

An hourglass-shaped graphic with a globe inside. The top bulb is dark blue, and the bottom bulb is light blue. The globe is centered in the narrow neck of the hourglass. The top bulb is filled with a dark blue color, and the bottom bulb is filled with a light blue color. The globe is centered in the narrow neck of the hourglass.

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Report RL30636

*China's Internet Industry*

Thomas Lum, Foreign Affairs, Defense, and Trade Division

Updated August 14, 2000

**Abstract.** The Chinese Internet industry is one of the fastest growing in the world; the number of users is expected to grow from 9 million to nearly 20 million in 2000 alone. Chinese scientific research institutes, the Chinese government, and Chinese high tech entrepreneurs, many of them backed by American venture capital, have forged the development of the Internet in China. Upon its accession to the World Trade Organization (WTO), China has promised to open its telecommunications sector and Internet industry to much greater foreign investment and trade.

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# CRS Report for Congress

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## China's Internet Industry

August 14, 2000

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# China's Internet Industry

## Summary

The Chinese Internet industry is one of the fastest growing in the world; the number of users is expected to grow from 9 million to nearly 20 million in 2000 alone. Chinese scientific research institutes, the Chinese government, and Chinese high tech entrepreneurs, many of them backed by American venture capital, have forged the development of the Internet in China. Upon its accession to the World Trade Organization (WTO), China has promised to open its telecommunications sector and Internet industry to much greater foreign investment and trade.

The government of the PRC (People's Republic of China) generally welcomes the Internet's usefulness in facilitating business transactions and academic research and in attracting foreign investment. However, many Chinese officials fear the Internet's liberalizing effects upon China's economy and politics. They have resisted opening up the telecommunications sector and allowing electronic information and communication to flow unimpeded. State companies monopolize the Internet service provider (ISP) market. The government attempts to restrict political uses of the Internet, though it has been unable to monitor and regulate all of the medium's activity. Some observers suggest that the Ministry of Information Industry will continue to hinder private sector activity and foreign investment in the Internet industry, despite China's accession to the WTO. This report will be updated as warranted.

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# China's Internet Industry

## Internet Usage in China

Internet usage in China is expected to grow rapidly over the next decade, providing greater business opportunities and access to information. The Chinese government has attempted develop the Internet while regulating its operation and content. While it has been unable to completely control regional Internet development plans, private business ventures, and individual activities online, the Internet's political effects have so far been minimal. As China addresses its World Trade Organization agreements to open its telecommunications sector and Internet industry to foreign investment and trade, U.S. companies will likely find both opportunities and obstacles.

### Rapid Growth

During the past four years, the number of Internet users in China has doubled annually; industry analysts expect this growth to continue. Some experts estimate that the number of Internet users in China will reach 15-20 million by the end of 2000, ranking fifth in the world. By 2005, China may have the second-largest Internet population, though it will still trail far behind the United States.<sup>1</sup> Chinese users are predominately urban, male (over two-thirds), university-educated, and young (see **Figure 1**). The regions with the greatest Internet activity are the cities of Beijing and Shanghai and the province of Guangdong. The largest occupational user groups are students (19.3%), computer technicians (14.9%), engineers (9.9%), foreign enterprise employees (8.9%), Post and Telecommunications Ministry (now Information Industry Ministry) engineers (7.4%), and government staff (6.9%). Most Chinese get online at home (50%), at the office (37%),<sup>2</sup> or at an Internet café (11%). The average monthly income of home Internet users is more than twice that of those without home access. Favored activities are using e-mail, gathering information, downloading software, and chatting online.<sup>3</sup>

The totals of domain addresses and Web sites have also been growing rapidly, at about 20% per quarter. In 1999, there were 48,695 domain addresses and 15,153 Web

