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Subject: Gramm bill on H1-B on hold

FYI

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Subject: Gramm bill on H1-B on hold

One Loss for Silicon Valley as Visa Bill Shelved
Alan K. Ota
CQ Weekly, September 18, 1999

The high-tech industry, on a roll in the 106th Congress, has quietly lost its fight to raise the quota for H1-B visas this year.

Senate Republicans have decided to put off a bill (S 1440) to allow 74 percent more of the visas, open to those with advanced skills, raising the quota to 200,000 for fiscal 2000-2002.

Phil Gramm, R-Texas, the bill's chief sponsor, said that he would not try to pass it as a stand-alone bill or as a rider to a spending bill. "We can't do it this year," Gramm said. Senate Majority Leader Trent Lott of Mississippi, a cosponsor, has included it on his list of priorities to help the high-tech industry.

The bill faces strong opposition from labor unions and from a key House subcommittee chairman, Lamar Smith, R-Texas.

The fiscal 1999 quota was filled in June, but Silicon Valley will be able to hire more foreign engineers and technicians beginning Oct. 1, when the

new fiscal year begins, opening another quota of 115,000 visas. Gramm said those should last long enough for Congress to act early next year.

Bringing Resources from Academia to Industry of Our Nation Act (BRAIN Act - H.R. 2687)

Congresswoman Zoe Lofgren introduced H.R. 2687 — the “BRAIN Act” — on August 3, 1999. The BRAIN Act establishes an unlimited five-year pilot program for special technical occupations or “T” visa to employ foreign students educated in the United States.

Visa Requirements: Under the BRAIN Act, certain F-1 (full time students) and J-1 (exchange students) visa holders may adjust their status to a newly created “T” visa if:

- within 90 days following graduation, the graduate receives a contract for a job in a high-technology field that uses the knowledge, skills, and abilities of a bachelor or higher degree in mathematics, science, engineering, or computer science;
- the prospective employer files a petition with the Department of Justice (DOJ) to change the visa status of the foreign graduate; and
- the total annual compensation for the job (including all wages, salary, bonuses, stocks, and any other similar form of remuneration) equals or exceeds \$60,000.

Employer Responsibilities: The employer petitioning on behalf of the foreign graduate must:

- pay a \$1,000 fee for each initial petition for a “T” visa;
- pay a \$500 fee for each extension of “T” visa;
- pay a \$500 fee for any “T” visa holder who changes employer; and
- file the foreign graduate’s W-2 annually with the Department of Justice.

Enforcement and Administration: The DOJ will be responsible for administering the pilot program, including approval of visas and enforcement of the compensation requirements.

The DOJ may initiate an investigation of an employer based on information contained in the W-2 and complaints filed by any aggrieved person or organization (including bargaining representatives). The range of **sanctions** against a liable employer include:

- revocation of the foreign graduate’s “T” status (the graduate may petition DOJ to change employers);
- debarment from the “T” visa program; or
- administrative remedies including civil monetary penalties up to \$10,000 for each violation.

The DOJ will report to the House and Senate Judiciary Committees the number of “T” visas granted every six months. In addition, the DOJ will also submit a more detailed annual report on the occupation, employer, compensation, and education of “T” visa holders.

High-Tech Education Fund Account: Ninety-seven percent of the application fees and civil money penalties collected under the program will be dedicated to a K-12 education fund. The National Science Foundation will fund programs that enhance study of math, science, and computer science for elementary and secondary school students.

Lofgren "BRAIN" Bill Talking Points

The AFL-CIO opposes H.R. 2687, the Bringing Resources from Academia to the Industry of our Nation, the so-called "BRAIN" bill. The "BRAIN" bill is a thinly veiled attempt to circumvent both the H-1B cap and H-1B employer requirements.

- **It is unnecessary and irresponsible to again distort U.S. labor markets less than a year after the American Competitiveness and Workforce Improvement Act greatly increased the H-1B visa cap (an additional 142,000 foreign workers through FY 2001)**
- **We know little more about H-1B foreign workers and employers, the effect of the H-1B program on the U.S. workforce and the validity of claims of a worker shortage (especially in the IT industry) than we did 10 months ago.**

This is not a debate of whether immigration is good for the country, but more importantly, this is a debate of how we foster opportunities for American workers and young people.

- **our immigration policy should not be used to unfairly limit the opportunities for American workers or students to work in our growth industries.**
- **the "BRAIN" bill creates an incentive for employers to pursue foreign students who want to work in this country.**

The so-called "BRAIN" bill is a proposed 5 year project that would allow F-1 (full-time students) and J-1 (exchange students) foreign students studying math, science, engineering or computer science to remain in the U.S. and work in those areas under a new "T" visa.

- **the bill allows U.S. companies to bypass the available, qualified and easily trained U.S. workforce in favor of young foreign workers whose dependence on continued employment with a particular employer or in a particular field makes them an especially easy target for employers who seek to push down wages and avoid providing benefits.**

The so-called "BRAIN" bill decreases opportunities for U.S. workers and students.

- There is no cap on the number of foreign students who could adjust their status to "T" in the legislation, which could cause boundless distortions of the U.S. labor market.
- The bill is so broadly drafted, that virtually any "special technical occupation" in any sector could qualify for a "T" visa. There are individuals with math, science, or engineering knowledge in most factories, textile plants, hotels, and restaurants across the nation. Each to these positions could potentially qualify for a "T" visa.
- The \$60,000 total compensation requirement will not limit the bill to upper-level employees. The compensation requirement is so broadly drafted, employers would have unlimited discretion to payout large amounts of the compensation in speculative "deferred" benefits (e.g. stock options) rather than wages.
- The "BRAIN" bill makes no investment in U.S. workers. There is no funding for training current workers or U.S. college students who wish to pursue the areas of alleged skills shortages.
- The "BRAIN" bill also lacks any requirements to demonstrate a labor shortage, or ensure worker protections such as non-displacement and good faith recruitment.
- Employers already petition to adjust the status of F-1 and J-1 students to H-1B under current law. The "BRAIN" bill is meant solely to avoid the H-1B cap, training, and recruitment requirement.
- Although called a pilot program, the legislation also lacks requirements for a study of the effects of the "T" visa program on the labor market. The quarterly and annual reports required by the bill only provide demographic information about "T" visa holders.

There is insufficient evidence of a labor shortage in the areas targeted by the so-called "BRAIN" bill.

- Neither the IT industry, nor its allies in the headhunting industry, has made a the case for a national labor shortage. The IT industry's reliance on vacancies as proof of a labor shortage has been disputed by both the GAO and the Congressional Research Service.
- Despite growth in IT employment and some wage growth over the past two years, real salaries of IT workers are generally stagnant and were less in 1998 than in 1995. Stagnant wages would not likely characterize a tight labor market claimed by the IT industry.
- There is also mixed evidence of a national shortage of engineers, scientists or mathematicians. Even electrical and electronics engineers, who traditionally have one of the lowest unemployment rates, had an unusually high rate of unemployment in 1998.
- The real "brain drain" in the high tech industry is the discrimination faced by older high tech workers who cannot find employment in their field. While the high tech industry complains of worker shortages, high tech workers over the age of 40 are five times more likely to be unemployed than other workers in the same age group.
- Since January 1999, the IT industry has laid off over 280,000 workers, all the while claiming a labor shortage. The layoffs have effected both small employers and large, nationally known IT industry giants such as Electronic Data Systems (5,180 workers), Compaq (2,150 workers) NEC-Packard Bell (3,000 workers) and IBM (1,100 workers). There has been no industry effort to direct displaced IT workers to the mass of supposedly vacant IT jobs.
- The "BRAIN" bill's emphasis on recent foreign graduates further exacerbates the difficulty faced by older workers in finding new jobs.

We still do not know enough about the H-1B program.

- Realizing that we did not know enough about the H-1B program to make informed, long-term decisions, Congress last year mandated the gathering and reporting of information on the H-1B program. Yet, the "BRAIN" bill is designed to provide more access to similar foreign workers before any of that information is available.
- Specifically, we know nothing more about H-1B workers, H-1B employers, or the effect of the H-1B program on U.S. workers. There should be no attempt to raise the cap when the information identified as necessary for policymakers to make informed decisions does not exist.
- Among the information required by the American Competitiveness and Workforce Improvement Act of 1998 that is not yet available:

An accurate count and demographic information on H-1B workers;
Identifying H-1B employers and their dependence on the workers;
Length of stay in the country for H-1B workers;
Enhanced enforcement activities by the Department of Labor; and
The forms and effectiveness of training efforts;

- The Committees appointed by the National Academy of Science to draft reports to Congress on the H-1B program as required by the American Competitiveness and Workforce Improvement Act of 1998 just began to meet in July.

These committees are charged with analyzing issues such as age discrimination in the IT industry, the effect of the H-1B program on the U.S. labor market, the validity of IT labor shortage claims and projecting and preparing for future IT workforce needs. This information should be collected and analyzed prior to any attempt to raise the H-1B cap.

- Finally, DOL, the federal agency charged with enforcing the H-1B program, has no role in administering or enforcing the "T" visa program.

The Department of Justice has no experience administering a foreign labor program and would essentially be required to approve any application that looked correct.

Degrees to Non-Resident Alien Students

	<u>Non-Resident</u>	<u>% of Total</u>	<u>Total Degrees</u>
Total	98,418	6%	1,689,843
Bachelor's	37,544	3%	1,163,036
Master's	47,811	12%	405,521
Doctorate's	11,450	26%	44,645
First-Professional	1,613	2%	76,641

By Field of Study to Non-Residents	<u>Bachelor's</u>	<u>Master's</u>	<u>Doctorate's</u>	<u>First-Professional</u>
Biological & life sciences	1,361	977	1,284	
Computer & information sciences	2,165	3,839	395	
Engineering	4,756	8,966	3,117	
Engineering-related technologies	564	136	7	
Health professions & related sciences	1,118	1,531	493	904
Mathematics	557	1,081	545	

By Field of Study -- % to Non-Residents	<u>Bachelor's</u>	<u>Master's</u>	<u>Doctorate's</u>	<u>First-Professional</u>
Biological & life sciences	2%	16%	27%	
Computer & information sciences	9%	38%	46%	
Engineering	8%	33%	49%	
Engineering-related technologies	4%	12%	64%	
Health professions & related sciences	1%	5%	23%	3%
Mathematics	4%	27%	45%	

By Field of Study -- Total	<u>Bachelor's</u>	<u>Master's</u>	<u>Doctorate's</u>	<u>First-Professional</u>
Biological & life sciences	60,994	6,157	4,780	
Computer & information sciences	24,098	10,151	867	
Engineering	62,114	27,441	6,369	
Engineering-related technologies	15,189	1,125	11	
Health professions & related sciences	84,036	33,398	2,119	30,857
Mathematics	13,143	4,031	1,209	

News Release From

U.S. Congresswoman Zoe Lofgren

16th Congressional District, California

www.house.gov/lofgren

FOR IMMEDIATE RELEASE
August 4, 1999

CONTACT: Michele Hell
(202) 225-3000

End the Brain Drain

WASHINGTON, D.C. — Congresswoman Zoe Lofgren (D-San Jose, Ca.), joined by 14 leaders of the Democratic party in the House of Representatives, has introduced legislation to prevent "brain drain" from America. The bill, which creates a new "T" or "Tech" visa, would be a five-year pilot project. Visas would be available to international students graduating from American universities with degrees in engineering and the sciences who are hired by technology companies at a compensation level of \$60,000 a year or more.

The bill, H.R. 2687, is titled the BRAIN Act (Bringing Resources from Academia for the Industry of our Nation Act).

"It has never made sense to me that, after allowing foreign students to study at our fine American universities, we force some of the best and brightest minds in the world to leave America and relocate to other countries to compete against us," Lofgren said. "The BRAIN Act would help plug the 'brain drain' from America."

"U.S. universities are providing top-notch science and engineering educations to some of the world's best minds — American-born as well as foreign students," said Lofgren, a member of the House Judiciary Subcommittee on Immigration and Claims, co-chair of the Democratic High-Tech Advisory Group, and an advocate on education and technology concerns.

From 1990 to 1996, the number of students studying engineering and similar technical subject matter in American universities declined 5 percent. At the same time the demand for professionals with science and engineering degrees skyrocketed in the high-tech employment sector.

"While our university systems are the best in the world, our primary and secondary schools are not producing sufficient entering science and engineering students. U.S. students are outranked by many of their foreign counterparts, especially in math and science. Eighth-graders rank 28th in math and 17th in science out of 41 countries. Twelfth-graders are 19th in math and 16th in science out of 21 countries. Unfortunately, but not surprisingly, this correlates with a declining number of graduates with science and engineering degrees," said Lofgren, citing statistics from *CyberEducation: U.S. Education and the High-Technology Workforce*.

— more —

"I remain committed to correcting deficiencies in our education system — in fact, is the issue closest to my heart as a mother and as a lawmaker. But as we work to restore excellence to all levels of the American education system, we should not force those who have achieved academic and scientific excellence to relocate to foreign nations to compete with America," Lofgren said.

The bill would provide for a \$1,000 filing fee per visa that would be allocated to a "high-tech academic trust fund" to be provided to enhance science and math education in the K-12 system.

"The BRAIN Act education trust fund component addresses the heart of a long-term problem, while the T visa component prevents the unwilling expulsion to foreign lands of those who have achieved academic excellence in science and technology. Why should we force these bright young people to leave America to compete against us from abroad? And why not invest resources in American children to increase the numbers of those achieving excellence in science, math, and engineering?"

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The "BRAIN" Act Bringing Resources from Academia to the Industry of our Nation Act

Questions and Answers

What is the purpose of the BRAIN Act?

Rep. Lofgren, who represents Santa Clara County, the heart of Silicon Valley, introduced the BRAIN Act Tuesday, August 3, to ensure the continued competitiveness of the American high-technology industry—not just in Silicon Valley but in high-technology enclaves across the nation. American companies need talented individuals who excel in the fields of math, science, engineering and computer science. The purpose of the BRAIN Act is to allow individuals who excel to contribute to the American economy once they graduate from school. After all, once our universities have educated these students, it makes little sense for our foreign competitors to have the benefit of their American education.

Why do we need the BRAIN Act?

Because of the tremendous growth in the high-technology industry, and the integration of high-technology components into almost every area of our lives, that sector of the economy needs all the talent it can get. The BRAIN Act provides companies with a pipeline to the best and the brightest, in other words BRAIN power.

What does the BRAIN Act do?

The BRAIN Act amends the Immigration and Nationality Act with a new five-year pilot program creating a visa called the "T" or "TECH" visa.

When does the program begin?

If enacted, the program could begin as early as FY 2000, October 1, 1999.

How long does the program last?

The program is a five-year pilot program. The bill includes a sunset date ending the program on September 30, 2004.

How long does the program allow students to stay in the US?

This visa allows a student to remain in the country for a period up to five years.

Who is eligible to receive a T-Visa?

The T-visa is targeted at students holding F and J visas. F visa holders are international students pursuing full-time academic education. J visa holders are foreign students entering the US on the Fulbright program and other government sponsored exchange programs. These students will be able to transition to a T-visa if they meet the requirements of the program.

What are the requirements of the T-visa program?

To be eligible for a T-visa, a student must have a Bachelor's degree (or higher) with a concentration in mathematics, science, engineering or computer science. Additionally, the student must have an offer of employment with an annual total compensation package of \$60,000 or more.

What does total compensation mean?

Total compensation includes the value of all wages, salary, bonuses, stock, stock options, and any other similar forms of remuneration.

What information must the employer provide in the petition?

The BRAIN Act provides that the petition include the following information:

- occupation
- employer
- annual total compensation
- highest degree completed at an institution of higher education
- name of the institution
- concentration or major with respect to such degree
- specified period of intended employment

How do we ensure that the employer is paying the T-visa employee the total compensation demanded by the program?

In order to ensure compliance with the compensation requirement, employers will be required to file a W-2 form annually with the Attorney General. If the Attorney General notices discrepancies in the W-2 form, she may investigate.

What kind of protection is provided against fraud?

In addition to having W-2 forms on file, the Attorney General is responsible for developing a process to receive, investigate and resolve complaints made in relation to the T-visa program. The aggrieved party must file complaints no more than 12 months after the violation. The Attorney General may investigate if she has reasonable cause to believe that such a violation occurred. Whistleblower protections are included.

What is the penalty for a violator?

The penalty is severe for even a first time violator. The violator will be permanently barred from the T-visa program, the T-visa will be revoked from the individuals employed by the petitioner and the Attorney General may impose civil fines of up to \$10,000. Money from fines will be deposited into the High Tech Education Fund.

Is there a fee for employer use of the T-visa program?

Yes. The employer will pay \$1,000 when filing an initial petition for a T visa. If the employer wishes to extend the stay of a student under the T visa, the employer must pay \$500. Additionally, in order to receive authorization to change employers, a fee of \$500 must be paid by the employer.

What will the funds in the High Tech Fund Account be used for?

The money in the High Tech Education Fund account will be used for academic enrichment programs (K-12) in mathematics, the sciences, computer science. The National Science Foundation will administer the grants. Since the T visa program sunsets in 2004, it is hoped that grants administered from the High Tech Education Fund will serve to encourage American students to major in these concentrations in college and enter these high-paying professions once they graduate.

Are funds provided to defray processing costs?

Yes. 3% of the fees deposited into the High Tech Education Fund Account will be available to the Attorney General to carry out the program. It is important that the Department of Justice have the funds available to process these petitions quickly and accurately. Additionally, the Department of Justice is responsible for record-keeping activity and issuing semi-annual and annual reports to Congress.

Are there any reports?

Yes. The Attorney General is responsible for submitting to the House and Senate Judiciary Committees semi-annual reports of monthly data recording the number of aliens granted T-visas. Additionally, the Attorney General also must submit an annual report describing the users of the T-visa.

The BRAIN Act (HR 2687)

Bringing Resources from Academia to the Industry of our Nation Act

Original Cosponsors (8/3/99):

1. Zoe Lofgren (CA-16)
2. John Conyers, Jr. (MI-14)
3. Cal Dooley (CA-20)
4. Anna Eshoo (CA-14)
5. Nancy Pelosi (CA-8)
6. Loretta Sanchez (CA-46)
7. Ellen Tauscher (CA-10)
8. Lynn Woolsey (CA-6)
9. Bob Matsui (CA-5)
10. Mike Thompson (CA-1)
11. Sheila Jackson-Lee (TX-18)
12. Howard Berman (CA-26)
13. Martin Meehan (MA-5)
14. Ron Kind (WI-3)

Cosponsors (8/4/99):

15. Martin Frost (TX-24)

106TH CONGRESS
1ST SESSION

H. R. 2687

To amend the Immigration and Nationality Act to establish a 5-year pilot program under which certain aliens completing a postsecondary degree in mathematics, science, engineering, or computer science are permitted to change nonimmigrant classification in order to remain in the United States for a 5-year period for the purpose of working in one of those fields.

IN THE HOUSE OF REPRESENTATIVES

AUGUST 3, 1999

Ms. LOFGREN (for herself, Mr. CONYERS, Mr. DOOLEY of California, Ms. ESHOO, Ms. PELOSI, Ms. SANCHEZ, Mrs. TAUSCHER, Ms. WOOLSEY, Mr. MATSUI, Mr. THOMPSON of California, Ms. JACKSON-LEE of Texas, Mr. BERMAN, Mr. MEEHAN, and Mr. KIND) introduced the following bill; which was referred to the Committee on the Judiciary

A BILL

To amend the Immigration and Nationality Act to establish a 5-year pilot program under which certain aliens completing a postsecondary degree in mathematics, science, engineering, or computer science are permitted to change nonimmigrant classification in order to remain in the United States for a 5-year period for the purpose of working in one of those fields.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

1 **SECTION 1. SHORT TITLE.**

2 This Act may be cited as the “Bringing Resources
3 from Academia to the Industry of Our Nation Act” or the
4 “BRAIN Act”.

