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**TALENT SEARCH: JOB OPENINGS AND THE NEED  
FOR SKILLED LABOR IN THE U.S. ECONOMY**

**EXECUTIVE SUMMARY**

Major U.S. technology companies today average more than 470 U.S.-based job openings for skilled positions, while defense companies have more than 1,265 each, indicating U.S. businesses continue to experience difficulty in filling positions in the United States for skilled labor of all types. A number of companies have thousands of skilled positions open, with this level of openings persisting for a year or more. This is part of a longer-term trend that threatens to harm America's economic future, with U.S. companies lacking access to the skilled professionals needed to grow and innovate inside the United States.

More than 140,000 job openings for skilled positions are available today in the 500 companies that make up the S&P (Standard & Poor's) 500. S&P 500 companies employ only about 14 percent of individuals working in America, so the overall demand for skilled labor in the U.S. economy is much greater. To gain a company-level picture of the demand for skilled labor, the National Foundation for American Policy (NFAP) examined postings for U.S.-based jobs that required at least an undergraduate degree for all 500 companies in the S&P 500. The vast majority of the data was gathered in January 2008, with the rest compiled in December 2007 or February 2008. The numbers are conservative in that, for example, most large companies have openings as part of ongoing recruitment programs for recent or upcoming college graduates that are not listed publicly as posted jobs.

The S&P 500 companies with the most job openings as of January 2008 are Microsoft (4005), Northrup Grumman (3925), Lockheed Martin (3901), General Electric (3078), Countrywide Financial (2415), JPMorganChase (2164), Tenet Healthcare (2050), United Health Group (1927), Raytheon (1694), IBM (1670), Computer Sciences Corp. (1666), Cintas (1664), L-3 Communications (1618), Bank of America (1600), U.S. Bancorp (1562) and Cisco Systems (1504). These are openings for jobs in the United States requiring a B.A., professional degree or higher.

Additional findings in the research:

- The demand for skilled labor is present throughout America's diverse economy, although technology companies appear to endure more job openings than most others. The members of the trade association TechNet, with at least 18,816 job openings for skilled positions, Information Technology Industry Council members (21,972) and the American Electronics Association (large company members only – 12,784) show an acute demand for labor. An analysis of a cross-section of technology firms shows that over the past year the trend in job openings has, on balance, remained steady at U.S. tech companies.
- An additional indicator of the need for skilled labor in the economy is the consistent lack of availability of H-1B temporary visas for skilled foreign nationals. The supply of H-1B visas has been exhausted before the start of each of the past four fiscal years. Because of multi-year waits for green cards, which allow for

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permanent residence, H-1Bs have become crucial to retaining skilled talent in America, otherwise skilled foreign nationals, particularly graduates of U.S. universities, generally cannot work or remain in the United States. The current annual level of H-1Bs is about the same level as in 1990, even though the U.S. Gross Domestic Product has risen by 64 percent (from \$8.5 trillion to \$14 trillion) over the past 17 years, while the demand for skilled labor, particularly in technical fields, has also risen.

- In 2005, foreign nationals (international students) received 55 percent of electrical engineering master's degrees and 42 percent of computer science master's degrees. In 2006, 73% of new electrical engineering Ph.D.s were granted to international students, as were 64% of all engineering Ph.D.s awarded, according to the National Science Foundation.
- An October 2007 Urban Institute study, which asserted America has sufficient scientific talent, reached its conclusion by adopting a narrow definition of science and engineering (S&E) jobs that ignored 8 million employed Americans who use their math and science degrees in the workplace. The Urban Institute study used a 4.8 million figure for science-related jobs, which is the number for those in occupations formally defined as S&E, even though *nearly 13 million workers* say they need at least a bachelor's degree level of knowledge in science and engineering fields in their jobs. The National Science Foundation specifically warns, "The S&E labor force does not include just those in S&E occupations. S&E skills are needed and used in a wide variety of jobs."
- The current job openings data are indicative of a longer-term stagnation in U.S. skill levels relative to the rest of the world. "America in the 21<sup>st</sup> Century is no longer a skill-abundant country relative to an increasing share of the rest of the world," concludes a recent analysis by Jacob Funk Kirkegaard of the Peterson Institute for International Economics. Countries with a larger share of the population with at least a college degree include Russia, Canada, Japan, South Korea, Norway, Ireland, Belgium, Spain, Denmark and France. "America," writes Kirkegaard, "will feel the full impact of the 30-year stagnation in skill levels in the U.S. workforce when many baby boomers begin retiring, which makes expeditious reform of U.S. high-skilled immigration policies imperative."

A key problem America faces is the long-term stagnation in U.S. skill level and the legislative inertia that has prevented liberalizing U.S. immigration laws to permit the entry and retention of talented people from around the world. America needs to improve its education system but that remains an endeavor that will continue for years. However, it's clear today that improving the rules on high skill immigration would allow U.S. companies to create and innovate in the United States rather than overseas.

## **JOB OPENINGS AT S&P 500 COMPANIES**

More than 140,000 job openings for skilled positions are available today in the 500 companies that make up the S&P (Standard & Poor's) 500, indicating U.S. businesses continue to experience difficulty in filling positions in the United States for skilled labor of all types. This is part of a longer-term trend that threatens America's economic future – U.S. companies lack access to the skilled professionals needed to grow and innovate inside the United States. S&P 500 companies employ only about 14 percent of individuals working in America, so the overall demand for skilled labor in the U.S. economy is much greater.<sup>1</sup> Demand is most pronounced at technology and defense companies but can also be seen in financial services, despite recent mortgage problems. The average number of U.S.-based job openings for skilled positions at (S&P 500) tech companies is 470 and at defense companies the average is 1,265.

As Table 1 shows the S&P 500 companies with the highest number of job openings as of January 2008 include Microsoft (4005), Northrup Grumman (3925), Lockheed Martin (3901), General Electric (3078), Countrywide Financial (2415), JPMorganChase (2164), Tenet Healthcare (2050), United Health Group (1927), Raytheon (1694), IBM (1670), Computer Sciences Corp. (1666), Cintas (1664), L-3 Communications (1618), Bank of America (1600), U.S. Bancorp (1562) and Cisco Systems (1504). The average number of U.S.-based job openings at S&P 500 companies for skilled positions is 288. The median number of skilled job openings at these companies is 139.

To gain a company-level picture of the demand for skilled labor, the National Foundation for American Policy examined postings for U.S.-based jobs that required at least an undergraduate or professional degree for all 500 companies in the S&P 500.<sup>2</sup> The vast majority of the data was gathered in January 2008, with the rest compiled in December 2007 or February 2008. The numbers would have been larger were jobs included where companies, particularly in service-oriented industries, stated a preference for an undergraduate degree but accepted less. Moreover, most large companies have openings as part of ongoing recruitment programs for recent or upcoming college graduates that are not listed publicly as individually posted jobs. These are not close to all the job openings in the U.S. economy during any given month. According the Department of Labor JOLTS survey there are about 4 million job openings each month in America for all types of positions and skill levels.<sup>3</sup> The purpose of this analysis is to better analyze the issue by bringing the discussion of job openings and skilled labor down to the micro-level of individual companies.

