*tence that led to this failure."* Jim Ziglar was livid too, but at his *boss rather than at his staff.* Angered over what he saw as Ashcroft's *gratuitous slap at the INS and his refusal to defend the agency, he stormed into the attorney general's office and was, he admitted later, "pretty nasty actually," handing in his resignation on the spot. It would have been a serious embarrassment to the Bush administration, which was still projecting to the public the image of a united team fighting the new war on terrorism. Ashcroft asked him to reconsider. The White House also did not want the issue to escalate into a full-blown crisis. Josh Bolten, Andy Card's quiet, efficient deputy and a Senate staff veteran like Ziglar, stepped in to calm down the INS chief and persuaded him to remain. "It's the only reason I stayed," said Ziglar. "I had a very high regard for Josh Bolten."*

After his anger cooled, the incident persuaded Ziglar that his patient efforts to nudge the INS bureaucracy into reforming itself were not paying off. As Michael Cronin, who was promoted to assistant INS commissioner for inspections after the visa debacle, put it: "That was when he finally came in and did away with the niceties of the consultant strategic planning processes and the organizational planning processes and just did it." He reassigned four of his senior officials and accepted responsibility for what he called "an inexcusable blunder." He pledged to put in place by the end of the year a new electronic system to keep track of all foreign students in the United States and said that the INS would meet a goal of processing all visa applications within thirty days. But he continued to be defensive about his agency's performance. "Changes in INS operations were already being proposed, but last week's incident prompted us to move more swiftly and more publicly," he said at the National Press Club. "I take responsibility for not doing a good job letting the public know how much the agency is doing to improve operations."

Ziglar would stay in the job for another eight months, but he announced his resignation in August 2002 in the face of what he feared was a plan by Ashcroft and his chief of staff, David Ayres,

to oust and embarrass him. Instead, Ziglar penned his own letter of resignation, sent it to the president, and in a decision that showed how poisonous his relationship with Ashcroft had become, released it to the press before sending it to the attorney general. "I wasn't going to take any chances," he said. Anti-immigration activists welcomed his departure. Mr. Ziglar was "never a good fit even before September 11," said Mark Krikorian, executive director of the Center for Immigration Studies, which advocates a crackdown on illegal immigration and lower levels of legal migration. "He was ambivalent about the law enforcement part of the job," Krikorian said, "and that was especially inappropriate after the attacks."

A week before Ziglar's departure in November 2002, Bush signed the legislation passed by Congress to create a new Department of Homeland Security. It split off the INS's citizenship and immigration processing arms into one part of DHS and merged the Border Patrol and INS inspectors with Customs into a single new entity responsible for border security. When DHS was launched in 2003, Customs chief Rob Bonner took charge of the new agency, which was renamed Customs and Border Protection. Bonner made no secret of his contempt for the INS, which he called "a paranoid schizophrenic organization." The traditional white uniforms of the INS border inspectors were exchanged for Customs blue, and Bonner picked his own officials to take charge of seventeen out of the agency's twenty regional field offices. "There were probably a few legacy INS people who thought it was a Customs takeover," Bonner acknowledged. But Bonner was savvy enough to leave the powerful Border Patrol unchanged, allowing them to continue wearing their traditional green uniforms. "They would have walked off skyscrapers for me after that."

The Atta and al-Shehhi scandal was, as Michael Cronin put it, "the final nail in the coffin" for the INS, even though he and others at the agency continued to fight for its survival "right to the brink of the precipice." Mike Becraft, Ziglar's deputy, agrees. He said that after that, "instead of asking questions they just decided to deep-six the INS. We knew at that time that it was over." While many in

the administration had already wanted to get rid of the INS, the mishandling of the visas was proof of the urgency of the task.

THE VISA DEBACLE BROUGHT TO public attention something that was well known inside the government long before 9/11: of all the things that were broken about the INS, nothing was quite as broken as the system for granting student visas. While the State Department handled student visa applications from abroad, it was often the case that young foreigners would come to the United States on tourist or other temporary visas and then decide they wanted to stay to study, and those cases were handled by the INS. "The INS's foreign student program historically has been dysfunctional, and the INS has acknowledged for several years that it does not know how many foreign students are in the United States," said the Justice Department Inspector General's report ordered by Ashcroft after the visa scandal.

For a student visa system to work, the INS needed to be able to do something that it had never been able to do—process applications in a timely fashion. The typical foreign student would not normally learn until the spring of a given year whether he or she had been accepted for a program of study that was to begin in the fall. That meant that the INS needed to be able to consider and respond to a flood of visa applications each year in a two- to three-month window. It was rarely capable of doing so. As a result many foreign students would find themselves in illegal status for months at a time attending school without a student visa while they awaited INS adjudication, but prosecution was rare because INS agents understood that the processing delays left most people with no other alternative.

In the case of both Atta and al-Shehhi, they had arrived in the United States with lawful tourist visas in the spring of 2000, and then scrupulously followed procedure by submitting to the INS a change-of-status application in September 2000 to be allowed to remain in the country as flight-training students. As was often the case, they began the program while the visa was still being

adjudicated and finished their flight training in December 2000. On January 4, 2001, Atta left the United States for Spain, returning six days later to Miami. When he arrived at the airport, INS inspectors had grounds for turning him around. For one, his tourist visa had expired a month before, and because his student visa had not yet been approved he had no legal grounds for reentering the United States. Also, by leaving the country, he had effectively abandoned his change-of-status application, under which individuals must remain in the United States unless they get special permission to leave. But the INS inspectors at the airport overlooked both violations. Atta had told one inspector that he was enrolled in flight school and was still awaiting an INS response to his application; that did not surprise the inspector, who later conceded that the system for tracking students was "garbage." So instead of blocking his entry over the visa violations, the inspector readmitted Atta on another tourist visa. Such a decision was far from unusual. As Cronin put it: "The inspector doing the work would have been perfectly aware that on the benefits side there were these incredible backlogs, making it virtually impossible for people to comply with the letter of the law. You have to look at the inspector's actions in that context." Technically, inspectors were supposed to issue such waivers of the student visa requirement only in emergency circumstances, but in practice they were nearly automatic. As the internal Justice report on the incident stated: "The INS's prevailing philosophy in dealing with foreign students at the ports of entry before September 11 was that students were not a concern or a significant risk worthy of special scrutiny."

