been caught stealing, or attempting to steal, a wide variety of technologies from companies ranging from Cisco Systems and Sun Microsystems to NEC Electronics and Transmeta.<sup>56</sup>

It should be clear that forced technology transfer is an important component of Chinese industrial policy. It should be equally clear that much of the transfer that takes place occurs under conditions of coercion that clearly violate free trade principles. The bottom mercantilist line as noted by GlobalSecurity.org is this:

“Technology transfer is both mandated in Chinese regulations or industrial policies (with which U.S. companies wishing to invest in China must comply) and used as a deal-maker or sweetener by U.S. firms seeking joint venture contracts in China. Unless significant changes are made to China’s current investment regulations and import/export policies, U.S. commercial technology transfers to China are likely to continue, potentially enhancing Chinese competitiveness in high-technology industry sectors such as aerospace and electronics. The U.S.-China trade imbalance may continue to worsen in the short term as commercial offset demands and foreign-invested enterprise exports increase and in the long term as China’s plans to develop indigenous capabilities in both basic and advanced technology industries are implemented.”<sup>57</sup>

## **China's Environmental Pollution Competitive Edge**

On the environmental front, China is rapidly becoming one of the most polluted countries in the world. It is home to 16 of the world's 20 most polluted cities. Of its almost 100 cities with over a million people each, two-thirds fail to meet World Health Organization air quality standards.

China is also the world leader in sulfur dioxide and CO<sub>2</sub> emissions. It releases 600 tons of mercury into the air annually, nearly one-fourth of the world's non-natural emissions,<sup>58</sup> and it is the world leader in the generation of substances that deplete the world's ozone layer. Acid rain, which severely damages forests, fisheries and crops, affects one-fourth of China's land and one-third of its agricultural land. As much as 50 percent of the acid rain in Japan and Korea is of Chinese origin. According to the Chinese Academy on Environmental Planning, more than 400,000 Chinese die prematurely each year from air-pollution related diseases, primarily from lung and heart disease.<sup>59</sup> That number is expected to reach more than 500,000 within a decade.

The statistics on water pollution are equally stark. Seventy percent of China's seven major rivers are severely polluted, and 80 percent fail to meet standards for fishing.<sup>60</sup> Ninety percent of China's cities and 75 percent of its lakes suffer from some degree of water pollution,<sup>61</sup> and 700 million Chinese "have access to drinking water of a quality below World Health Organization standards."<sup>62</sup> Liver and stomach cancers related to water pollution are among the leading causes of death in the countryside.<sup>63</sup> All of China's coastal waters are moderately to highly polluted.<sup>64</sup>

Not all of China's air and water pollution can be blamed on its manufacturing industries. Other major sources include pesticide and fertilizer runoff in the agricultural sector and large quantities of human and animal waste that are dumped into waterways or seep into ground water. However, China's industrial sector is the primary contributor of toxic (versus organic) pollution.

The worst polluting industries include paper and pulp, food, chemicals, textiles, tanning and mining. The most common toxic pollutants include dioxins, solvents, PCBs, various metals such as mercury, lead and copper, and highly persistent pesticides ranging from chlordane and mirex to DDT.<sup>65</sup>

Many of the polluting factories are small-scale and locally owned. Even when such enterprises are unprofitable, they represent important job generators in rural areas plagued by high unemployment. That

makes it difficult for a local environmental protection bureau to close the polluters down, fine them or force them to comply with pollution control standards.

In addition, in many cases, large factories equipped with the latest and most sophisticated pollution control technologies simply don't use the technologies for fear of driving up production costs. Typically, this is done without any fear of sanctions by lax regulators and often complicit local officials.

China has some strict environmental laws on the books, but the fines that may be levied to enforce the regulations are so insignificant that they are seen merely as a cost of doing business rather than a true deterrent. Local authorities that collect the fines will often recycle the revenues back to the polluters as tax breaks. In addition, as with its weak health and safety regime, China's legal system makes it extremely difficult for pollution victims to properly seek any redress.