**Table 1**  
**30 U.S. Companies With Most Job Openings for Skilled Positions (U.S.)**

<b>Company</b>	<b>Industry</b>	<b>Skilled U.S. Job Openings January 2008</b>
1) Microsoft Corp.	Systems Software	4005
2) Northrop Grumman Corp.	Aerospace & Defense	3925
3) Lockheed Martin Corp.	Aerospace & Defense	3901
4) General Electric	Industrial Conglomerates	3078
5) Countrywide Financial Corp.	Thriffs & Mortgage Finance	2415
6) JPMorgan Chase & Co.	Other Diversified Financial Services	2164
7) Tenet Healthcare Corp.	Health Care Facilities	2050
8) United Health Group Inc.	Managed Health Care	1927
9) Raytheon Co.	Aerospace & Defense	1694
10) International Bus. Machines	Computer Hardware	1670
11) Computer Sciences Corp.	Data Processing & Outsourced Services	1666
12) Cintas Corporation	Diversified Commercial & Prof. Services	1664
13) L-3 Communications Holdings	Aerospace & Defense	1618
14) Bank of America Corp.	Other Diversified Financial Services	1600
15) U.S. Bancorp	Diversified Banks	1562
16) Cisco Systems	Communications Equipment	1504
17) Johnson Controls	Auto Parts & Equipment	1484
18) Wachovia Corp.	Diversified Banks	1455
19) Citigroup Inc.	Other Diversified Financial Services	1437
20) Automatic Data Processing Inc.	Data Processing & Outsourced Services	1421
21) Hewlett-Packard	Computer Hardware	1398
22) Time Warner Inc.	Movies & Entertainment	1329
23) Comcast Corp.	Broadcasting & Cable TV	1237
24) Johnson & Johnson	Pharmaceuticals	1206
25) Oracle Corp.	Systems Software	1200
26) United Technologies	Aerospace & Defense	1130
27) Cardinal Health, Inc.	Health Care Distributors	1062
28) Electronic Data Systems	Data Processing & Outsourced Services	981
29) Affiliated Computer	Data Processing & Outsourced Services	941
30) Google	Internet Software and Services	922

*Source: National Foundation for American Policy; detailed analysis of S&P 500 company websites. Job Openings counted for positions in the U.S. requiring a B.A., professional degree or greater; January 2008.*

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For job seekers the complete list in the Appendix could be a guide for which companies or types of businesses have the most available openings. Moreover, it is also a reminder that even when one sector of the diverse U.S. economy suffers a downturn other sectors may perform well or at least not experience declines. "If you're an IT (information technology) person in Washington, D.C., or an engineer in San Francisco, you have your choice of jobs," said Tig Gilliam, chief executive of the staffing firm Adecco Group North America. "If you do construction, you're going to have a hard time finding a job you want."<sup>4</sup> As the *Washington Post* reported in January 2008, "It is a divided economy, in which major Wall Street banks are recording multibillion-dollar write-downs even as most regional banks have endured little damage. While unemployment is rising and consumers are falling behind on their bills in such highly populated states as Florida, California and Michigan, most other states appear to be doing fine. Construction workers are on unemployment lines, but engineering and consulting firms are in bidding wars for staff members."<sup>5</sup> Even a company experiencing economic difficulty may be filling jobs in one section even as it sheds positions in another, since problems may be due to isolated underperformance in a division, particularly due to competition or a general slowdown in one segment in the economy. It should be noted, though, that a March 2008 Federal Reserve report indicated, based on anecdotal information gathered from businesses, that economic weakness may be spreading to more industries and areas of the country.<sup>6</sup>

## **H-1B VISAS**

An additional indicator of the need for skilled labor in the economy is the regular lack of availability of H-1B temporary visas for skilled foreign nationals, which generally are good for 6 years. Because of multi-year waits for green cards (permanent residence) H-1Bs have become crucial, otherwise skilled foreign nationals, particularly graduates of U.S. universities, could not work or remain in the United States.<sup>7</sup> The supply of H-1B visas has been exhausted before the start of each of the past four fiscal years. This can often leave employers with no choice but to hire skilled foreign nationals they have recruited outside the U.S. or see individuals (scientists, engineers and professionals) lost to competitors overseas.

The current annual level of H-1Bs is about the same level as in 1990, even though the U.S. Gross Domestic Product has risen by 64 percent (from \$8.5 trillion to \$14 trillion) over the past 17 years.<sup>8</sup> Moreover, the demand for skilled labor, particularly in technical fields, has increased significantly with the rise of the Internet and technological breakthroughs. H-1B temporary visas are limited each year to 65,000, with an additional 20,000 for those graduating with an advanced degree from a U.S. university. Attorneys already are warning clients they expect next fiscal year's H-1B quota to be filled on the first day of filing (April 1, 2008). Last year, on April 1, 2007, U.S. Citizenship and Immigration Services received more than twice as many eligible applications as available petitions, which caused petitions for skilled professionals, researchers and scientists to be assigned by lottery.<sup>9</sup>

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Recent history shows the market has determined the use of H-1B visas. When Congress raised the annual limit to 195,000 a year in FY 2002 and 2003, in both years fewer than 80,000 visas were issued against the cap, leaving 230,000 H-1B visas unused in those two years. In other words, firms did not hire more H-1Bs just because the cap was higher. If, as critics allege, companies saved money because hiring H-1Bs is cheaper, then businesses should have used more H-1Bs when the economy worsened in 2002 and 2003, not fewer, as the data show.

**Table 2**  
**TechNet Members Skilled Job Openings in the United States**

<b>Company</b>	<b>Job Openings</b>
Advanced Micro Devices	237
Aetna Inc.	367
Agilent Technologies	91
Amazon Corp.	625
Apple Inc.	665
Applera Corp	111
Applied Materials	139
Autodesk, Inc.	220
Broadcom Corporation	341
CA, Inc.	229
Cisco Systems	1504
EBay Inc.	200
Gilead Sciences	192
Google Inc.	922
Hewlett-Packard	1398
IAC/InterActive Corp.	235
International Bus. Machines	1670
Intuit, Inc.	381
JPMorgan Chase & Co.	2164
Juniper Networks	27
Microsoft Corp.	4005
Morgan Stanley	193
National Semiconductor	55
Oracle Corp.	1200
PerkinElmer	61
Sun Microsystems	923
VeriSign Inc.	151
Xilinx, Inc	154
Yahoo Inc.	356
<b>TOTAL</b>	<b>18,816</b>

*Source: National Foundation for American Policy; detailed analysis of company websites. Job openings counted for positions in the U.S. requiring a B.A., professional degree or greater; January 2008.*

**JOB OPENINGS AT TECH COMPANIES**

While many H-1B visa holders are hired at technology companies, the demand for skilled labor (both domestic and H-1B foreign nationals) is present throughout America’s diverse economy, as the list of job openings at S&P 500 companies illustrates. In separate tables, NFAP compiled the job openings of companies at leading technology-related trade associations to isolate the tech segment of the economy. These figures understate total job openings among members of these associations, since we focused only on larger company members. Still, the numbers are instructive.

An analysis of a cross-section of technology firms shows that over the past year the trend in job openings has, on balance, remained steady at U.S. tech companies. Members of TechNet have at least 18,816 job openings for skilled positions in the United States, with Microsoft, JPMorganChase, Cisco Systems, Hewlett Packard, Oracle and Google possessing the most. (See Table 2) At the American Electronics Association, the skilled job openings for the largest publicly traded companies total 12,784, led by Microsoft, Google, Sun Microsystems and Qualcomm. (See Table 4). At the Information Technology Industry Council, its large, publicly-traded company members have 21,972 job openings for skilled positions in the United States (Table 5).<sup>10</sup>

**FOREIGN NATIONALS IN U.S. GRADUATE SCHOOLS**

The market for advanced science and engineering education, like the science and engineering labor market as a whole, is global. While its global market share is declining<sup>11</sup>, the American university system remains one of our competitive strengths. Thus it is not surprising that a large portion of the students that U.S. employers find when they go to recruit from American graduate school programs are foreign.

