

Technology Transfer

By Doug Karmin
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Introduction

When President Obama stated in March that he was setting a goal for U.S. exports to double in five years, skeptics were quick to point out the many obstacles that would make that difficult. Most obvious are the current global economic problems, which dampen exporting opportunities in general. But also mentioned were the numerous trade barriers that U.S. exporters face.

In a sign of the times, and the success of prior trade agreements, the discussion on trade barriers today focuses much less on traditional impediments like tariffs and quotas, and more on non-tariff barriers. Exchange rate manipulation in particular has been grabbing most of the headlines when it comes to trade.

Another important but less widely discussed issue has to do with protecting intellectual property (IP) in overseas markets. The importance of this was highlighted in a recent study of U.S. companies which showed that IP-intensive industries (e.g. computers, communications, medical equipment, chemicals) account for 60 percent of all U.S. exports, and on average pay their workers 60 percent more than non-IP-intensive industries.¹

The topic of protecting intellectual property usually focuses on counterfeiting and piracy. And for understandable reasons; some estimates say that U.S. companies lose tens of billions in sales each year due to counterfeiting, and comparable sums to piracy. But sometimes lost in the fight against counterfeiting and piracy is the more subtle, but potentially more damaging issue of governments requiring or encouraging the transfer of technology and IP from U.S. companies to local ones. And while these transfers don't always impact exports in the short-run, they can have a significant impact on long-term competitiveness and U.S.-based innovation. It should therefore be a priority for U.S. economic policy to protect U.S. IP through strong enforcement of existing agreements, and by improving these agreements to directly address issues around technology transfer.

Technology Transfer

Efforts by foreign governments to promote the transfer of intellectual property from foreign companies looking to sell in their markets can take several different forms, and are often part of a broader set of initiatives that can be grouped together under terms like "indigenous innovation." There is obviously nothing wrong with foreign countries promoting innovation based on local education and research spending; in fact, the entire world benefits from new advances that come from original innovation. The problem can arise when these promotional efforts come at the expense of U.S. firms that have invested in valuable IP, and rely on this for their competitive advantage. The differences between U.S. labor costs and those in developing countries are well known, so maintaining a technological advantage is key to American economic success.

Probably the most direct way countries can obtain foreign intellectual property is through a government mandate that certain technology be transferred to local companies. A recent example of this occurred in March 2010 in India, where the Department of Telecommunications notified its service providers that network equipment vendors must transfer technology for critical equipment and software to Indian manufacturers within three years of selling the products to any Indian operator. The service providers must include this clause in their purchase orders, and both the network equipment vendor and the service providers are subject to penalties for non-compliance.²

A slightly less overt way of achieving a similar goal is by leveraging the government procurement process. Public spending is one of the major components of many economies, a reality even more pronounced recently as many countries have turned to fiscal stimulus during the recent global recession. The size of the government procurement market varies widely by country, and is difficult to estimate. For the United States, federal procurement (ignoring state and local) is estimated at \$530 billion, or almost 4 percent of U.S. GDP.³ Applying that percentage globally, total government procurement would be greater than \$2 trillion annually, or roughly the size of the entire British economy. This represents a very large opportunity for would-be exporters, and in some countries, it is the top source of potential business.

China has been one of the more active countries in this area, successfully leveraging some of its large government contracts to facilitate technology transfer. General Electric has been selling in the Chinese market for decades, and in order to win a \$900 million bid for high-tech turbines in 2003, it had to agree to share its technology with two Chinese companies that had plans to eventually produce the turbines themselves. In discussing the conflicting goals, GE's former president of global sales said, "They're interested in having total access to technology and we're interested in protecting the technology that we made significant financial investment in."⁴

And often these trade-offs are made very explicit. A 2007 Chinese Ministry of Finance decree on government procurement specifically says that "once approved to purchase foreign products, the contract should preferably be awarded to the foreign enterprise which undertakes to transfer the core technology."⁵ A separate decree goes so far as to spell out the exact pricing advantage that indigenously innovated products should receive.⁶

More recently, China has expanded on this by creating a catalog of products that receive preferential treatment for government procurement in such industries as computers, software, telecommunications, and green technology. In order to be listed in the catalog a product must "have Chinese intellectual property and proprietary brands" and the intellectual property must be "totally independent of overseas organizations or individuals."⁷ The exact interpretation of these rules, and how they will be enforced, is still being clarified, but the issue has become a hot-button with many companies that fear they will be shut out of the lucrative Chinese market or be compelled to share their valuable technology with Chinese competitors or government agencies.