A major problem with enforcement is that China's state environmental protection agency is critically understaffed and under-budgeted. While the U.S. Environmental Protection Agency employs close to 17,000,<sup>66</sup> China's State Environmental Protection Administration (SEPA) has only 300 — this to oversee environmental protection in a country with well more than a billion people. Perhaps no one is more aware of the impotence of the China SEPA than its outspoken Deputy Director Pan Yue who has warned that: "China's population is so big and its resources so scarce that if we continue to ignore our environmental problems, that will bring disaster for us and the world."

From a free trade versus fair trade perspective, China's lax environmental regulations and weak enforcement provide a variety of cost advantages to its industrial sector. Enterprises save money by not providing protective equipment for workers. Many don't have to invest in pollution control technologies. Companies that do purchase such equipment save money by not operating it. Waste disposal costs are considerably reduced.

From a trade perspective, the advantages offered by China's lax environmental regulations hit hardest at precisely those manufacturing industries in the United States that face the highest compliance costs. For example, U.S. Steel reports spending roughly 3 percent of its revenues on environmental expenses. By comparison, China's Bao Steel spends only about one-tenth as much. The figures for Dow Chemical versus China's Sinopec are similar.

More broadly, John Blodgett of the Congressional Research Service provides a summary of pollution control compliance costs in the U.S.

that accounts for both capital expenditures and pollution abatement operating costs.<sup>67</sup> As a percent of value added, costs vary widely across industries. They range as high as 17 percent for petroleum, 9 percent for pulp mills, and 4 percent for chemicals to less than 1 percent for industries such as food, textiles and printing, with an overall average of 1.48 percent.<sup>68</sup>

One final observation may be useful here from a policy perspective. Whatever China's environmental cost advantages are at the individual enterprise level, they are likely being completely offset by the aggregate social costs of Chinese pollution. The World Bank estimates that pollution annually costs China between 8 percent and 12 percent of its more than \$1 trillion GDP in terms of increased medical bills, lost work due to illness, damage to fish and crops and money spent on disaster relief.<sup>69</sup> These figures suggest that any cost-benefit analysis would favor China cleaning up its environment rather than "racing to the bottom" to gain a mercantilist edge.

## **China's Lax Health and Safety Regulations**

While the Chinese government instituted new health and safety laws in 1995, few enterprises, either public or private, abide by them. Moreover, because the goal of economic growth has taken precedence, there is very little enforcement by either the central government or local and provincial governments. Nor is there any properly functioning legal system to protect workers and ensure fair compensation for those who are injured. The result: The legal liabilities of Chinese manufacturing enterprises are very limited.

According even to China's own under-reported statistics, China is one of the most dangerous places to work in the world. The highest-risk industries include building materials, chemicals, coal production, machinery manufacturing, metallurgy, plastics and textiles. Diseases ranging from silicosis and brown lung to a variety of cancers caused by the ingestion, inhalation or contact with toxic chemicals and waste are endemic. Workplace injuries are endemic. This passage from the *New York Times* indicates the scope of the problem:

"Yongkang, in prosperous Zhejiang Providence just south of Shanghai, is the hardware capital of China. Its 7,000 metal-working factories — all privately owned — make hinges, hubcaps, pots and pans, power drills, tool boxes, thermoses, electric razors, headphones, fans and

just about anything else with metallic innards. Yongkang, which means “eternal health” in Chinese, is also the dismemberment capital of China. At least once a day someone... is rushed to one of the dozen clinics that specialize in treating hand, arm and finger injuries, according to local government statistics.... The reality, all over China, is that workplace casualties have become endemic. Nationally, 140,000 people died in work-related accidents last year, according to the State Administration of Work Safety. Hundreds of thousands more were injured.”<sup>70</sup>

The cost advantages to Chinese manufacturers inherent in this lax health and safety regulatory regime range from the use of cheaper equipment for workers and fewer safety-related expenses to savings on training and safety-related large capital expenditures. For example, Chinese textile companies are unlikely to invest in anti-noise or dust control equipment. Chinese coal mining companies tend to skimp on masks, goggles and emergency rescue facilities. In other industries, adopting wet drilling systems increases costs by as much as 60 percent over dry drilling systems. Wet drilling systems significantly reduce hazardous dust emissions, but they are rarely used.