**Table 3  
Foreign Nationals in U.S. Graduate School Programs**

<b>US Grad. School Program</b>	<b>Percent of Foreign Nationals New PhDs (2006)</b>	<b>Percent of Foreign Nationals New Master’s Degree Recipients (2005)</b>
<b>Electrical Engineering</b>	73 percent	55 percent
<b>Computer Science</b>	61 percent	42 percent

*Source: National Science Foundation*

**Table 4**  
**Skilled Job Openings in the United States**  
**American Electronics Association (Larger Members Only)**

<b>Company</b>	<b>Job Openings</b>
Adobe	190
Agilent	109
Altera	44
AMD	237
Apple	665
BMC Software	108
Ciena	61
Citrix	188
Dell	597
Ebay	200
Electronic Arts	188
Google	922
Intel	826
Intuit	381
Linear Technology	56
Microsoft	4005
Motorola	502
National Semiconductor	55
Qualcomm	906
Rockwell	267
Sun Microsystems	923
Symantec	435
Tellabs	61
Texas Instruments	130
Varian	100
Xerox	272
Yahoo	356
<b>TOTAL</b>	<b>12,784</b>

*Source: National Foundation for American Policy; detailed analysis of company websites. Job openings counted for positions in the U.S. requiring a B.A., professional degree or greater; January 2008.*



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**Table 5**  
**Information Technology Industry Council Members**

<b>Company</b>	<b>Job Openings</b>
Accenture	940
Agilent Technologies	105
AMD	237
Apple Computers	665
Applied Materials	139
Cisco Systems	1504
Computer Associates	203
Corning Incorporated	228
Dell Computer Corp	597
Eastman Kodak Company	74
Ebay, Inc	200
EMC Corporation	883
HP	1398
Honeywell	1363
IBM	1670
Intel	826
Intuit	381
Lenovo	59
Lexmark	145
Micron	400
Microsoft	4005
Monster Worldwide	36
National Semiconductor Corp	55
NCR	132
Nokia	84
Oracle	1200
Panasonic	134
Qualcomm	906
Research in Motion	98
SAP Global Marketing, Inc	320
Sony Electronic Inc	43
Sun Microsystems	923
Texas Instruments	130
Time Warner	1368
Unisys	295
Verisign	151
Vonage	75
<b>TOTAL</b>	<b>21,972</b>

*Source: National Foundation for American Policy; detailed analysis of company websites. Job openings counted for positions in the U.S. requiring a B.A., professional degree or greater; January 2008.*

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The proportion of graduates who are foreign is greatest in many of the fields in highest demand by U.S. employers. For example, in 2006, 73% of new electrical engineering Ph.D.s were granted to international students, as were 64% of all engineering Ph.D.s awarded, according to the National Science Foundation. In the physical sciences, 48% of Ph.D.s were granted to foreign students. In 2005, foreign nationals (international students) received 55 percent of electrical engineering master's degrees and 42 percent of computer science master's` degrees.<sup>12</sup>

**URBAN INSTITUTE PAPER MISSED 8 MILLION SCIENCE AND ENGINEERING JOBS**

The issue of whether the federal government should strictly control the labor market for technology-related jobs by limiting the number of foreign nationals who can work in the United States remains a subject of debate. An October 2007 Urban Institute study indirectly weighed in on this issue by concluding if anything we have too much science talent already in the United States. The Urban Institute report "matched" U.S. degree production to science-related jobs – but it did so, surprisingly, by adopting a narrow definition of science and engineering (S&E) jobs that ignored 8 million employed Americans who use their math and science degrees in the workplace.<sup>13</sup> The key methodological problem in the Urban Institute study is it uses the narrow employment designation of "science and engineering occupation," which is not a good measurement of the labor market for math, science and engineering.

The National Science Foundation specifically warns, "The S&E labor force does not include just those in S&E occupations. S&E skills are needed and used in a wide variety of jobs."<sup>14</sup> However, the Urban Institute study used a 4.8 million figure for science-related jobs, which is the number for those in occupations formally defined as S&E, even though *nearly 13 million workers* say they need at least a bachelor's degree level of knowledge in science and engineering fields in their jobs. (See National Science Foundation data below). In other words, the study reached its conclusion primarily by ignoring about 8 million people in the U.S. labor force. That appears to be reason the study arrived at the claim that America has about three times as many S&E graduates as S&E job openings each year, even though there is no evidence of massive unemployment among recent graduates in these fields.

Chapter Three of the National Science Foundation's Science and Engineering Indicators (2008) explains the issue concisely:

“• Approximately 12.9 million workers said in 2003 that they needed at least a bachelor's degree level of knowledge in S&E fields in their jobs. However, in that year only 4.9 million were in occupations formally defined as S&E.

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- “• Fifteen million workers in 2006 had an S&E degree as their highest degree and 17 million have at least one degree in an S&E field.
- “• Sixty-six percent of S&E degree holders in non-S&E occupations say their job is related to their degree, including many in management and marketing occupations.
- “• Fifty-five percent of S&E degree holders who spent at least 10% of their work hours on R&D were in non-S&E occupations.”<sup>15</sup>

The broader problem with the Urban Institute study is it assumes a "bean counting" approach to what is dynamic in nature. After all, there was not even an Internet economy two decades ago, so to assume that we have plenty of talented people, assumes that we have created all the innovations we need and, therefore, American companies should stop trying to invent and innovate. A market economy can never have too many talented people, since, as we have seen, smart employers and entrepreneurs will utilize this talent to improve all our lives.

## **LONG-TERM STAGNATION IN U.S. SKILL LEVELS**

A new book by Jacob Funk Kirkegaard, a research associate at the Peterson Institute for International Economics in Washington, D.C., also weighs in on the issue of the government's role in the labor market for high skilled individuals. Kirkegaard details how U.S. skill levels today are stagnating, particularly relative to the rest of the world, which bodes ill for rising living standards in America.<sup>16</sup> Research by J. Bradford DeLong, Claudia Goldin, and Lawrence Katz found the “rising skill levels in the labor force were the single largest contributor to U.S. economic growth in the 20<sup>th</sup> century.”<sup>17</sup> But as Kirkegaard points out, this period of rising skill levels in America's work force is “drawing to a close” with the retiring baby boom generation “taking as many high-skilled people out of the U.S. labor force as will simultaneously enter it.”<sup>18</sup>

“America in the 21<sup>st</sup> Century is no longer a skill-abundant country relative to an increasing share of the rest of the world,” concludes Kirkegaard. “While their parents may have been the ‘brightest kids on the global trading block’ when they entered the workforce, younger American today barely make the global top 10. Simply put, America in the 21<sup>st</sup> century is no longer a skill-abundant country relative to the rest of the world . . . America faces an imminent disproportionately larger skills drain into retirement than other industrialized countries.”<sup>19</sup>

A recent report from the National Science Foundation provides confirmation:

“The rate of growth of the S&E labor force may decline rapidly over the next decade because of the aging of individuals with S&E educations, as the number of individuals with S&E degrees reaching traditional retirement ages is expected to triple. If this slowdown occurs, the rapid growth in R&D employment and spending that the United States has experienced since World War II may not be sustainable.