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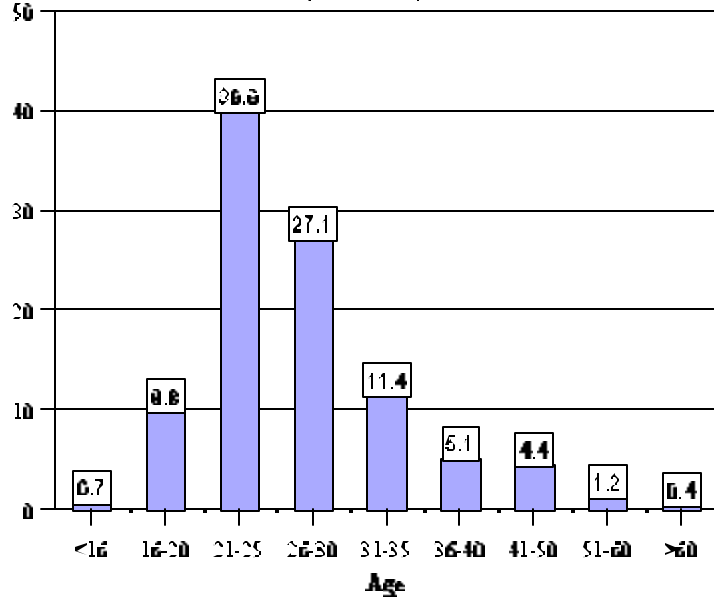
<sup>1</sup> Stephen J. Anderson, "China's Widening Web," *The China Business Review*, March-April 2000; "China to Have World's Second Largest Net-population in 2005," *Muzi Daily News*, May 1, 2000 [<http://www.dailynews.muzi.com>]. By year-end 2000, the top five countries in Internet users are projected as follows (in millions): U.S. (135.7), Japan (26.9), Germany (19.1), the UK (17.9); China (15.8).

<sup>2</sup> Foreign companies in China are an important source of Internet access.

<sup>3</sup> China Internet Network Information Center [<http://www.cnnic.net.cn>].

sites. An industry analyst predicts that by 2003, China will surpass South Korea to rank first in Asia for the number of domain names registered annually.<sup>4</sup>

**Figure 1. China Internet User Profile by Age (Percent)**



Source: China Internet Network Information Center

### Computer Ownership

About 32 million Chinese own personal computers. Less than 2% of Chinese households own a computer compared to over 50% of U.S. households. Nonetheless, China’s demand for computers is expected to be the second highest in the world after the United States’ by the end of 2000. Major American suppliers in China – including IBM, Hewlett-Packard, Compaq, and Dell – have captured approximately 25% of the personal computer market through exports and local production. Legend, a domestic personal computer manufacturer which is owned jointly by the Chinese Academy of Sciences and private investors, is the largest single vendor with 25% of the market.<sup>5</sup>

### Mobile Telephones

Because personal computers are still beyond the financial reach of most Chinese, mobile telephones are expected to be the primary means of Internet activity over the next

<sup>4</sup> Stephen J. Anderson, “China’s Widening Web,” *The China Business Review*, March-April 2000; Paul Mooney, “Master of His Domain,” *ChinaOnline*, May 30, 2000.

<sup>5</sup> Peggy Lim and Ivan Trinh, “Personal Computers and Peripherals,” United States Department of State, 1999; Stephen Anderson and S. Cao, and Z. Huang, “Computer Internet Service,” United States Department of State, 1999.

decade. In 1999, China had approximately 40 million cellular phone subscribers.<sup>6</sup> One expert predicts that in two years, the Internet may become available to 60 million Chinese via their cell phones. According to one estimate, by 2004, 250 million cell phones in China will be equipped with wireless application protocol (WAP) or Internet access capability.<sup>7</sup> China's mobile telephone market is dominated by foreign brands. Motorola, Nokia, and Ericsson hold 31.9%, 29.4%, and 21.4% of the market, respectively.<sup>8</sup>