### **Unfair Labor Standards and Slave Labor**

According to the *New York Times*, “nearly a decade after some of the most powerful companies in the world — often under considerable criticism and consumer pressure — began an effort to eliminate sweatshop labor conditions in Asia, worker abuse is still commonplace in many of the Chinese factories that supply Western companies, according to labor rights groups. The groups say some Chinese companies routinely short-change their employees on wages, withhold health benefits and expose their workers to dangerous machinery and chemicals, like lead, cadmium and mercury.”

One major problem is the severe restrictions on union organizing that exist in China. A second major problem is the lack of an enforceable minimum wage. Both of these problems are compounded by the existence of significant pockets of slave labor.

Some of China’s real slaves are the children and women and occasionally men who are routinely kidnapped and forced to work in the brick kilns, coal mines and countless sweatshops of the Chinese hinter-

lands with no payment other than a floor to sleep on, some rice gruel to eat, and the occasional beating for objecting to their enslavement.

Others of China's real slaves are the millions of religious and political dissidents trapped in the Chinese equivalent of the old Soviet gulags. These prisoners-of-conscience are forced to work for nothing more than a crowded jail cell and meager rations. This passage from *American Legion Magazine* grimly describes the modern horror of China's primitive "laogai camps":

“After Mao Tse-tung established the People's Republic of China in 1949, he created a network of slave labor camps to maintain control over his subjects. The camps were called laogai based on a Chinese acronym for the phrase “reform through labor.” Even though Mao died decades ago, the laogai camps remain an integral part of Beijing's tyranny. ...Today, an estimated four to six million people are rotting away in the laogai camps, serving out varying years and degrees of involuntary penance to the state Mao erected. Laogai prisoners produce everything from bottled water and tea to electronics and engine parts. Given the religious reasons for many laogai sentences, it is a sickening irony that some camps even produce rosaries, Christmas lights and toys — all for export to the West.”<sup>71</sup>

In addition to China's real slaves, there are millions more contractual slaves. These are the Chinese workers that arrive at the factory door wide-eyed and naive direct from the farms expecting decent working conditions and a livable wage. In some cases, they are fed and housed, but their wages are withheld in a form of economic slavery. In other cases, these economic slaves may want to leave the job because it has not lived up to their expectations. However, the penalties for leaving are so steep that they are stuck. To see what often confronts the typical Chinese worker seeking fortune in the big city consider this excerpt from *The New York Times*:

“Each eyelash was assembled from 464 inch-long strands of human hair, delicately placed in a crisscross pattern on a thin strip of transparent glue. Completing a pair often took an hour. Even with 14-hour shifts most girls could not produce enough for a modest bonus. ‘When we started to work, we realized there was no way

to make money,' said Ma Pinghui, 16. 'They were trying to cheat us.'

"She and her friend Wei Qi, also 16 and also a Chinese farm girl barely out of junior high school, had been lured here by a South Korean boss who said he was prepared to pay \$120 a month, a princely sum for unskilled peasants, to make false eyelashes.... Two months later, bitter that the pay turned out to be much lower, exhausted by eye-straining and wrist-wrenching work, and too poor to pay the exit fee the boss demanded of anyone who wanted out, they decided to escape. But that was not easy. The metal doors of their third-floor factory were kept locked and its windows — all but one — were enclosed in iron cages.... Said Ms. Wei, 'What they called a company was really a prison.'"<sup>72</sup>

This systematic ill treatment of Chinese workers could not take place without the complicity of the Chinese government. The practical economic result of is that both Chinese and multinational companies enjoy a real mercantilist cost advantage — and therefore unfair competitive advantage — over countries where workers are far better protected and respected.