5 **SEC. 2. PILOT PROGRAM AUTHORIZING CHANGE IN NON-**
6 **IMMIGRANT STATUS FOR EMPLOYMENT-**
7 **BASED NONIMMIGRANTS WITH DEGREES IN**
8 **MATHEMATICS, SCIENCE, ENGINEERING, OR**
9 **COMPUTER SCIENCE.**

10 (a) ESTABLISHMENT OF NONIMMIGRANT CAT-
11 EGORY.—Section 101(a)(15) of the Immigration and Na-
12 tionality Act (8 U.S.C. 101(a)(15)) is amended—

13 (1) in subparagraph (R), by striking “or” at
14 the end;

15 (2) in subparagraph (S), by striking the comma
16 at the end and inserting “; or”; and

17 (3) by inserting after subparagraph (S) the fol-
18 lowing:

19 “(T) subject to section 214(n), an alien who is
20 authorized to change nonimmigrant classification
21 and remain temporarily in the United States to per-
22 form services (other than services described in sub-
23 clause (a) of subparagraph (H)(i) during the period
24 in which such subclause applies, services described in
25 subclause (ii)(a) of subparagraph (H), or services
26 described in subparagraph (O) or (P)) in a special

1 technical occupation described in section 214(n)(2),
2 who meets the requirements for the occupation spec-
3 ified in section 214(n)(3);”.

4 (b) REQUIREMENTS FOR CHANGE OF NON-
5 IMMIGRANT CLASSIFICATION; ENFORCEMENT OF EM-
6 PLOYER OBLIGATIONS.—Section 214 of the Immigration
7 and Nationality Act (8 U.S.C. 1184) is amended—

8 (1) by redesignating the subsection (l) added by
9 section 625(a) of the Illegal Immigration Reform
10 and Immigrant Responsibility Act of 1996 (Public
11 Law 104–208; 110 Stat. 3009–1820) as subsection
12 (m); and

13 (2) by adding at the end the following:

14 “(n)(1) Notwithstanding section 248 or 212(e), or
15 any other provision of this Act, the Attorney General may,
16 under such conditions as the Attorney General may pre-
17 scribe consistent with this subsection and subsection
18 (c)(10)(A), authorize a change from a nonimmigrant clas-
19 sification under subparagraph (F) or (J) of section
20 101(a)(15) to a nonimmigrant classification under section
21 101(a)(15)(T) in the case of any alien lawfully admitted
22 to the United States as a nonimmigrant who is continuing
23 to maintain that status and who is not inadmissible under
24 section 212(a)(9)(B)(i) (or whose inadmissibility under
25 such section is waived under section 212(a)(9)(B)(v)).

1 “(2) For purposes of section 101(a)(15)(T) and para-
2 graph (3), the term ‘special technical occupation’ means
3 an occupation in a high-technology field—

4 “(A) that uses the knowledge, skills, and abili-
5 ties possessed by persons attaining a bachelor’s or
6 higher degree with a major in mathematics, science,
7 engineering, or computer science, and requires such
8 knowledge, skills, and abilities as a minimum for
9 entry into the occupation in the United States; and

10 “(B) with respect to which the annual total
11 compensation (including the value of all wages, sal-
12 ary, bonuses, stock, stock options, and any other
13 similar form of remuneration) equals or exceeds
14 \$60,000.

15 “(3) For purposes of section 101(a)(15)(T), the re-
16 quirements of this paragraph, with respect to a special
17 technical occupation, are—

18 “(A) full State licensure to practice in the occu-
19 pation, if such licensure is required to practice in the
20 occupation;

21 “(B) not earlier than 90 days prior to initially
22 obtaining nonimmigrant status under such section,
23 having been graduated, with a degree described in
24 paragraph (2)(A) for the occupation, from an insti-
25 tution of higher education (as defined in section

1 102(a) of the Higher Education Act of 1965 (20
2 U.S.C. 1002(a)) inside the United States whose stu-
3 dents receive loans under part B or D of title IV of
4 such Act (20 U.S.C. 1070 et seq.; 20 U.S.C. 1087a
5 et seq.); and

6 “(C) obtaining a contractual obligation on the
7 part of the employer filing the petition on behalf of
8 the alien under section 214(c)(10)(A) to pay the
9 alien in accordance with paragraph (2)(B) at all
10 times during the period of intended employment in
11 the United States specified in the petition.

12 “(4) In the case of a nonimmigrant described in sec-
13 tion 101(a)(15)(T), the period of authorized stay in the
14 United States as such a nonimmigrant may not exceed 5
15 years.

16 “(5) An employer who has filed a petition under sub-
17 section (c)(10)(A) with respect to an employee having non-
18 immigrant status under section 101(a)(15)(T) annually
19 shall submit to the Attorney General a copy of the most
20 recent statement under section 6051 of the Internal Rev-
21 enue Code of 1986 for the employee. Based on information
22 in any such statement, the Attorney General may initiate
23 an investigation described in paragraph (7)(A) concerning
24 a possible failure, misrepresentation, or violation, without

1 a complaint described in such paragraph, if the Attorney
2 General has a reasonable basis for such initiation.

3 “(6)(A) It is a violation of this subparagraph for an
4 employer who has filed a petition under subsection
5 (c)(10)(A) to intimidate, threaten, restrain, coerce, black-
6 list, discharge, or in any other manner discriminate
7 against an employee (which term, for purposes of this sub-
8 paragraph, includes a former employee and an applicant
9 for employment) because the employee has disclosed infor-
10 mation to the employer, or to any other person, that the
11 employee reasonably believes evidences a failure to meet
12 a condition specified in the petition or a misrepresentation
13 of material facts in the petition, or any rule or regulation
14 pertaining to such subsection, or because the employee co-
15 operates or seeks to cooperate in an investigation or other
16 proceeding concerning the employer’s compliance with the
17 requirements of such subsection or any rule or regulation
18 pertaining to such subsection.

19 “(B) The Attorney General shall devise a process
20 under which a nonimmigrant described in section
21 101(a)(15)(T) who files a complaint regarding a violation
22 of subparagraph (A) and is otherwise eligible to remain
23 and work in the United States may be allowed to seek
24 other appropriate employment in the United States for a

1 period not to exceed the maximum period of stay author-
2 ized for such nonimmigrant classification.

3 “(7)(A) The Attorney General shall establish a proc-
4 ess for the receipt, investigation, and disposition of com-
5 plaints respecting a petitioner’s failure to meet a condition
6 specified in a petition under subsection (c)(10)(A), a peti-
7 tioner’s misrepresentation of material facts in such a peti-
8 tion, or a violation of paragraph (6)(A). Complaints may
9 be filed by any aggrieved person or organization (including
10 bargaining representatives). No investigation or hearing
11 shall be conducted on a complaint concerning such a fail-
12 ure, misrepresentation, or violation unless the complaint
13 was filed not later than 12 months after the date of the
14 failure, misrepresentation, or violation, respectively. The
15 Attorney General shall conduct an investigation under this
16 subparagraph if there is reasonable cause to believe that
17 such a failure, misrepresentation, or violation has oc-
18 curred.

19 “(B) Under such process, the Attorney General shall
20 provide, within 30 days after the date such a complaint
21 is filed, for a determination as to whether or not a reason-
22 able basis exists to make a finding described in subpara-
23 graph (C). If the Attorney General determines that such
24 a reasonable basis exists, the Attorney General shall pro-
25 vide for notice of such determination to the interested par-

1 ties and an opportunity for a hearing on the complaint,
2 in accordance with section 556 of title 5, United States
3 Code, within 60 days after the date of the determination.
4 If such a hearing is requested, the Attorney General shall
5 make a finding concerning the matter by not later than
6 60 days after the date of the hearing. In the case of simi-
7 lar complaints respecting the same petitioner, the Sec-
8 retary may consolidate the hearings under this subpara-
9 graph on such complaints.

10 “(C) If the Attorney General finds, after notice and
11 opportunity for a hearing, a failure to meet a condition
12 specified in a petition under subsection (c)(10)(A), a peti-
13 tioner’s misrepresentation of material facts in such a peti-
14 tion, or a violation of paragraph (6)(A), the Attorney
15 General—

16 “(i) shall revoke the status under section
17 101(a)(15)(T) of any alien having such status em-
18 ployed by the petitioner, beginning 90 days after the
19 date the finding is made, unless the alien has ob-
20 tained from the Attorney authorization to change
21 employers during the 90-day period;

22 “(ii) may not approve any other petition filed
23 by the petitioner under subsection (c)(10)(A); and

24 “(iii) may impose such other administrative
25 remedies (including civil monetary penalties in an

1 amount not to exceed \$10,000 per violation) as the
2 Attorney General determines to be appropriate.

3 “(D) Notwithstanding any other provision of law,
4 civil money penalties collected under this paragraph shall
5 be deposited in the Treasury in accordance with section
6 286(t).

7 “(8)(A) The Attorney General shall submit every 6
8 months to the Committees on the Judiciary of the House
9 of Representatives and of the Senate a report describing,
10 with respect to petitions under section 101(a)(15)(T) for
11 the previous 6-month period, the number aliens granted
12 nonimmigrant status pursuant to such petitions. Such
13 data shall be reported on a monthly basis for each month
14 in the reporting period.

15 “(B) The Attorney General shall submit annually to
16 the Committees on the Judiciary of the House of Rep-
17 resentatives and of the Senate a report describing, with
18 respect to each workers included in such approved peti-
19 tions under section 101(a)(15)(T) for the previous fiscal
20 year, the following:

21 “(i) Occupation.

22 “(ii) Employer.

23 “(iii) Annual total compensation.

24 “(iv) Highest degree completed at an institution
25 of higher education described in paragraph (2)(B).

1 “(v) Name of such institution.

2 “(vi) Concentration or major with respect to
3 such degree.”.

4 (c) COLLECTION AND USE OF FEES.—

5 (1) IMPOSITION OF FEE.—Section 214(c) of the
6 Immigration and Nationality Act (8 U.S.C. 1184(c))
7 is amended by adding at the end the following:

8 “(10)(A) The question of providing any alien status
9 as a nonimmigrant under section 101(a)(15)(T) in any
10 specific case or specific cases shall be determined by the
11 Attorney General upon petition of the employer seeking
12 to employ the alien. Such petition shall be made and ap-
13 proved before the status is granted, and, in the case of
14 a petition described in subparagraph (B)(i), the petition
15 shall be made and approved before the alien obtains the
16 degree described in subsection (n)(3)(B). The petition
17 shall be in such form and contain such information as the
18 Attorney General shall prescribe, consistent with sub-
19 section (n), and shall specify a period of intended employ-
20 ment. The approval of such a petition shall not, of itself,
21 be construed as establishing that the alien is a non-
22 immigrant with such status.

23 “(B) The Attorney General shall impose a fee on an
24 employer filing a petition under subparagraph (A)—

1 “(i) initially to grant an alien nonimmigrant
2 status described in section 101(a)(15)(T);

3 “(ii) to extend the stay of an alien having such
4 status (unless the employer previously has obtained
5 an extension for such alien); or

6 “(iii) to obtain authorization for an alien having
7 such status to change employers.

8 “(C) The amount of the fee shall be \$500 for each
9 petition filed under clause (ii) or (iii) of subparagraph (B)
10 and \$1,000 for each petition filed under subparagraph
11 (B)(i).

12 “(D) Fees collected under this paragraph shall be de-
13 posited in the Treasury in accordance with section
14 286(t).”.

15 (2) ESTABLISHMENT OF ACCOUNT; USE OF
16 FEES.—Section 286 of the Immigration and Nation-
17 ality Act (8 U.S.C. 1356) is amended by adding at
18 the end the following:

19 “(t) HIGH-TECH EDUCATION FUND ACCOUNT.—

20 “(1) IN GENERAL.—There is established in the
21 general fund of the Treasury a separate account,
22 which shall be known as the ‘High-Tech Education
23 Fund Account’. Notwithstanding any other provision
24 of law, there shall be deposited as offsetting receipts
25 into the account all fees collected under section

1 214(c)(10) and all civil money penalties collected
2 under section 214(n)(7)(C).

3 “(2) USE OF FEES FOR K-12 MATHEMATICS,
4 SCIENCE, AND COMPUTER SCIENCE EDUCATION.—
5 Except as provided in paragraph (3), amounts de-
6 posited into the High-Tech Education Fund Account
7 shall remain available to the Director of the Na-
8 tional Science Foundation until expended to make
9 merit-reviewed grants, under section 3(a)(1) of the
10 National Science Foundation Act of 1950 (43
11 U.S.C. 1862(a)(1)), for programs that provide op-
12 portunities for enrollment in academic enrichment
13 courses in mathematics, science, and computer
14 science for elementary and secondary school stu-
15 dents.

16 “(3) USE OF FEES FOR DUTIES RELATING TO
17 PETITIONS.—3 percent of the amounts deposited
18 into the High-Tech Education Fund Account shall
19 remain available to the Attorney General until ex-
20 pended to carry out duties under subsections (c)(10)
21 and (n) of section 214.”.

22 (d) EFFECTIVE DATE; SUNSET.—

23 (1) EFFECTIVE DATE.—The amendments made
24 by this section shall take effect beginning with fiscal
25 year 2000.

1 (2) SUNSET.—The amendments made by sub-
2 sections (a), (b), and (c)(1) shall cease to be effec-
3 tive on September 30, 2004, except with respect to
4 any alien having nonimmigrant status pursuant to
5 such amendments before such date. In the case of
6 such an alien, the amendments made by subsections
7 (a) and (b) shall remain in effect until the date on
8 which such nonimmigrant status otherwise would ex-
9 pire (disregarding any potential extension of status).

○

HR 2698 IH

106th CONGRESS

1st Session

H. R. 2698

To promote economic growth and opportunity by increasing the level of visas available for highly specialized scientists and engineers and by eliminating the earnings penalty on senior citizens who continue to work after reaching retirement age.

IN THE HOUSE OF REPRESENTATIVES

August 4, 1999

Mr. DREIER (for himself, Mr. DAVIS of Virginia, Ms. DUNN, and Mr. ROGAN) introduced the following bill; which was referred to the Committee on Ways and Means, and in addition to the Committee on the Judiciary, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

A BILL

To promote economic growth and opportunity by increasing the level of visas available for highly specialized scientists and engineers and by eliminating the earnings penalty on senior citizens who continue to work after reaching retirement age.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the 'New Workers for Economic Growth Act'.

TITLE I--H-1B NONIMMIGRANT WORKERS

SEC. 101. AUTHORIZED ADMISSIONS OF H-1B WORKERS.

(a) ANNUAL LIMITATIONS- Section 214(g)(1)(A) of the Immigration and Nationality Act (8 U.S.C. 1184(g)(1)(A)) is amended--

(1) in clause (ii), by adding 'and' at the end; and

(2) by striking clauses (iii) through (v) and inserting the following:

 '(iii) with respect to all such aliens other than aliens described in paragraph (5)--

 '(I) 200,000 for each of the fiscal years 2000, 2001, and 2002; and

 '(II) 65,000 for each succeeding fiscal year; or'.

(b) EXEMPTION FROM ANNUAL LIMITATION- Section 214(g) of the Immigration and Nationality Act (8 U.S.C. 1184(g)) is amended by adding at the end the following new paragraph:

`(5) The numerical limitations contained in paragraph (1)(A)(iii) shall not apply to any nonimmigrant alien admitted under section 101(a)(15)(H)(i)(b) who--

`(A) has attained a master's degree or higher degree (or its equivalent) in a specialty related to the intended employment and receives wages (including cash bonuses and similar compensation) at an annual rate equal to at least \$60,000; or

`(B) has attained a bachelor's degree or higher degree (or its equivalent) and is employed (or has received an offer of employment) at an institution of higher education (as defined in section 101(a) of the Higher Education Act of 1965 (20 U.S.C. 1001(a))).'

(c) EXEMPTION FROM ATTESTATION REQUIREMENTS- Section 212(n)(3)(B)(i) of the Immigration and Nationality Act (8 U.S.C. 1182(n)(3)(B)(i)) is amended--

(1) in subclause (I), by striking `or' at the end;

(2) in subclause (II), by striking `and' at the end and inserting `or'; and

(3) by adding at the end the following:

`(III) has attained a bachelor's degree or higher degree (or its equivalent) and is employed (or has received an offer of employment) at an institution of higher education (as defined in section 101(a) of the Higher Education Act of 1965 (20 U.S.C. 1001(a))); and'.

TITLE II--ELIMINATION OF EARNINGS PENALTY ON SENIOR CITIZENS

SEC. 201. ELIMINATION OF EARNINGS PENALTY ON SENIOR CITIZENS WHO CONTINUE TO WORK AFTER REACHING RETIREMENT AGE.

(a) IN GENERAL- Section 203 of the Social Security Act (42 U.S.C. 403) is amended--

(1) in subsection (c)(1), by striking `the age of seventy' and inserting `retirement age (as defined in section 216(l))';

(2) in paragraphs (1)(A) and (2) of subsection (d), by striking `the age of seventy' each place it appears and inserting `retirement age (as defined in section 216(l))';

(3) in subsection (f)(1)(B), by striking `was age seventy or over' and inserting `was at or above retirement age (as defined in section 216(l))';

(4) in subsection (f)(3)--

(A) by striking `33 1/3 percent' and all that follows through `any other individual,' and inserting `50 percent of such individual's earnings for such year in excess of the product of the exempt amount as determined under paragraph (8),'; and

(B) by striking `age 70' and inserting `retirement age (as defined in section 216(l))';

(5) in subsection (h)(1)(A), by striking `age 70' each place it appears and inserting `retirement age (as defined in section 216(l))'; and

(6) in subsection (j)--

(A) in the heading, by striking `Age Seventy' and inserting `Retirement Age'; and

(B) by striking 'seventy years of age' and inserting 'having attained retirement age (as defined in section 216(l))'.

(b) CONFORMING AMENDMENTS ELIMINATING THE SPECIAL EXEMPT AMOUNT FOR INDIVIDUALS WHO HAVE ATTAINED RETIREMENT AGE-

(1) UNIFORM EXEMPT AMOUNT- Section 203(f)(8)(A) of the Social Security Act (42 U.S.C. 403(f)(8)(A)) is amended by striking 'the new exempt amounts (separately stated for individuals described in subparagraph (D) and for other individuals) which are to be applicable' and inserting 'a new exempt amount which shall be applicable'.

(2) CONFORMING AMENDMENTS- Section 203(f)(8)(B) of such Act (42 U.S.C. 403(f)(8)(B)) is amended--

(A) in the matter preceding clause (i), by striking 'Except' and all that follows through 'whichever' and inserting 'The exempt amount which is applicable for each month of a particular taxable year shall be whichever';

(B) in clauses (i) and (ii), by striking 'corresponding' each place it appears; and

(C) in the last sentence, by striking 'an exempt amount' and inserting 'the exempt amount'.

(3) REPEAL OF BASIS FOR COMPUTATION OF SPECIAL EXEMPT AMOUNT- Section 203(f)(8)(D) of such Act (42 U.S.C. 403(f)(8)(D)) is repealed.