Al-Shehhi's case was different, though the outcome was identical. He too had left the United States after completing his flight training and then reentered the country, so technically he had also abandoned his student visa application and had no legal grounds for returning. Like Atta, he told the INS inspector that he had been at flight school and said he was returning to do further training. But instead of insisting that he wait outside the country for his student visa to be approved—which is what the letter of the

law required—the inspector allowed him into the country on a business visa, which is normally granted only to commercial pilots seeking further training, not to students wishing to become pilots. Atta and al-Shehhi were not the only two of the hijackers to exploit the weaknesses in the system for approving and tracking foreign students. Ziad Jarrah, who flew United Flight 93, which crashed in Pennsylvania, was admitted as a tourist but then immediately enrolled in flight school in Florida without applying for a student visa, a violation of immigration law. But the school did not alert the INS, and Jarrah left and reentered the United States six times before the attacks without INS inspectors being aware that he had violated the terms of his tourist visa by going to flight school. Hani Hanjour, who flew the plane that crashed into the Pentagon, got a student visa in September 2000 from the U.S. consulate in Jeddah to attend an English as a Second Language school in Oakland, California, but he never showed up at the school. Yet the INS was never alerted of his failure to comply with the terms of his student visa.

Though appalling on many levels, what happened with the Atta and al-Shehhi visas—and with those of the other hijackers—was business as usual for the INS. The internal investigation later showed that the INS had actually approved Atta's and al-Shehhi's student visa applications in the summer of 2001, before the attacks. That was not exactly timely processing—it was nearly ten months after they had submitted their applications and six months after they had already completed their flight training at Huffman. The approvals were mailed to the two hijackers in July and August 2001, and separate copies were sent to a processing facility for eventual mailing to the flight school. There was normally a bit of a delay built in, on the theory that, had the initial visa application actually been processed on time, the INS wanted to be sure that the student had arrived at the school before the visa approval was mailed to the institution. In the case of Atta and al-Shehhi, however, it would take another seven months for the letters to finally reach the Huffman School in Florida. After 9/11, the INS had or-

dered a sweep of its computer systems to find anything connected to the hijackers, but the approval letters, known as I-20s, were in paper form only, sitting in the vault of a Kentucky contractor hired by the INS. Nobody in the facility noticed the names and nobody in the INS thought to track down the hard copies. Those were the letters that caused the president to choke on his coffee that morning.

WHILE THE PROBLEMS IN THE student visa system were well known, prior to 9/11 there had never been the sense of urgency, or the necessary political muscle, to do anything about it. Foreign students, by almost every measure imaginable, had been an enormous boon to the United States.

No other country has anything close to the number of world-class universities as the United States. Britain has Oxford and Cambridge, Germany has Heidelberg, France has the Sorbonne, Japan has Tokyo University, but the United States has dozens of top-ranked schools. Depending on the survey used, somewhere between half and three-quarters of the world's top universities are in the United States. Throughout the postwar period, the best students from around the world have flocked to American universities. Since the mid-1950s, there had been a virtually uninterrupted rise in the number of foreign students enrolled in the United States, with the exception of a slight dip following the deep recession of the early 1980s. The numbers grew from fewer than 50,000 to a peak of nearly 600,000 by the year 2000.

The payoffs could be measured in multiple ways. In science and engineering in particular, foreign students and researchers had become increasingly important as American students showed less interest in those fields. By 2000, nearly 40 percent of the doctorates in science and engineering and 30 percent of the master's degrees awarded by U.S. universities were held by foreign-born students. The proportion was even higher in mathematics, computer science, and the physical and life sciences. Among postdoctoral students doing research at the highest levels, nearly 60 percent

were foreign-born. The economic value of those graduates was extraordinary. The universities served as a pipeline into American business, channeling talented students into positions at the best U.S. companies or connecting them with financial backers if they wanted to strike out on their own. Once here to study, a surprisingly high percentage of the top foreign students remained. A 2001 study found that nearly two-thirds of those who received doctoral degrees in science or engineering were still in the United States two years later. At U.S. multinational companies surveyed by the National Academies, between 30 and 50 percent of researchers were foreign-born. "The research and development divisions of U.S. corporations continue to develop new technologies and remain internationally competitive in part because immigration provides them with the best talent in the world," said a major 2004 study on foreign students.

Bruce Alberts, president of the National Academy of Sciences, said that one of the "defining strengths" of the United States is that it is at the center of an international science and technology network built by people who are working in the country or who were educated here. "We benefit," he said, "from an extraordinary set of personal, professional, and cultural relationships due to the many people from other countries who are working in the U.S. science and technology enterprise, and due to the large number of science and technology leaders in other countries who have been trained in the United States."

Foreign students and researchers have long been successful at the highest levels of U.S. science and business. Historically, more than one-third of American Nobel Prize winners have been foreign-born; between 1990 and 2001 half were foreign-born. Many of the country's most successful immigrant scientists are household names, like Albert Einstein, Edward Teller, and Enrico Fermi, who were responsible for helping the United States beat Nazi Germany in developing an atomic bomb and later to stay ahead of the Soviet Union in the cold war arms race. More recently, the United States' lead in information technologies has been driven

by immigrant engineers and entrepreneurs, including Andy Grove of Intel, Sergey Brin of Google, Pierre Omidyar of eBay, and Jerry Yang of Yahoo. But the real contribution is much broader than just a few stars. There are thousands of immigrants working through out the ranks of U.S. companies, doing cutting-edge research at universities, or establishing and building their own companies. On one of the most important measures of innovation—the number of patents issued each year—the United States ranks far ahead of any other country in the world. Half those American patents are issued to foreign-owned companies and foreign-born inventors.

There are two big reasons the United States has been so successful in attracting and retaining foreign talent: openness and opportunity. The United States has long been the world's best place for the ambitious to thrive, particularly if they lack family or political connections in their home countries. In the older economies of Europe, for instance, advancement into business or the senior ranks of the government has normally depended on rising up through the right schools, a path that until quite recently has been closed to most immigrants. The same is true in Japan, though again it has started to change in the past few years. The United States, in contrast, has long had a more open university system that recruits primarily on talent rather than on nationality, accent, or pedigree. While money certainly helps, for both American and foreign students, the best graduate students have many options for financing their education through scholarships, teaching and research assistantships, and student loans. Once they graduate, many foreign students who remain in the United States have been able to take advantage of the world's best system for encouraging innovation and entrepreneurship. No other country has been able to match U.S. capabilities in venture capital and start-up financing, and immigrant entrepreneurs have made the most of this system. In Silicon Valley, for instance, immigrant entrepreneurs founded or cofounded over half of all start-up companies. Overall, some 40 percent of U.S. high-tech companies launched by venture capital were started by immigrants, and as of late 2006 these companies accounted for more than $500 billion in

market value. Nearly half of those immigrant founders first arrived in the United States as students.