## The Chinese Internet Industry

China's Internet services market – Internet service providers (ISPs) and Internet content providers (ICPs)<sup>9</sup> – is characterized by dynamic private entrepreneurship and government involvement and regulation. Central and local governments have demonstrated conflicting attitudes toward private Internet companies. They have attempted to maintain or develop their own Internet services while both supporting and controlling the private sector. U.S. companies have broken little ground in providing Internet services. In September 1999, America Online (AOL) and a local partner launched Internet service in Hong Kong with an eye toward mainland China. AOL has engaged in preliminary discussions with PRC officials on setting up a Chinese Internet service or teaming up with a local service provider, but it is holding off due to regulatory and market uncertainties.<sup>10</sup> In June 2000, Sinobull.com,<sup>11</sup> an e-finance or online securities trading company, announced an agreement with China Telecom to provide financial services through sinohome.com [<http://www.sinohome.com>], the Web portal of Chinanet, China Telecom's ISP.

### Internet Service Providers

China's ISP market is dominated by state-owned telecommunications companies administered by the Ministry of Information Industry (MII). China Telecom was the original national telephone monopoly and continues to dominate land line services. In

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<sup>6</sup> “White House Fact Sheet on the U.S.-China WTO Accession Deal,” *U.S. Newswire*, March 1, 2000.

<sup>7</sup> Jonathan S. Landreth, “‘Don’t Be Dewy-Eyed,’ Author Schell Warns,” *Sina.com News*, 5/23/00 [<http://www.Sina.com.cn>]; Inside China Today [<http://www.insidechina.com>], “Mobile Phones the Future of the Internet in China,” 4/17/00, *Agence France Presse*.

<sup>8</sup> “Motorola, Nokia, Ericsson, Siemens Top China’s Cellphone Sector, Survey Says,” *ChinaOnline*, July 31, 2000.

<sup>9</sup> Internet service providers such as America Online sell access links to the World Wide Web; Internet content providers offer search engines, vertical channels, news, e-mail, and other services. In the United States, the many Internet service providers also offer content services; in China, the two functions remain distinct.

<sup>10</sup> “‘You’ve Got Mail’ May Be Heard in China Soon,” *ChinaOnline*, July 21, 2000.

<sup>11</sup> Sinobull.com [<http://www.sinobull.com.cn>] is a subsidiary of The Hartcourt Companies, Inc.

1999, MII broke up China Telecom and created China Unicom to specialize in pager services, China Mobile to serve the cellular phone market, and China Star to provide satellite communications. Other major telecommunications competitors offering Internet services include Jitong Communications, also operated by MII, and Netcom Corporation,<sup>12</sup> which offers high bandwidth services. Both China Telecom and China Unicom are owned partially by private investors: China Telecom raised \$4.2 billion in 1997 when it went public on the New York Stock Exchange (NYSE); China Unicom garnered nearly \$5 billion in a June 2000 NYSE initial public offering.<sup>13</sup>

In 1999, China Telecom's ISP, Chinanet [<http://www.chinanet.cn.net>], and its local subsidiaries dominated China's ISP market, controlling 83% of Internet connections. Nearly all of China's privately-owned ISP's have struggled to make profits. Eighty percent of their costs involve leasing telephone lines from China Telecom.<sup>14</sup> Furthermore, because the major ISPs are administered by MII, they reportedly often enjoy preferential treatment by the regulatory agency. Observers predict that 70% of the country's Internet companies will go bankrupt or merge with others by the end of 2000.<sup>15</sup> Those with venture-capital, government affiliations, or specialized services have better chances of success.

In July 2000, MII began considering relaxing regulations on small, private ISP's in order to create a more competitive environment in anticipation of China's membership in the WTO. However, some industry experts expect China Telecom to remain dominant and MII to continue to resist market liberalization in order to maintain its controls over Chinese Web access and content.<sup>16</sup> In July 2000, China Telecom offered special low rates to several state media organizations, including Xinhua News Agency, *People's Daily*, and China Central Television, who operate Web sites.