(c) Additional Conforming Amendments-

(1) ELIMINATION OF REDUNDANT REFERENCES TO RETIREMENT AGE- Section 203 of the Social Security Act (42 U.S.C. 403) is amended--

(A) in subsection (c), in the last sentence, by striking 'nor shall any deduction' and all that follows and inserting 'nor shall any deduction be made under this subsection from any widow's or widower's insurance benefit if the widow, surviving divorced wife, widower, or surviving divorced husband involved became entitled to such benefit prior to attaining age 60.'; and

(B) in subsection (f)(1), by striking subparagraph (D) and inserting the following: '(D) for which such individual is entitled to widow's or widower's insurance benefits if such individual became so entitled prior to attaining age 60,'.

(2) CONFORMING AMENDMENT TO PROVISIONS FOR DETERMINING AMOUNT OF INCREASE ON ACCOUNT OF DELAYED RETIREMENT- Section 202(w)(2)(B)(ii) of such Act (42 U.S.C. 402(w)(2)(B)(ii)) is amended--

(A) by striking 'either'; and

(B) by striking 'or suffered deductions under section 203(b) or 203(c) in amounts equal to the amount of such benefit'.

(3) PROVISIONS RELATING TO EARNINGS TAKEN INTO ACCOUNT IN DETERMINING SUBSTANTIAL GAINFUL ACTIVITY OF BLIND INDIVIDUALS- The second sentence of section 223(d)(4) of such Act (42 U.S.C. 423(d)(4)) is amended by striking 'if section 102 of the Senior Citizens' Right to Work Act of 1996 had not been enacted' and inserting the following: 'if the amendments to section 203 made by section 102 of the Senior Citizens' Right to Work Act of 1996 and by the New Workers for Economic Growth Act had not been enacted'.

(d) EFFECTIVE DATE- The amendments and repeals made by this section shall apply with respect to taxable years beginning after December 31, 1999.

END

S 1440 IS

106th CONGRESS

1st Session

S. 1440

To promote economic growth and opportunity by increasing the level of visas available for highly specialized scientists and engineers and by eliminating the earnings penalty on senior citizens who continue to work after reaching retirement age.

IN THE SENATE OF THE UNITED STATES

July 27, 1999

Mr. GRAMM (for himself, Mr. LOTT, and Mr. MCCONNELL) introduced the following bill; which was read twice and referred to the Committee on Finance

A BILL

To promote economic growth and opportunity by increasing the level of visas available for highly specialized scientists and engineers and by eliminating the earnings penalty on senior citizens who continue to work after reaching retirement age.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the 'New Workers for Economic Growth Act'.

TITLE I--H-1B NONIMMIGRANT WORKERS

SEC. 101. AUTHORIZED ADMISSIONS OF H-1B WORKERS.

(a) ANNUAL LIMITATIONS- Section 214(g)(1)(A) of the Immigration and Nationality Act (8 U.S.C. 1184(g)(1)(A)), is amended by striking clauses (iii) through (v) and inserting the following:

 '(iii) with respect to all such aliens other than aliens described in paragraph (5)--

 '(I) 200,000 for each of the fiscal years 2000, 2001, and 2002; and

 '(II) 65,000 for each succeeding fiscal year.'.

(b) EXEMPTION FROM ANNUAL LIMITATION- Section 214(g) of the Immigration and Nationality Act (8 U.S.C. 1184(g)), is amended by adding at the end the following new paragraph:

 '(5) The numerical limitations contained in paragraph (1)(A)(iii) shall not apply to any nonimmigrant alien admitted under section 101(a)(15)(H)(i)(b) who--

 '(A) has attained a master's degree or higher degree (or its equivalent) in a specialty related to the intended employment and receives wages (including cash bonuses and similar

compensation) at an annual rate equal to at least \$60,000; or

`(B) has attained a bachelor's degree or higher degree (or its equivalent) and is employed (or has received an offer of employment) at an institution of higher education (as defined in section 101(a) of the Higher Education Act of 1965 (20 U.S.C. 1001(a))).'.

(c) EXEMPTION FROM ATTESTATION REQUIREMENTS- Section 212(n)(3)(B) of the Immigration and Nationality Act (8 U.S.C. 1182(n)(3)(B)) is amended by adding the following:

`(III) has attained a bachelor's degree or higher degree (or its equivalent) and is employed (or has received an offer of employment) at an institution of higher education (as defined in section 101(a) of the Higher Education Act of 1965 (20 U.S.C. 1001(a))).'.

TITLE II--ELIMINATION OF EARNINGS PENALTY ON SENIOR CITIZENS

SEC. 201. ELIMINATION OF EARNINGS PENALTY ON SENIOR CITIZENS WHO CONTINUE TO WORK AFTER REACHING RETIREMENT AGE.

(a) IN GENERAL- Section 203 of the Social Security Act (42 U.S.C. 403) is amended--

(1) in subsection (c)(1), by striking 'the age of seventy' and inserting 'retirement age (as defined in section 216(l))';

(2) in paragraphs (1)(A) and (2) of subsection (d), by striking 'the age of seventy' each place it appears and inserting 'retirement age (as defined in section 216(l))';

(3) in subsection (f)(1)(B), by striking 'was age seventy or over' and inserting 'was at or above retirement age (as defined in section 216(l))';

(4) in subsection (f)(3)--

(A) by striking '33 1/3 percent' and all that follows through 'any other individual,' and inserting '50 percent of such individual's earnings for such year in excess of the product of the exempt amount as determined under paragraph (8),'; and

(B) by striking 'age 70' and inserting 'retirement age (as defined in section 216(l))';

(5) in subsection (h)(1)(A), by striking 'age 70' each place it appears and inserting 'retirement age (as defined in section 216(l))'; and

(6) in subsection (j)--

(A) in the heading, by striking 'Age Seventy' and inserting 'Retirement Age'; and

(B) by striking 'seventy years of age' and inserting 'having attained retirement age (as defined in section 216(l))'.

(b) CONFORMING AMENDMENTS ELIMINATING THE SPECIAL EXEMPT AMOUNT FOR INDIVIDUALS WHO HAVE ATTAINED RETIREMENT AGE-

(1) UNIFORM EXEMPT AMOUNT- Section 203(f)(8)(A) of the Social Security Act (42 U.S.C. 403(f)(8)(A)) is amended by striking 'the new exempt amounts (separately stated for individuals described in subparagraph (D) and for other individuals) which are to be applicable' and inserting 'a new exempt amount which shall be applicable'.

(2) CONFORMING AMENDMENTS- Section 203(f)(8)(B) of such Act (42 U.S.C.

403(f)(8)(B)) is amended--

(A) in the matter preceding clause (i), by striking 'Except' and all that follows through 'whichever' and inserting 'The exempt amount which is applicable for each month of a particular taxable year shall be whichever';

(B) in clauses (i) and (ii), by striking 'corresponding' each place it appears; and

(C) in the last sentence, by striking 'an exempt amount' and inserting 'the exempt amount'.

(3) REPEAL OF BASIS FOR COMPUTATION OF SPECIAL EXEMPT AMOUNT-
Section 203(f)(8)(D) of such Act (42 U.S.C. 403(f)(8)(D)) is repealed.

(c) Additional Conforming Amendments-

(1) ELIMINATION OF REDUNDANT REFERENCES TO RETIREMENT AGE- Section 203 of the Social Security Act (42 U.S.C. 403) is amended--

(A) in subsection (c), in the last sentence, by striking 'nor shall any deduction' and all that follows and inserting 'nor shall any deduction be made under this subsection from any widow's or widower's insurance benefit if the widow, surviving divorced wife, widower, or surviving divorced husband involved became entitled to such benefit prior to attaining age 60.'; and

(B) in subsection (f)(1), by striking subparagraph (D) and inserting the following:
'(D) for which such individual is entitled to widow's or widower's insurance benefits if such individual became so entitled prior to attaining age 60,'.

(2) CONFORMING AMENDMENT TO PROVISIONS FOR DETERMINING AMOUNT OF INCREASE ON ACCOUNT OF DELAYED RETIREMENT- Section 202(w)(2)(B)(ii) of such Act (42 U.S.C. 402(w)(2)(B)(ii)) is amended--

(A) by striking 'either'; and

(B) by striking 'or suffered deductions under section 203(b) or 203(c) in amounts equal to the amount of such benefit'.

(3) PROVISIONS RELATING TO EARNINGS TAKEN INTO ACCOUNT IN DETERMINING SUBSTANTIAL GAINFUL ACTIVITY OF BLIND INDIVIDUALS-
The second sentence of section 223(d)(4) of such Act (42 U.S.C. 423(d)(4)) is amended by striking 'if section 102 of the Senior Citizens' Right to Work Act of 1996 had not been enacted' and inserting the following: 'if the amendments to section 203 made by section 102 of the Senior Citizens' Right to Work Act of 1996 and by the XXXXXXXXX Act of 1999 had not been enacted'.

(d) EFFECTIVE DATE- The amendments and repeals made by this section shall apply with respect to taxable years beginning after December 31, 1999.

END

What has caused the H-1B fraud issue to become so visible?

- Immigration benefit fraud hearing before the House Subcommittee on Immigration and Claims, May 5, 1999. DOS and INS testimony concerning fraud in the H-1B and L-1 visa programs.
- Follow up letter from Congressman Lamar Smith to INS Commissioner Meissner concerning fraud in the H-1B program (letter dated May 26, 1999)
- Wall Street Journal article "Fraud Concerns Grow Over Employment-Visa Program," July 12, 1999.
- Upcoming H-1B cap hearing before House Subcommittee on Immigration and Claims scheduled for August 5, 1999. Administration not invited to testify.

What anti-fraud measures can the Administration accomplish under existing law?

- Deterrence Measures
 - ❑ Strengthen INS regulations to close gaps and inhibit abuses (e.g., require the employer establish it is a viable business. Restrict credential evaluations for H-1B workers foreign education.)
 - ❑ Strengthen DOS authorities (confer unreviewable authority to consular officers to invalidate a Labor Condition Application where fraud is involved)
 - ❑ Examine DOL procedures to determine whether DOS and INS can provide tips/complaints about unscrupulous H-1B employers
 - ❑ Publicize efforts INS, DOS, and DOL are taking to combat fraud
- Detection Measures
 - ❑ Target high-risk H-1B cases (type of employer, type of worker skillset)
 - ❑ Replicate the "Chennai" (India) pilot
 - ❑ Leverage resources among DOS, DOL, INS (e.g., use new DOL investigative resources to conduct employer site visits)
 - ❑ Improve inter-agency communications/coordination (e.g., hasten development of e-communications; consider development of an extra-net for interagency use)
- Prosecution Measures
 - ❑ Educate DOJ/Executive Office of the U.S. Attorneys about white collar/H-1B fraud to increase acceptance rate of prosecutions
 - ❑ Consider prosecuting H-1B employers under exploitation statutes
- Miscellaneous
 - ❑ Prepare a public message/"good story" of Administration efforts at Chennai and other successful anti-fraud efforts
 - ❑ Prepare response to the May 26th letter from Rep. Lamar Smith
 - ❑ Quantify the incidence of fraud in the H-1B program (e.g., INS, DOL, and DOS to cull all relevant statistical information on H-1B fraud)

What other steps can the Administration consider?

- Develop a legislative package
- Examine budget requests for CJS and Labor/Ed



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Recommendations for Improving INS Service

The American Council on International Personnel represents over 300 employers interested in the movement of skilled personnel across national borders. Our members have operations in all segments of the economy as well as in all 50 states and virtually every country. Each of our members has at least 1,000 employees worldwide. ACIP members file tens of thousands of petitions with the INS annually.

Since ACIP's inception in 1972, our members have seen many changes in the immigration laws and the functioning of the Immigration and Naturalization Service (INS). The past decade, in particular, has seen many procedural changes in the way INS processes employment-related petitions and applications. ACIP members believe that the centralized processing of petitions at Regional Service Centers has generally been a positive improvement. We appreciate the efforts INS has made to adopt a "customer-service" orientation. Our members have become disheartened, however, as processing times have grown longer and customer service has deteriorated. We believe many of these problems are attributable, in part, to the tremendous increase in INS' workload. Insufficient staff, inadequate computers, phone and fax lines and malallocation of resources have caused much frustration for both INS and their employer customers.

The following recommendations were developed by an ACIP task force comprised of human resource and legal professionals who deal with the INS daily. Employers from all regions of the country and various industries and academic institutions contributed to these recommendations. Any questions about these recommendations may be directed to Lynn Shotwell in ACIP's Washington office at (202) 371-6789; lynn_shotwell@acip.com.

I. INS should adjudicate petitions in a timely manner.

Problem: Adjudication of immigrant and nonimmigrant visa petitions is inconsistent and uncertain. All petitions are processed at one of the four Regional Service Centers. Processing times vary greatly among Service Centers and for different types of petitions. For example, Vermont Service Center (VSC) typically adjudicates H-1B petitions within 30 days while California (CSC) takes up to four months. Even L visa petitions for which INS has a statutory mandate of 30 days to adjudicate often take up to 60 days at CSC. E visa petitions are taking up to 9 months. These delays happen despite the fact that INS has contracted out all mailroom functions which must be completed within three days. Fees have increased while service has deteriorated!

The delays and unpredictability in processing make it extremely difficult for employers and potential employees to plan. Employers have deadlines, contracts and workload to contend with while potential employees must often leave other positions, sell their home and relocate their family and consider the tax implications of the move. Even those foreign nationals already in the U.S. may be entangled in these delays as they are unable to travel outside the U.S. while petitions are pending with the INS. Frustrations with the INS bureaucracy has caused employers to consider moving projects offshore and has caused

foreign nationals to move on to positions with foreign competitors which do not have to deal with bureaucratic red tape in order to hire a highly skilled foreign national.

Solutions:

- INS must adjudicate petitions in a timely manner.
- INS must adhere to statutory mandates regarding processing times of petitions where they exist. In most cases, a decision should be made within this time frame.
- Nonimmigrant petitions without statutory processing times should be adjudicated in no more than 30 days. Receipts should be mailed within three days of the date the petition arrives at the Service Center.
- Immigrant petitions should be processed in no more than 60 days with adjustment of status petitions processed in no more than 90 days.
- INS should be sanctioned for failure to process petitions in a timely manner.
- Congress should ensure INS has adequate funding and staff to process petitions in a timely manner.
- Employers pay fees for processing of petitions. INS must account for these funds and why fee increases have not resulted in improved service.
- INS should implement procedures to reallocate workload, if necessary, to ensure timely adjudication across the country.

II. INS should adjudicate petitions in a consistent manner.

Problem: Petitions are not adjudicated in a consistent manner either across Service Centers or even within Service Centers. One petition may be approved while an almost identical petition is returned for more information or is denied. While we understand that human judgment is a part of the adjudication process, employers report numerous instances of lack of common sense, e.g. "Please submit information showing that your company (Ford) has been in existence for more than one year." (The annual report was already enclosed). "Please submit information showing how the degree (computer science) is related to the position (computer consultant)." "Please provide proof that the degree (PhD in molecular biology from Max Planck Institute) is the equivalent of a U.S. bachelor's degree." Employers are frequently requested to submit information which they have already submitted but the officer has overlooked despite the fact that the employer has highlighted, tabbed and taken other steps to draw attention to this information.

Solutions:

- INS must recognize that employers do not hire unqualified or unnecessary people. While we recognize that INS must guard against fraud, we believe streamlined procedures should be implemented for employers consistently filing multiple petitions which are approved. This "gold standard" would eliminate work for both employers and INS.
- INS should implement systems to ensure that requests for information can be resolved easily. For example, allowing employers and the adjudications officer to exchange information via telephone, fax or email would speed the resolution of cases, particularly where information has already been submitted.
- Congress should expand the use of the "blanket" visa petition for large-volume users. Programs similar to the L blanket or the J visa could be developed for H-1B, E, and other nonimmigrant visas.

- INS personnel must also be better trained about TN visas. There is increasing confusion at some ports-of-entry on the appropriate use of these visas. Such problems cause employers to apply for other types of visas, unnecessarily increasing INS' workload.

III. INS must reduce the number of administrative errors in processing petitions.

Problem: INS consistently issues documents with incorrect information or typographical errors. Some examples of administrative/clerical errors include: inappropriate classification (s) approved, invalid dates of approved visa tenure (visa expired before it was valid), corporate fee checks returned for no valid reason, blank or incorrect beneficiaries. Resolution of these errors is time consuming and may delay entry of needed personnel. Each Service Center has a different procedure for resolving these errors which may or may not happen quickly. In some cases, employers must submit an additional form and fee in order to have INS' mistake corrected.

Solutions:

- INS should implement systems to correct these errors within 48 hours.
- Software used to generate approval notices should include logic checks, e.g. review for errors in validity dates, classifications, names, etc..

IV. INS should upgrade its computer and telecommunications systems

Problem: Although INS has spent much money upgrading systems over the past decade, it is still woefully behind corporate practice. All petitions must be filed in hard copy (in duplicate). The petitions are disassembled by mailroom staff and then certain information from the petition is electronically scanned into a computer. While employers may theoretically check the status of a petition via an 800 number, these phone lines are constantly busy during business hours and are infrequently updated. Faxes directed to Service Center personnel to resolve problem cases are frequently ignored.

Solutions:

- Employers should be able to file petitions and check status on-line.
- Central computerized file data base for use by INS and DOL to ensure more timely and accurate file transfer of data.
- Automated case processing for routine cases, similar to automated LCA processing.
- More dedicated phone lines for status checks.
- Ability to communicate with INS personnel via email.

V. INS must improve customer-service

Problem: There is no accountability for INS' failure to respond to its customers' needs. Employers are frustrated by an inconsistent and often burdensome system which provides few avenues for personnel contact with decisionmakers. Employers must wait up to an hour for "live assistance" by someone with no authority to resolve the matter. This creates a hostile and confrontational situation instead of the cooperative mission the government should have with employers seeking to expand their business.

Solutions:

- Separate adjudications from enforcement functions. The vast philosophical differences and skill sets needed for these functions hinders their effective combination.
- Companies should have a consistent phone or e-mail point of contact. High volume users should have one assigned officer to handle all cases.
- INS should expand the number of phone/fax lines dedicated to inquiries and should improve access to live personnel who can answer questions. The feasibility of a "central call center" modeled on that used by many corporate customer service departments should be examined. To improve reliability, officers at such center should be provided with scripted answers to standard questions and more difficult or specific questions should be referred to more experienced personnel with the ability and authority to resolve problem cases. The Social Security Administration and Internal Revenue Service currently provide such service.
- Officers should be empowered to promptly correct typographical or other errors without voluminous paperwork or fees.
- Establish a large -user/corporate "center" for processing petitions, questions, etc.. Service Centers could specialize by industry or occupation, as is currently done for sports.
- Expand use of "blanket" petitions or streamlined process for high volume customers.
- Establish "loaned executive" program to improve understanding of corporate issues.
- Employers should be able to file complaint forms about shoddy or unresponsive service. Petitions should contain the adjudicating officer's name or identification number to ensure that appropriate measures are taken by INS management to deal with identified problems.
- INS should establish more regular liaison with the employer community to seek input on improving the process. Employers are infrequently asked by INS management or consultants to provide suggestions for improving service.
- Allow payments of fees via corporate credit card or other account.

VI. INS should review its regulations and procedures to eliminate unnecessary paperwork.

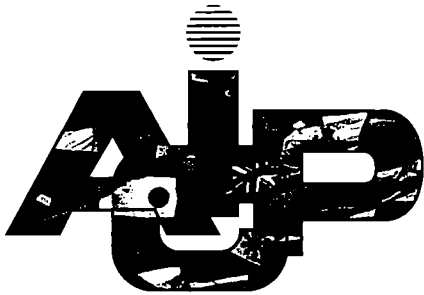
Problem: INS regulations and procedures are voluminous, confusing and often out-dated. This creates extra work for employers and the INS. In addition, the myriad of forms are not consistent and often require duplicate information. In some cases, forms could be revised so that fewer pages need to be filed. In some cases, forms are specific to an INS region or district office. Employers must request forms via an 800 number which may take a week or two to get the forms to them.