The contributions of foreign talent have become increasingly crucial as the U.S. economy has shifted from a fairly stable manufacturing base to dynamic sectors like information technology, financial services, and pharmaceuticals, which require constant innovation to succeed. Craig Barrett, the chairman of Intel, the world's largest maker of high-performance computer chips, has said that 80 to 90 percent of the revenue his company generates at the end of any given year comes from products that did not even exist at the beginning of the year. The regions where such capabilities are concentrated—San Francisco; Seattle; Boston; Washington, D.C.—have become what Bill Gates, the founder of Microsoft, calls "IQ magnets," attracting the most talented people from around the world. They have found here opportunities for tremendous success that, until quite recently, have not existed on the same scale anywhere else, and that success in turn has encouraged more to follow in their footsteps. Nothing has been more important to American competitiveness than its ability to attract such talented immigrants and to put their talents to the fullest use. As Richard Florida, the author of *The Rise of the Creative Class*, argues: "In today's global economy, the places that attract and retain this talent will win, and those that don't will lose. . . . Today, the terms of competition revolve around a central axis: a nation's ability to mobilize, attract and retain human creative talent. Every key dimension of international economic leadership, from manufacturing excellence to scientific and technological advancement, will depend on this ability."

There have been diplomatic as well as economic benefits from the openness to foreign students. The State Department's website lists current and former foreign leaders who were educated at U.S. universities, and the list runs into the hundreds. It includes Jacques Chirac of France and Romano Prodi of Italy (both at Harvard), former UN secretaries-general Kofi Annan and Boutros Boutros-Ghali (MIT and Columbia), Gloria Macapagal-Arroyo, president

of the Philippines (Georgetown), former Mexican presidents Vicente Fox, Miguel de la Madrid, and Carlos Salinas de Gortari (all at Harvard), former Israeli prime ministers Ehud Barak, Benjamin Netanyahu, and Shimon Peres (Stanford, MIT, and New York University/Harvard), and Prince Saud al-Faisal, Saudi Arabia's minister of foreign affairs (Princeton). The close ties that such former students have to the United States are hugely valuable to American diplomacy.

When he was secretary of state, Colin Powell said that foreign students "return home with an increased understanding and often a lasting affection for the United States. I can think of no more valuable asset to our country than the friendship of future world leaders who have been educated here." Robert Gates, the former CIA director who was president of Texas A&M University before being brought back to replace Donald Rumsfeld as defense secretary in the second Bush term, put it in even stronger terms: "In the last half century allowing students from other countries to study here has been the most positive thing America has done to win friends from around the world." There are counterexamples, of course. Sayyid Qutb, the intellectual founder of modern Islamic radicalism, spent a semester in 1949 at the Colorado State College of Education in Greeley, Colorado, and left angered about what he saw as the lax moral culture and spiritual breakdown of American society. But on the whole, exposure to American life seems to have had an overwhelmingly positive impact on foreign attitudes toward the United States. A 2006 opinion survey by the U.S. travel industry found that foreigners who had visited the country were almost twice as likely to have a favorable opinion of the United States as those who had not and relied on television or news reports for their image of America.

In addition to their benefits to the larger economy, foreign students have also been lucrative for the universities themselves, a big reason why they want to maintain high levels of foreign enrollment. In 2006–2007, foreign students paid nearly $10 billion in tuition and fees to American colleges and universities. At the un-

dergraduate level in particular, foreign students usually pay the full cost of their education, not relying as heavily on university scholarships or the other forms of financial aid that many American students receive. For state universities, foreign students are charged out-of-state tuition rates, which can be five or six times as high as the rates charged to state residents. And the fees are even more important for an array of smaller technical and community colleges that try to recruit abroad.

That combination—the public interest in attracting foreign students coupled with the private financial interests of the universities themselves—had proved a formidable hurdle to efforts to tighten the student visa system before 9/11, even as the system had grown increasingly chaotic and unmanageable. By 2001, there were over 74,000 institutions in the country that accepted applications from foreign students. Harvard and Yale were on the list, but so were the Fayetteville Beauty College, the Academy of Animal Arts (a dog-grooming school), and the Acupuncture Academy. The list of approved institutions included golf and tennis schools, hotel management, English language schools, and every other manner of what could loosely be termed higher education or training. The INS rarely even visited the facilities to see if they were legitimate and could not begin to keep track of all the schools on its approved list. The Pacific Travel Trade School in Los Angeles, for instance, closed in December 2000. But fifty-one foreign students received visas to attend the school in 2001, and another twenty-two in 2002.

The lax system for monitoring student visas had arisen as a terrorism concern before 9/11. The Iranian hostage crisis in 1979, in which students stormed the U.S. embassy in Tehran and held fifty-two Americans captive, had raised fears about Iranian students in the United States. But there was no easy way for Washington to identify those students. That led President Jimmy Carter to order special registration for Iranian students and the deportation of any who had violated their visas, a scheme that was partially the model

for the post-9/11 NSEERS program. In 1983 the INS had directed that colleges report the arrival and departure of foreign students, in an effort to keep track of whether they were actually showing up to study, but by 1988 the paper records flooding into the INS had piled so high that the agency told the institutions to stop sending them. "We had no place to store all that paper and, in any case, no one who could actually read it," said one INS official.

Then in 1993, Eyad Ismoil, a Jordanian citizen who had entered the United States on a student visa to attend Wichita State University before disappearing and remaining in the country illegally, drove a truck packed with explosives that was detonated under the World Trade Center towers—the first successful attack by Islamic extremists inside the United States. Following the attack, which killed six people and injured more than a thousand, the INS had prepared an internal report, completed in December 1995, which exposed many of the flaws in the visa system. Foreign students, it said, are "not subject to continuing scrutiny, tracking or monitoring when they depart, drop out, transfer, interrupt their education, violate status or otherwise violate the law." The report, which was developed in close consultation with university admissions officers, called for creating a sophisticated, computer-based tracking system that would give the INS immediate, updated information on the names and addresses of foreign students, their travel in and out of the country, and their current academic status. In the case of a student like Ismoil or the 9/11 hijacker Hani Hanjour, who failed even to show for school, red flags would go up immediately. It would also, importantly, contain information about their programs of study so that the INS would be alerted if a foreign student suddenly switched to a field like nuclear physics, raising security concerns.