## Controls over Internet Content

The Chinese government attempts to control the Internet in three ways:

(1) The state constrains Internet activity through granting or withholding permits and licenses, government contracts, and other privileges. For example, many users are required to register with the local police when they purchase Internet service. Internet

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<sup>12</sup> Netcom is a joint stock company owned by five central government divisions and Shanghai municipality.

<sup>13</sup> Anderson, "China's Widening Web."

<sup>14</sup> By contrast, connector fees constitute only 5-6% of American ISP costs. Wei Liming, "Are You Online?" *Beijing Review*, November 30-December 6, 1998, pp. 8-10.

<sup>15</sup> "70% of China Internet Firms Face Bankruptcy, Merger," *Muzi Daily News*, May 4, 2000 [<http://www.dailynews.muzi.com>]; "MII Report Card: China's ISPs Demonstrate Weaknesses but Are Progressing," *ChinaOnline*, July 13, 2000.

<sup>16</sup> "After WTO, China Will Partially Open Telecom Sector to Foreign Investment," *ChinaOnline*, July 26, 2000.



content providers (ICPs) must obtain approval from government agencies to connect to ISPs, disseminate news, and list on foreign stock exchanges.

(2) The Internet is directly censored. For example, Chinese police and state telecommunications authorities sporadically monitor and intermittently block e-mail communication and domestic and foreign Web sites that contain views that are highly critical of the government. Twenty provinces and municipalities have reportedly established Internet police forces. Censors at Government-run chat rooms delete provocative messages. Obstructed foreign Web sites have included the *Washington Post* and *New York Times*. However, both central and local governments lack the capacity to screen all e-mailings and close all objectionable sites all the time.

(3) The Chinese Communist Party Propaganda Department, the State Council Information Office, the Ministry of Public Security, and other agencies set general guidelines for Internet and other mass media content. For example, the state prohibits both official and non-official news sites from quoting foreign news sources or reporting without Communist Party approval. The Chinese government forbids Internet users, ISPs, and ICPs to directly broach sensitive political topics or to access or provide links to Web sites that contain banned content.<sup>17</sup> The State Secrecy Bureau forbids any communication or information involving “state secrets.”<sup>18</sup>

Reported examples of punishable Internet activity have included having a personal Web site that is *indirectly* linked to a pornographic Web address, selling Chinese e-mail addresses to a dissident group located in the United States, and posting “subversive” news or views on such issues as the Tiananmen Square crackdown and the Falun Gong movement. Sanctions for illegal Internet activity have included temporarily shutting down Web sites, fines, and prison sentences of one to ten years. There are reportedly two Chinese “cyberdissidents” currently serving jail terms.<sup>19</sup> In February 2000, hundreds of Internet cafés in Beijing and Shanghai were closed for operating without an official license, not paying taxes, or disseminating provocative political or pornographic material.<sup>20</sup> In August 2000, Chinese police closed a dissident Web site, “New Culture Forum,” but could not find its sponsors.

Most Chinese e-mail writers, Web site creators, and private Internet content providers such as Sina.com engage in self-censorship in order to avoid trouble with the government. ChinaOnline [<http://www.chinaonline.com>], an American Web site that provides information on China’s business environment and high tech industry, avoids

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<sup>17</sup> Lester J. Gesteland, “Internet Censored Further in China,” *ChinaOnline*, January 26, 2000; Gary Chen, “China Internet: Government Tightens Controls, Clamps Down On News,” *ChinaOnline*, May 18, 2000.

<sup>18</sup> “State secrets” can mean any information that has not been officially released. “Passing state secrets” is punishable by death, though sentences are usually commuted to prison terms of 10-15 years.

<sup>19</sup> Huang Qi posted information over the Internet about the Tiananmen Square crackdown; Qi Yanchen posted articles critical of the PRC government.