Solutions:

- Eliminate advance parole. Nonimmigrants who have an approved immigrant visa petition must request permission from INS to travel outside the U.S. Failure to do so results in an abandoned petition. Increased international travel has led to large backlogs in processing advance parole applications, frustrating employers and nonimmigrants alike. There is no logical reason to require advance parole and INS has been considering its elimination for years. INS should move quickly to eliminate this paperwork.
- Eliminate employment authorization documents for persons undergoing adjustment of status who already have a nonimmigrant visa. INS has taken steps to eliminate the

requirement that nonimmigrants seeking adjustment of status must obtain and EAD to work legally in the U.S. pending adjudication. This policy, however, must be clarified.

- Eliminate re-entry permits for international transferees. Permanent residents who are temporarily transferred abroad must obtain a re-entry permit from INS in order to maintain their permanent resident status. INS rarely adjudicates these on a timely basis. Transferees and their family members are then forced through the charade of making a trip to the U.S. every six months to “maintain” their ties. INS must recognize that in our increasingly global economy, it is not unusual for citizens and permanent residents alike to be transferred abroad and that this action does not mean the person wishes to abandon residency.
- INS should expand the ability to download all forms from its website. Forms should not be required to be printed on colored paper.
- INS should redesign its forms to improve consistency and clarity and to eliminate unnecessary information and forms. For example, the alien’s name, birthdate, signature blocks, etc. should appear in the same place on all forms. Not all forms need to contain every identifying piece of information about the alien or employer. Multiple signatures from one person should not be required on a form.
- Develop a comprehensive employer manual with instructions for filing petitions. Currently, each Service Center has its own operations guidelines in addition to the Code of Federal Regulations, INS Operating Instructions, and instructions attached to each form. Clear information to employers will reduce work for all parties.
- Eliminate all forms which must be manually typed.



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PRIORITIES FOR IMPROVING EMPLOYMENT-BASED IMMIGRATION

INS Reorganization

Service at the INS has deteriorated to the point at which it has become a major concern to professionals trying to secure visas for foreign nationals. This issue goes beyond mere "red tape." Lost files, months-long processing times, and inability to obtain status information or correct errors in cases add major burdens and expenses to employment-related visa processing.

In the long term, these problems should be addressed through a structural overhaul of the INS. In the short term, a number of steps could be taken to eliminate bureaucracy and enhance efficiency. ACIP's INS Reform Task Force has prepared a number of recommendations.

Backlogs

There are 140,000 employment-based immigrant visas available annually. Each country is given an equal number of visas in each category regardless of population or demand. In the past several years, backlogs have developed in several preference categories for highly-skilled workers from India and China. These individuals have been approved for an immigrant visa but cannot immediately obtain one because "too many" people from their country have applied. This happens despite the fact that the total number of visas available to employment-based immigrants has not been exhausted. At the end of their six-year stay in H-1B status, foreign nationals caught in such backlogs must either be terminated or transferred overseas until a visa is available. This causes great hardships for employers, workers and their families.

Congress must pass legislation to eliminate per country limits or allow the Attorney General to grant a temporary extension of nonimmigrant status to individuals caught in the backlog.

Labor Certification Reform

Labor certification is costly, time-consuming and does not reflect the realities of recruitment, hiring and promotion in the real world. The current labor certification system is fraught with delays (up to four years), nonsensical requirements, and a fundamental misunderstanding of global hiring needs. The President, in his FY 2000 Budget proposal, has proposed that the current labor certification process be dramatically restructured including a transfer of authority from the Employment and Training Administration (ETA) to Employment Standards Administration (ESA).

ACIP's is encouraged that the DOL recognizes the need to reform this program. It is not necessary, however, to move the program to ESA to accomplish this objective. Many questions remain about this proposal we hope to work with the Department to develop an improved program.

Dual Career Couples

Increasingly, international executives are part of a dual-career couple. Some executives of multinational firms refuse overseas transfers or cut short their stay abroad because their spouse is unable to work. This impacts U.S. spouses going abroad as well as international managers coming to the United States.

Congress should pass legislation to enable spouses of foreign national executives to work if the foreign national's country allows U.S. spouses to work. Such reciprocal agreements would provide work authorization for small but important numbers of people in the United States. Many more United States citizens would benefit abroad.



Thomas A. Kalil

06/02/99 06:35:11 PM



Record Type: Record

To: Brian V. Kennedy/OPD/EOP@EOP, Irene Bueno/OPD/EOP@EOP

cc:

Subject: Immigration policy

Brian and Irene:

At least some people in the business community
I have talked to are focused on streamlining
INS processing of applications - as opposed to
another increase in the H1-B cap.

If we could make it thru 2000 with administrative reform
and streamlining the applications process -- as opposed
to another bruising battle on the H1-B cap - I think that would be
a win for the Administration.

Can we get together to discuss - either Friday morning
or Friday afternoon?

Thanks!

- Tom Kalil

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Meissner.doc>> <<15LN9014 INS Restructuring Issue Paper--Pre-reform.doc>>



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- 15LN9034 INS Pre-reform reform ltr to Meissner.doc



- 15LN9014 INS Restructuring Issue Paper--Pre-reform.doc

May 18, 1999

The Honorable C. W. Young
U.S. House of Representatives
Committee on Appropriations
2407 Rayburn House Office Building
Washington, DC 20515-0910

Dear Mr. Chairman:

This year, Congress will address an issue of utmost importance to this nation, U.S. citizens and legal immigrants: the reorganization of the Immigration and Naturalization Service (INS). As the federal agency responsible for both enforcing U.S. immigration law and adjudicating applications for naturalization and family and business immigration, it is crucially important that this agency functions efficiently, effectively, and fairly.

The INS has failed to fulfill its dual mission of enforcement and adjudications, a failure for which both the agency and Congress must take responsibility. The INS has not provided timely and consistent service to the hundreds of thousands of people filing applications or petitions (that would unify families and allow business access to needed personnel) or seeking to naturalize. Moreover, it has failed to enforce immigration laws through nationally set priorities, applied consistently and professionally. For its part, Congress has given the agency difficult and often conflicting mandates that it is required to achieve within unrealistic time frames and for which it has provided insufficient funding, especially for adjudications functions.

While Congress and external stakeholders agree that the INS must be restructured, there is less consensus on the kind of restructuring that needs to take place. The undersigned organizations urge that restructuring be based on the following four principles:

- Separate the Enforcement and Adjudication Functions: These two functions should be separated, with distinct chains of command and career tracks established. Such separation will lead to more clarity of mission and greater accountability from top to bottom, within the two distinct functions, which in turn will lead to more efficient adjudications and more accountable, consistent, and professional enforcement. Furthermore, this separation will work only if the two branches' missions and tasks are defined carefully. Our Constitutional system of justice always has emphasized the important distinction between judicial and law enforcement functions. In no small part, INS restructuring is directed toward disentangling the agency's law enforcement functions from its adjudicatory functions.

However, such separation cannot consist simply of moving around organizational boxes. Both functions currently are so entangled that the Services' effectiveness will not be improved unless the boxes are redefined before they are moved. For example, while some assume INS inspectors belong on the enforcement side of the organization, immigration inspectors have broad and unreviewable adjudicatory authority which needs to be disentangled from their enforcement functions. Likewise, while detention is assumed to belong to "enforcement," the decision to release or detain asylum seekers and other aliens is an adjudicatory function. The Service must separate the role of the police officer who refers cases from the adjudicator who decides them.

April 14, 1999

The Honorable Doris Meissner
Commissioner
U.S. Immigration and Naturalization Service
425 Eye Street, NW
Washington, DC 20536

Dear Doris:

As the INS addresses restructuring, it will face significant questions and concerns from Congress, tasked with the mission of INS reform, and communities nationwide who daily face issues arising from naturalization and adjustment backlogs and who often have to advise constituents and clients in the absence of regulations. The INS has the challenge of convincing Congress that it has the desire and the integrity to complete meaningful reform. As the Service undertakes to change drastically the way in which it conducts business, it has lost much credibility as it has failed to address its current workload. Overhauling the system, which in the implementation phase will add to the workload and further strain agency resources, will create additional credibility problems.

We believe that the Service needs to address certain problems even before it begins restructuring. First, implementing several streamlining procedures will lessen the administrative and adjudication burdens on the Service at a time when it cannot afford additional work. Second, and perhaps more important, addressing these key issues will restore some needed credibility in a system that both the external stakeholders and the Congressional overseers believe is on the verge of collapse.

I have attached a background paper that addresses some of the most serious programmatic issues currently facing the Service and that suggests ways to resolve these problems that will benefit the Service. The agency's focus on naturalization has made these areas particularly vulnerable to increased delays and problems associated with delay. In particular, the growing backlog on adjustments will soon rival the current backlog of naturalization applications. Our recommendations (both in the adjustment and non-adjustment contexts) are intended to focus the work of the Service on adjudicating the underlying benefits and on streamlining the ancillary work around major applications such as adjustments.

We believe that if the Service can successfully address these issues, it will demonstrate its intent to carry out reform in an intelligent and effective manner.

The Service will also demonstrate its ability to address some of the more significant problems in the current system that drain resources, make unnecessary work for field offices, and enhance the enforcement culture in the adjudications process.

AILA remains committed to assisting the Service as it works to effectively carry out its mission and serve its customers. We believe that our proposals would be important steps toward those goals. We welcome additional discussion on these issues.

Sincerely,

Jeanne A. Butterfield
Executive Director

15LN9034

Pre-restructuring Reforms that Should Be Taken NOW to Ease Immediate Adjudications Burdens

IMMEDIATE CONCERNS: ADJUSTMENT ISSUES

The Issue: With a current backlog of over 800,000 applications currently pending at the Service Centers, and an adverse impact on processing because of competing needs of naturalization processing, adjustment applications and related applications, delays will continue to create significant problems for the agency. These problems will be further exacerbated by the pressures of those who will “max out” in, or “age out” of, valid nonimmigrant status.

Certain reforms can and should be taken immediately to lessen the pressure on both the INS and the recipients of its services, such as:

Change the current interpretation that the date of filing an adjustment application does not “toll” the time of determining the eligibility for the benefit sought. In INS terms, a benefit delayed is a benefit denied. Many employment-based immigrants, in particular, lose the ability of their older children to adjust with them once the child turns 21, even if the application is filed before the child approaches that birthday. Once the main applicant is granted a green card, she can again petition for the adult child, but years have been lost and the process must be started all over again (with more restrictions placed on the child). Much of the INS’s expedite work on adjustments comes from such cases. If the current regs were amended (or even interpreted) to look at eligibility at the time of filing rather than the time of actual adjustment, it would go a long way to relieving this pressure.

Eliminate or amend requirements for ancillary documents. Persons who apply for adjustment must make additional documentary applications, usually for permission to travel while the application is pending (advance parole) and permission to work as an adjustment applicant (EAD). Eliminating advance parole requirements for Hs, Es, Ls or Os who have filed adjustment applications, even where the nonimmigrant status has expired, would help relieve the burden of processing those requests, which are virtually always granted. Eliminating EAD requirements for persons filing adjustment applications would also contribute to faster and more efficient processing. An alternative which we urge in this context is to have the receipt for the EAD application act for a limited period of time (180 days) as the employment authorization. Since EADs are required to be produced in 90 days and the service centers have difficulty reaching that time frame consistently, allowing the receipt to act as interim authorization would provide a secure document for a limited time in a limited set of cases that would in turn take pressure from the adjudications and the card production.

Allow simultaneous filings of I-140s and 485s, for all EB applications—or at least those within one year of maxing out on currently held status. Simultaneous filings of both applications, which were for years referred to as “one-step” applications, would alleviate pressure on those employment-based categories that have backlogs for certain nationals (Indians and Chinese). Through no fault of their own, these would-be immigrants are forced to leave the United States because of delays in the adjudications of their cases that take them beyond their immigrant status. INS, in turn, is besieged with requests to expedite these cases and simply cannot put resources to that effort. Allowing simultaneous filings would at least permit these individuals to remain in the United States and would

defer pressure on these adjudications, allowing resources to be placed to more urgent adjudications.

Authorize parole status for immediate relatives of USC's and spouses of LPRs to adjust status. Life plans happen despite immigration laws or INS adjudications delays. As a result, many spouses of USC's and LPRs remain separated from their loved ones, in full compliance with the law, while their applications work their way through the process. Yet they cannot enter until the paperwork has been completed. Allowing them to enter the country on humanitarian parole would enhance the Service's goal of family reunification and promote faster and more efficient processing.

Issue 245(i) policy guidance clarifying guidelines for petition substitution, and regulations on admissibility issues, to lessen burden on still-pending petitions. INS has yet to issue policy guidance or regulations on issues surrounding section 245(i), which would, if issued, clarify some percent of those petitions now sitting in service centers and district offices. Moreover, despite a statutory mandate, INS has not issued regulations on major changes to admissibility, and waivers of grounds of inadmissibility, made by IIRAIRA. Issuing these regulations would enable adjudicators to process cases that are currently backlogged because they request waivers or contain issues of admissibility.

Reprogram some appropriated funds to non-naturalization caseloads. INS admits that receipts this year, if projections are accurate, will leave the agency with a \$138.5 million budget shortfall. This shortfall already is having a significant adverse effect on the adjudication of non-naturalization petitions and applications, with no end in sight. INS should request the use of some of its appropriated funds to supplement its adjudications efforts.

GENERAL CONCERNS

In addition, there are steps the Service needs to take immediately on other petitions and applications to restore its credibility in the reorganization debate. The most critical of these include:

Minimum level of documentation. The Service should provide a receipt for every application or petition that is filed, which is not done at the present time. These receipts should be provided promptly and note the current processing times for the application or petition submitted.

National processing goals. The Service is now implementing national standards for certain applications and petitions at the Service Centers. They must be held accountable to these standards in a tangible manner. In addition, more of these same types of standards must be implemented at both the Service Centers and District Offices, with the same accountability for meeting the goals.

Greater flexibility in documentation. The INS must utilize some resources in allowing for more efficient responses in the adjudication of petitions and applications, such as allowing for faxed responses and changes to pending work.

Work more closely with the State Department to equalize burdens. INS should grant parole for immediate relatives of US citizens and spouses and minor children of permanent residents to enter the country and adjust status from within rather than processing abroad, so as to lessen the load on the consulates (and hasten family reunification). In exchange, the agency can lighten its workload by

Employment
Policy
Key
Source

working with the Department of State to allow greater freedom in using NIV beneficiary/petitioner notices, with authentication, as notice of petition approval/visa eligibility. (Many consulates now require original notification from INS, which adds extra work on INS offices as well as significant delay to the process.)

Recognize current limitations. Amend provisions to allow for 18 month or 2 year EAD where the underlying petition (asylum application, adjustment application) will take that long to process.

Recognize the need for some appropriated funds. Finally, Congress needs to give INS the authority to move some funds to reduce non-naturalization backlogs (at least provide Service Centers and District Offices with more resources to address effectively worst case scenarios, such as aging-out or maxing-out cases). INS previously has not been given the ability to do this.

H1B/INS- 6/10

Streamlining on Employment-based

- 140K Permanent ~~based~~ employment based - based on ~~the market~~ ~~persons~~ determined + fluctuates (includes family based). Use is lower. (120K).
- EL. based - 3 skilled categories for a permanent period of time
 - (1) High skilled
 - (2) Middle
 - (3) Low skilled

- Non-immigrant/Temp Categories F-skilled

• B1 - B2 -

3 years, ~~within~~ 3 yr.

H1B

• H1B high skilled - cap 65K in the GATT's agreement - does not include family.
(L = Intra-company -) ~~it~~ ~~can't~~ change criteria ~~for~~ for selection of GATT.

- Unmet need 300K of IT workers - VP stimulus

- Foreign workers - may get ~~off~~ paid same wage but less benefits, advance, bargaining - willing to do so to get permanent status.

- Fee for H1B for training for U.S. worker.

- H1B dependent = job shop - trying to make ~~the~~ distinctions

- Fraud on the System - if you can squeeze out the hand, more visas available to legitimate applicant

- Abraham/Steat - count correctly - take out duplications
Nat'l Journal + letter to messner

Back packet

- Anything above 65K, we can ~~not~~ make the dependent structure (not a violation of GATT) by any.
- GATT is coming up again in the Fall

media + PhD from US school

Sam - Students → Jobs - should not have to return to their country
Want to pursue - high end skill market - to get a #1B + permit for

Bob - Could close market for US workers
- then foreign student/workers - may create jobs
- University want big shift to it

Tom - Processing Proposal
Backlog • Order ~~and~~ Processing Centers (E-129) - 30 day

- ~~at the border~~
- Consistency - in the centers
- Advance Parole - permission to travel for
- ~~Proposed reg~~ to remove for H5 + L5
(Foreigners Jobs, M (converted)) - proposed reg

Unwilling ~~to~~ ~~feel~~ ~~there~~ are not getting their share but not pushing

- Income Fee to improve the process -
- Special ~~the~~ Exemption - INS support, Labor support, Crime support - limited
Unsure about letter. Canada did a pilot - Can do regulatory - test

Next Step: Meeting w/ Groups - High Tech + INS
Diff options at number + PhD level above 115K

Can occupational labor shortages be identified using available data?

Labor market data, combined with background information on a specified occupation, anecdotal evidence, and factors of demand and supply work in combination to assess occupational shortages

Carolyn M. Veneri

The Nation's economy has enjoyed more than 7 years of expansion, during which the national unemployment rate declined from 7.5 percent in 1992 to 4.5 percent in 1998, the lowest level since 1969. The 1998 unemployment rate dipped below 2 percent in some States. As the labor market tightened over this period, shortages in certain occupations were widely reported in the media, led by stories of unmet needs for workers skilled in information technology. Groups such as the Information Technology Association of America and the U. S. Department of Commerce's Office of Technology Policy identified what they considered "substantial evidence that the United States is having trouble keeping up with the demand for new information technology workers."¹ Shortages also were reported for construction laborers and craftworkers. According to the National Center for Construction Education and Research, "Sixty-five percent of the contractors responding to its third annual survey in 1997 reported shortages in one or more crafts."² Related stories in papers across the country proclaimed the resurgence of a shortfall of registered nurses, a need for qualified teachers, and even shortages of workers such as roustabouts and nannies.

No specific sources of data exist that provide a measure of occupational shortages. In the absence of any definitive measure, analysts generally rely on labor market data to corroborate anecdotal reports of employers' difficulties in filling jobs. Such data include trends in employment and earnings,

as well as the unemployment rate for a particular occupation. This article discusses the meaning of shortages and analyzes the adequacy of available data in identifying, quantifying, and evaluating occupational shortages.

Defining a shortage

Shortages occur in a market economy when the demand for workers for a particular occupation is greater than the supply of workers who are qualified, available, and willing to do that job. Jobs remain vacant as employers seek to hire more workers than are willing to work at the prevailing wage or salary.

Despite the simplicity of this concept, the term "labor shortage" is often used to describe a variety of situations, some of which are not generally considered by economists to be actual shortages. When labor is plentiful, employers become accustomed to hiring a particular caliber of candidates with specific training or level of experience. However, when the labor market tightens, the number of job applicants is likely to shrink, and employers may have difficulty finding that same caliber of candidates. The employers may be able to fill positions by offering higher wages; otherwise, they may have to settle for candidates who do not match their notion of "ideal." Under these labor market conditions, the issue becomes one of the *quality* of job candidates, not necessarily *quantity* of people willing and able to do that job. From the employers' perspective, a short-

Carolyn M. Veneri is an economist in the Office of Employment Projections, Bureau of Labor Statistics.

age of workers exists; from the job market perspective, the existence of a shortage could be questioned because the job was filled by a qualified worker.