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"The growth rate of the S&E labor force would also be significantly reduced if the United States becomes less successful in the increasing international competition for immigrant and temporary nonimmigrant scientists and engineers. Many countries are actively reducing barriers to high-skilled immigrants entering their labor markets at the same time that entry into the United States is becoming somewhat more difficult. Despite this, many recent statistics suggest that the United States is still an attractive destination for many foreign scientists and engineers. Slowing of the S&E labor force growth would be a fundamental change for the U.S. economy, possibly affecting both technological change and economic growth."<sup>20</sup>

Countries with a larger share of the population with at least a college degree include Russia, Canada, Japan, South Korea, Norway, Ireland, Belgium, Spain, Denmark and France.<sup>21</sup> "America will feel the full impact of the 30-year stagnation in skill levels in the U.S. workforce when many baby boomers begin retiring, which makes expeditious reform of U.S. high-skilled immigration policies imperative," writes Kirkegaard. "Urgent reforms of the broader U.S. education system – even if immediately and successfully implemented – will produce more young American graduates only in the long term. However, in the short term – say at least over the next decade – only high-skilled immigration can provide American employers with the skilled workforce they need to continue to compete and expand in a global skills-biased economy."<sup>22</sup>

## CONCLUSION

This National Foundation for American Policy analysis finds more than 140,000 job openings for skilled positions at the 500 companies that constitute the S&P 500. This is part of a longer-term trend that undermines America's economic future – U.S. companies lack access to the skilled professionals needed to grow and innovate inside the United States. S&P 500 companies employ only about 14 percent of individuals working in America, so the overall demand for skilled labor in the U.S. economy is much greater. The Department of Labor's JOLTS survey indicates there are approximately 4 million job openings in America every month at all skill levels.

Demand is most pronounced at technology and defense companies – the average number of U.S.-based job openings for skilled positions at (S&P 500) tech companies is 470 and at defense companies the average is 1,265. It is worth noting there are native-born technology professionals who continue to blame H-1B visa holders for an inability to find a desired job. However, the job openings data show U.S. professionals could pursue jobs in a variety of technical fields at U.S. defense companies for which H-1B visa holders could not compete, since foreign nationals are generally barred from specific defense-related jobs. In addition, as pointed out in a previous NFAP policy analysis, for 12 months at a time during each of the past four fiscal years no new H-1Bs could even enter the U.S. labor market because the annual quota had been reached before the year started, so those facing

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unfortunate economic difficulties cannot blame H-1B visa holders (since it's unlikely employers would hold jobs open for a year if a qualified U.S. professional was available). New H-1B professionals account for only 0.07 percent of the U.S. labor force.<sup>23</sup>

Concerns that America possesses too much skilled talent are shortsighted, since, as we have seen, smart employers and entrepreneurs will utilize this talent to produce products and services that improve all our lives. An October 2007 Urban Institute study, which asserted America had sufficient science talent, reached its conclusion by adopting a narrow definition of science and engineering (S&E) jobs that ignored 8 million employed Americans who use their math and science degrees in the workplace. As the National Science Foundation warns, "The S&E labor force does not include just those in S&E occupations. S&E skills are needed and used in a wide variety of jobs."

A key problem America faces is the long-term stagnation in U.S. skill level and the legislative inertia that has prevented liberalizing U.S. immigration laws to permit the entry and retention of talented people from around the world. America needs to improve its education system but that remains an endeavor that will continue for years. However, it's clear today that improving the rules on high skill immigration would allow U.S. companies to create and innovate in the United States rather than overseas.

## APPENDIX

**Table 6**  
**Skilled Job Openings in U.S. at S&P 500 Companies**

<b>Company</b>	<b>Ticker Symbol</b>	<b>Industry</b>	<b>Job Openings (Jan. 2008)</b>
3M Company	MMM	Industrial Conglomerates	210
ACE Limited	ACE	Property & Casualty Insurance	127
AES Corp.	AES	Power Producers & Energy Traders	16
AFLAC Inc.	AFL	Life & Health Insurance	47
AT&T Inc.	T	Integrated Telecommunication Services	263
Abbott Labs	ABT	Pharmaceuticals	494
Abercrombie & Fitch Co.	ANF	Consumer Discretionary	32
Adobe Systems	ADBE	Application Software	190
Advanced Micro Devices	AMD	Semiconductors	237
Aetna Inc.	AET	Managed Health Care	367
Affiliated Computer	ACS	Data Processing & Outsourced Services	941
Agilent Technologies	A	Electronic Equipment Manufacturers	105
Air Products & Chemicals	APD	Industrial Gases	195
Akamai Technologies Inc	AKAM	Information Technology	67
Alcoa Inc	AA	Aluminum	97
Allegheny Energy	AYE	Electric Utilities	56
Allegheny Technologies Inc	ATI	Steel	38
Allergan, Inc.	AGN	Pharmaceuticals	47
Allied Waste Industries	AW	Environmental & Facilities Services	91
Allstate Corp.	ALL	Property & Casualty Insurance	619
Altera Corp.	ALTR	Semiconductors	44
Altria Group, Inc.	MO	Tobacco	106
Amazon Corp.	AMZN	Internet Retail	625
Ambac Financial Group	ABK	Property & Casualty Insurance	n/a
Ameren Corporation	AEE	Multi-Utilities	110
American Capital Strategies	ACAS	Financials	56
American Electric Power	AEP	Electric Utilities	59
American Express	AXP	Consumer Finance	264
American Int'l. Group	AIG	Multi-line Insurance	98
American Tower Corp.	AMT	Telecommunications	58
Ameriprise Financial, Inc.	AMP	Asset Management & Custody Banks	206
AmerisourceBergen Corp.	ABC	Health Care Distributors	133

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Amgen	AMGN	Biotechnology	63
Anadarko Petroleum	APC	Oil & Gas Exploration & Production	55
Analog Devices	ADI	Semiconductors	118
Anheuser-Busch	BUD	Brewers	72
Aon Corp.	AOC	Insurance Brokers	466
Apache Corp.	APA	Oil & Gas Exploration & Production	31
Apartment Investment & Mgmt	AIV	Residential REITs	258
Apollo Group	APOL	Education Services	92
Apple Inc.	AAPL	Computer Hardware	665
Applera Corp.	ABI	Life Sciences Tools & Services	111
Applied Materials	AMAT	Semiconductor Equipment	139
Archer-Daniels-Midland	ADM	Agricultural Products	147
Ashland Inc.	ASH	Diversified Chemicals	146
Assurant	AIZ	Insurance	203
AutoNation, Inc.	AN	Automotive Retail	219
AutoZone Inc.	AZO	Automotive Retail	112
Autodesk, Inc.	ADSK	Application Software	220
Automatic Data Processing	ADP	Data Processing & Outsourced Services	1421
AvalonBay Communities	AVB	Residential REITs	124
Avery Dennison Corp.	AVY	Office Services & Supplies	139
Avon Products	AVP	Personal Products	83
BB&T	BBT	Regional Banks	98
BIOGEN IDEC Inc.	BIIB	Biotechnology	70
BJ Services	BJS	Oil & Gas Equipment & Services	12
BMC Software	BMC	Systems Software	256
Baker Hughes	BHI	Oil & Gas Equipment & Services	558
Ball Corp.	BLL	Metal & Glass Containers	10
Bank of America Corp.	BAC	Other Diversified Financial Services	1600
Bank of New York Mellon	BK	Asset Management & Custody Banks	673
Bard (C.R.) Inc.	BCR	Health Care Equipment	88
Barr Pharmaceuticals, Inc.	BRL	Pharmaceuticals	208
Baxter International Inc.	BAX	Health Care Equipment	390
Bear Stearns Cos.	BSC	Investment Banking & Brokerage	31
Becton, Dickinson	BDX	Health Care Equipment	297
Bed Bath & Beyond	BBBY	Homefurnishing Retail	634
Bemis Company	BMS	Paper Packaging	n/a
Best Buy Co., Inc.	BBY	Computer & Electronics Retail	133
Big Lots, Inc.	BIG	General Merchandise Stores	93
Black & Decker Corp.	BDK	Household Appliances	20
Block H&R	HRB	Specialized Consumer Services	120
Boeing Company	BA	Aerospace & Defense	841
Boston Properties	BXP	Office REITs	n/a
Boston Scientific	BSX	Health Care Equipment	308