It was a modest response to what had clearly emerged as a legitimate national security issue; in essence, it would simply put onto a computer system what the INS had been incapable of doing with paper records. In 1996, as part of a broader law aimed at cracking down on illegal immigration, Congress had ordered the

creation of the computerized student tracking system and set January 1, 2003, as the deadline for it to be in place across the country. The next year, the INS launched a pilot project with universities in the North Carolina Research Triangle and other technical colleges in the South, involving about ten thousand students in total; the system worked well and was praised by Duke University and others involved. Like the best of the technocratic solutions, it increased security and efficiency at the same time, providing reliable tracking of foreign students while reducing paperwork and errors for overburdened university administrators. It also had the potential for speeding up processing times for student visa applications, reducing or even eliminating the backlogs that had plagued the INS.

But the effort provoked extraordinary resistance from some parts of the higher education fraternity. In particular, there was a perception that the universities were being deputized to help crack down on international terrorism, a role that some schools feared would jeopardize their academic independence and their reputation. Gary Althen, who was then the president of NAFSA, the Association of International Educators, which was one of the Washington lobbying associations for the universities, said: "International education practitioners who want to be educators rather than deputies, who view foreign students and scholars as contributors to the education of us all rather than as potential terrorists, have no choice, it seems to me, but to pursue the repeal" of the new scheme. Althen expressed the concern that any mechanism that linked foreign students with international terrorism would somehow stigmatize the entire group and discourage those students from coming to the United States.

The universities have long been a powerful lobbying force in Washington. Members of Congress tend to look out for the interests of large local employers and institutions that are influential voices in their communities. The universities are both, and they are spread widely enough in the country that nearly every member of Congress has some stake in their success. The tracking scheme, however, was hard to object to on principle, and not much easier to block on

practical grounds, since the pilot tests had been a success. Instead, the university lobbyists seized on a narrower, economic argument—that the universities should not have to collect the $95 fee charged to each foreign student to pay for the new system because that would require them to act as a tax collector for the government.

The opposition was only partially successful. The issue split the universities, pitting those who had cooperated with the INS and saw virtue in the system against the schools that opposed the tracking scheme and wanted it killed. Neither was quite powerful enough to prevail, but the opposition resulted in a scaling back and slower rollout of the Student and Exchange Visitor System, or SEVIS, as it was called by then. In July 2001, the INS was set to start the second phase at twelve Boston-area universities later that year, with further expansion in 2002, and claimed it could make the 2003 deadline. NAFSA was still pushing to dismantle the effort.

Within a week of the attacks, however, the higher education lobby had done a complete about-face, with NAFSA announcing that it would no longer oppose implementation of the tracking system. Congress had immediately focused on the loopholes in the student visa system, in part because it was Congress that had mandated electronic student tracking in 1996 and was eager to shift the blame to the INS for its failure to implement the scheme. That was the case even though opposition from some members of Congress, who were swayed by university lobbyists, had delayed its implementation. Within weeks, some members were threatening to impose far more draconian measures than a tracking system. Senator Dianne Feinstein of California said she would push for a six-month moratorium on the issuing of all visas to foreign students, calling the student visa program "one of the most unregulated and exploited visa categories."

With the support of the Bush administration, the universities succeeded in beating back the demand for a visa moratorium. In exchange, the schools promised immediately to begin informing the INS if any foreign student failed to show up for classes. The USA Patriot Act, passed in October 2001, reaffirmed the 1996

goal of having the computerized tracking system up and running across the country by January 1, 2003, and offered up $36 million in new funding to make it happen. The penalties for universities that failed to comply were severe—the potential loss of their ability to offer programs to foreign students. The United States' long love affair with foreign students was about to be tested as never before.

As students began to return for the 2002 academic year, the first full school year since the attacks, the universities began to see problems cropping up. More than 30 of Purdue's 4,000 foreign students could not get visas to return from abroad, and 48 of Penn State's 3,000 students were stranded. Temple University lost half its foreign graduate students in physics due to visa delays. The effects were concentrated, however. Students from Muslim countries were seeing long delays in the processing of their visa applications, but so was a narrower group of students and scholars from other countries, particularly China and Russia, who were studying science and engineering.

Uvais Qidwai, an assistant professor of electrical engineering at Tulane University in New Orleans, went home to Pakistan in the summer of 2002 to get married. He was in the United States on a valid visa, but when he went to the U.S. embassy in Islamabad to get his passport stamped for return, he was told that the embassy would have to get a security review from Washington. It took five months to get the clearance. He had been researching image processing, in particular seeking ways to improve the images captured by the infrared surveillance cameras used in security systems, research that could be extremely valuable in U.S. homeland security programs. Because of the security check, his research was delayed and he missed a National Science Foundation grant deadline, resulting in a sharp cut in his funding. For Qidwai and other Pakistani students and researchers, delays and hassles entering the United States became a regular part of their lives. Even after the security checks had been completed, he was subject to lengthy questioning, often for three hours or more, whenever he would

travel abroad and return to the United States. In May 2005, he left the United States for a job in Qatar.

Qidwai was one of thousands of students and scholars who first felt the effects of the post-9/11 border measures. Tarek Aboul-Fadl, an Egyptian postdoctoral researcher who had also worked in Germany, Austria, and Japan, was invited in January 2001 to join the laboratory of Dr. Arthur Broom at the University of Utah working on a project supported by the National Institutes of Health to search for new anti-HIV drugs. He applied for a visa at the U.S. consulate in Cairo in February 2001 and received it in a week. He moved to Salt Lake City in May 2001 and his wife and children followed in August. "They enjoyed the school so much and their English language improved significantly," he said. "They have many American friends and still remember the nice days they spent there." The research went well and his grant was extended for a second year. But in May 2002 he returned to Egypt with his children, who needed to write exams in the Egyptian schools. On May 9, 2002, he applied to reenter the United States but was told that a security check had to be completed first. His visa was not renewed for another eighteen months. His HIV research was halted entirely, leaving several promising lines of investigation incomplete, and before he could return Dr. Broom closed the laboratory completely. "I was mad as hell and I still am," Broom said later. "It's impossible to know what would have been discovered and wasn't."

A physics project at Rice University was delayed while visas were pending for two researchers, one Chinese and one German. Vladimir Yamshchikov, a professor of molecular bioscience at the University of Kansas, lost two Russian student research assistants for his project on West Nile virus when they took trips to Russia and were unable to return. He advertised for replacements, but all the applications he received were from foreign researchers who were likely to face visa problems. "It's a ridiculous situation," he said. Jane Zhang, a graduate student studying leukemia at the University of Alabama at Birmingham, went home to visit her parents and faced months of waiting before she could return.