### **Entrustment**

In its mercantilist quest to boost its export regime, China seemingly leaves no industrial policy stone unturned. One particular type of subsidy that is relatively rare in the international environment but common in China is the strategy identified as “entrustment” or “direction.” China will use one of its financially healthy companies to bail out or subsidize a company having problems. A classic case was identified by Andrew Szamoszegi of the Economic Strategy Institute. When China’s largest bearings manufacturer, Luoyang Bearing, found itself in serious financial straits in 2004, the Chinese government ordered the state-owned Yoncheng Coal to bail out the bearings manufacturer.<sup>73</sup>

### **Export Restrictions**

While the USTR report has been uneven in its coverage and treatment of protectionist and mercantilist elements, it has been crystal clear

on both the extent and impact of China's various export restrictions that provide China with another mercantilist advantage: "Despite China's commitment since its accession to the WTO to eliminate all taxes and charges on exports...China has continued to impose restrictions on exports of raw materials, including quotas, related licensing requirements and duties, as China's state planners have continued to guide the development of downstream industries."<sup>74</sup>

As further noted by the United States Trade Representative, China's export restrictions "affect U.S. and other foreign producers of a wide range of downstream products, such as steel, chemicals, ceramics, semiconductor chips, refrigerants, medical imagery, aircraft, refined petroleum products, fiberoptic cables and catalytic converters, among numerous others."<sup>75</sup> Moreover, the restrictions are widespread.

Consider that "China maintains export quotas and sometimes export duties on antimony, bauxite, coke, fluorspar, indium, magnesium carbonate, molybdenum, rare earths, silicone, talc, tin, tungsten and zinc, all of which are of key interest to U.S. downstream producers."<sup>76</sup> This enables China's domestic downstream producers to produce lower-priced products from raw materials and thereby creates significant advantages for China's domestic downstream producers when competing against foreign downstream producers both in the China market and in export markets.<sup>77</sup>

This problem is getting worse not better. As the United States Trade Representative noted: "Over time, China's state planners have increased the artificial advantages afforded the Chinese downstream producers by making export quotas more restrictive and by imposing or increasing export duties on many raw materials at issue."<sup>78</sup>

## **Mercantilist-Driven Foreign Direct Investment**

Among developing nations, China has become the leading destination of foreign direct investment. Since 1983, FDI has grown from less than \$1 billion a year to over \$60 billion, 72 percent of which targets manufacturing.

Of China's FDI, 20 percent to 30 percent is estimated to be of domestic origin. It is the result of the "round tripping" of mainland Chinese capital, primarily through Hong Kong and the Virgin Islands. This "round tripping" is driven by the special preferences the Chinese government awards to FDI in the form of lower tax rates, land-use rights and subsidies, administrative support and other subsidies, most of which

represent violations of WTO rules, as well as by a desire to evade foreign exchange controls.<sup>79</sup>

Other major FDI participants include the United States, Japan, Korea and Taiwan. While the availability of cheap labor and the allure of China's growing and largely untapped consumer market certainly play a major role in attracting these participants, lax environmental and health and safety regulatory standards synergistically factor into investment decisions. In this regard, multinational companies are increasingly being criticized within China for exporting their pollution from everywhere else in the world to mainland China. In addition, China's undervalued currency also provides considerable FDI synergy. An undervalued yuan makes Chinese assets appear relatively cheap to foreign investors.

China's catalytic FDI provides a variety of competitive benefits. It finances the transfer of the most technologically advanced production and process technologies. It has brought with it managerial best practices and skills as many FDI-financed enterprises are managed by foreign talent. FDI is also often tied to the improvement of both marketing and distribution skills.