<sup>20</sup> In 1999, Beijing and Shanghai reportedly had 1000 and 900 Internet cafés, respectively.

controversial political issues regarding human rights, Tibet, and Taiwan. Many Chinese Internet portals utilize software to weed out politically sensitive language in their chat rooms. Moreover, high user fees and telephone charges and slow Internet access speeds discourage many Chinese from surfing the Web for relatively superfluous, including political, purposes.<sup>21</sup> In order to better deal with regulatory and content issues and break into the saturated ICP market, Yahoo! negotiated a joint venture with Founder Electronics,<sup>22</sup> a Chinese software company, to produce a Chinese Web portal.

The Chinese government is also exploiting the Internet for its own purposes. Agencies and news media of the Communist Party and state are developing their own Web sites to compete with private ones and to disseminate propaganda. The Internet is being used to connect regional government units. Police and security forces are developing software to monitor Internet communication .

**“Plugging a Sieve”.** Many government officials acknowledge that the state lacks sufficient resources and capabilities to monitor the entire Internet.<sup>23</sup> Despite government controls and self-censorship, the Internet has provided many Chinese with a rapid and largely unmonitored means of communication through e-mail, relatively open forums of expression via chat rooms, and unprecedented exposure to foreign news and ideas by way of the World Wide Web. For example, both the banned China Democracy Party and Falun Gong movement relied on e-mail and their own Web sites to cultivate members.<sup>24</sup> Internet cafés, which sell terminal access for an hourly fee, provide anonymity for individuals who express controversial ideas in chat rooms; the Taiwanese presidential election and a corruption scandal in Xiamen city have been popular recent topics.<sup>25</sup> Authors often criticize political leaders by using nicknames which escape monitoring personnel and software.

Many foreign-language Web sites, even those with political content, evade censors. Hong Kong Web sites are a popular source of foreign news. Chinese gays, lacking open spaces to meet, have reportedly used the Internet to make contacts in China and abroad.

Since the majority of China’s most popular ICP’s are privately-owned, content is driven not only by concerns about censors but also about readership. In order to attract

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<sup>21</sup> Slow access speeds are caused by low bandwidth, slow modems of Internet servers, and insufficient telephone trunk lines that link China to the outside world.

<sup>22</sup> Founder Group is owned by Beijing University and private investors in China and Hong Kong.

<sup>23</sup> Scott Savin, “China’s Internet Shakedown,” *Asian Wall Street Journal*, February 2, 2000, p. 10.

<sup>24</sup> When the government cracked down on these movements, it also closed their Web sites.

<sup>25</sup> Elisabeth Rosenthal, “Web Sites Bloom in China, and Are Weeded,” *New York Times*, December 23, 1999; Lorien Holland and Trish Saywell, “Plugging a Sieve,” *Far Eastern Economic Review*, February 10, 2000, p. 20; John Pomfret, “Chinese Web Opens Portals to New Way of Life,” *Washington Post*, February 13, 2000, p. A1.

readers, Chinese Internet portals provide current and sometimes controversial news and links about the economy, society, and alternative lifestyles. They occasionally push the boundaries of acceptable political coverage. For example, Sohu.com was the first Web site to carry the text of Taiwan President Chen Shui-bian's inauguration speech.<sup>26</sup>

Some Chinese dissidents have reportedly found ways to avoid detection and bypass government filters. They have spread political news by sending mass e-mailings to random e-mail addresses while changing their own Internet addresses frequently. Underground Internet magazines have been written in China, sent overseas, and then e-mailed back to China.<sup>27</sup> Some Internet users connect to special Web sites that can access banned URL's. Chinese Web surfers can also evade government controls by setting up accounts with foreign Internet service providers. Hackers have disrupted official Web sites and disabled the devices that block Internet addresses.<sup>28</sup>

### **The Internet's Possible Effects on Chinese Politics**

The Internet has given a small but rapidly growing number of Chinese economic opportunities and a potent communication and information tool. Analysts suggest several factors that may influence how Chinese use the Internet politically: the government's efforts to regulate content; MII's regulatory powers over Internet services; the economic and political influence of the new technological elite; and the political atmosphere in general.