Sandia National Laboratory, a facility run by the U.S. Department of Energy, runs government-sponsored programs that invite Russian scientists to learn better ways to secure nuclear weapons materials. Between 2002 and 2004, 89 of the 305 scientists invited to attend the conferences ran into visa problems, which resulted in delays, cancellations, and in some cases, decisions to move the conferences to Europe.

Apart from countries with significant Muslim populations, including Egypt, Pakistan, and Indonesia, two other countries that were in no way associated with the terrorist attacks were hit particularly hard by the new visa restrictions. The visa problems for students from China and Russia were perplexing because neither was home to a terrorist movement aimed at the United States. Yet from Stanford to Harvard, stories started to spill out about Chinese students who had gone home for the summer and could not get visas to return to school. Most were science or engineering students, and many were graduate students. Nan Jiang was one of two graduate students in biochemistry at Louisiana State University who was stuck for months in China in 2003 waiting for visa renewals. Only one of nine top Chinese mathematicians who sought visas to attend an international cryptology conference in California in 2004 received visas in time.

Zhong Min Wang, a Chinese physics student studying at the State University of New York at Stony Brook, was one of some 300 foreign scientists working on the DZero experiment at Fermilab near Chicago, a Department of Energy–supported project that houses the largest accelerator for subatomic particles in the world and does cutting-edge research into the nature of matter. In the summer of 2002, he went home to China and was stuck there for nearly a year waiting for his visa to be renewed. Another Chinese colleague waited nearly two months for her visa to be renewed after a brief visit home. Dmitri Denisov, the Russian-born leader of the DZero experiment, said that for scientists from China and Russia, the visa applications would fall into "a black hole." He would follow up repeatedly with the State Department, which would only

say that the applications were being processed but could offer no further information. The process, he said, became "completely unpredictable. Some people could get in quickly while others waited for a year. And you had no explanation why." The worst case involved a Russian scientist who had been working on the project since 1995. When he went back to Russia in 2002 and applied for a new visa to return to the United States, the application was delayed for nearly two years. "I still don't know why," said Denisov. But Denisov had no doubt about the consequences of those types of delays for large-scale scientific research: the likelihood of a similarly large facility being located in the United States in the future is, he said, "close to zero."

THE NEW STUDENT TRACKING SCHEME was part of the problem, but only a very small part. Under pressure from Congress, the INS had rushed to put SEVIS in place as quickly as possible, causing some serious technical problems. It was an enormous undertaking—the INS was required to check the more than 70,000 U.S. schools that enrolled foreign students to determine whether they were eligible to participate in the new scheme; only about 7,000 were finally recertified. The schools had to train administrators to operate a new computer system that would link their databases with other schools around the country, and with U.S. consulates abroad and INS inspectors at every airport in the country. One senior university official called it "a technological moonshot."

Not surprisingly, there were problems initially, even though it was rolled out in the spring of 2003 rather than during the much busier fall semester. Many schools found that data entered on students was lost in the system, or that they could not print the documents that foreign students needed to prove their enrollment and get student visas. In some cases, university administrators would hit the print button only to find that the documents appeared on the printers of another school thousands of miles away. A Belgian psychologist who was enrolled in a postgraduate program at Michigan State had his passport taken by U.S. officials and his visa ap-

plication delayed for a month when the U.S. consulate in Brussels could not find his data on the SEVIS records. Issues also arose with students already in the country. In one case, the FBI arrested a student from Thailand who was attending Southeastern University in Washington, D.C., because the university mistakenly entered into the SEVIS database that she had dropped out and then could not correct the error.

Despite the problems, given the scale and speed of the rollout, SEVIS worked surprisingly well, and reinforced the technocrats' conviction that improving the security of the border and visa system—even something as broken as the student visa process—could be done without significantly disrupting the flow of foreigners coming into the United States. For an agency as maligned as the INS, it was an impressive accomplishment. After the agency was folded into DHS in March, the new department launched a huge effort to try to iron out the technical flaws in the system. DHS established a special "SEVIS response team" that worked closely with the universities to resolve problem cases. While the universities continued to grumble about SEVIS, they acknowledged that the department had put a herculean effort into making the new system work as well as possible as quickly as possible. Only a handful of foreign students were actually prevented from enrolling in their programs on time by problems with SEVIS. The Government Accountability Office, which monitors the performance of federal government agencies, found that while there were difficulties with the implementation of SEVIS, most schools "do not believe that SEVIS is the reason for the declining number of international students and exchange visitors coming to the United States."

Instead, the bigger problem that foreign students and researchers faced was with the new security screening systems set up by the State Department and the FBI, such as those aimed at students from predominantly Muslim countries. Much as with the background checks on immigration violators who were seized as terrorist suspects after 9/11, the FBI never deployed enough agents to carry out the task and did not have the technological capability

to do the checks without a large number of agents. "They had to have a whole bunch of people manually going through each record and seeing where people had been or where they might have had contact, and then reached out to those specific areas to find out if there was any record of them potentially being terrorist-related," said Brian Peterman, who was the point man in the White House on visa policy issues. "It took a long time. It was very manually intensive." With consular officers terrified of making another mistake, the number of such security requests had doubled to nearly a thousand a day, even though the volume of travelers to the United States was falling sharply. Almost overnight, a visa application process that had taken days, or at most weeks, to complete turned into months as consular officers were required to wait for the FBI to finish its background checks.

The FBI wasn't the only problem. In August 2003 the State Department had ordered its consular officers to interview all visa applicants, ending the long-standing practice of waiving interviews for applicants who were considered routine and low risk. In some countries, that would force visa applicants to travel hundreds of miles from home for the interview and then return to a U.S. embassy again to get their visa if it was approved. In 2004, as part of a larger intelligence reform bill, Congress turned that into a statutory requirement, passing legislation that required personal interviews of every visa applicant between the ages of fourteen and seventy-nine, with only a handful of exceptions. In addition to the security delays that plagued some applicants, in many countries there were also long waits—in the worst cases up to three months—just to schedule the visa interview.