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Bristol-Myers Squibb	BMY	Pharmaceuticals	307
Broadcom Corporation	BRCM	Semiconductors	341
Brown-Forman Corp.	BF-B	Distillers & Vintners	32
Brunswick Corp.	BC	Leisure Products	226
Burlington Northern Santa Fe	BNI	Railroads	48
C.H. Robinson Worldwide	CHRW	Air Freight & Logistics	180
CA, Inc.	CA	Systems Software	229
CB Richard Ellis Group	CBG	Real Estate Management & Development	75
CBS Corp.	CBS	Broadcasting & Cable TV	110
CIGNA Corp.	CI	Managed Health Care	785
CIT Group	CIT	Specialized Finance	196
CME Group Inc.	CME	Financials	42
CMS Energy	CMS	Multi-Utilities	15
CONSOL Energy Inc.	CNX	Coal & Consumable Fuels	94
CSX Corp.	CSX	Railroads	25
CVS/Caremark Corporation	CVS	Drug Retail	250
Campbell Soup	CPB	Packaged Foods & Meats	167
Capital One Financial	COF	Consumer Finance	160
Cardinal Health, Inc.	CAH	Health Care Distributors	1062
Carnival Corp.	CCL	Hotels, Resorts & Cruise Lines	37
Caterpillar Inc.	CAT	Construction, Farm Mach. & Heavy Trucks	214
Celgene Corp.	CELG	Biotechnology	87
CenterPoint Energy	CNP	Multi-Utilities	12
Centex Corp.	CTX	Homebuilding	9
CenturyTel	CTL	Integrated Telecommunication Services	90
Charles Schwab	SCHW	Investment Banking & Brokerage	313
Chesapeake Energy	CHK	Oil & Gas Exploration & Production	82
Chevron Corp.	CVX	Integrated Oil & Gas	218
Chubb Corp.	CB	Property & Casualty Insurance	60
Ciena Corp.	CIEN	Communications Equipment	61
Cincinnati Financial	CINF	Property & Casualty Insurance	4
Cintas Corporation	CTAS	Diversified Commercial & Prof. Services	1664
Circuit City Group	CC	Computer & Electronics Retail	n/a
Cisco Systems	CSCO	Communications Equipment	1504
Citigroup Inc.	C	Other Diversified Financial Services	1437
Citizens Communications	CZN	Integrated Telecommunication Services	81
Citrix Systems	CTXS	Application Software	188
Clear Channel Comm.	CCU	Broadcasting & Cable TV	166
Clorox Co.	CLX	Household Products	87
Coach, Inc.	COH	Apparel, Accessories & Luxury Goods	61
Coca Cola Co.	KO	Soft Drinks	144
Coca-Cola Enterprises	CCE	Soft Drinks	250
Cognizant Technology	CTSH	IT Consulting & Other Services	n/a



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Colgate-Palmolive	CL	Household Products	43
Comcast Corp.	CMCSA	Broadcasting & Cable TV	1237
Comerica Inc.	CMA	Diversified Banks	150
Commerce Bancorp	CBH	Regional Banks	579
Computer Sciences Corp.	CSC	Data Processing & Outsourced Services	1666
Compuware Corp.	CPWR	Application Software	170
ConAgra Foods, Inc.	CAG	Packaged Foods & Meats	300
ConocoPhillips	COP	Integrated Oil & Gas	80
Consolidated Edison	ED	Multi-Utilities	180
Constellation Brands	STZ	Distillers & Vintners	n/a
Constellation Energy Group	CEG	Independent Power Producers	303
Convergys Corp.	CVG	Data Processing & Outsourced Services	153
Cooper Industries, Ltd.	CBE	Electrical Components & Equipment	58
Corning Inc.	GLW	Communications Equipment	228
Costco Co.	COST	HyperMarkets & Super Centers	30
Countrywide Financial Corp.	CFC	Thriffs & Mortgage Finance	2415
Coventry Health Care Inc.	CVH	Managed Health Care	695
Covidien Ltd.	COV	Health Care	651
Cummins Inc.	CMI	Construction, Farm Mach. & Heavy Trucks	185
D.R. Horton	DHI	Homebuilding	58
DIRECTV Group Inc.	DTV	Broadcasting & Cable TV	127
Discover Financial Services	DFS	Financials	154
DTE Energy Co.	DTE	Multi-Utilities	18
Danaher Corp.	DHR	Industrial Machinery	94
Darden Restaurants	DRI	Restaurants	30
Dean Foods	DF	Packaged Foods & Meats	36
Deere & Co.	DE	Construction, Farm Mach. & Heavy Trucks	190
Dell Inc.	DELL	Computer Hardware	597
Developers Diversified Rlty	DDR	Financials	27
Devon Energy Corp.	DVN	Oil & Gas Exploration & Production	138
Dillard Inc.	DDS	Department Stores	n/a
Dominion Resources	D	Multi-Utilities	85
Donnelley (R.R.) & Sons	RRD	Commercial Printing	183
Dover Corp.	DOV	Industrial Machinery	38
Dow Chemical	DOW	Diversified Chemicals	61
Du Pont (E.I.)	DD	Diversified Chemicals	109
Duke Energy	DUK	Electric Utilities	34
Dynegy Inc.	DYN	Power Producers & Energy Traders	78
E*Trade Financial Corp.	ETFC	Investment Banking & Brokerage	196
EMC Corp.	EMC	Computer Storage & Peripherals	883
ENSCO Int'l	ESV	Oil & Gas Drilling	86
EOG Resources	EOG	Oil & Gas Exploration & Production	90
Eastman Chemical	EMN	Diversified Chemicals	29

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Eastman Kodak	EK	Photographic Products	74
Eaton Corp.	ETN	Industrial Machinery	575
eBay Inc.	EBAY	Internet Software & Services	200
Ecolab Inc.	ECL	Specialty Chemicals	273
Edison Int'l	EIX	Electric Utilities	203
El Paso Corp.	EP	Oil & Gas Storage & Transportation	205
Electronic Arts	ERTS	Home Entertainment Software	188
Electronic Data Systems	EDS	Data Processing & Outsourced Services	981
Embarq Corporation	EQ	Integrated Telecommunication Services	55
Emerson Electric	EMR	Electrical Components & Equipment	110
Entergy Corp.	ETR	Electric Utilities	62
Equifax Inc.	EFX	Diversified Commercial & Prof. Services	29
Equity Residential	EQR	Residential REITs	118
Estee Lauder Cos.	EL	Personal Products	n/a
Exelon Corp.	EXC	Electric Utilities	305
Expedia Inc.	EXPE	Consumer Discretionary	139
Expeditors Int'l	EXPD	Industrials	40
Express Scripts	ESRX	Health Care Services	260
Exxon Mobil Corp.	XOM	Integrated Oil & Gas	100
Fiserv Inc.	FISV	Data Processing & Outsourced Services	576
FPL Group	FPL	Electric Utilities	436
Family Dollar Stores	FDO	General Merchandise Stores	45
Fannie Mae	FNM	Thriffs & Mortgage Finance	298
FedEx Corporation	FDX	Air Freight & Logistics	107
Federal Home Loan Mtg.	FRE	Thriffs & Mortgage Finance	130
Federated Investors Inc.	FII	Asset Management & Custody Banks	35
Fidelity National Info. Serv.	FIS	Data Processing & Outsourced Services	362
First Data	FDC	Data Processing & Outsourced Services	275
First Horizon National	FHN	Regional Banks	534
FirstEnergy Corp.	FE	Electric Utilities	154
Fluor Corp.	FLR	Construction & Engineering	899
Ford Motor	F	Automobile Manufacturers	128
Forest Laboratories	FRX	Pharmaceuticals	29
Fortune Brands, Inc.	FO	Housewares & Specialties	75
Franklin Resources	BEN	Asset Management & Custody Banks	131
Freeport-McMoran Cp & Gld	FCX	Diversified Metals & Mining	154
GameStop Corp.	GME	Consumer Discretionary	6
Gannett Co.	GCI	Publishing	288
Gap (The)	GPS	Apparel Retail	431
General Dynamics	GD	Aerospace & Defense	650
General Electric	GE	Industrial Conglomerates	3078
Genl Growth Properties	GGP	Financials	120
General Mills	GIS	Packaged Foods & Meats	81