Economists who have studied occupational shortages generally hold the view that in an unconstrained market, supply will equal demand at the "true" market price. If demand exceeds supply, salaries will be bid up until the market clears. Thus, in theory, most labor shortages should disappear as employers increase wages to attract more workers. However, different types of shortages resulting from various labor market situations may require very different responses from both employers and workers.

Much of the theory about defining and identifying occupational shortages stems from research that has focused on wage movements and analysis of the engineer-scientist labor market. For example, David M. Blank and George J. Stigler, in their classic 1957 study on the demand for and supply of scientific personnel, found that the term "shortage" often is used in a variety of senses, and presented three definitions or meanings.³ The first definition acknowledged the concept of a shortage in terms of what is considered socially acceptable—the social demand model. This model assumes there is a shortage of members of a specific profession if the number of available workers is less than the number needed, as established by some social criterion or goal—for example, a certain number of elementary school teachers thought necessary to maintain a particular class size or a certain number of physicians thought necessary to treat a certain number of the population. In the second definition, shortages occur when "the quantity of the labor services in question that is demanded is greater than the quantity supplied at the prevailing wage."⁴ And, the third definition, which they concluded was the most natural shortage in an economy with a free labor market, occurs "when the number of workers available (the supply) increases less rapidly than the number demanded at the salaries paid in the recent past."⁵ Blank and Stigler used this third definition and a comparison of relative earnings to analyze the labor market data for engineers in the 1930s, 1940s, and 1950s. They concluded that when a shortage occurs, "salaries will rise, and activities which were once performed by ... [a particular class of worker] must now be performed by a class of workers who are less well trained and less expensive."⁶

Expanding on this framework, Kenneth Arrow and William Capron presented a model "which explains the dynamics of the market adjustment process," and applied their conclusions to the scientist-engineer shortage of the 1950s.⁷ Like Blank and Stigler, they indicated the importance of the behavior of wages, but also focused on the pace of demand. Arrow and Capron introduced the concept of a "dynamic shortage," in which demand continually grows more rapidly than supply.⁸ The causes of a dynamic shortage, they explained, are a rapid and persistent rise in demand for a particular occupation, a low elasticity of supply, and a slow market reaction

speed. Time lags, or slow "reaction time," result from the time it takes to actually complete a wage adjustment; that is, "the time it takes the firm to recognize the existence of a shortage at the current salary level, the time it takes to decide upon the need for higher salaries and the number of vacancies at such salaries, and...the time it takes employees to recognize the salary alternatives available and to act upon this information...."⁹ Slow reaction time also takes into account supply-side lags, specifically, the impeded recognition of opportunities and responses by potential entrants to the field and by training institutions may exaggerate a shortage.

Adding to the work of both Blank and Stigler and Arrow and Capron, a study by Walter Franke and Irvin Sobel in the 1960's shifted focus from wage behavior to the argument that institutional constraints were responsible for the lagging adaptation of wages and supply.¹⁰ They defined a shortage as "a situation existing over an extended period of time in which employers were unable to hire at going wages or salaries sufficient numbers of qualified persons to fill positions for which there were budgeted funds and for which personnel were required to meet existing demands for services."¹¹ Their in-depth analysis of six skilled and technical occupations in the Chicago and St. Louis areas was conceived in 1963. They sought to explain how shortages could coexist with high levels of unemployment and worker displacement.

Among their conclusions, Franke and Sobel found that, "While market pressures tended to push market institutions in directions which led to amelioration of shortages, the response was frequently delayed and sluggish."¹² They also concluded that changes in relative wages played a minor role and therefore should not be used as a "unitary instrument for dealing with a shortage." Instead, they focused on the entire labor market process and evaluated, to the extent possible, factors such as trends in employment and earnings, current demand and supply, and even factors such as hiring practices.

Other studies of occupational labor shortages have built on the theory and definitions put forth by the studies discussed above. For example, Malcolm Cohen, using labor market indicators as a means of determining labor market imbalances, combined available indicators to measure excess demand and test for shortages.¹³ Along these same lines, occupational case studies conducted by John W. Trutko and several colleagues combined analysis of existing data sources with secondary sources to assess labor shortages and identify factors that may cause them.¹⁴ These researchers use the same indicators identified by Cohen (and in several instances, his database) to evaluate demand and supply and examine individual sources of disequilibrium.

Most studies of labor shortages acknowledge the existence of different types of shortages which, in turn, elicit different types of responses from both employers and workers. Labor shortages can result from a sudden or persistently rapid increase in demand which outpaces the job market's capacity to

supply workers, as in the case of the "dynamic shortages" analyzed by Arrow and Capron. Often, this type of shortage results from an increase in demand for particular goods or services. Even though wages and the labor supply also may be increasing, a shortage may result because they cannot keep up with demand. However, an increase in demand alone may not necessarily lead to a shortage if the supply of labor is flexible enough to adjust sufficiently.

Shortages resulting from inflexible supply, on the other hand, can occur in occupations for which demand and the level of compensation fail to attract a sufficient number of jobseekers. When years of education and specialized training are required of an occupation, a lag will continue to exist between supply and demand, even if employers increase wages. This is the case with occupations such as physicians and college or university faculty. A decrease in the supply of labor can also create a labor shortage, especially in tight labor markets where employers face keener competition for workers. If wages are higher in other occupations, workers are faced with more choices, making employment in one occupation or for one employer more or less attractive than another. Take, for example, math majors: their background and skills are generally in high demand, and many often can choose between a job as a mathematics teacher or a more lucrative private sector position in a field such as financial services or information technology.

A slow reaction or response time by employers or by workers also will slow market adjustment time. It may take time for employers to recognize the difficulty of finding workers or for workers to realize the opportunities available. Also, response time may be slowed by institutional barriers, such as limited enrollment capacity in training institutions or requirements such as licensing and certification. An example is public school teachers—they must be licensed, which generally requires a bachelor's degree, completion of an approved teacher training program with a prescribed number of subjects and education credits, and supervised practice teaching.

A reluctance on the part of employers to raise wages often causes, or at least contributes to, a shortage. In some cases, the wage or salary level cannot increase because of a fixed compensation structure within an organization. Again, using a shortage of math teachers as an example, many school systems have regulations governing salaries which stipulate that all teachers have the same pay scale, regardless of the subject they teach; some school systems find this an obstacle in the case of math teachers, as they cannot compete with the salaries offered to math majors by employers in private industry.

In some cases, however, a reluctance of employers to raise wages or salaries may also be because the company places a higher priority on avoiding increases in costs. If wages are increased to attract new employees, the employers may then have to increase the wages of workers already on their payrolls to avoid dissension among tenured, more experienced employees.

Besides increasing wages, employers can respond in a number of other ways when faced with the difficulty of filling vacancies, but generally try the least expensive response first. One reaction to a perceived shortage involves an increase in recruiting efforts. This can be accomplished by stepping up advertising campaigns and by expanding the recruiting area, which could involve greater use of employment agencies, rewarding existing employees who bring in new workers, or offering bonuses to new hires for joining the firm. For instance, to cope with an information technology staff crunch, employers offer pay premiums, hiring bonuses, retention incentives, and continually look for innovative ways to recruit new workers by offering benefits such as a relaxed working environment, flexible work hours, child and elder care, and onsite services ranging from fitness centers to car washes.¹⁵

Employers may handle staffing shortages by increasing the use of overtime, restructuring the workforce, or using workers from one occupation to perform the tasks of another occupation. To illustrate: in response to a shortage of registered nurses in the late 1980s, hospitals asked existing staff to work more overtime and restructured the work to make more use of nursing aides, licensed practical nurses, and other hospital workers.

Employers who have difficulty filling vacancies may also opt to relax or reduce the minimum qualifications for the job or expand worker training, or both (in many cases, the two go hand-in-hand). After relaxing the hiring specifications, employers may find that the work can be completed by conducting additional training to bring less qualified workers up to speed. This may involve providing financial assistance to persons still in school, with the stipulation that workers will stay with the firm for a specified time once the training is completed.

Identifying conditions

No single empirical measure of occupational labor shortages exists, nor does it appear that one can easily be developed. Data available through the Nation's statistical programs, however, can be used to observe some aspects of supply and demand and assess job market conditions. Research indicates that available data on employment, unemployment rates, and wages can be evaluated to assess the existence of or the potential for a shortage.¹⁶

"Snapshots" of the labor market over time allow an evaluation of changes in demand and supply for a particular occupation. For example, dramatic growth in employment in a particular occupation over time is likely to reflect a significant rise in demand for that type of worker. Likewise, an uncharacteristically low unemployment rate for a specific occupation may imply that the demand for workers exceeds the supply, as could rapidly rising relative wages in a particular occupation.

Assessing supply and demand in a specific occupation also requires analysis of factors such as educational qualifications,

training, and entry requirements. Clearly, job market conditions for occupations which require specific academic training and a license (physicians and registered nurses, for example), must be analyzed differently than for jobs which often are filled by high school students (fast food preparation and service jobs, for example). Data on academic completions collected by the U.S. Department of Education provide information on the supply of graduates by field of study and level of degree for any given year.

Most research studies emphasize the importance of considering multiple measures of labor market conditions, and then tracking the measures over time to determine whether conditions of a shortage exist. Malcolm Cohen, believing that "the determination of labor market imbalances must rely upon indicators," combined several labor market indicators in a labor model developed specifically to test for potential future shortages and surpluses.¹⁷ His study of the feasibility of using labor market indicators to measure or test for shortages addressed the difficulty of directly measuring supply and demand using available statistical data. Much of the difficulty stems from problems of interpreting the data, especially when measures from different data sets lead to different conclusions about job market conditions. Cohen also indicated that difficulties in interpretations may arise because of weaknesses in the data.

Surveys that provide data on employment and wages are subject to sampling errors as well as response errors.¹⁸ Thus, changes in employment from one period to the next must be analyzed with care. Experience has shown that occupational coding errors in surveys can be significant and trends in employment growth in two major surveys that provide such data—the household-based Current Population Survey (CPS) and the establishment-based Occupational Employment Statistics (OES) survey—often differ in the short run. For example, over the 1992–96 period, employment growth of management analysts in the two surveys is vastly different, with the CPS showing growth of 65 percent and the OES, only around 8 percent.

A major drawback in using detailed occupational unemployment rates in analyses of shortages is that the unemployment rate is calculated based on a person's last job, rather than the longest job held or occupation in which he or she trained and is actually looking for work. This means an individual with experience as a computer programmer who is seeking a programming job, but who last worked as a cashier, is classified as an unemployed cashier, not an unemployed programmer.¹⁹

In a similar manner, data on supply for many occupations are incomplete or unavailable. For example, registered nurses must be graduates of nursing programs and must pass a national licensing examination. Thus, the number of nursing school graduates may be a reliable measure of the *potential supply* of registered nurses. However, the supply of computer professionals cannot be measured in a similar manner because there is no universally accepted way to prepare for a job in the computer field—for jobs such as a system analyst, computer pro-

grammer, or computer engineer, to name a few. Data on college graduates indicate that persons with degrees in a variety of majors find employment in computer-related occupations.

Job vacancy data by occupation would be an obvious input to analyses of occupational shortages. But, comprehensive occupational vacancy data do not exist. Although trade associations sometimes sponsor surveys of job vacancies, national data are not currently collected by any government agency. The Bureau of Labor Statistics has conducted pilot studies on occupational job vacancies²⁰ and is reinstituting a Job Openings and Labor Turnover Survey that will provide a broad measure of job vacancies, but not by occupation. It is important to keep in mind that just because employers have vacancies do not mean a shortage exists in that occupation. Trends in vacancy data would need to be evaluated along with other labor market indicators in order to understand the labor market for a particular occupation.

What the data show

Despite all of the caveats, if shortages in an occupation were to develop during the Nation's 1991–98 expansionary period, the occupation's employment growth would be strong; the occupation's wages would increase relative to other occupations, indicating the market response by employers to attract more workers; and the unemployment rate for that occupation would be expected to decline or remain relatively low. For this analysis, occupations were evaluated to determine whether, for the 1992–97 period (for which data were available when the analysis was conducted), the occupation's employment growth rate was at least 50 percent faster than average employment growth, the wage increase was at least 30 percent faster than average, and the occupation's unemployment rate was at least 30 percent below average (in each case, "average" was defined by the total for all workers). This somewhat arbitrary set of criteria was established to eliminate any occupation that could be considered a "borderline" case in terms of what the data might show if less stringent criteria were used.²¹

Only 68 occupations were included in the analysis because of a desire to maintain comparability between data from the OES-based National Industry-Occupation Employment Matrix and the CPS.²² All data analyzed were derived from the CPS. Wage and salary employment, rather than total employment, were used to examine employment trends because data on median weekly earnings of full-time wage and salary workers was used as the measure for wage rates. The occupational unemployment rates are also for wage and salary workers. Note that unemployment rates for detailed occupations are calculated by the Bureau of Labor Statistics, but are not published because the sample sizes in many cases are not sufficiently large to provide statistically reliable estimates. For similar reasons, median weekly earnings data are not published for occupations with fewer than 50,000 employees.²³

Despite the favorable conditions of the 1992–97 labor market, only 7 of the 68 occupations met the three conditions discussed above: management analysts; special education teachers; dental hygienists; marketing, advertising and public relations managers; airplane pilots and navigators; purchasing agents and buyers; and mechanical engineers. (See table 1.)

In the case of special education teachers, reports of shortages are supported by data in table 1. According to information published by the Bureau of Labor Statistics in its 1998–99 edition of the *Occupational Outlook Handbook*, over the 1996–2006 period, “[s]pecial education teachers have excellent job prospects, as many school districts report shortages of qualified teachers.” In a 1993 case study of special education teachers conducted for the U.S. Department of Labor’s Employment and Training Administration, John W. Trutko and colleagues found a national shortage of special education teachers that was characterized as severe and persistent.²⁴ From 1992 to 1997, employment of special education teachers increased 43.8 percent, more than four times faster than the average for all occupations. Median weekly earnings in this occupation increased 24 percent over the period, compared with 13 percent for all occupations, and the average 1.6 percent unemployment rate was much lower than the national rate of 5.1 percent for all wage and salary workers.

There is little or no evidence available that supports a tight labor market for the other six occupations. No anecdotal reports could be found. It appears questionable that these data alone can be used as an indicator that any shortages exist.

Do the data corroborate other anecdotal reports of occupa-

tional shortages? As mentioned earlier, reports abound of the need for information technology workers. Highly qualified personnel are reported to enjoy rising starting salaries, multiple job offers, creative recruiting efforts, and an overall hiring climate that have been equated with a professional sports “free-agent” market. Unemployment rates for computer systems analysts and scientists and computer programmers have been consistently lower than the national rates over the 1992–97 period. Yet, the labor market conditions for this period indicate that neither the occupational group consisting of computer systems analysts, engineers, and scientists nor the computer programmer occupation has exhibited both higher than average employment growth and higher than average growth in wages. (See table 2.)

The earnings potential of information technology workers has been widely reported. Salary increases for these occupations are reported to be larger in the past year than in previous years. Historically, workers in the computer field earned higher salaries than workers in other fields; indeed data from the CPS show that median weekly earnings for computer systems analysts and scientists and computer programmers to be consistently higher than the average for all workers. However, the same is true for virtually all professional specialty occupations. Furthermore, annual increases in weekly earnings for computer occupations have been comparable to wage increases for all professional specialty occupations. In relative terms, over the 1992–97 period, the average of the annual change in median weekly earnings for computer engineers, scientists, and systems analysts was close to the average for all occupations. The same is not true for computer programmers: over the

Table 1. Occupations with above-average employment growth, above-average increase in earnings, and below-average unemployment for the 1992–97 period

[Numbers in thousands]

Occupation	Employment data from the Current Population Survey (cps) ¹							National Industry-Occupation Employment Matrix Time Series ²	cps ¹	
									Median weekly earnings (current dollars)	Unemployment rate
	1992	1993	1994	1995	1996	1997	Percent change, 1992–97	Percent change, 1992–96	Percent change, 1992–97	Average, 1995–97
Total, all occupation	108,182	109,856	112,232	114,262	116,040	118,874	9.9	9.8	13.0	5.1
Management analysts	132	141	176	205	218	242	83.3	7.8	17.9	1.8
Teachers, special education	287	284	308	310	340	384	43.8	13.9	24.2	1.6
Dental hygienists	73	76	95	94	94	105	43.8	23.2	19.6	1.1
Managers, marketing, advertising, and public relations	505	482	554	654	644	702	39.0	9.5	19.8	2.3
Airplane pilots and navigators	93	97	103	113	113	117	25.8	30.7	21.9	1.1
Purchasing agents and buyers, n.e.c.	218	256	225	258	247	266	22.0	1.9	17.7	2.5
Mechanical engineers	299	291	334	324	346	347	16.1	.8	18.3	1.6

¹ The Current Population Survey (cps) is a nationwide household survey, conducted each month by the Bureau of the Census for the Bureau of Labor Statistics.

² The National Industry-Occupation Employment Matrix Time Series is based on data from the Occupational Employment Statistics (oes) survey, a periodic mail survey of nonfarm establishments that collects occupational employment data on workers by industry.

NOTE: Data are for all wage and salary workers; earnings data are for full-time wage and salary workers only.

Table 2. Employment, wage rates, and unemployment rates for selected occupations for which anecdotal evidence suggests a shortage, 1992-97

(Numbers in thousands)

Occupation	Employment data from the Current Population Survey (cps) ¹							National Industry-Occupation Employment Matrix Time Series ²	CPS ¹	
	1992	1993	1994	1995	1996	1997	Percent change, 1992-97	Percent change, 1992-96	Median weekly earnings (current dollars)	Unemployment rate
Total, all occupations	108,182	109,656	112,232	114,262	116,040	118,874	9.9	9.8	13.0	5.1
Computer systems analysts and scientists	663	726	867	882	1,033	1,175	77.2	38.2	13.3	1.4
Computer programmers	537	585	523	533	541	609	13.4	2.2	22.6	1.7
Registered nurses	1,785	1,844	1,936	1,961	1,971	2,043	14.5	7.8	7.3	1.5
Carpenters	844	867	902	928	908	1,015	20.3	15.3	13.4	10.9
Electricians	605	610	607	670	702	722	19.3	11.8	13.5	5.0
Plumbers, pipefitters, and steamfitters	368	366	435	434	484	476	29.3	9.5	17.8	7.3

¹ The Current Population Survey (cps) is a nationwide household survey, conducted each month by the Bureau of the Census for the Bureau of Labor Statistics.² The National Industry-Occupation Employment Matrix Time Series is based on data from the Occupational Employment Statistics (oes) survey, a periodic mail survey of nonfarm establishments that collects occupational employment data on workers by industry.

Note: Data are for all wage and salary workers; earnings data are for full-time wage and salary workers only.

same period, the average of the annual change was higher than the average for all occupations, although the data show a more significant increase in earnings over the 1995-97 period than in previous years. Yet, employment of programmers did not increase much faster than average from 1992 to 1997.

Anecdotal evidence about registered nurses provides additional insights. A pervasive, nationwide shortage of nurses was reported in the late 1980s. Data for the 1984-88 period showed rapid growth in demand for hospital registered nurses and expansion of their responsibilities, but stagnation in their real earnings.²⁵ This prompted passage of the Nursing Shortage Reduction and Education Extension Act and implementation of the Immigration Nursing Relief Act of 1989. Soon after reports of shortages, however, the overall economic picture began to change. The hospital industry responded by increasing overtime work, retention and recruitment efforts, and nursing wages. By 1992, there was no more talk of a shortage.