FOR STUDENTS AND RESEARCHERS, MUCH of the disruption came from another screening program, whose impact was felt far beyond the Islamic countries that were the primary source of concern over terrorism. In the immediate aftermath of 9/11, preventing Al Qaeda or an affiliated terrorist group from acquiring a nuclear or biological weapon had quickly shot to the top of the ad-

ministration's list of security concerns. Richard Falkenrath, Ridge's policy chief, had written the definitive study of U.S. vulnerability to such an attack in 1998. Unlike a roadside explosive device or a suicide bomb—Al Qaeda's weapons of choice—developing a biological or nuclear weapon required sophisticated scientific training. And unlike the pilot training that some of the 9/11 hijackers had received, the sort of knowledge needed to build such weapons was not ubiquitous. While Falkenrath had pointed out that this knowledge was far more widely disseminated than ever before, much of it was still available only at the world's best universities and within a small number of companies working in the most advanced technologies in biological engineering and nuclear physics. And most of those universities and companies were in the United States. As a result, the administration believed that such knowledge could, at least to some extent, be controlled.

It was already known publicly that a key scientist in Saddam Hussein's nuclear weapons program had earned a doctorate in nuclear engineering from Michigan State University, and that three scientists involved in neighboring Iran's nuclear program were also U.S.-educated. The issue was even more acute in biological research. Iraq's top bioweapons scientist, Huda Salih Mahdi Ammash, dubbed "Mrs. Anthrax" by the United States, earned a doctorate in microbiology from the University of Missouri in 1983, a time when the United States was backing Saddam in Iraq's war with Iran. Those in the administration knew there were many other examples. "We were in effect populating the world's biological warfare labs," said Bruce Lawlor, Ridge's director of protection and prevention at the White House. "You had people coming to the United States, particularly in the biological sciences, who were coming to study advanced biology for the purpose of making vaccines. But when we examined it, we discovered that many of these individuals had in fact ended up working in biological weapons programs in unfriendly nations." He said that in a few cases there was even evidence to suggest that laboratories had been set up in the United States specifically to train foreign bioweapons researchers.

Ridge's White House Office of Homeland Security quickly seized on the issue. Homeland Security Presidential Directive-2 was the first substantive policy document prepared by Ridge's staff and signed by the president. The topic, "Abuse of International Student Status," was the largest single entry in that directive. The paper said that while the United States "benefits greatly" from international students coming to study in the country, the government would "implement measures to end the abuse of student visas and prohibit certain international students from receiving education and training in sensitive areas, including areas of study with direct application to the development and use of weapons of mass destruction." It further added that the government would "prohibit the education and training of foreign nationals who would use such training to harm the United States or its Allies."

In principle, such an approach represented an example of the kind of targeted risk management that Ridge favored. An attack by terrorist groups using weapons of mass destruction was the worst conceivable threat. In theory it might be possible to lessen the risk by controlling the dissemination of the knowledge needed to produce such weapons. And the number of people likely to be affected by such a screening process was fairly small. From 1995 to 1998, for instance, the number of students coming to the United States from the five Middle East countries that were considered state sponsors of terrorism—Iran, Iraq, Libya, Sudan, and Syria—had fallen from just under 4,000 to fewer than 3,000. While most of those were in engineering, science, or math, somewhere between 15 and 40 percent were in programs of study that raised no security concerns at all.

While the White House flirted for months with the idea of setting up a special group of technical experts to vet certain visa applicants, it was the traditional State Department visa system that became the tool for trying to keep such people out. Even prior to 9/11, the U.S. government had attempted to use visa screening to prevent the transfer of sensitive knowledge to what were known euphemistically as "countries of concern." In 1999 and then again in

In early 2001, the State Department sent a cable to each of its embassies and consulates spelling out new, more rigorous procedures for the visa applications of any students or scholars who were coming to the United States to study or work in any scientific field with potential military applications.

Many different types of science and engineering were caught up by those controls. Over the previous two decades, U.S. military strength had come to rely less on old-fashioned conventional weapons such as guns, tanks, fighters, and bombers and more on advanced information systems, guidance technologies, and sophisticated alloy materials. Where it was once possible to draw a fairly bright line between military and civilian technologies, by the turn of the twenty-first century the U.S. military edge was based primarily on technologies that also had widespread commercial applications. So the list of sensitive specialties included not only obvious concerns such as nuclear or missile technology but also a compendium of the country's leading technology sectors, including aerospace, biotechnology, remote imaging, advanced computing, robotics, ceramics, sensors, and high-performance metals and alloys.

In some cases the procedures were clear. For students from the "axis of evil" countries—Iran, Iraq, and North Korea—the State Department would automatically send any visa application back to Washington for what was known as a security advisory opinion. The SAO involved a more in-depth check by the State Department and the FBI to determine if granting the visa would raise security concerns. If the applicant was planning to study or do research in any of the listed technologies, a rejection was almost automatic. The harder cases involved countries like China, Russia, and Vietnam, which were friendly to the United States but still seen as potential military rivals. Consular officers were required to seek SAOs for any visa applicant who was working with any of the listed technologies, but in most cases the applications were approved. Under the normal procedure, the consular officer had to send the visa application to Washington, but if no concerns were raised within ten days the visa could be granted.

Despite the fears over weapons proliferation that predated the 9/11 attacks, the visa security review program, known as Visas Mantis, had long been a midget. In 2000, there were only about a thousand visa applicants reviewed under the Mantis program; in 2001, on a slightly higher volume of referrals, there were only three outright rejections. Yet after 9/11, the growing fears—constantly reinforced by Vice President Cheney, National Security Advisor Rice, and others at the top of the administration—that terrorists were seeking the knowledge to build weapons of mass destruction took that midget of a program and made it into a monster.

In 2002, the number of Mantis cases jumped to over 14,000, and then to more than 20,000 in 2003. Some of the increase came from the administration's decision to expand the list of scientific fields deemed sensitive in light of the post-9/11 homeland security concerns, adding such disciplines as community development, geography, and urban planning to the alert list. But most of it was the result of newly cautious consular officials not wanting to be blamed for letting in a foreign spy or terrorist seeking WMDs. That fear became especially acute as the United States moved toward war with Iraq, which was believed to possess biological and chemical weapons. Under the old rules of a ten-day turnaround, the growth in applications alone would not have shut down the visa pipeline. But by the summer of 2002, when the decision was made that the FBI had to approve all the Visas Condor applications in order to prevent any security mistakes, the Mantis applications were caught as well. That resulted in a growing backlog of students and scientists from countries such as China, Russia, and India who could not get into the United States until the FBI had finished its background checks.