When all of these attributes are tied to one of the least expensive labor forces in the world, FDI becomes a powerful competitive driver. As noted by *Business Week*, "as capital floods in and modern plants are built in China, efficiencies improve dramatically. The productivity of private industry in China has grown an astounding 17 percent annually for five years."<sup>80</sup>

Chinese FDI is driven by protectionism and its mercantilist market environment, and it thereby constitutes an unfair trade advantage. Consider China's textile industry. It has been the largest purchaser of both new shuttle-less looms and spinning equipment in recent years, much of it paid for with FDI. The result is that Chinese textile workers now achieve rates of high productivity similar to those of U.S. textile workers.<sup>81</sup>

### **Protectionist and Mercantilist Practices by America's Other Major Trading Partners**

As a benchmark of comparison, what follows is an analysis of the four other major trading partners of the United States. But this analysis is rather brief because, unlike China, these four other major trading partners normally play by the rules set forth by the WTO and GATT.

## **The Eurozone**

The Eurozone is America's second largest trading partner behind China. In 2007, Eurozone countries collectively ran a \$107-billion trade surplus with the United States, more than \$40 billion of which was accounted for by Germany.

Many of the problems that exist in trade relations between the United States and the Eurozone countries revolve around the agricultural and pharmaceutical sectors. However, there are several important issues that materially affect trade in manufactured goods.

One of the biggest bones of contention is the existence of ongoing "measures that subsidize the development, production and marketing of large civil aircraft."<sup>82</sup> In this regard, Europe makes the same kind of complaints about the subsidization of America's civilian aircraft industry that the United States makes against Airbus. The USTR report makes it clear, however, that considerable unfair trade support exists for Airbus suppliers and aircraft engine production.

For example, its government "subsidizes Belgian manufacturers that supply parts to Airbus."<sup>83</sup> At the same time, "France provides aid in the form of reimbursable advances to assist the development by French manufacturers of products such as planes, aircraft engines, helicopters and on-board equipment by French manufacturers."<sup>84</sup> For its part, United Kingdom's government provides considerable support to Rolls-Royce for the development of aircraft engines.<sup>85</sup>

The chemical industry is the second American manufacturing industry that has been impacted by Eurozone nontariff barriers. The problem here is that U.S. producers of chemicals and downstream users of chemicals "face the EU's comprehensive new regulatory regime known as Registration, Evaluation and Authorization of Chemicals, which adopts a particularly complex and burdensome approach that appears to be neither workable nor cost-effective."<sup>86</sup>

A third problem that varies considerably on a country-to-country basis involves the application of local content rules and government procurement. The countries of greatest concern include the Czech Republic, Greece, Lithuania, Portugal and Spain.

## **Japan**

Japan is America's third largest trading partner as measured by the size of America's deficit with Japan — \$83 billion in 2007. Japan is also America's second largest trading country behind only China. Japan is America's fourth-largest export market.

Perhaps the biggest problem with U.S.-Japan trade relations is the indirect manipulation of the yen by Japan's central government and central bank. Curiously, this mercantilist weapon, which has been particularly injurious to the American automobile industry, has been totally ignored in the USTR report.

The USTR report nonetheless identifies several important protectionist and mercantilist policies that contribute to the U.S.-Japanese trade imbalance. While many of these policies serve to protect and promote Japan's agricultural industries, some of these policies impact the trade balance in manufactured goods.

"Japan continues to restrict the importation of U.S.-manufactured wood products through tariff escalation [and] elimination of tariffs on wood products remains a long-standing U.S. government objective." Japan also protects its leather and footwear industry using a tariff-rate quota that "substantially limits imports into Japan's market, and establishes these quotas in a nontransparent manner."<sup>87</sup>

Japan also continues to fiercely protect its automobile and auto parts sectors. As noted in the USTR report, "a variety of nontariff barriers have traditionally impeded access to this market, and overall sales of North American-made vehicles and parts in Japan remain low."<sup>88</sup>

To a lesser extent, Japan also uses protectionist methods such as local content rules to promote its civilian aerospace products. Japan's Ministry of Defense "has a general preference for domestic production or the licensing of U.S. technology for production in Japan to support the domestic defense industry."<sup>89</sup>

### **America's NAFTA Trading Partners**

It is useful to treat Canada and Mexico as a pair in this analysis because both countries are party to the North American Free Trade Agreement (NAFTA) that was put into place in 1994. Today, under NAFTA, the United States, Canada and Mexico engage in an almost textbook-like, free-trade regime.