In mid-1998, reports of nursing shortages resurfaced. A July 1998 newspaper article, citing the American Association of Colleges of Nursing, reported that employers are once again struggling to fill vacancies, but that the shortage was regional and related to certain nursing specialties.²⁶ Employers have responded by training new nursing graduates to fill such specialties as emergency room or critical care. Given this fact, national data do not appear sensitive enough to identify labor market shortages. (See table 2.)

Similarly, anecdotal evidence, such as articles in newspapers and trade publications, indicate a shortage of qualified construction workers. According to the National Center for

Construction Education and Research, in 1997, shortages were most severe in three specific regions of the country: the West, the East, and "a chunk of middle America."²⁷ The shortages were attributed to the low unemployment rate nationwide, which contributed to a dwindling pool of workers. Employers complain about the lower skill level of available workers and high incidence of workers "jumping ship" in response to offers of higher pay.

In particular, the National Center for Construction Education and Research mentioned electricians and carpenters. The CPS data show that employment in both of these occupations grew faster than average from 1992 to 1997.²⁸ In 1997, the unemployment rate for electricians was around the national average, but the rate for carpenters, as usual, was double the national average. However, the relative change in the unemployment rate for these occupations was large over the 1992-97 period: the rate for carpenters declined from 2.6 times to 1.7 times the average for all occupations, and electricians declined from 1.5 times the average rate to less than average. For both occupations, however, growth in wages was only on par with that for all occupations, according to median weekly earnings figures from the CPS.

Anecdotal evidence also suggests employers have difficulty finding qualified plumbers and pipefitters. Median weekly earnings for this occupation increased faster than average between 1992 and 1997, and employment growth was almost three times higher than the average. Although the unemployment rate remained higher than average, it declined from 1.7 times the national average to 1.6 times.

Because this analysis focused on current occupational shortages, occupational employment projections were not included in the analysis of labor market indicators. However, many discussions of occupational shortages emphasize the importance of predicting or assessing future shortages, including the studies by Cohen and by Trutko and colleagues.²⁹ Therefore, the ability to analyze BLS occupational projections within the context of other labor market indicators becomes significant. This can only be done, however, for occupations for which there is comparability between CPS and OES data.³⁰ Of the seven occupations whose indicators met the three conditions discussed above, only special education teachers and dental hygienists are projected among the top 30 fastest growing occupations between 1996 and 2006.³¹ Airplane pilots and navigators and mechanical engineers are projected to have average growth rates and purchasing agents and buyers are projected to have even slower rates, around 6 percent. However, computer systems analysts, engineers, and scientists are projected to be the fastest growing occupations over the period.

IN SUM, CPS and OES data provide insight into changes in labor market conditions for specific occupations. Used alone, however, these data are not adequate to definitively identify the existence of labor market shortages for a specific occupation. Besides, limiting analysis to indicators such as employment, unemployment, and wages does not present a complete picture of the market for a particular occupation. The labor market data should be combined with background information on the occupation and knowledge of the workings of the labor market. In addition, information on supply, such as data on demographic characteristics, education by field of study, and employer's requirement regarding education and training plays a significant role in completing an analysis of an occupation's labor market. Current and potential occupational shortages can best be analyzed on a case by case basis, and the analysis should focus on one occupation or a group of related occupations and should provide a detailed investigation into factors affecting supply and demand. Conclusions about shortages should not be based on general labor market statistics alone or anecdotal evidence alone. □

Footnotes

¹ *America's New Deficit: The Shortage of Information Technology Workers* (U.S. Department of Commerce, Office of Technology Policy), p. 3.

² "Labor Woes: You Know How Bad It Is," *Rural Builder*, May 1998, p.26.

³ David M. Blank and George J. Stigler, *The Demand and Supply of Scientific Personnel* (New York, National Bureau of Economic Research, Inc., 1957), p. 23.

⁴ Blank and Stigler, *The Demand and Supply of Scientific Personnel*, p. 23.

⁵ *Ibid.*, pp. 23-24.

⁶ *Ibid.*, p. 24.

⁷ Kenneth J. Arrow, and William M. Capron, "Dynamic Shortages and Price Rises: The Engineer-Scientist Case," *Quarterly Journal of Economics*, May 1959, p. 292.

⁸ Arrow and Capron, "Dynamic Shortages and Price Rises," p. 301.

⁹ *Ibid.*, p. 299.

¹⁰ Walter Franke and Irving Sobel, *The Shortage of Skilled Technical Workers* (Lexington, MA, Heath-Lexington Books, 1970).

¹¹ Franke and Sobel, *Shortages of Skilled Technical Workers*, p. 7.

¹² *Ibid.*, p. 298.

¹³ Malcolm S. Cohen, *Labor Shortages as America Approaches the Twenty-first Century* (Ann Arbor, The University of Michigan Press, 1995).

¹⁴ John W. Trutko, Burt S. Barnow, Amy B. Chasanov, and Abhay Pande, *Labor Shortage Case Studies*, Research and Evaluation Report Series 93-E (U.S. Department of Labor, Employment and Training Administration, 1993).

¹⁵ "Companies Combat IT Labor Crunch," *Computerworld*, Mar. 9, 1998.

¹⁶ Researchers who have used data in this way include Cohen and Trutko, Barnow, Chasanov, and Pande.

¹⁷ Cohen, *Labor Shortages*, p. 25.

¹⁸ A brief explanation of sampling errors and response errors appears in *Employment and Earnings*, a monthly publication of the Bureau of Labor Statistics.

¹⁹ Detailed occupational unemployment rates are collected but not published because the small sample sizes for detailed occupational groups affects the statistical reliability and they are not analytically meaningful for reasons indicated in the text.

²⁰ See Lois Plunkert, *Job Openings Pilot Program: Final Report* (Bureau

of Labor Statistics, 1981). Also, see *Employee Turnover and Job Openings Survey: Results of a Pilot Study on the Feasibility of Collecting Measures of Imbalances of Supply and Demand for Labor in an Establishment Survey* (Bureau of Labor Statistics, 1991).

²¹ Occupations were considered to have met the criteria if the employment growth between 1992 and 1997 was at least 50 percent faster than the average for all occupations, if the wage growth was at least 30 percent higher, and if the unemployment rate (an average of 1995-97 rates) was more than 30 percent lower than average.

²² The National Industry-Occupation Employment Matrix provides another source of historical employment data. However, matrix data are based on the Occupational Employment Statistics survey and pose comparability problems. Projected employment data also are from the National Industry-Occupation Employment Matrix. Therefore, any discussion of projected employment within the context of occupational shortages would require comparability. Only 68 occupations were found that were comparable and displayed changes in employment in the same direction.

²³ Annual averages are published in January issues of *Employment and Earnings*, a monthly publication of the Bureau of Labor Statistics.

²⁴ Trutko, Barnow, Chasanov, and Pande, *Labor Shortage Case Studies*, pp. 3-27.

²⁵ Immigration Nursing Relief Advisory Committee, *Report to the Secretary of Labor on the Immigration Nursing Relief Act of 1989*, March 1995.

²⁶ See Sheryl Silver, "Nursing Shortage Back in full Swing," *The Washington Post*, July 1, 1998.

²⁷ "Labor Woes: You Know How Bad It Is," p. 26.

²⁸ Although, during this period, only average growth was indicated by the national industry-occupation employment matrix time series.

²⁹ See Cohen, *Labor Shortages as America Approaches the Twenty-first Century*; and Trutko and colleagues, *Labor Shortages Case Studies*.

³⁰ For purposes of developing occupational employment projections and career guidance materials such as the *Occupational Outlook Handbook*, the Bureau of Labor Statistics has established a crosswalk between the industry-occupation matrix and the CPS.

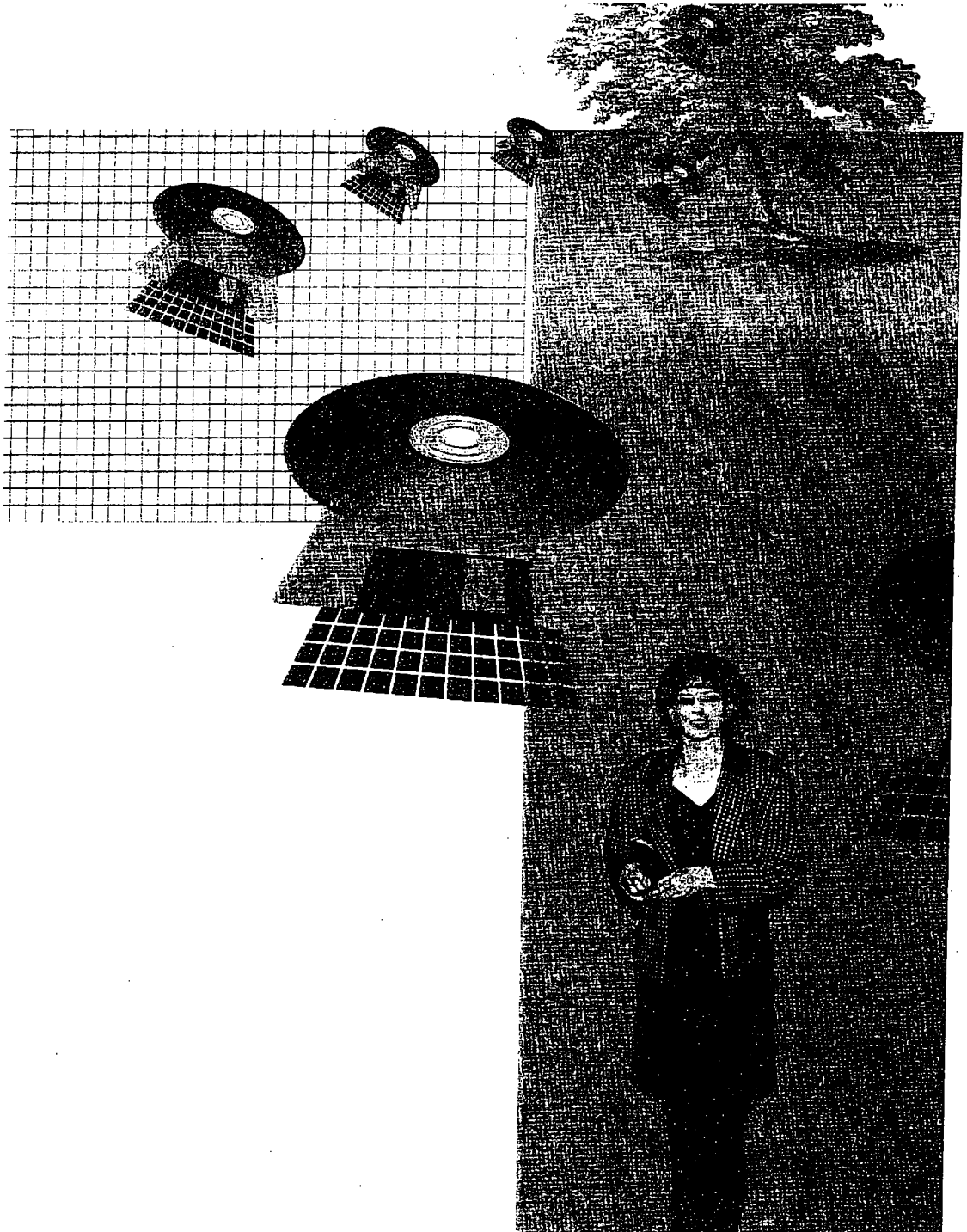
³¹ See George T. Silvestri, "Occupational employment projections to 2006," *Monthly Labor Review*, November 1997, p. 77.

Here Today, Jobs of Tomorrow: Opportunities in Information Technology



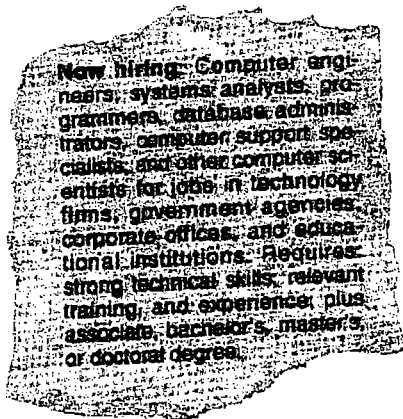
U.S. Department of Labor
Bureau of Labor Statistics

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Here Today, Jobs of Tomorrow: Opportunities in Information Technology

by Carolyn M. Veneri



Computer personnel want ads, like the fictional one above, are plentiful in nearly every newspaper across the country. In some large cities, these high-tech classifieds are so numerous they

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garner their own section. Companies across the Nation are scrambling for workers with the requisite technical skills.

Some researchers warn of severe economic implications for U.S. competitiveness if the trend continues. Reports by groups such as the Information Technology Association of America and the U.S. Department of Commerce's Office of Technology Policy identify what they consider strong evidence of the United States' inability to keep up with the high demand for information technology workers. As a result, highly qualified personnel enjoy rising starting salaries, multiple job offers, creative recruiting efforts, and a hiring climate that some have equated with a pro sports draft.

There has been explosive growth in the software and services industries. Consequently, technology and nontechnology companies alike are competing for the same workers as businesses integrate new technologies. Firms need skilled computer professionals to maintain a competitive edge and cost-efficient operations. In addition to describing who the information technology field comprises,

this article examines the labor market and earnings prospects for trained workers and how to prepare for one of these high-tech careers. It also provides suggestions for finding more information about careers, education and training, and professional development.

The Workers and Their Jobs

The Information Technology Association of America has defined information technology as "the study, design, development, implementation, support, or management of computer-based information systems, particularly software applications and computer hardware."

The Bureau of Labor Statistics (BLS) uses different terminology to classify occupations for this type of work. BLS classifies professional and technical computer-related occupations as computer programmers, computer systems analysts, computer engineers, database administrators, computer support specialists, and all other computer scientists. These occupations are described below.

Computer programmers. Computer programmers write, test, and maintain the detailed instructions—called pro-

grams or software—that computers must follow to perform their functions. Programmers write these commands by breaking down each step into a logical series, converting specifications into detailed flow charts for coding in a language the computer understands.

The programming language might be a conventional one, such as Cobol; an artificial intelligence one, such as Prolog; or a more advanced function or object-oriented one, such as C++ or Java. Programmers are often identified by the programming language they know, such as *Java programmer*, or by the type of environment they usually work in, such as *mainframe* or *Internet programmer*.

Programmers may also be grouped into one of two programming types: applications or systems. *Applications programmers* usually focus on business, engineering, or science. They write software for jobs within an organization, such as a program used for tracking inventory, or they may revise existing software. *Systems programmers* maintain and control computer systems software. These workers make changes as needed in the computer's instructions for directing how networks, workstations, and central processing units operate or communicate with other equipment such as printers. Because of their knowledge of the entire system, systems programmers often help applications programmers with troubleshooting.

Systems analysts. *Systems analysts* study business, scientific, or engineering data processing problems and use computers to design solutions; *business systems analysts*, for example, work with managers and users to solve computer problems and meet the technology needs of individual businesses. Other titles for systems development workers include *systems developer* and *systems architect*. These workers may plan new computer

systems or apply an existing system's resources to another operation. They might design new systems, including both software and hardware—the computer itself along with associated physical equipment. Or, they may add a single software application to an existing system.

Software quality assurance analysts do more in-depth testing of products. In addition to running tests, these individuals may be involved in diagnosing problems, recommending solutions, or determining if program requirements have been met.

In some organizations, workers called *programmer-analysts* design and update the software that runs a computer. Because they are responsible for both programming and systems analysis, these workers must be proficient in both areas.

Computer engineers. These workers design and develop new hardware and software. Computer engineers often work as part of a team that designs new computing devices or related equipment, systems, or software.

Hardware engineers usually design, develop, and test computer hardware and supervise production—for example, assembly of computer chips. *Software engineers* or *software developers* develop software systems for control and automation in manufacturing, business, and other areas. They research, design, and test operating system software, compilers—software that converts programs for faster processing—and network distribution software. Software engineers working in applications development analyze users' needs. They also design, create, and modify general computer applications software or specialized utility programs. Some software engineers develop both packaged and systems software or create customized software applications for clients.

Database administrators, computer support specialists, and all other com-

puter scientists. Within the BLS classification system, the occupational title of computer scientist applies to a wide range of professionals with varying education and training backgrounds. BLS draws together any other workers who design computers or the software that runs them, develop technology, and create new uses for computers. This group includes *database administrators*, *computer support specialists*, and *all other computer scientists*.

Some of these professionals work on multidisciplinary projects, such as developing and advancing uses of virtual reality in robotics, while others develop specialized languages or programming tools. They conduct research and develop solutions to hardware and software problems.

Database administrators set up computer databases and test and coordinate changes to them. Database administrators also determine ways to organize and store data. They may also be responsible for planning, coordinating, and implementing data security measures.

Computer support specialists provide technical assistance, support, and advice to customers and users. This group of occupations includes workers with a variety of titles, such as *technical support specialists*, *help desk technicians*, and *customer service representatives*. These are the troubleshooters responsible for interpreting problems and providing technical support. They answer phone calls, use automated diagnostic programs, and resolve recurrent problems. Support specialists may work within an organization or directly for a computer or software vendor. Many work as contractors, providing customer assistance for help-desk or support services firms.

Other computer scientists include workers who specialize in a particular

Table 1
Employment projections, 1996-2006

Occupation	Employment			
	Number (thousands)		Projected change, 1996-2006	
	1996	2006, projected	Number (thousands)	Percent
Total, all occupations	132,353	150,927	18,574	14
Database administrators, computer support specialists, and all other computer scientists	212	461	249	118
Computer engineers	216	451	235	109
Systems analysts	506	1,025	520	103
Computer programmers	568	697	129	23

type of systems analysis, application, or design. *Network or computer systems administrators*, or *network specialists*, for example, design, install, and support an organization's local area network (LAN), wide area network (WAN), network segment, or Internet system. They maintain network hardware and software, analyze problems, and monitor the network to ensure availability to system users. Administrators also may plan, coordinate, and implement network security measures. In some organizations, *computer security specialists* may be responsible for the organization's information security.

Growth of the Internet and expansion of the World Wide Web, the graphical portion of the Internet, have generated a variety of occupations relating to design, development, and maintenance of Web sites and their servers. For example, *webmasters* are responsible for all technical aspects of the Web site, including performance issues such as speed of access, and for approving site content. *Web developers*, also called *Web design-*

ers, are responsible for day-to-day site design and creation.

Network and data communications analysts—also known as *network engineers*, *network technicians*, or *Internet developers*—design, test, and evaluate network systems such as LAN, WAN, Internet, and other data communications systems. These specialists perform modeling, analysis, and planning; they may also research related products and make hardware and software recommendations. *Telecommunications specialists* focus on the interaction between computer and communications equipment.

Job tasks and occupational titles in the computer field evolve rapidly. Changing titles reflect new areas of specialization or changes in technology, as well as employer preferences. Many narrow specializations exist, and individuals who work on a contract or consulting basis may be referred to simply as computer specialists or consultants.