By early 2003, the State Department acknowledged that the system had broken down almost entirely. The Government Accountability Office reviewed some 5,000 Visas Mantis referrals that were made between April and June of 2003. Of those, nearly 3,000 were science students and scholars, 60 percent of them from China and 20 percent from Russia. On average, the GAO found, it took

more than two months just to do the security background checks. Applications from some places, particularly China and India, were sometimes taking more than four months. A handful of the cases sampled had been pending for nearly six months, and one for almost a year.

THE VISA DIFFICULTIES QUICKLY BEGAN to be felt in places besides the universities. Boeing, the aerospace company that is the United States' single largest exporter, was set to deliver a plane to China Southern Airlines in August 2002. China Southern, the biggest domestic airline in China, had been a Boeing customer since the mid-1980s and had long been sending its pilots to Boeing headquarters in Seattle to train on simulators and then fly the planes back to China. In June 2002, China Southern had applied for visas for eight of its captains and four first officers to receive pilot training on the new aircraft at Boeing's training facility in Seattle. By mid-August, when the plane was scheduled for delivery, the visas still had not been approved, and the U.S. consulate in Guangzhou was advising Boeing that it had no idea when they might be issued. China Southern was refusing to take delivery of the aircraft, because without training for its pilots it would be unable to fly the new plane. Boeing was forced to scramble, using one of its own pilots to fly the plane across the Pacific and then setting up special training for the China Southern pilots at a facility in China. It was the first of many difficulties that Boeing would face in getting visas for pilots, and it came at a critical time when the company was looking at its most serious competitive challenge from Airbus, the European consortium, which had got a much later start in China but was determined to catch up. David Wang, who was recruited from General Electric in 2002 to head up Boeing's China operation, said later that the problems faced by Chinese customers in getting to the United States "seriously affected our competitiveness." In 2004, for the first time, Airbus sold more planes in China than Boeing.

The story was similar in Saudi Arabia. By 2003, the number of

U.S. visas granted each year to Saudi citizens had fallen from more than 45,000 before the attacks to fewer than 10,000. In meetings with State Department officials in January 2003, the Saudis charged that the United States was "not living up to its end of the bargain" because it continued to subject Saudi flight crews and passengers to exhaustive screening when they arrived in the United States, even though Saudi Arabia was by then providing the advanced passenger information the Americans sought. Visa difficulties had similarly forced Saudi airlines to end flight training in the United States. According to a cable from the U.S. consulate in Jeddah, "the [Saudi] officials described in considerable detail their impressions that onerous entry and exit procedures in the U.S. have hurt commercial aviation ties and unfairly burden Saudi flight crews. They made clear that, without prompt resolution of this problem, U.S. aviation business with the kingdom would suffer." Over the next several years, Boeing lost significant market share to Airbus across the Middle East—a region it had previously dominated—and in 2007 Saudi Arabian Airlines placed a $1.7 billion order with Airbus, its first since 1981 with the European aircraft maker.

Boeing was not alone in its visa problems. Lucent, the telecommunications equipment maker that was later bought by Alcatel of France, faced similar troubles. More than twenty officials from Chinese companies that were buyers or potential buyers of Lucent's products had their visa applications rejected, damaging Lucent's relationship with buyers in the fastest-growing telecom market in the world. The State Department was also rejecting nearly 15 percent of the visa applications from Lucent workers who wanted to transfer to the United States from the company's overseas operations. Motorola, the largest U.S. maker of cellular telephones, experienced the same kind of problems in Vietnam. The State Department took more than six months to issue a visa to the head of a Vietnamese government delegation that wanted to come to the United States to examine two-way radios that Motorola was set to sell in a $10 million contract. As a result, the Vietnamese government reopened the competition to two of

Motorola's foreign rivals, Nokia of Finland and the British company Marconi.

It was not just large multinationals that were affected by the delays. In April 2002, Moore Nanotechnology, a New Hampshire company that is part of the 225-employee Moore Tool group, had inked a deal to sell a $500,000 precision lathe for making optical components to China's Harbin Institute of Technology. In August, one of the institute's engineers had sought a visa to come to the United States to inspect the lathe. Some delay was not surprising: the Harbin Institute, which has some 60,000 students, has ties to the China Aerospace Corporation, which is China's principal maker of rockets and missiles. Even before 9/11, any visa application would have faced scrutiny under U.S. laws designed to prevent the transfer of technology that could contribute to weapons proliferation. But after six months with no answer from the State Department, Harbin nixed the deal and bought the equipment from a British company instead, costing Moore about one-tenth of its 2002 revenues. In another case, Moore could not get a visa for an Indian engineer for training on equipment his company had already purchased, forcing Moore to bear the cost of sending its technicians to India to do the training.

While the delays and denials were costly for the companies, what was more troubling was that they could not get any clear explanation for the problems. Corporations, particularly big corporations with global reach, are adept at dealing with new government regulations, even onerous ones; what they cannot adapt well to is regulatory uncertainty, because uncertainty makes it impossible to plan. Now they were facing lengthy delays for critical personnel, and for buyers on lucrative contracts, but with no explanation as to why or when things might return to normal. Many in business complained that the decision process on visa applications seemed almost random.

In mid-August 2002 the president of the U.S.-China Business Council, which represents hundreds of American companies doing business in China, wrote to Colin Powell seeking some answers.

"We have attempted to determine the facts and the rationales surrounding this apparent change in U.S. visa procedure. Regrettably, we have not been able to gain a dependable understanding of what is transpiring," he wrote. While the delays seemed to arise from national security concerns, he surmised, "the reasons for China's inclusion are not self-evident."

Two weeks later, a broader coalition of business groups representing U.S. manufacturers, high-tech companies, and other multinational businesses weighed in with Powell as well. "American companies are already experiencing the negative fallout of these new procedures. Long-standing business relationships are being disrupted because visas cannot be obtained. Opportunities for new business relationships are being blocked. Personnel transfers within some U.S. corporations are being delayed."

The impacts were felt well beyond those few companies that had the courage to complain. Many simply adjusted their operations to work around the visa delays. Indian information technology companies, for instance, had relied on the easy flow of software engineers and others between the United States and India to handle contracts to provide back-office services for big U.S. companies. But as the wait times for visas grew to six months or more for many employees, big outsourcing companies like Infosys and Tata began to move more and more of the work to India rather than wait on visas for their U.S. operations. Before 9/11 one smaller Indian firm that provided information technology support for clinical drug trials had relied on more than one hundred Indian employees working in the United States on temporary visas. By the end of 2003, it had relocated virtually all of its employees to India to avoid the visa problems.