Addressing the Issue

Updating the GATT/WTO Agreements

One of the core principles of the General Agreement on Tariffs and Trade (GATT) is non-discrimination, or that imported products should be treated the same as domestic products. This is spelled out in Article III of GATT 1994 which says imported products “shall be accorded treatment no less favorable than that accorded to like products of national origin in respect of all laws, regulations and requirements affecting their internal sale...”⁸ The Trade-Related Investment Measures (TRIMs) agreement references Article III, and cites investment-related examples that violate it: requirement to buy locally produced goods, or requirement to balance imports with exports.⁹ These are examples of traditional violations of the non-discrimination principle, and it is important that our trade agreements explicitly prohibit the more recent problem of mandatory technology transfer. This would both help deter countries from adopting these policies, and would strengthen the U.S. position in potential dispute settlement cases.

A counter-argument is that GATT is supposed to promote technology transfers from developed to developing countries in exchange for better protection of intellectual property. And, indeed, language to this effect is included in the Trade-Related Intellectual Property (TRIPs) agreement. But TRIPs speaks to developed countries providing incentives for their companies to transfer technology, and does not promote mandatory transfers imposed by developing countries. It is also designed to help the least developed countries, which are not necessarily the countries that are implementing technology transfer policies.¹⁰

Enforcing Existing Agreements

Even without making our trade agreements more explicit in their prohibition of mandated technology transfers – or optimistically, *before* making them more explicit – the U.S. government should vigorously enforce existing trade obligations. For example, the language in GATT Article III requires treating imported products the same as national ones in terms of domestic laws and regulations. In these cases of technology transfer, domestic sellers are not typically required to share their valuable intellectual property with another domestic company, only foreign sellers must do so. The United States should challenge these types of actions by invoking the obligations around non-discrimination already contained in our trade agreements.

Expanding GPA Membership

The issue is different in the area of government procurement. As we saw with the examples in China, some governments can leverage their procurement contracts to extract technology transfer concessions from foreign companies. But unlike the examples of mandating these transfers for private sector transactions, the government procurement problem is less about

updating or clarifying existing commitments and more about expanding membership.

The WTO has an entire set of disciplines that govern procurement known as the “Agreement on Government Procurement (GPA).” The GPA contains principles of non-discrimination and national treatment similar to other parts of the WTO, but specific to government procurement. These include a prohibition against technology licensing requirements.¹¹ The problem is that WTO members have the option, not the requirement, to become a party to the GPA. And to date, of the 153 members of the WTO only about 40 developed countries have joined the United States in the GPA, mostly from the European Union. Noticeably absent from the list are some of the large, high-growth markets in the developing world (e.g. China, India, Saudi Arabia).¹²

Given this reality, the U.S. government should focus on getting more countries to join the GPA. The best leverage point for doing that would have been making this a mandatory precondition for joining the WTO, but given that Russia is the only major economy still outside the WTO, that opportunity has passed. The United States must therefore work aggressively to convince key members of the WTO who haven’t joined the GPA to do so, even though this would take away their ability to leverage procurement contracts for technology transfer and other industrial policies. It did this at the recent Strategic and Economic Dialogue in Beijing in which the Chinese committed to submitting a revised offer for joining the GPA by July 2010.¹³ The U.S. government must continue to push to finalize China’s membership, and do the same with other non-member countries.

In theory, the benefits of joining the GPA are many, and include better procurement discipline and less potential for corruption for the acceding country. In reality, the main attraction is likely to be the reciprocal, non-discriminatory access to the procurement markets of the other GPA countries, especially the United States. The U.S. government should make GPA accession for large developing countries a top trade priority, and work in concert with the other GPA members to build as attractive a bargaining position as possible by presenting the potential market opportunities in a global context. There are several potential forums in which this effort could be pursued, including the global Doha Round of trade negotiations, as well as regional and bilateral trade discussions, like we saw recently with China.

Private Sector Influence

While governments can expand on existing trade agreements, the private sector has its own set of leverage points for dealing with technology transfer requirements. Since private companies are ultimately the ones who own the technology that foreign governments are interested in, they have a seat at the table.