As with economic reforms, the PRC government both welcomes its contributions to China's modernization and guards against its adverse effects on political control. Some of the government's efforts at regulating the Internet are new and only partially successful; they involve employing personnel, software, and servers that monitor Internet traffic. Other means of controlling the Internet have long been used to effectively regulate other forms of social activity. These methods include granting compliant individuals and companies government approval or material rewards and severely punishing those who violate state laws or prohibitions.

China's "new economy" entrepreneurs are reportedly eroding the state's sphere of influence and gaining a voice in policy-making, but they lack real political power. They possess the capability of attracting relatively large amounts of foreign capital and the potential capability of disseminating information on a vast scale. Some observers note that Premier Zhu Rongji and many other reformers in the Communist Party leadership acknowledge and support the desires of Chinese Internet and e-commerce visionaries to create a stable legal foundation for the Internet industry, encourage foreign investment,

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<sup>26</sup> "Sohu's Struggle," *Far Eastern Economic Review*, June 8, 2000, p. 62.

<sup>27</sup> Maggie Farley, "'Cyberdissident' in China on Trial for Subversion," *Los Angeles Times*, December 5, 1998, p. A1.

<sup>28</sup> Maggie Farley, "Dissidents Hack Holes in China's New Wall," *Los Angeles Times*, January 4, 1999, p. A1; Julie Schmit and Paul Wiseman, "Surfing the Dragon: Web Surfers Find Cracks in Wall of Official China," *USA Today*, March 15, 2000, p. 01B.

break down China Telecom's monopoly of the ISP sector, and restrain government censorship of content.<sup>29</sup> IT executives have formed industry organizations such as I & I (Internet & Industry) and arranged regular meetings such as the Internet Content Providers' Management Summit to share information, coordinate activities, and present their positions to MII and the State Council Information Office. In July 2000, private and state-owned Web enterprises established the National Internet Society which plans to hold symposiums and offer advice to Internet start-up companies.

However, the Internet industry also faces government opposition and ignorance and lacks its own political connections and agenda. Many MII officials, Communist Party conservatives, and heads of "old economy" state-owned industries fear losing political and economic influence to the IT industry and have attempted to control its growth. Internet industry leaders have complained that even many scientifically-trained government officials lack sufficient understanding of high tech issues.<sup>30</sup> Some analysts suggest that because of their youth and independence, most Internet industry entrepreneurs remain largely outside the political process. Many of them have expressed a disinterest in politics.<sup>31</sup> Some of China's most disaffected groups, such as unemployed workers, have made little use of the Internet to advance their causes.

## U.S. Interests

### Congressional Legislation

In the May 2000 House debates on H.R. 4444 granting China permanent normal trade relations (PNTR) status, many proponents of the bill argued that the PRC's accession to the WTO would bolster American values and business interests in China.<sup>32</sup> They cited studies claiming that China ranks among the fastest growing markets in the world for personal computers, computer software, and telecommunications products and services. Clinton administration officials and many Members of Congress argued that American investment in China's high technology sector would generate profits for American businesses, spur research and development, and help maintain U.S. global leadership in information technology (IT). Furthermore, proponents contended, it would promote freedom and human rights in China by facilitating the access and exchange of

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<sup>29</sup> Scott Savitt, "China's Internet Shakedown," *Asian Wall Street Journal*, p. 10.

<sup>30</sup> Interview with Chinese information industry analyst, July 2000; Gary Chen, "China Internet: Government Tightens Controls, Clamps Down on News," *ChinaOnline*.

<sup>31</sup> "Wired China – The Flies Swarm In," *The Economist*, July 22, 2000, pp. 24-6.

