

The Political Economy of Standards Coalitions: Explaining China's Involvement in High-Tech Standards Wars

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EXECUTIVE SUMMARY

This essay seeks to explain China's inability to successfully adopt and commercialize new technology standards by contrasting two standards development cases: wireless local area networks and home networking.

MAIN ARGUMENT

Technology standards are often the result of conflict between competing industry coalitions, which derive their strength from both political and economic sources. Several of the coalitions supporting unique Chinese standards, most notably for wireless local area networks (LAN), have been narrow and weak relative to the coalitions formed by their foreign competitors. Other less publicized efforts, such as those in home networking, have attracted a broader base of support and as a result show genuine commercial promise.

POLICY IMPLICATIONS

- As long as the industry coalitions supporting Chinese efforts to set unique technical standards in information technology are narrow, the opposition both of important segments of Chinese industry and of foreign companies and their governments will cause such efforts to fail.
- Despite high visibility, China's bid to promote WAPI over Wi-Fi as the international wireless local area network standard is not representative of all Chinese standards efforts. Much of Chinese industry and government increasingly recognize the need to be more transparent and receptive to foreign input during the standards process. In addition, Chinese firms want to contribute constructively to international initiatives as well.
- In order to foster Chinese integration into the global standards community, Western industries and governments should avoid highly politicized conflicts over standards and instead promote transnational business partnerships as well as technical and legal training. This approach would avoid unnecessary trans-Pacific tensions and increase business opportunities for Western businesses.

Chinese efforts to set unique technical standards in information technology as a competitive tool of industrial policy have led Western industries and governments to sound alarm bells. This concern stems not only from the perception that such efforts potentially violate the WTO's Agreement on Technical Barriers to Trade but also from the perception that these efforts challenge the West in an area where Western countries previously thought themselves highly competitive and most easily able to withstand China's rise as a manufacturing powerhouse. The concerns of Western nations peaked in late 2003 and early 2004, when China attempted to mandate a new wireless LAN standard, WAPI (wireless LAN Authentication and Privacy Infrastructure) over the widely used Wi-Fi (wireless fidelity). In response, foreign industry and governments mobilized both to challenge WAPI and to redirect China's overall strategy. Countering, or at least channeling, China's standards development efforts has become a prominent feature of U.S. and European Union (EU) trade policy.¹

What is generally lost in the discussion among Western observers is China's record to date. The Chinese government has already drafted two dozen industry and national standards in information technology, at least two of which (Chaoji VCD and TD-SCDMA) have been approved as international standards. Yet gains from these achievements have benefited China very little: Chinese industry has not collected any royalties from these standards, cross licensing of standards between Chinese and foreign companies has yet to occur, foreign firms have not turned over their intellectual property as a result of these standards, and products based upon these standards have met with only limited commercial success. Foreign companies and their products, however, have so far remained generally unscathed.

This essay attempts both to explain China's overwhelming record of failure in standards development to date and to identify signs indicating possible future success. The focus is not on how either China's problematic political environment may stifle innovation or how the country's economic situation may make innovation a less than ideal business strategy for Chinese firms. Instead, this essay demonstrates how the relative strength of competing business coalitions has shaped the trajectory and outcome

¹ This concern was most recently enunciated by the U.S. Trade Representative Office in its "U.S.-China Trade Relations: Entering a New Phase of Greater Accountability and Enforcement: Top-to-Bottom Review," February 2006. In August 2005 the United States posted a dedicated standards attaché to the U.S. embassy in Beijing, one of only four embassies with such an official (the others are Mexico, Brazil, and the EU). American standards organizations, such as the American National Standards Institute, have stepped up both their interaction with Chinese standards bodies and their consultations with the U.S. Congress and executive branch. The EU has also stepped up its efforts to provide training and advice to improve China's standards development process.

of standards fights in China. This position is defended by comparing two ongoing standards development efforts: one regarding the infamous WAPI case, the other involving less visible efforts to set home networking standards that facilitate communication between computers, consumer electronics, and communications technologies (collectively known as “3C convergence”). Wireless LAN and home networking standards efforts in China have differed in their origins, in processes of standards drafting and implementation, and in efforts at commercialization. For wireless LAN, there has been a small, narrow Chinese coalition of firms arrayed against a huge alliance of multinationals supported by their Chinese corporate partners. As a result, WAPI has had virtually no chance to succeed. By contrast, in the case of home networking, two Chinese efforts—IGRS and ITopHome—are composed of relatively broad coalitions of Chinese firms and even of some foreign partners. Although these groups are confronting an even broader coalition of multinationals, the Chinese may prove capable of commercializing a Chinese standard in products that find a willing market.