A recent example of this occurred in response to private sector concerns over China’s efforts to promote the transfer of intellectual property through government procurement. In an unusual response, Premier Wen Jiabao, along with the heads of several key ministries, met with

representatives from top European companies to express his country's commitment to treat foreign companies the same as local ones.¹⁴ China continued to try to alleviate these concerns at the Strategic and Economic Dialogue by discussing a new draft of the procurement rules that they claim takes into account the concerns raised by foreign companies and protects intellectual property.¹⁵ It remains to be seen how this will play out, and how the rules will ultimately be implemented, but it does show that foreign governments are not immune to private sector concerns, especially when it appears that companies may rethink local technology development if the proper safeguards are not in place.

Conclusion

Leveraging a competitive advantage is something that all companies try to do. For many U.S. companies, that advantage comes from the investment in technology and intellectual property that is then used to compete globally. The underlying premise behind this strategy is that the investment in intellectual property can be protected against forced diffusion into the market. The U.S. government needs to think beyond just anti-counterfeiting and anti-piracy efforts when trying to protect these investments as part of a broader intellectual property strategy. It can do this by clarifying what constitutes discriminatory treatment regarding technology transfer, aggressively challenging the legality of these transfers, and by expanding the membership in the WTO's commitments on government procurement.

The private sector can also use its influence to prevent mandated technology transfer, but one of the gray areas is whether or not these transfers are truly mandated. China and other countries may argue that they are not, and that it is simply a case of private companies willingly entering into a business agreement in which technology is exchanged for sales. This probably explains why more companies that transfer their technology don't lodge complaints with their government. As trade expert William Reinsch described the dilemma for these U.S. companies, it's a case of "short-term sales for long-term competition."¹⁶ The objective for the U.S. government should be to create an environment in which companies don't have to make this tradeoff, and aren't put in a position of having to negotiate away their technological advantage in order to compete today. Success in this effort is crucial to maintaining our economic competitive advantage, and therefore our overall national interest.

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Endnotes

¹“US says protecting IP rights a top trade priority,” Doug Palmer, *Reuters*, April 26, 2010. To see the full study by the U.S. Chamber of Commerce: www.theglobalipcenter.com/reports/impact-innovation-and-role-ip-rights-us-productivity-competitiveness-jobs-wages-and-exports

²“India demands telecoms technology transfer,” John Ribeiro, *TechWorld.com*, March 24, 2010. Also “Nokia Siemens gears up for Indian 3G market,” John Ribeiro, *IDG News Service*, April 12, 2010.

³See www.whitehouse.gov/omb/procurement_default/

⁴“China’s Price for Market Entry: Give Us Your Technology, Too,” Kathryn Kranhold, *The Wall Street Journal*, February 26, 2004.

⁵“China’s Accession to WTO’s Government Procurement Agreement: Domestic Challenges and Prospects in Negotiation,” Ping Wang, The University of Nottingham, China Policy Institute, March 2009.

⁶Ibid.

⁷“China’s Curbs on Tech Purchases Draw Ire,” Loretta Chao, *The Wall Street Journal*, December 11, 2009.

⁸See http://www.wto.org/english/res_e/booksp_e/analytic_index_e/gatt1994_01_e.htm#general for an overview of GATT 1994.

⁹See www.wto.org/english/docs_e/legal_e/18-trims.pdf for an overview of the TRIMs agreement

¹⁰See www.wto.org/english/thewto_e/whatis_e/tif_e/agrm7_e.htm for an overview of the TRIPs agreement.

¹¹See www.wto.org/english/tratop_e/gproc_e/gpa_overview_e.htm for an overview of the GPA.

¹²See www.wto.org/english/tratop_e/gproc_e/memobs_e.htm for specifics on GPA signatories.

¹³“U.S: China To Submit Proposal To Join Government Procurement Agreement By July,” Aaron Back, *The Wall Street Journal*, May 25, 2010.

¹⁴“China vows ‘level playing field’ for foreign firms,” Joe McDonald, *San Jose Mercury News*, April 30, 2010.

¹⁵“China soothes on indigenous innovation, wants high-tech,” Chris Buckley and Doug Palmer, *Reuters*, May 24, 2010.

¹⁶Op. cit., Kranhold.