<sup>32</sup> Some of the most powerful backers of PNTR status for China were leading technology associations, such as the American Electronics Association. See Testimony of the U.S. High-Tech Industry on China, Senate Finance Committee, February 23, 2000, and *Congressional Record*, May 24, 2000.

information and undermining the PRC government's controls in these areas.<sup>33</sup> Opponents, on the other hand, retorted that the Communist Party's political controls not only remained undeterred by the Internet but also were enhanced by it.<sup>34</sup>

On March 11, 1999, H.Con.Res. 28, which urges the U.S. government to pass a United Nations resolution criticizing China for its human rights abuses, passed the House. The bill condemns China for, among other human rights violations, putting businessman Lin Hai on trial because he allegedly provided e-mail addresses to a pro-democracy Internet magazine based in the United States.<sup>35</sup> On May 24, 2000, H.R. 4444 passed the House. Title VII of the bill authorizes appropriations for international broadcasting operations, including Voice of America and Radio Free Asia broadcasting and Radio Free Asia's Internet services to China.

## WTO Provisions

According to China's WTO agreements, the PRC (People's Republic of China) is to allow foreign investment in all telecommunications services for the first time, eliminate tariffs on IT products, and grant foreign companies trading and distribution rights. The PRC government has promised, for example, to open value-added telecommunications services (including Internet, paging, and facsimile) to 50% foreign ownership within two years of China's accession to the WTO. The government has agreed to allow up to 49% foreign equity in mobile telephone services within three years. It has assented to reduce its tariffs on electronics (including computers, semiconductors, and Internet-related equipment) from 13.3% to 0 by 2005. The PRC has promised to abide by the WTO Basic Telecommunications Agreement (BTA) and WTO Information Technology Agreement (ITA), by which WTO members open their telecommunications and IT markets to other members.

U.S. companies have established a strong presence in computer and cellular telephone manufacturing and sales, software development, and telecommunications infrastructure in China. However, the PRC has been more protective of its fledgling Internet industry; the government has generally welcomed American capital and expertise but has been wary about foreign management or control. Analysts suggest that even after China accedes to the WTO, foreign investors in telecommunications, especially Internet services, may be caught in a tug-of-war between conservative and liberal Chinese interpretations of WTO regulations. On the one hand, Minister of Information Industry Wu Jichuan has reportedly opposed foreign investment in the Chinese Internet industry. On the other hand, economic reformers, such as Premier Zhu Rongji, and many provincial and municipal government officials have been more supportive of foreign investment and increased competition in Internet goods and services.

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<sup>33</sup> *M2Presswire*, March 2, 2000.

<sup>34</sup> Ellen Bork, "The Red Internet," *Washington Post*, June 21, 2000.

<sup>35</sup> Lin was released in March 2000 after serving 18 months in prison.

## U.S. Private Sector Involvement

Although Chinese Internet services have remained relatively closed to foreign involvement, American companies have already made considerable progress in other areas. U.S. high tech exports to the PRC increased over 500 percent between 1990 and 1998.<sup>36</sup> American telecommunications and information technology firms have invested heavily in products and systems that support Internet use in China. For example, Motorola has committed \$1.5 billion in direct investment and operates the largest wholly foreign-owned subsidiary in the PRC.<sup>37</sup> China Telecom has hired AT&T to help expand China's telephone lines and capabilities. In May 2000, AT&T entered into a joint-venture with Shanghai Telecom, a subsidiary of China Telecom, and private investors to launch Internet Protocol (IP) based broadband network services in Shanghai.<sup>38</sup> Many American IT companies have set up research and design centers in China that utilize local talent. Motorola plans to open a micro chip design center in the city of Suzhou. Hewlett-Packard has set up an "electronic services technology center" in Beijing. Microsoft is investing \$80 million in a software research facility in Beijing – one of only two international research facilities operated by Microsoft – and providing additional funds for Beijing University's new Law Center.<sup>39</sup> Lucent Technologies plans to inject \$15 million into a research and development center in Shanghai, its largest R&D center in Asia.