Mexico is America's fourth largest trading partner, as measured by the size of the U.S. trade imbalance with Mexico. The American goods trade deficit with Mexico was \$74 billion in 2007. Despite this trade imbalance, Mexico is the second largest export market for U.S. goods.<sup>90</sup>

As for Canada, it is the fifth largest trading partner of the United States as measured by the size of the trade deficit and the largest export market for U.S. goods. More broadly, the United States and Canada en-

gage in the world's largest bilateral trade relationship, with total merchandise trade (exports and imports) exceeding \$500 billion a year.<sup>91</sup>

Half of the U.S. trade imbalance with Canada is attributable to large quantities of imported oil. While trade relations between the United States, Canada and Mexico are relatively free of either protectionist or mercantilist influences, a few areas of concern have been raised that affect the manufacturing sectors of both countries.

### **Mexico**

One major area of concern in U.S.-Mexican trade relations focuses on import licensing restrictions. As noted by the United States Trade Representative, to be eligible, U.S. exporters of more than 400 different items to Mexico must apply and "be listed on a special industry sector registry" while industries affected include "agricultural products, textiles, chemicals, electronics and automotive parts."<sup>92</sup>

American exporters have complained that "registering is bureaucratically difficult and this requirement sometimes causes costly customs clearance delays when new products are added to the list of subject items with immediate effect, thereby denying importers sufficient notice to apply. They also report that certain importers have been summarily dropped from the registry without prior notice or subsequent explanation, effectively preventing some U.S. exporters from shipping goods to Mexico."<sup>93</sup>

A second area of concern involves inflated customs valuations. Mexico "uses estimated prices for customs valuations of a wide range of products imported from the United States and other countries, including... chemicals, wood, paper and paperboard products, textiles, apparel, toys, tools and appliances."<sup>94</sup>

Yet a third problem relates to "continuing high levels of piracy and counterfeiting in Mexico."<sup>95</sup> However, most of this piracy and counterfeiting affects the entertainment industry and software industry. This is in sharp contrast to the kind of intellectual property theft that takes place in China, which is aimed at reducing production costs in many of China's key manufacturing industries.

### **Canada**

As for Canada, perhaps the biggest problem is subsidies for Canada's aerospace and defense industries. These subsidies are administered under the Technology Partnership Canada program that supports research and development activities in Canada. Essentially, the

Technology Partnership Canada organization provides subsidized loans to these pillar industries.

A second problem identified by the United States Trade Representative is that of local content rules. While U.S. companies are allowed to compete on the nondiscriminatory basis for federal government contracts, “Buy Canada” programs remain in place at the provincial government level.

These issues notwithstanding, trade between the United States and its neighbors, Mexico and Canada, adheres far closer to the principles of free trade than to the problems of protectionism and mercantilism that mars the U.S.-China relationship. While there remain some problems in trade relations between the United States and the Eurozone, Japan, Mexico and Canada, these problems are minor compared to the protectionist and mercantilist practices of China. If the United States wants to make headway in reducing its chronic trade imbalances, the primary policy focus should be on addressing Chinese protectionism and mercantilism.

## Summary and Conclusions

The ultimate purpose of this chapter is to provide policymakers with the facts with which to evaluate trade relations with America’s five largest trading partners — China, the Eurozone, Japan, Mexico and Canada. These five major partners account for the lion’s share of America’s chronic trade deficits — roughly 75 percent.

As the foundation for this analysis, the narrative first noted that America’s chronic trade deficits — and collateral transfer of millions of manufacturing jobs overseas — are significantly weakening the economic and political fabric of the United States. The transfer of American jobs overseas to low-wage hubs in Latin America and particularly Asia has depressed wages and materially reduced the standard of living of millions of Americans. The “hollowing out” of the U.S. manufacturing base has helped induce recessionary conditions in key regions of the United States particularly in the Midwest.