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General Motors	GM	Automobile Manufacturers	321
Genuine Parts	GPC	Distributors	93
Genworth Financial Inc.	GNW	Multi-line Insurance	163
Genzyme Corp.	GENZ	Biotechnology	550
Gilead Sciences	GILD	Biotechnology	192
Goldman Sachs Group	GS	Investment Banking & Brokerage	n/a
Goodrich Corporation	GR	Aerospace & Defense	495
Goodyear Tire & Rubber	GT	Tires & Rubber	15
Google Inc.	GOOG	Internet Software & Services	922
Grainger (W.W.) Inc.	GWW	Trading Companies & Distributors	169
Halliburton Co.	HAL	Oil & Gas Equipment & Services	243
Harley-Davidson	HOG	Motorcycle Manufacturers	49
Harman Int'l Industries	HAR	Consumer Electronics	28
Harrah's Entertainment	HET	Casinos & Gaming	148
Hartford Financial Svc.Gp.	HIG	Multi-line Insurance	842
Hasbro Inc.	HAS	Leisure Products	31
Heinz (H.J.)	HNZ	Packaged Foods & Meats	76
Hercules, Inc.	HPC	Diversified Chemicals	20
Hess Corporation	HES	Integrated Oil & Gas	141
Hewlett-Packard	HPQ	Computer Hardware	1398
Home Depot	HD	Home Improvement Retail	85
Honeywell Int'l Inc.	HON	Aerospace & Defense	766
Hospira Inc.	HSP	Health Care Equipment	152
Host Hotels & Resorts	HST	Hospitality	2
Hudson City Bancorp	HCBK	Thriffs & Mortgage Finance	3
Humana Inc.	HUM	Managed Health Care	805
Huntington Bancshares	HBAN	Regional Banks	237
IAC/InterActive Corp.	IACI	Internet Retail	235
IMS Health Inc.	RX	Health Care Technology	90
ITT Corporation	ITT	Industrial Machinery	n/a
Illinois Tool Works	ITW	Industrial Machinery	58
Ingersoll-Rand Co. Ltd.	IR	Industrial Machinery	582
Integrus Energy Group, Inc.	TEG	Multi-Utilities	9
Intel Corp.	INTC	Semiconductors	826
IntercontinentalExchange Inc.	ICE	Financials	19
International Bus. Machines	IBM	Computer Hardware	1670
International Flav/Frag	IFF	Specialty Chemicals	n/a
International Game Tech.	IGT	Casinos & Gaming	162
International Paper	IP	Paper Products	51
Interpublic Group	IPG	Advertising	87
Intuit, Inc.	INTU	Application Software	381
JDS Uniphase Corp.	JDSU	Communications Equipment	81
JPMorgan Chase & Co.	JPM	Other Diversified Financial Services	2164

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Jabil Circuit	JBL	Electronic Manufacturing Services	176
Jacobs Engineering Group	JEC	Industrials	760
Janus Capital Group	JNS	Asset Management & Custody Banks	31
Johnson & Johnson	JNJ	Pharmaceuticals	1206
Johnson Controls	JCI	Auto Parts & Equipment	1484
Jones Apparel Group	JNY	Apparel, Accessories & Luxury Goods	61
Juniper Networks	JNPR	Communications Equipment	27
KB Home	KBH	Homebuilding	57
KLA-Tencor Corp.	KLAC	Semiconductor Equipment	97
Kellogg Co.	K	Packaged Foods & Meats	92
KeyCorp	KEY	Regional Banks	224
Kimberly-Clark	KMB	Household Products	215
Kimco Realty	KIM	Retail REITs	17
King Pharmaceuticals	KG	Pharmaceuticals	33
Kohl's Corp.	KSS	Department Stores	40
Kraft Foods Inc-A	KFT	Consumer Staples	42
Kroger Co.	KR	Food Retail	182
L-3 Communications	LLL	Aerospace & Defense	1618
LSI Corporation	LSI	Semiconductors	102
Laboratory Corp. of America	LH	Health Care Services	320
Legg Mason	LM	Asset Management & Custody Banks	89
Leggett & Platt	LEG	Home Furnishings	18
Lehman Bros.	LEH	Investment Banking & Brokerage	280
Lennar Corp.	LEN	Homebuilding	38
Leucadia National Corp.	LUK	Financials	179
Lexmark Int'l Inc	LXK	Computer Storage & Peripherals	145
Lilly (Eli) & Co.	LLY	Pharmaceuticals	133
Limited Brands, Inc.	LTD	Apparel Retail	130
Lincoln National	LNC	Life & Health Insurance	165
Linear Technology Corp.	LLTC	Semiconductors	56
Liz Claiborne, Inc.	LIZ	Apparel, Accessories & Luxury Goods	12
Lockheed Martin Corp.	LMT	Aerospace & Defense	3901
Loews Corp.	LTR	Multi-line Insurance	9
Lowe's Cos.	LOW	Home Improvement Retail	277
Macy's Inc.	M	Department Stores	132
Manitowoc Co.	MTW	Industrials	174
M&T Bank Corp.	MTB	Regional Banks	331
MBIA Inc.	MBI	Property & Casualty Insurance	3
MGIC Investment	MTG	Thriffs & Mortgage Finance	10
Marathon Oil Corp.	MRO	Integrated Oil & Gas	82
Marriott Int'l.	MAR	Hotels, Resorts & Cruise Lines	420
Marsh & McLennan	MMC	Insurance Brokers	25
Marshall & Ilsley Corp.	MI	Regional Banks	159

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Masco Corp.	MAS	Building Products	135
Mattel, Inc.	MAT	Leisure Products	251
McCormick & Co.	MKC	Packaged Foods & Meats	58
McDonald's Corp.	MCD	Restaurants	40
McGraw-Hill	MHP	Publishing	337
McKesson Corp.	MCK	Health Care Distributors	37
MeadWestvaco Corporation	MWV	Paper Products	108
Medco Health Solutions Inc.	MHS	Health Care Services	143
Medtronic Inc.	MDT	Health Care Equipment	552
MEMC Electronic Materials	WFR	Information Technology	15
Merck & Co.	MRK	Pharmaceuticals	225
Meredith Corp.	MDP	Publishing	156
Merrill Lynch	MER	Investment Banking & Brokerage	73
MetLife Inc.	MET	Life & Health Insurance	643
Microchip Technology	MCHP	Semiconductors	73
Micron Technology	MU	Semiconductors	400
Microsoft Corp.	MSFT	Systems Software	4005
Millipore Corp.	MIL	Life Sciences Tools & Services	95
Molex Inc.	MOLX	Electronic Manufacturing Services	5
Molson Coors Brewing Co.	TAP	Brewers	88
Monsanto Co.	MON	Fertilizers & Agricultural Chemicals	357
Monster Worldwide	MNST	Human Resource & Employment Services	36
Moody's Corp	MCO	Specialized Finance	33
Morgan Stanley	MS	Investment Banking & Brokerage	193
Motorola Inc.	MOT	Communications Equipment	502
Murphy Oil	MUR	Integrated Oil & Gas	7
Mylan Laboratories	MYL	Pharmaceuticals	81
NICOR Inc.	GAS	Gas Utilities	24
NIKE Inc.	NKE	Footwear	215
NVIDIA Corp.	NVDA	Semiconductors	451
NYSE Euronext	NYSE	Financial	23
Nabors Industries Ltd.	NBR	Oil & Gas Drilling	12
National City Corp.	NCC	Regional Banks	555
National Oilwell Varco, Inc.	NOV	Oil & Gas Equipment & Services	48
National Semiconductor	NSM	Semiconductors	55
Network Appliance	NTAP	Computer Storage & Peripherals	525
New York Times	NYT	Publishing	145
Newell Rubbermaid Co.	NWL	Housewares & Specialties	215
Newmont Mining Corp.	NEM	Gold	54
News Corporation	NWS	Movies & Entertainment	386
NiSource Inc.	NI	Multi-Utilities	30
Noble Corporation	NE	Oil & Gas Drilling	20
Noble Energy Inc	NBL	Energy	86