American high tech, financial, and venture capital enterprises have injected an estimated \$200 million into China's Internet industry.<sup>40</sup> Many of China's most influential "dotcom" companies combine Chinese and American human and financial resources. Many indigenous Chinese Internet entrepreneurs were educated in the United States. For example, Sohu.com [<http://www.Sohu.com.cn>] is one of the leading Chinese Web portals with over 2.3 million registered users. Charles Zhang, Sohu's founder, is a Chinese national who earned his doctorate at M.I.T. His financial backers include former M.I.T. associates, Intel, and Dow Jones and well as Japanese and Chinese companies. Sina.com [<http://www.sina.com>], one of China's most popular Web sites, was created in 1998 via a merger between a Beijing high tech firm (Stone Group) and a Silicon Valley Internet company. Sina.com developed its reputation for providing breaking news with its

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<sup>36</sup> U.S. exports of office machines and automatic data processing machines (computers) in 1999 totaled \$843 million. See CRS Report RL30557, "China's International Trade: Data and Trends," by Dick K. Nanto and Thomas Lum.

<sup>37</sup> Testimony of Christopher B. Galvin, Chairman and CEO, Motorola, before the Senate Finance Committee, February 23, 2000.

<sup>38</sup> Bien Perez, "AT&T to make Inroads: Landmark Broadband Joint Venture in Shanghai Points to the Future for Foreign Companies," *South China Morning Post*, May 30, 2000, p. 1.

<sup>39</sup> Jingjuan Hou, "Hewlett-Packard Offers E-Service Support," *China Daily*, May 21, 2000; Bill Gates, "Yes, More Trade With China," *Washington Post*, May 23, 2000.

<sup>40</sup> John Pomfret, *op. cit.*

continuous coverage of the U.S. accidental bombing of the Chinese embassy in Belgrade in May 1999.<sup>41</sup> In July 2000, Sina.com began trading on the NASDAQ stock exchange.<sup>42</sup> The Dow Jones Company is a major shareholder.

Etang.com [<http://www.etang.com>] is a new Chinese Internet portal targeting the more individualistic and affluent younger (18-35) generation. Haisong Tang, Etang's Shanghai founder, is a Harvard graduate who returned to China with other Harvard-educated Chinese and \$45 million in venture capital from the United States.<sup>43</sup> Alibaba.com [<http://www.alibaba.com>], a new e-commerce site, has garnered a global customer base of 140,000 registered members from 188 countries, including 90,000 from China. Its customer base is reportedly growing at a rate of 2,000 new members per day. The company recently lured John Wu from Yahoo! to be its chief technology officer and raised \$20 million from Japan's Softbank and \$5 million from Goldman Sachs.<sup>44</sup>

It is difficult to make predictions about either American participation in the Chinese Internet industry following China's likely accession to the WTO or the Internet's effects upon Chinese politics. The Chinese government remains ambivalent toward foreign investment and management in some areas, such as the ISP and ICP markets. The industry's laws and regulations are in flux. Nonetheless, U.S. companies have made significant inroads in related sectors, such as computers, cell phones, and telecommunications infrastructure. Furthermore, the level of U.S. venture capital in China's Internet services sector indicates strong American interest and commitment. However, even as American and Chinese IT companies overcome economic hurdles, they will likely face resistance from the PRC government if they are perceived to interfere with the government's efforts at maintaining social and political control.

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<sup>41</sup> Since embassy bombing, the Chinese government has restricted news reporting over the Web.

<sup>42</sup> "Biographic Profile: Zhang Chaoyang, Founder, CEO and President of Sohu.com," *ChinaOnline*; "Biographic Profile: Wang Zhidong: CEO and President of Sina.com," *ChinaOnline*.

<sup>43</sup> Paul Mooney, "Etang.com Targets Chinese Yuppies," *ChinaOnline*, March 2, 2000.

<sup>44</sup> Ching-Ching Ni, "Yahoo Executive, Searching for New Challenge, Signs on With Chinese Firm," *Los Angeles Times*, May 15, 2000.