In addition, America’s chronic trade deficits have put severe downward pressure on the dollar, creating inflation while reducing American purchasing power and lowering the standard of living. At the same time, America’s political sovereignty and economic base is increasingly threatened by the rise of sovereign wealth funds that have the power to use their dollar reserves to purchase and gain controlling interests in Amer-

ican companies and then strip these companies of either their technologies or jobs, or both, further weakening the U.S. economy and manufacturing base.

In light of these negative effects, the big question raised is whether the loss of American manufacturing jobs, depressed wages and the presence of chronic American trade deficits are the inevitable results of a free-trade system that, on balance, will be both “good for America” and “good for the world” over time. Alternatively, are the negative effects of free trade the pernicious results of America’s trading partners adopting “beggar thy U.S. neighbor” mercantilist and protectionist trade policies that run contrary to free trade principles?

The most important conclusion of this analysis should be unmistakable: America’s largest trading partner by the size of the trade imbalance, China is engaging in the most massive campaign of mercantilism and protectionism ever witnessed. While this chapter purposefully refrains from proposing any specific policy solutions, the author’s hope is the information provided along with the framework used in the analysis will assist policymakers in thinking through this critical problem.

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1. There are many different kinds of tariff instruments. The simplest form is the “ad valorem tariff,” which is levied as percentage of price. A more complex tariff is that of “tariff escalation.” This involves higher import duties on semi-processed products than on raw materials and progressively higher tariffs on finished products. In this way, tariff escalation protects domestic processing and finishing industries while discouraging the development of these industries in the countries where the raw materials originate. As a hybrid form of the quota and tariff, there is also the “tariff rate quota.” This protectionist tool sets a tariff on imports below a specified quantity and then raises that tariff on higher quantities.
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  3. “2008 National Trade Estimate Report on Foreign Trade Barriers,” United States Trade Representative, [http://www.ustr.gov/Document\\_Library/Reports\\_Publications/2008/2008\\_NTE\\_Report/Section\\_Index.html?ht=](http://www.ustr.gov/Document_Library/Reports_Publications/2008/2008_NTE_Report/Section_Index.html?ht=). Given its obvious limitations, the USTR Report would be greatly enhanced if it adhered more closely to the comprehensive compendium of protectionist and mercantilist practices set forth in Tables 1 and 2 and the framework of analysis set forth in this chapter.
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  5. USTR Report, page 83.
  6. USTR Report, page 79.
  7. USTR Report, page 134.
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  9. Szamosszegi, Andrew, “How Chinese Government Subsidies and Market Intervention Have Resulted in the Offshoring of U.S. Auto Parts Production: A Case Study,” page 5.
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26. See, for example, the annual survey results of "Transparency International, the Global Coalition Against Corruption," [http://www.transparency.org/policy\\_research/surveys\\_indices/cpi/2007](http://www.transparency.org/policy_research/surveys_indices/cpi/2007).
27. USTR Report, page 141.
28. USTR Report, page 104.
29. USTR Report, page 104.
30. Statement of Al Lubrano, President, Technical Materials, Inc., House Small Business subcommittee on tax, finance and exports, May 27, 2005.
31. China's policy of offering free land use to multinationals has been particularly effective in attracting foreign direct investment.
32. Szamosszegi, page 17.
33. It is worth noting that the Chinese government has suspended the VAT tax rebate in a number of industries, including most prominently semiconductors. However, it did so only after threats from the U.S. of filing WTO complaints. See, for example, "China Encourages IC Research & Development," *China Daily*, September 8, 2004.
34. For details, see "China VAT & Export Rebates," Dezan Shira & Associates. [http://www.dezshira.com/china\\_export\\_rebates.htm](http://www.dezshira.com/china_export_rebates.htm).
35. USTR Report, page 104.
36. USTR Report, pages 88-89.
37. Szamosszegi, page 20-22.
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