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Nordstrom	JWN	Department Stores	62
Norfolk Southern Corp.	NSC	Railroads	253
Northern Trust Corp.	NTRS	Asset Management & Custody Banks	240
Northrop Grumman Corp.	NOC	Aerospace & Defense	3925
Novell, Inc.	NOVL	Systems Software	80
Novellus Systems	NVLS	Semiconductor Equipment	79
Nucor Corp.	NUE	Steel	n/a
Occidental Petroleum	OXY	Integrated Oil & Gas	85
Office Depot	ODP	Specialty Stores	n/a
OfficeMax Inc.	OMX	Specialty Stores	121
Omnicom Group	OMC	Advertising	282
Oracle Corp.	ORCL	Systems Software	1200
PACCAR Inc.	PCAR	Construction & Farm Mach./Heavy Trucks	123
PG&E Corp.	PCG	Multi-Utilities	64
PNC Financial Services	PNC	Regional Banks	384
PPG Industries	PPG	Diversified Chemicals	89
PPL Corp.	PPL	Electric Utilities	57
Pactiv Corp.	PTV	Metal & Glass Containers	33
Pall Corp.	PLL	Industrial Machinery	33
Parker-Hannifin	PH	Industrial Machinery	159
Patterson Cos. Inc.	PDCO	Health Care Distributors	62
Paychex Inc.	PAYX	Data Processing & Outsourced Services	266
Peabody Energy	BTU	Coal & Consumable Fuels	40
Penney (J.C.)	JCP	Department Stores	360
Pepco Holdings Inc.	POM	Utilities	70
Pepsi Bottling Group	PBG	Soft Drinks	218
PepsiCo Inc.	PEP	Soft Drinks	595
PerkinElmer	PKI	Life Sciences Tools & Services	61
Pfizer, Inc.	PFE	Pharmaceuticals	762
Pinnacle West Capital	PNW	Electric Utilities	42
Pitney-Bowes	PBI	Office Services & Supplies	578
Plum Creek Timber Co.	PCL	Specialized REITs	14
Polo Ralph Lauren Corp.	RL	Apparel, Accessories & Luxury Goods	327
Praxair, Inc.	PX	Industrial Gases	147
Precision Castparts Corp.	PCP	Aerospace	11
Principal Financial Group	PFG	Life & Health Insurance	38
ProLogis	PLD	Industrial REITs	24
Procter & Gamble	PG	Household Products	250
Progress Energy, Inc.	PGN	Electric Utilities	144
Progressive Corp.	PGR	Property & Casualty Insurance	258
Prudential Financial	PRU	Life & Health Insurance	463
Public Serv. Enterprise Inc.	PEG	Multi-Utilities	56
Public Storage	PSA	Specialized REITs	120

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Pulte Homes, Inc.	PHM	Homebuilding	25
QLogic Corp.	QLGC	Computer Storage & Peripherals	76
QUALCOMM Inc.	QCOM	Communications Equipment	906
Quest Diagnostics	DGX	Health Care Services	668
Questar Corp.	STR	Gas Utilities	22
Qwest Communications Int	Q	Integrated Telecommunication Services	215
RadioShack Corp	RSH	Computer & Electronics Retail	50
Range Resources Corp.	RRC	Energy	n/a
Raytheon Co.	RTN	Aerospace & Defense	1694
Regions Financial Corp.	RF	Regional Banks	193
Reynolds American Inc.	RAI	Tobacco	38
Robert Half International	RHI	Human Resource & Employment Services	360
Rockwell Automation, Inc.	ROK	Electrical Components & Equipment	414
Rockwell Collins	COL	Aerospace & Defense	267
Rohm & Haas	ROH	Specialty Chemicals	129
Rowan Cos.	RDC	Oil & Gas Drilling	n/a
Ryder System	R	Trucking	248
SAFECO Corp.	SAF	Property & Casualty Insurance	128
SLM Corporation	SLM	Consumer Finance	71
Safeway Inc.	SWY	Food Retail	422
SanDisk Corporation	SNDK	Computer Storage & Peripherals	246
Sara Lee Corp.	SLE	Packaged Foods & Meats	191
Schering-Plough	SGP	Pharmaceuticals	347
Schlumberger Ltd.	SLB	Oil & Gas Equipment & Services	n/a
Scripps (E. W.)	SSP	Broadcasting & Cable TV	151
Sealed Air Corp.	SEE	Paper Packaging	3
Sears Holdings Corporation	SHLD	Department Stores	157
Sempra Energy	SRE	Multi-Utilities	14
Sherwin-Williams	SHW	Home Improvement Retail	160
Sigma-Aldrich	SIAL	Specialty Chemicals	133
Simon Property Group, Inc	SPG	Retail REITs	83
Smith International	SII	Oil & Gas Equipment & Services	15
Snap-On Inc.	SNA	Household Appliances	112
Southern Co.	SO	Electric Utilities	11
Southwest Airlines	LUV	Airlines	49
Sovereign Bancorp	SOV	Thriffs & Mortgage Finance	57
Spectra Energy Corp.	SE	Oil & Gas Storage & Transportation	40
Sprint Nextel Corp.	S	Wireless Telecommunication Services	193
St Jude Medical	STJ	Health Care Equipment	187
Stanley Works	SWK	Household Appliances	277
Staples Inc.	SPLS	Specialty Stores	469
Starbucks Corp.	SBUX	Restaurants	300
Starwood Hotels & Resorts	HOT	Hotels, Resorts & Cruise Lines	141

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State Street Corp.	STT	Asset Management & Custody Banks	791
Stryker Corp.	SYK	Health Care Equipment	449
Sun Microsystems	JAVA	Computer Hardware	923
SunTrust Banks	STI	Regional Banks	38
Sunoco, Inc.	SUN	Oil & Gas Refining & Marketing	57
Supervalu Inc.	SVU	Food Retail	268
Symantec Corp.	SYMC	Systems Software	435
Sysco Corp.	SYU	Food Distributors	43
T. Rowe Price Group	TROW	Asset Management & Custody Banks	78
TECO Energy	TE	Multi-Utilities	21
TJX Companies Inc.	TJX	Apparel Retail	915
Target Corp.	TGT	General Merchandise Stores	902
Tellabs, Inc.	TLAB	Communications Equipment	61
Tenet Healthcare Corp.	THC	Health Care Facilities	2050
Teradata Corp.	TDC	Information Technology	196
Teradyne Inc.	TER	Semiconductor Equipment	67
Terex Corp.	TEX	Constr. & Farm Mach. & Heavy Trucks	297
Tesoro Petroleum Co.	TSO	Energy	94
Texas Instruments	TXN	Semiconductors	130
Textron Inc.	TXT	Industrial Conglomerates	246
The Hershey Company	HSY	Packaged Foods & Meats	23
The Travelers Companies, Inc.	TRV	Property & Casualty Insurance	464
Thermo Fisher Scientific	TMO	Life Sciences Tools & Services	556
Tiffany & Co.	TIF	Specialty Stores	125
Time Warner Inc.	TWX	Movies & Entertainment	1329
Titanium Metals Corp	TIE	Materials	n/a
Torchmark Corp.	TMK	Life & Health Insurance	24
Total System Services	TSS	Information Technology	80
Trane Inc.	TT	Building Products	18
Transocean Inc.	RIG	Oil & Gas Drilling	n/a
Tyco Electronics Ltd.	TEL	Information Technology	239
Tyco International	TYC	Industrial Conglomerates	605
Tyson Foods	TSN	Packaged Foods & Meats	111
U.S. Bancorp	USB	Diversified Banks	1562
UST Inc.	UST	Tobacco	58
Union Pacific	UNP	Railroads	271
Unisys Corp.	UIS	IT Consulting & Other Services	295
United Health Group Inc.	UNH	Managed Health Care	1927
United Parcel Service	UPS	Air Freight & Logistics	398
United States Steel Corp.	X	Steel	128
United Technologies	UTX	Aerospace & Defense	1130
Unum	UNM	Life & Health Insurance	101
V.F. Corp.	VFC	Apparel, Accessories & Luxury Goods	11