The Labor Market

Overall employment of computer scien-

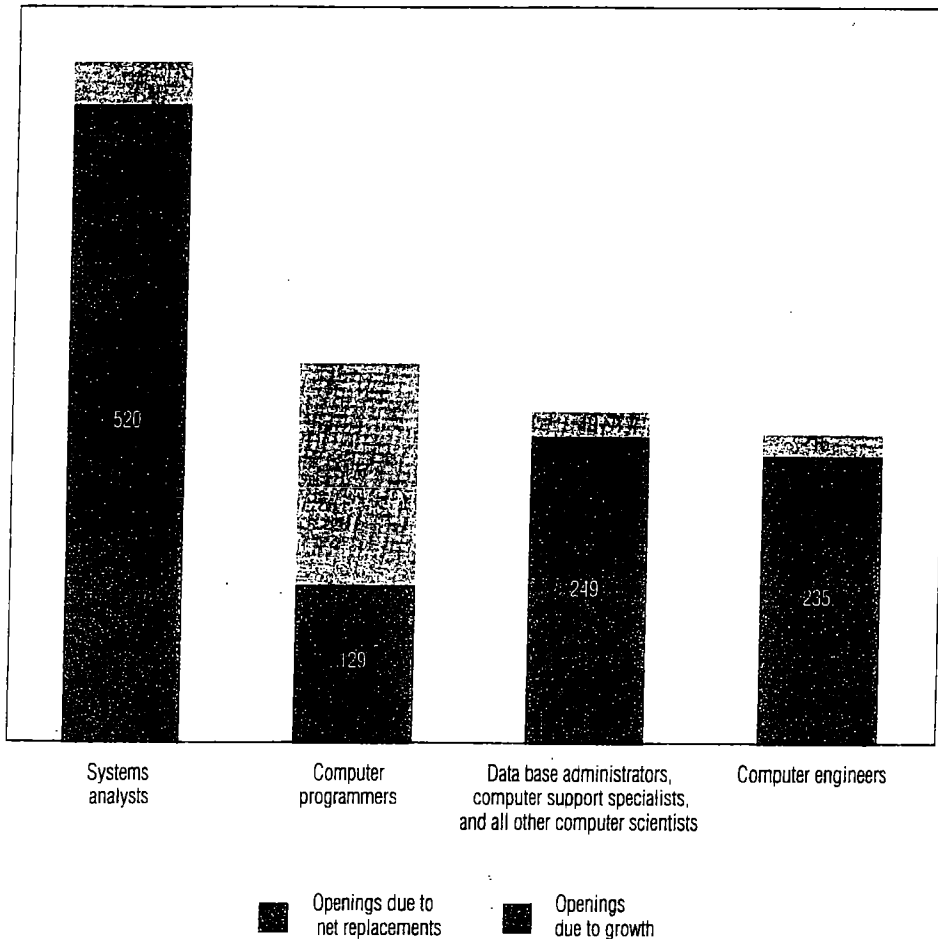
tists, engineers, systems analysts and programmers is more than double what it was in 1983. However, employment has not grown at the same rate for all computer-related occupations. Employment has increased dramatically for computer engineers, scientists, and systems analysts, while employment of computer programmers has been relatively flat.

There are two reasons for the faster rate of growth for the first group. The first is that many of these jobs are highly sophisticated; the other is that all new and emerging computer-related occupations are usually lumped there.

The flattening trend in employment of computer programmers, on the other hand, may be a result of the occupation's narrow definition and worker displacement by technology. Employment growth of programmers has been moderated by consolidation of systems and applications, developments in packaged software, advanced programming languages and tools, and the growing number of users who design, write, and implement more of their own programs.

Chart 1

**Total job openings due to growth and net replacements,
1996-2006 (projected)**



Future demand. Database administrators, computer support specialists, and all other computer scientists, computer engineers, and systems analysts are projected to be the fastest growing occupations between 1996 and 2006, and job openings should be plentiful. (See table 1.) New growth areas usually arise from the development of new technologies. The expanding use of Internet technologies by businesses, for example, has resulted in a growing demand for skilled professionals to develop and support Internet and World Wide Web applications. As the amount of computing power increases and the price of technology continues to fall, organizations will seek help from specialists for their computing needs.

Employment of computer programmers is also projected to grow faster than the average for all occupations but much more slowly than that of other computer professionals. Many of the reasons for faster than average growth are the same as those cited above. Despite numerous openings for computer programmers between 1996 and 2006, the consolidation of systems and applications should continue to moderate growth, as will developments in packaged software, programming languages and tools, and the design and implementation abilities of users.

The proportion of computer scientists, computer engineers, systems analysts, and computer programmers who are self-employed has been rising along with the demand for technical expertise. In 1996, there were about 78,000 self-employed computer scientists, engineers, systems analysts, and programmers. By the year 2006, this number is projected to grow to about 131,000, an increase of over 60 percent. Much of this growth is the result of an increasing demand for specialized technical expertise.

In addition to new jobs created by

Table 2
Percent distribution of workers, by highest level of education completed, 1997

Educational level	Occupational distribution		
	Total, computer-related occupations	Computer systems analysts and scientists	Computer programmers
Total	100.0	100.0	100.0
High school graduate or equivalent or less	7.0	5.3	10.2
Some college, no degree	16.0	14.1	19.6
Associate degree	9.0	7.8	11.6
Bachelor's degree	47.9	49.7	44.3
Master's and higher degrees	20.1	23.1	14.2

growth, thousands of openings should result each year from the need to replace workers who transfer to other occupations or leave the labor force—an average of around 25,000 jobs annually for computer engineers, scientists, systems analysts, and programmers. For most computer professionals, the majority of the jobs created through 2006 should be the result of growth in the occupation. However, in the case of computer programmers, more job openings are expected to result from the need to replace workers who leave the occupation or the labor force. (See chart 1.)

Where they work. The prevailing assumption is that the majority of information technology workers are employed in the information technology, or IT, industry. But no such industry exists in the Federal Standard Industrial Classification (SIC) structure. So where are these workers employed?

A major portion of the so-called IT industry appears to be within the SIC-defined industry of computer and data

processing services. This industry provides computer services on a contract or customer basis. It includes the prepackaged software industry; customized computer programming services; applications and systems software design; integrated systems design and development; data processing, preparation, and information retrieval services, including online databases; rental, leasing, and repair of computers and related equipment; and specialized consulting services.

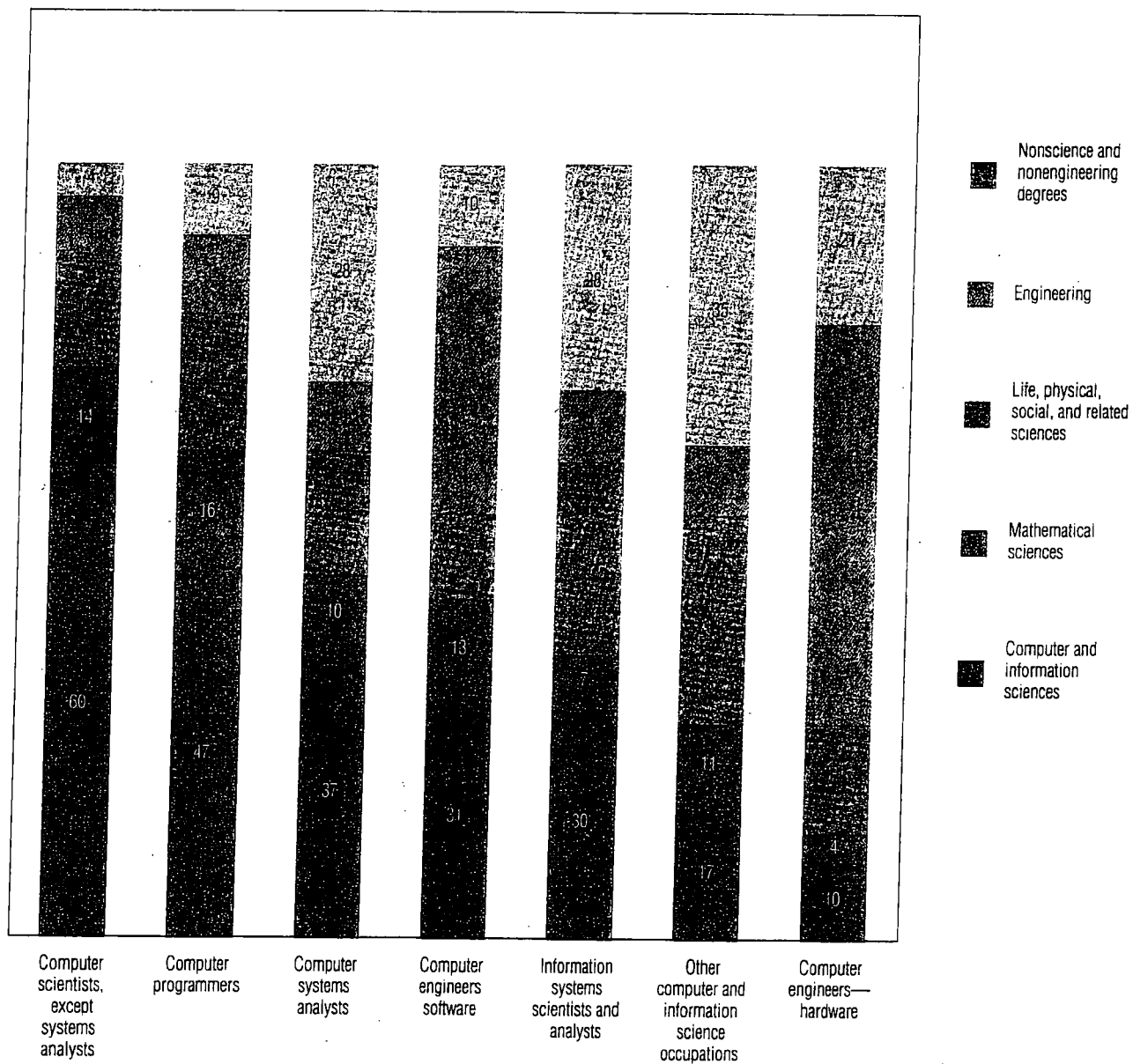
BLS projects employment in computer and data processing services will grow 108 percent between 1996 and 2006, making this the fastest growing industry. Growth of this industry is expected to drive growth of occupations such as computer engineers, computer scientists, systems analysts, and programmers. For example, almost all of the employment growth for computer programmers is expected to be in the computer and data processing services industry, as is 77 percent of the growth for computer engineers and 50 percent of the growth for

systems analysts. Employment growth in all these occupations will account for 49 percent of new jobs in the industry.

However, information technology workers are in nearly every industry. And demand for technology and skilled workers is growing in all industries, not just in those considered high-tech. Many computer scientists, computer engineers, systems analysts and computer programmers work for government agencies, insurance companies, financial institutions, and universities. About 18 percent of all database administrators, computer support specialists, and all other computer scientists, for example, work in wholesale and retail trade.

As might be expected, 24 percent of all systems analysts work in the computer and data processing services industry. However, another large portion is disbursed among 3 different industries: about 16 percent work in manufacturing; about 14 percent in finance, insurance and real estate; and another 12 percent for the Federal government. Similarly, a

Chart 2
Percent distribution of graduates with a bachelor's degree
working in computer occupations, by field of study



Source: National Science Foundation/SRS. 1995 SESTAT Integrated Data System. The SESTAT Web site is srsstats.sbe.nsf.gov

Note: Percentages do not include graduates who hold nonscience and nonengineering bachelor's degrees earned after 1993 and who started working in a science or engineering occupation after April 1993.

Table 3
Percent distribution of 1992-93 bachelor's degree recipients in computer-related fields, by occupation, April 1994

Occupation	Baccalaureate degree major	
	Computer programming	Computer and information science
Total	100.0	100.0
Administrative and clerical support	10.4	12.4
Business and management	6.8	9.4
Computer science and programming	63.8	52.2
Engineering	—	15.0
Mechanic, operator, and laborer	5.8	.4
Sales	11.0	1.2
Other	2.3	9.3

— = Data not available

Source: U.S. Department of Education, National Center for Education Statistics

large portion—around 21 percent—of all computer engineers work in the electronic equipment manufacturing industry, but about 38 percent work in the computer and data processing services industry and another 16 percent in engineering and management services. And 35 percent of all programmers work in computer and data processing services, with another 14 percent in finance, insurance, and real estate.

A growing number of computer scientists and engineers, systems analysts, and programmers are employed on a temporary or contract basis. These specialists work for companies that provide skilled professionals to clients. According to the National Association of Computer Consultant Businesses, temporary employment of skilled technical professionals is one of the fastest growing trends in high-tech hiring. The practice enables companies to bring in highly skilled workers to complete a particular project, rather than to spend time or money training existing workers.

Supply. The apparent preference for college graduates and the tight labor market in recent months has focused attention on the ability of computer science degree programs to meet current and future demands for IT workers. One assumption about IT workers is that the supply of new workers is limited to bachelor's degree recipients in computer science each year. Many people find it alarming that the number of these graduates declined between 1986 and 1995. However, new graduates with a bachelor's degree in computer science are not the only source of workers for computer-related jobs. As table 2 shows, 9 percent of all computer systems analysts and scientists and computer programmers employed in 1997 had an associate degree, 16 percent had some formal college education but no degree, and another 7 percent had a high school diploma or less.

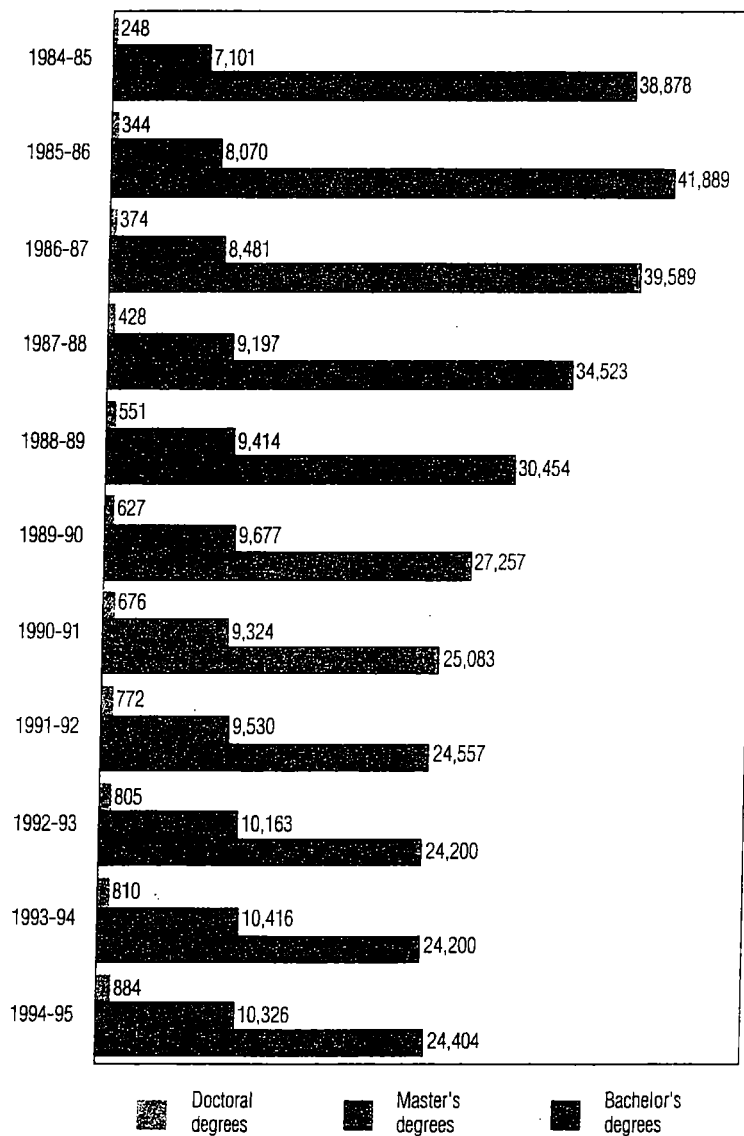
Most significantly, however, data on college graduates indicate that persons with degrees in a variety of majors find

employment in a computer-related occupation. National Science Foundation (NSF) data from 1995 reveal that only 37 percent of all systems analysts with a bachelor's degree and 47 percent of all computer programmers obtained a degree in computer and information sciences. (See chart 2.) In fact, 28 percent of those graduates employed as computer systems analysts and 9 percent employed as computer programmers received a degree in a nonscience or nonengineering related field. Although most computer hardware engineers—52 percent—indicated they held a bachelor's degree in engineering, nearly a fourth—21 percent—had a degree in a nonscience or nonengineering field. And the most common majors of graduates working as a software engineer were engineering (35 percent) and computer science (31 percent); however, 10 percent held nonscience or nonengineering bachelor's degrees.

Furthermore, data on 1992-93 college graduates 1 year after graduation, from the U.S. Department of Education's National Center for Education Statistics, show that the majority of graduates working in computer-related jobs in April 1994 held degrees in areas other than computer and information sciences, predominantly business management and engineering. Only about half of the graduates with degrees in computer and information science were employed in computer-related positions in 1994. (See table 3.)

The number of bachelor's degrees conferred in computer and information sciences declined 42 percent from 1986 to 1995, as shown in chart 3. Despite this decline, employment of computer professionals in the United States has nearly doubled since 1986. Given the employment growth and the premium companies place on a computer science educa-

Chart 3
Degrees awarded in computer and information sciences, bachelor's level or higher, 1984-85 to 1994-95



Source: U.S. Department of Education, National Center for Education Statistics

tion, it seems illogical that students have been staying away from this field of study.

Several theories have been proffered to explain this behavior, although nothing is conclusive. One is that many students find computer science too challenging. These students, drawn to computer science's image as an exciting field, may enter their studies with little idea of what to expect and then realize there is more math and less multimedia than they had thought. Another hypothesis is that the diminishing numbers can be attributed to the overall performance of U.S. students in math and science. Still another theory cites the more rapidly declining proportion of women and minorities obtaining bachelor's degrees from 4-year computer science programs over the 1986-95 period.

The climate of downsizing, consolidation, and layoffs that prevailed a decade ago may also have contributed to declining interest in the field. In a draft of their Stanford Computer Industry Project paper *Strategies for Survival: The Software Talent Shortage*, Avron Barr and Shirley Tessler write that "during the late [19]80's, downsizing of IT staff was a common cost-cutting strategy in corporations in many industries." As a result, they add, "during the early 1990's, corporate computing did not look like a very attractive career to young people, and enrollments in computer science programs in the U.S. dropped."

Much attention has focused on the number of degrees in computer and information sciences awarded since 1986. However, the National Center for Education Statistics also collects separate data on awards of degrees in computer engineering and in business information systems, which are usually not included in the computer and information sciences numbers. Computer engineering programs may be under the engineering school and

may be closely allied with electrical and electronics engineering degree programs. A concentration in information systems is usually available to students through business schools, such as an undergraduate management information systems major, or graduate degrees, such as the so-called techno-MBA.

Overall engineering degrees have exhibited trends similar to those in computer science. The number of degrees awarded in engineering has declined between 1986 and 1995 for similar reasons, including the performance of students in math and science and the climate of downsizing during the late 1980s. In business information systems, the number of degrees awarded has risen, but these programs still account for a small number of students overall.

In contrast to declining degree awards, enrollment in selected computer fields has been increasing in recent years. Survey results from the Computing Research Association indicate that enrollments in computer science and engineering programs were up 39 percent in 1997, an increase of about 40 percent for the second straight year.

Anecdotal evidence on computer science fields also suggests that enrollments are rising, and some departments are unable to keep up with demand. According to John Werth, formerly the Associate Dean for Information Technology at the University of Texas at Austin, "Enrollments in computer science are so large now that we can no longer allow noncomputer science graduates to take computer science classes." And at Rensselaer Polytechnic Institute, the number of students enrolled in the computer science program has doubled over the past four years.