The data for this paper has been drawn from three sources. Most important are the more than 30 in-depth interviews—carried out in the fall of 2003 and August and October of 2005—with Chinese and foreign government officials, company executives, industry association representatives, and independent industry analysts. Another source includes the websites of the Chinese government, Chinese and foreign standards organizations, and various industry alliances. The final source used is the Western and Chinese media.²

This essay is divided into five sections:

- ≈ pp. 45–48 overviews different approaches to understanding China’s standards development and introduces the idea of competing coalitions
- ≈ pp. 48–56 presents a case study of China’s wireless LAN and the small, narrow Chinese coalition of firms supporting it
- ≈ pp. 56–59 presents a case study of China’s Home Networking standard and the broadening coalition base involved in standards creation
- ≈ pp. 59–61 presents conclusions
- ≈ p. 62 provides an **Appendix** of all the acronyms used in this essay

² In order to protect my sources, I must maintain their anonymity, and thus refer to them in citations as “author interviews.”

STANDARDS DEVELOPMENT AS WAR

China's entry into the World Trade Organization (WTO) in December 2001 was a watershed event. As part of membership, China agreed to eliminate or reduce thousands of tariff and non-tariff barriers.³ Though reforms have resulted in unprecedented levels of access to the Chinese market, WTO entry has not signaled the complete elimination of trade barriers. China has gradually begun to employ practices usually associated with advanced industrialized countries. In the area of fair trade, China is now the third most active initiator of anti-dumping investigations against foreigners (behind India and the United States) and has initiated its own safeguard actions.⁴ Equally novel, Chinese firms have joined with the Chinese government to develop technical standards, not simply as a way to promote harmonization, facilitate efficiency, or ensure health and safety, but also as a strategic tool to benefit the particular interests of Chinese industry and the Chinese state.⁵

Chinese efforts to employ standards as a competitive tool have been focused on information technology. In light of the fact that standards wars around the globe have been a regular feature of information technology—in particular networked technologies—during the past 30 years, this focus is understandable.⁶ Chinese businesses, government officials, and experts have repeatedly enunciated a strategy that views standards as trade weapons.⁷ This view is partly borne out of an impression that Western industry has used technology standards to solidify Western dominance of markets and force developing countries such as China to remain in an inferior position. An executive at Lenovo, a Chinese computer company, recently stated that, “Chinese companies must develop high technology and we must make our own technical standards if we hope to change from ‘made in China’ to ‘made

³ Nicholas R. Lardy, *Integrating China Into the World Economy* (Washington, D.C.: Brookings Institution Press, 2002).

⁴ Scott Kennedy, “China's Porous Protectionism: The Changing Political Economy of Trade Policy,” *Political Science Quarterly* 120, no. 3 (Fall 2005): 407–32.

⁵ The most complete review to date of this strategy is Richard P. Suttmeier, Xiangkui Yao, and Alex Zixang Tan, “Standards of Power? Technology, Institutions, and Politics in the Development of China's National Standards Strategy,” *NBR Special Report*, no. 10 (June 2006).

⁶ H. Landis Gabel, *Competitive Strategies for Product Standards: The Strategic Use of Compatibility Standards for Competitive Advantage* (London: McGraw-Hill, 1991); and Stanley M. Besen and Joseph Farrell, “Choosing How to Compete: Strategies and Tactics in Standardization,” *Journal of Economic Perspectives* 8, no. 2 (Spring 1994): 117–31.

⁷ For example, see An Baisheng, *WTO yu guojia biao zhun hua zhan lue* [The WTO and National Standardization Strategy] (Beijing: Chinese Commerce and Trade Press, 2005); and Zhang Ping and Ma Xiao, *Biao zhun hua yu zhi shi chan quan zhan lue di 2 ban* [Standardization and Intellectual Property Rights Strategy, Second Edition] (Beijing: Intellectual Property Rights Press, 2005).