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Valero Energy	VLO	Oil & Gas Refining & Marketing	142
Varian Medical Systems	VAR	Health Care Equipment	100
VeriSign Inc.	VRSN	Internet Software & Services	151
Verizon Communications	VZ	Integrated Telecommunication Services	192
Viacom Inc.	VIA.B	Movies & Entertainment	10
Vornado Realty Trust	VNO	Diversified REITs	n/a
Vulcan Materials	VMC	Construction Materials	39
Wachovia Corp.	WB	Diversified Banks	1455
Wal-Mart Stores	WMT	HyperMarkets & Super Centers	659
Walgreen Co.	WAG	Drug Retail	257
Walt Disney Co.	DIS	Movies & Entertainment	250
Washington Mutual	WM	Thriffs & Mortgage Finance	464
Washington Post	WPO	Consumer Discretionary	n/a
Waste Management Inc.	WMI	Environmental & Facilities Services	386
Waters Corporation	WAT	Life Sciences Tools & Services	40
Watson Pharmaceuticals	WPI	Pharmaceuticals	84
Weatherford International Ltd.	WFT	Oil & Gas Equipment & Services	103
WellPoint Inc.	WLP	Managed Health Care	231
Wells Fargo	WFC	Diversified Banks	105
Wendy's International	WEN	Restaurants	65
Western Union Co	WU	Data Processing & Outsourced Services	43
Weyerhaeuser Corp.	WY	Forest Products	86
Whirlpool Corp.	WHR	Household Appliances	196
Whole Foods Market	WFMI	Food Retail	40
Williams Cos.	WMB	Oil & Gas Storage & Transportation	82
Windstream Corporation	WIN	Integrated Telecommunication Services	79
Wrigley (Wm) Jr.	WWY	Packaged Foods & Meats	50
Wyeth	WYE	Pharmaceuticals	503
Wyndham Worldwide	WYN	Hotels, Resorts & Cruise Lines	588
XL Capital	XL	Property & Casualty Insurance	30
XTO Energy Inc.	XTO	Oil & Gas Exploration & Production	29
Xcel Energy Inc	XEL	Multi-Utilities	390
Xerox Corp.	XRX	Office Electronics	272
Xilinx, Inc	XLNX	Semiconductors	154
Yahoo Inc.	YHOO	Internet Software & Services	356
Yum! Brands, Inc	YUM	Restaurants	n/a
Zimmer Holdings	ZMH	Health Care Equipment	156
Zions Bancorp	ZION	Regional Banks	304
	<b>TOTAL</b>		<b>140,233</b>

*Source: National Foundation for American Policy; detailed analysis of S&P 500 company websites. Job openings counted for positions in the U.S. requiring a B.A., professional degree or greater; January 2008.*

**END NOTES**

<sup>1</sup> Estimate based on employment data from Hoover's and the Bureau of Labor Statistics.

<sup>2</sup> Credit goes to NFAP research assistant Andrew Verdon for his work on this project. Because of the way the websites of certain companies are set up it was not possible gain an accurate estimate of job openings for some companies, which are indicated by an "n/a" for "not available" in the Appendix. The S&P 500 is regularly revised.

<sup>3</sup> U.S. Department of Labor, JOLTS survey. From the Department of Labor website: "The data for the Job Openings and Labor Turnover Survey (JOLTS) are collected and compiled monthly from a sample of business establishments by the Bureau of Labor Statistics (BLS). Collection: Each month, data are collected in a survey of business establishments for total employment, job openings, hires, quits, layoffs and discharges, and other separations. Data collection methods include computer-assisted telephone interviewing, touchtone data entry, fax, and mail. Coverage: The JOLTS program covers all private nonfarm establishments such as factories, offices, and stores, as well as federal, state, and local government entities in the 50 states and the District of Columbia."

<sup>4</sup> Neil Irwin, "Job Woes Deepen Economic Anxiety," *The Washington Post*, January 5, 2008.

<sup>5</sup> Neil Irwin, "An Economy's Mixed Message on Suffering," *The Washington Post*, January 17, 2008.

<sup>6</sup> Neil Irwin, "Fed Report Signals Weakness in a Variety of Industries," *The Washington Post*, March 6, 2008.

<sup>7</sup> Due to low quotas on green cards, it typically can take 5 years or more for an employment-based immigrant visa to become available for a skilled immigrant.

<sup>8</sup> In 1990, the annual limit on H-1B petitions was set at 65,000 a year. That limit has remained. Provisions to the law have been added to exempt from the annual limit H-1Bs used to hire foreign nationals at universities and non-profit and government research institutes, as well as an exemption of up to 20,000 individuals who completed an advanced degree at a U.S. university.

<sup>9</sup> A January 2008 note to clients from the law firm of Paul Hastings advised, "Employers should identify employees for whom an H-1B petition must be filed for the government's new fiscal year. H-1B petitions seeking an October 1, 2008 start date may be filed on April 1, 2008. It is imperative that employers mail H-1B petitions on March 31, 2008 for delivery to USCIS on April 1, 2008, as it is anticipated that the H-1B quota will be exhausted immediately, creating the need for a lottery similar to the one last year."

<sup>10</sup> The associations have some common members, so the figures should not be used cumulatively.

<sup>11</sup> The United States has a declining share of both global science and engineering degree production and of the education of international students.

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<sup>12</sup> *Science and Engineering Indicators 2008*, The National Science Foundation, 2008 and <http://www.nsf.gov/statistics/infbrief/nsf08301/>.

<sup>13</sup> B. Lindsay Lowell and Hal Salzman, *Into the Eye of the Storm: Assessing the Evidence on Science and Engineering Education, Quality, and Workforce Demand*, The Urban Institute, October 2007.

<sup>14</sup> *Science and Engineering Indicators 2008*, The National Science Foundation, 2008, Chapter 3.

<sup>15</sup> Ibid.

<sup>16</sup> The book can be found on the Peterson Institute's website at: <http://bookstore.petersoninstitute.org/bookstore/4136.html>.

<sup>17</sup> Ibid., p. 5.

<sup>18</sup> Ibid., p. 6.

<sup>19</sup> Ibid., pp. 12-13.

<sup>20</sup> *Science and Engineering Indicators 2008*, The National Science Foundation, 2008, Chapter 3.

<sup>21</sup> Kirkegaard, p. 14.

<sup>22</sup> Ibid., pp. 14-15.

<sup>23</sup> *Driving Jobs and Innovation Offshore*, NFAP Policy Brief, December 2007.

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