Amway, one of the largest direct-sale firms in the world, was planning to hold its 2004 convention for some 8,000 South Korean distributors in either Los Angeles or Hawaii, but changed its mind and opted for Japan due to the growing delays for visas created by the mandatory interview requirement and other restrictions. The International Consumer Electronics show in Las Vegas, which at-

tracts nearly 20,000 foreign visitors each year, lost 20 percent of those in 2004 due to visa delays or denials. At the China Textile and Apparel trade show in New York, nearly half of the Chinese executives who wanted to attend could not get visas.

Many U.S. hospitals had long done a lucrative business in curing the ills of rich foreigners, a $2 billion-a-year industry involving some 70,000 patients. The most famous of those, the Mayo Clinic, lost hundreds of patients after 9/11 as foreigners in need of medical care, especially those from the Middle East, opted for Britain instead. "Previously patients were able to get visas for medical treatment in a matter of days. Now it's weeks and sometimes months, and some of the patients are quite ill," said a hospital official. By 2003 the clinic's numbers for patients from the Middle East were down by more than half, and other U.S. hospitals had seen similar declines.

Even traveling performers were affected by the visa problems. In 2006, Britain's leading symphony orchestra, Manchester-based Hallé, was forced to cancel a planned U.S. tour because the cost of sending more than one hundred musicians and staff to London for personal interviews at the U.S. embassy was prohibitive and the embassy refused to make special arrangements. "It seems a crying shame that the chance for this wonderful British orchestra to appear on the U.S. East Coast should be in part blighted by a too fanatical approach at the embassy," said Mark Elder, the symphony's music director. Smaller arts organizations are even less capable of dealing with the hassle and expense of obtaining visas for international performers. Isabel Soffer, associate director of New York's World Music Institute, which brings in performers from across the world, said that fewer managers and promoters are willing to take chances on overseas artists because of the high costs of the visa process and the risks of cancellation.

By the middle of 2003, universities and American companies were starting to see numbers that demonstrated the severe impacts of the post-9/11 restrictions. From October 1, 2002, to

August 1, 2003, the State Department received just over 270,000 student visa applications and approved 175,000. That was 65,000 fewer visas than the United States had approved the previous year. By 2004, applications from Chinese students to American graduate schools had fallen 45 percent from pre-9/11 levels, and those from the Middle East had dropped by half.

What was equally striking was that foreign student enrollment in universities in other countries—particularly in Britain, France, Germany, and Australia—began to rise sharply at the same time. For American universities, the timing of the new security measures could hardly have been worse. Even prior to 9/11, other countries had begun to wake up to the competitive advantages that the United States was gaining from its unmatched ability to attract foreign students. The UK had launched a new initiative in 1999 aimed at attracting 75,000 additional international students to the country; Australia's universities had set up a cooperative organization to attract foreign students, and had seen the numbers nearly double in a decade. France, Germany, and even Japan—which was suffering from a drop in college-age students owing to its low birth rate—had begun similar recruiting efforts. In 2000, Canada issued four times as many visas to Chinese students as it had in 1998, and more than three times as many to South Korean students.

Before 9/11, however, the United States had been able to keep pace with that competition. In the 2000–2001 academic year, foreign student enrollment grew at its fastest rate since 1979, mostly due to growing demand from China and India. After 9/11, the number of foreign students enrolled in American higher education dropped for three years in a row, before recovering considerably in 2006–2007 to just below the pre-9/11 levels. The decline was even steeper among graduate schools, which attract most of the top foreign students. For the 2004 academic year, graduate applications from China and India, the two biggest sources of overseas students, fell by 45 percent and 30 percent, respectively. Based on past trends, the United States lost something like 150,000 foreign

students—a quarter of the total number in the country—as a result of the decline in enrollment after 9/11.

The United States' loss has been the rest of the world's gain. In the five years after 9/11, the number of international students at British universities more than doubled. "International education is big business for all of the Anglophone countries; the United States traditionally has dominated the market without having to try very hard," a British university official told the *New York Times*. "Now Australia, the UK, Ireland, New Zealand, and Canada are competing for that dollar, and our lives have been made easier because of the difficulties that students are having getting into the U.S."

Thomas Gouttierre, the dean of international studies at the University of Nebraska, spent the fall of 2004 fighting with the State Department to get visas for forty-one graduate students who had been admitted but could not get visas in time. He said the United States was rapidly losing such students to other countries. "The word is out: it's easier and less demeaning to apply in Canada or the UK."

The declining numbers provoked a near-panic in the universities and in the scientific community over what they called a "visa-processing quagmire." Albert Teich, director of science and public policy at the American Association for the Advancement of Science warned that the visa delays "will do irreparable harm to scientific progress as well as U.S. competitiveness."

For the companies, the impacts were harder to measure. While some big companies and their Washington lobbying arms were quietly raising concerns with the State and Justice departments, and later with the Department of Homeland Security, there was a reluctance to be seen publicly questioning screening measures that were intended to prevent another terrorist attack. Bill Reinsch, the president of the National Foreign Trade Council, a lobbying group for big American multinational companies, said that in 2002 and 2003 there was no issue on which he got more complaints than the difficulties U.S. companies were facing with the visa process.

But only a handful were willing to go public with criticisms. "They can't challenge the policy head-on," he said, "because they're worried they will be accused publicly of being soft on terrorism."

Instead, he said, the companies quietly began to work around the problems. Boeing moved much of its pilot training outside the United States; Lockheed Martin, the aerospace and defense giant, began holding its board meetings in Paris; engineering companies like Fluor and Bechtel began moving more work offshore to London or other places in Europe that were easier for their foreign experts to reach and did not demand running the gauntlet of U.S. screening and other security measures "A lot of the clients we have were educated in the West, speak English fluently, and just have a real resentment that they get that sort of treatment," said David Marventano, a senior vice president for government affairs in Fluor's Washington office.

In an effort to highlight the issue, Reinsch's NFTC commissioned a survey in early 2004 based on confidential interviews with U.S. companies. It found that 60 percent of companies had run into visa problems, resulting in estimated costs over two years of more than $30 billion in lost sales, postponement of projects, forced relocation of contracts outside the United States, inability to bring employees to the United States, and damage to corporate reputations.

Despite such costs, administration officials—and particularly those in the State Department who had seen the dangers of appearing too soft in the war on terrorism—were unapologetic. "In the post–9/11 environment," Janice Jacobs, the deputy assistant secretary for visa services, told a House hearing in 2003, "we do not believe that the issues at stake allow us the luxury of erring on the side of expeditious processing."