As the data have indicated, however, a bachelor's degree in computer science is not always necessary to work in a computer-related occupation. A January

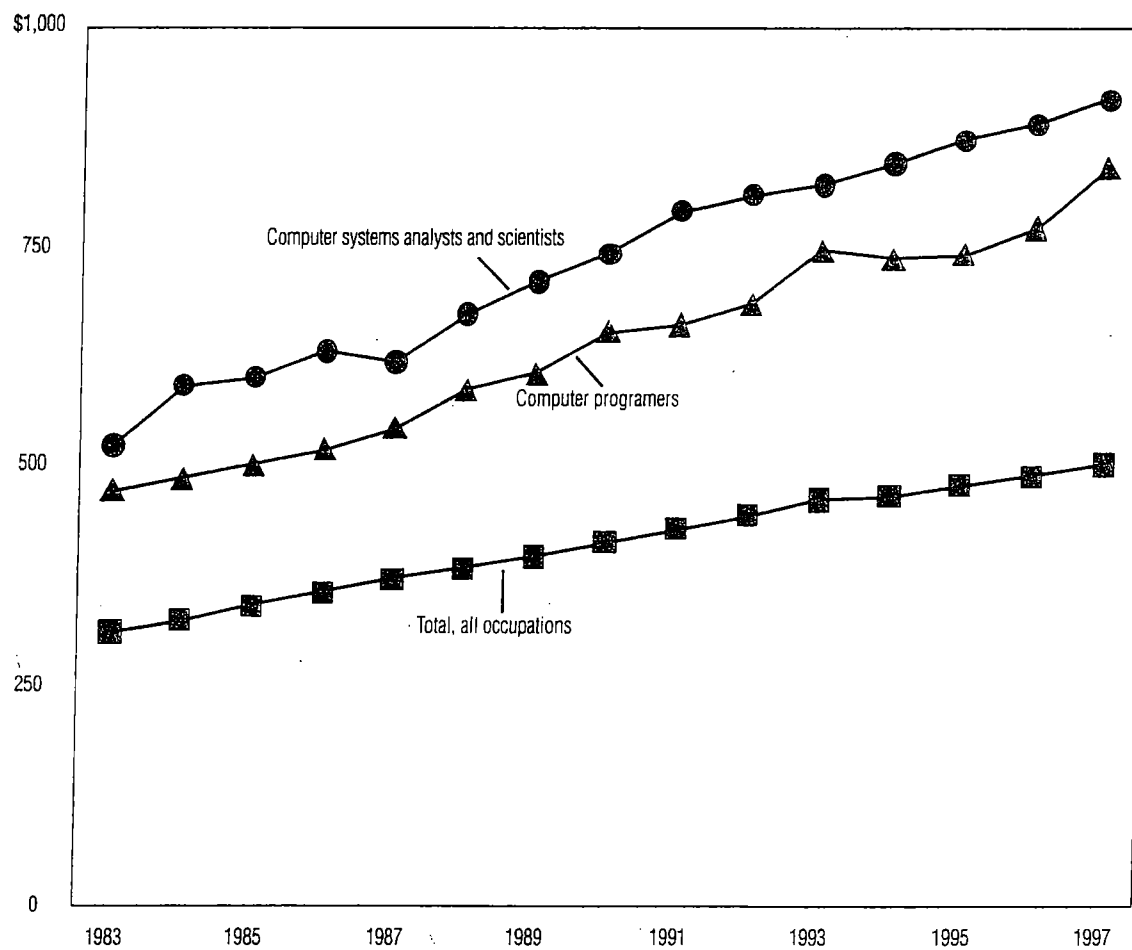
report by the National Association of Colleges and Employers found the demand for computer science workers is so strong that about 54 percent of employers—in both technical and non-technical firms—indicated they would accept associate degree holders to fill technical positions that usually require a higher degree. Other employers said they were willing to hire "well-educated bodies" they could train. As a result, many students take computer courses as non-computer science majors, and colleges and universities are developing programs to prepare students in all majors for entry into computer-related fields.

Earnings

One key indicator of strong demand within a field or occupation is a significant increase in its relative wages. Historically, workers in the computer field have been paid higher salaries than workers in other fields. Data from the Current Population Survey (CPS) show that, since the early 1980s, median weekly earnings for computer systems analysts and scientists and computer programmers have been consistently higher than the average for all workers. (See chart 4.) However, the same is true for all professional specialty occupations. Annual increases in weekly earnings for computer occupations have been comparable to wage increases for all professional specialty occupations.

The rising earning potential of information technology workers has received considerable attention, as salary increases are reported to be larger in the past year than in previous years. A *Computerworld* magazine salary survey identified an increase of 10 percent or more from 1996 to 1997 in 11 of 26 positions surveyed. These included entry-level positions for systems analysts and programmers—and also for web-

Chart 4
Median weekly earnings of wage and salary workers, 1983-97



masters, which made the survey for the first time. As you might expect, people with skills that are in great demand command the highest salaries.

CPS data also show greater wage increases from 1995 to 1997 than in the past for certain computer-related occupations. This increase reflects a tightening labor market and growing demand for computer professionals in all industries. Median weekly earnings for computer programmers increased from \$743 to \$840, and for computer systems analysts and scientists from \$872 to \$918. For all occupations, the increase was from \$479 to \$503.

According to the National Association of Colleges and Employers salary report, 1998 starting salary offers to computer science graduates in April averaged \$40,843 annually—an increase of 9.8 percent from offers extended in September 1997. As table 4 shows, starting salary offers for bachelor's degree graduates in other computer-related fields were also up.

However, the increase in starting salaries was not limited to graduates of computer fields. In business disciplines, for example, offers to accounting majors rose by about 10.8 percent from September 1997 to an average of about \$33,425; graduates in economics and

finance received starting salary offers averaging about \$35,219, an increase of 12.4 percent over the average September 1997 offers. Noncomputer engineering disciplines also fared better, with civil engineering majors seeing offers of about \$35,705, an increase of 8.1 percent, and mechanical engineering majors getting offers averaging \$40,750, an increase of 6.4 percent.

As expected, starting salaries increase with education. Starting salary offers for master's degree candidates in computer science averaged \$52,190 in April, while offers for computer engineering master's candidates averaged \$50,650. Starting salaries for doctoral degree candidates varied.

Along with field of study and education level, earnings variation depends on factors such as the type and location of the job. For example, *Computerworld* magazine notes that pay in cities such as New York and Los Angeles is higher than the national average for certain positions.

Higher starting salary offers are not the only way firms compete for computer professionals. Stronger competition forces companies to be more creative with benefits to attract and retain talented workers. The most significant benefits are financial ones and include bonuses, profit sharing, or funds for ongoing training. Other compa-

nies provide perks such as relaxed working environments, flexible hours, child and elder care, and onsite services ranging from fitness centers to car washes.

Preparing for an IT Career

Most employers still place a premium on some formal college education, and a bachelor's degree is a prerequisite for many jobs. In fact, the majority—68 percent—of computer systems analysts and scientists and computer programmers held a bachelor's degree or higher in 1997. However, many information technology jobs may require a 2-year degree or less. For example, employers now commonly require bachelor's degrees for programmers, although some programmers qualify for jobs with 2-year degrees or certificates. A Ph.D., or at least a master's degree, in computer science or engineering is usually required for computer scientist jobs in research laboratories or academic institutions.

The level of education and type of training employers require depend on employers' needs. One factor affecting these needs is changes in technology. As demonstrated by the current demand for workers with skills related to the Internet or World Wide Web, employers often scramble to find workers capable of implementing "hot" new technologies. Another factor driving employers' needs is the time frame in which a project must be completed.

There are many ways workers enter computer-related occupations. Obviously, someone staffing a help-desk needs skills and training that differ from those of a computer engineer designing chips or a webmaster responsible for creating and maintaining a Web page. The following is an overview of some education and training options available.

Bachelor's or higher degree. Computer hardware engineers usually need a bachelor's degree in computer engineering or electrical engineering,

Table 4
Starting salary offers for bachelor's degree graduates in selected computer fields

	April 1998	September 1997
Hardware design and development	\$43,312	\$41,081
Computer engineering	42,436	40,093
Software design and development	41,890	39,630
Computer programming	39,301	35,613
Systems analysis and design	39,257	36,597
Management information systems (MIS)	38,564	35,228

Source: National Association of Colleges and Employers

whereas software engineers more likely hold a degree in computer science. For systems analyst or database administrator positions, many employers seek applicants who have a bachelor's degree in computer science, information science, or computer information systems. In addition to the 24,404 bachelor's degrees awarded in computer and information science in 1994-95, 2,345 degrees were awarded in computer engineering and 6,166 in business information systems, according to the National Center for Education Statistics.

Computer engineering programs emphasize hardware and may be offered as a degree option or in conjunction with electrical and electronics engineering. As a result, graduates of a computer engineering program from a school or college of engineering often find jobs designing and developing computer hardware or related equipment, even though they also have the skills required for developing systems or software. Computer engineers usually possess strong programming skills, but they do more program analysis and problemsolving than code writing.

For computer science, however, there is more variation in where the department falls within an institution. Some may be part of a school or college of liberal arts while others may be within colleges of natural or applied sciences. The computer science department might also be affiliated with schools, colleges, or departments of engineering rather than with those of arts and sciences. Unless the program is part of the engineering department, the focus is on software, and graduates may work in areas of software engineering.

Management information systems programs are usually part of the business school or college. These programs differ considerably from computer science pro-

grams, emphasizing business and management oriented coursework and business computing courses. The objective of these programs is to develop hardware and software capabilities for solving fundamental business problems. Graduates of these programs may work as business systems analysts or programmer/analysts or in areas such as end-user support.

Two-year or associate degrees. Most community colleges and many independent technical institutes offer an associate degree in computer science or a related technology field. Some IT jobs may be better suited to the technical training these programs offer. "The information systems field is becoming very skills-based," says Jennifer Koss, a self-employed computer consultant. "You see a lot more people today without a typical 4-year degree." According to data from the National Center for Education Statistics, there were about 10,000 associate degrees awarded in computer science in 1994-95 and another 7,000 in business information and data processing services.

The role and objectives of a community college differ from those of most 4-year institutions. "Since most funding comes from local sources, community colleges have to be very community aware," says Margaret Rivera, Services Director for the American Association of Community Colleges. Both credit and noncredit courses and programs are often geared toward developing skills needed by local businesses.

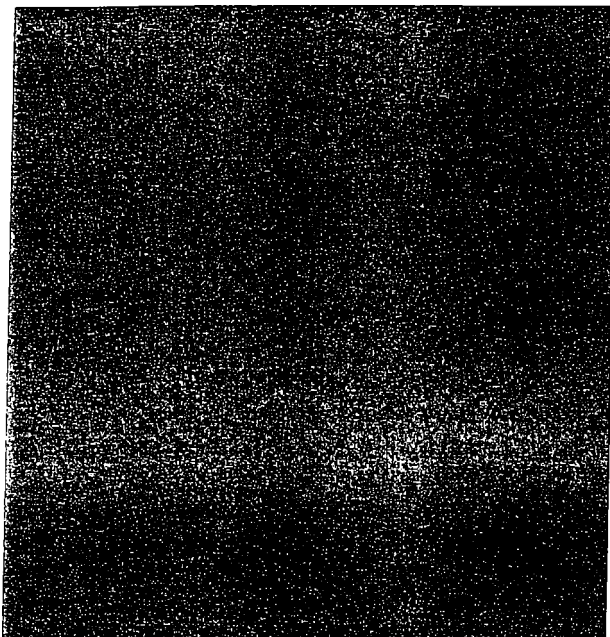
Other institutions, such as technical or proprietary schools and private training institutes or organizations, may also provide credit for coursework and grant associate degrees. Like community colleges, their programs may be more geared toward meeting the needs of local businesses and may be more occupation specific than those designed for a 4-year degree.

Other awards, diplomas, and certificates. In addition to the bachelor's and associate degrees awarded in 1994-95, nearly 30,000 nondegree awards were bestowed in computer and information sciences, according to data from the National Center for Education Statistics. That number includes almost 19,000 awards from programs lasting 1 year or less and another 11,000 from programs of 1 to 4 years. About 12,000 more were granted in business information and data processing services.

Many of the specialized diploma or certificate programs are designed to supplement or upgrade skills. These types of programs are for individuals who have no prior experience, hold an associate or bachelor's degree, or need technical skills for changing careers. The award is a sign of proficiency in a particular technology.

Technological advances come so rapidly in the computer field that continual study is necessary to keep skills up to date. "Most of what we work with today didn't exist when we were in college, so you must learn as you go," says Koss. The burden to keep skills updated falls on the worker.

Individuals interested in changing careers or developing a particular skill or area of expertise often return to a 2-year community college, technical school, or private training organization for additional training or re-training. Continuing education is usually offered by employers, hardware and software vendors, colleges and universities, and private training institutions. Additional training may come from professional development seminars offered by professional computing societies. But training can be expensive. Therefore, those seeking to upgrade or update skills should always research their training options carefully.



Background/experience. Companies often seek individuals who have a background in the firm's industry or are familiar with its business. Many people develop advanced computer skills in one occupation and then transfer those skills into a computer occupation. For example, a financial analyst proficient in computers might become a systems analyst while a computer programmer might move into a systems analyst job.

Workers who shift into new or different computer careers usually have—or get—training in a high-tech field. Cindy Brault was a computer science major who switched to accounting her sophomore year in college. She changed majors because, she says, computer science entailed “too much by-yourself kind of work.” After working as an accountant for 4 years, Brault decided to do

something different. Her background provided accounting information systems knowledge, enabling her to work as a consultant before landing her current job as a product analyst for a large company. Brault calls her previous occupation an asset. “Having experience with the types of software you are developing enables you to know what the users are thinking and what they prefer.”

The Bottom Line

Opportunities abound in the field of information technology. The job market for computer-related occupations is booming, and demand for computer professionals is projected to remain strong through the year 2006. A degree in computer science or a related technical field is perhaps the easiest ticket into the field. But the data also show that individuals

with the right experience and training can work in a computer-related occupation regardless of their formal education.

For More Information

This article is one of many sources for learning about careers in information technology. A related article by Gary Steinberg, “Jobs Associated With the Internet,” is in the summer 1997 *OOQ*.

Visit your local library for books, periodicals, Internet, and other references on computers and computer-related occupations. Research employment opportunities by checking out traditional sources of job vacancies, such as the newspaper classified ads, or browsing Internet job and resume sites. In addition to listing job vacancies and soliciting resumes on their Web sites, many potential employers provide background information about the company.

The library or your school counseling office should have a copy of the *BLS Occupational Outlook Handbook, 1998-99 Edition*. It describes the duties, working conditions, training, job outlook, earnings, and more for about 250 occupations. The *Handbook* is accessible online at www.bls.gov/ocohome.htm. Or, you may buy it from the Superintendent of Documents; see the order card at the back of this issue.

The following organizations also have information on computing careers, education and training, and professional development:

Association for Computing Machinery (ACM)
1515 Broadway
New York, NY 10036
www.acm.org

Institute of Electrical and Electronics Engineers (IEEE)
1828 L St. NW., Suite 1202
Washington, DC 20036
www.ieee.org

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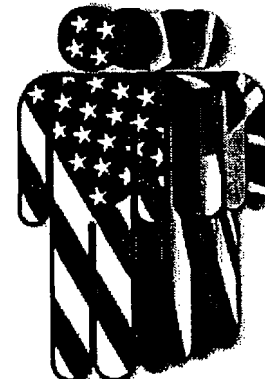
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August 31, 1999

★ CAPITAL DISPATCHBy JERI CLAUSING **ETC****Bills Reopen Debate Over Visa Limit**

WASHINGTON — Just one year after the high-tech industry won a tough political fight to hire more skilled foreign workers, Republican leaders are re-igniting the contentious debate that some say underscores the need for more permanent immigration reforms.

The Clinton Administration remains opposed to any further increase in temporary visas for educated workers, saying the industry needs to focus on training people domestically to meet its employment needs. But no one is dismissing the chance that new legislation to raise the number of so-called H1-B visas could pass after Congress returns from a monthlong recess next week, particularly as Republicans and Democrats compete to be seen as the party most friendly to the high-tech industry.



Christine M. Thompson

Just before Congress headed out for its August break, three bills were filed to allow companies to hire more foreign workers on temporary visas. Proposals by Senator Phil Gramm, a Texas Republican, and Representative David Dreier, a California Republican, would nearly double the number of H1-B visas reserved for skilled workers, to 200,000 from 115,000.

Additionally, Representative Zoe Lofgren, a Democrat who represents California's Silicon Valley, has filed a bill that would create a new class of visas for foreign students with science degrees, which would be in addition to the H1-B visas high-tech companies now rely on.

Meanwhile, Senator John McCain, an Arizona Republican who is running for President, said he intends to file another bill in September that would increase the visa cap to 175,000 a year and give the U.S. Labor Secretary the authority to raise the limit

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beyond that if necessary.

Those proposals come just a year after Congress raised the cap on H1-Bs from 65,000 -- despite accusations that companies were using the visas to hire cheap, young foreign workers to replace more experienced Americans who have been hit by layoffs.

High-tech companies and major trade groups like the Information Technology Association of America said they would welcome any and all of the bills, but they have so far declined to enter the debate on Capitol Hill.

Five companies turned down invitations to testify at a hearing of the House Immigration Subcommittee just before the Congress's summer break. Those close to the process say high-tech companies are waiting and watching, because they are hesitant to reenter what turned into one of the industry's toughest political battles last year, and because they have been focusing this year on several other key items. Leading the industry's agenda are efforts to pass legislation limiting high-tech companies' liability in the event of Year 2000 equipment failures and winning a permanent extension of a tax credit for research and development.

A renewed debate over whether there really is a critical shortage of technically skilled Americans.

Renee Winsky, a vice president of the ITAA, said she was unsure what prompted the new round of proposals, which began with an announcement earlier this summer by Gramm during a visit to Texas Instruments. She said none of her members have even

called to suggest that the ITAA push the issue.

Although she contends more visas are needed, Winsky said that for now, she is working to develop longer-term solutions for what the industry says is a critical worker shortage.

"Certainly, we are not going to come out in opposition to something that helps our members' companies," Winsky said. "But everyone knows that long-term, we have to look at employment immigration. We have a skills gap, we have a gap in our workforce that's not going to be fixed by just increasing the visas for three years."

"This is something that's not going to go away with last year's increase or anything that is going to pass this year."

The proposals come just a year after Congress approved increasing the cap on H1-Bs to 115,000 from 65,000 after a tough battle with the White House that finally resulted in a compromise that added an application fee for the H1-B visas to finance domestic training programs. But because that battle dragged on for months longer than anticipated, it created a backlog of visa applications from 1998 that resulted in this year's cap being hit early as well. Likewise, officials fear that the backlog of applications now piling

up will mean that next year's limit will also be reached early.

But with the new bills comes a renewed debate over whether there really is a critical shortage of skilled Americans capable of filling openings in the fast-growing information technology sector, or whether the companies are just trying to keep wages down.

To address questions about wages, last year's bill called for better record keeping on the salaries being paid H1-B recipients, but the new procedures are not yet in place. That means no federal agency yet has an accurate count of how much H1-B workers are being paid. And studies from the Department of Commerce and Department of Labor have been unable to prove conclusively that there is a high-tech labor shortage.

Additionally, testimony at House Immigration Subcommittee hearings this year have raised questions about whether the INS count of the visas is accurate. There are also indications that fraud is a serious problem in the program, according to the subcommittee's chairman, Representative Lamar Smith, a Texas Republican.

At the hearing, witnesses from the Immigration and Naturalization Service and the State Department described a spot check of 3,247 H1-B petitions issued by the consulate in Chennai, India.

"The results were staggering — 45 percent of the cases could not be authenticated and 21 percent were identified as outright fraudulent," Smith wrote to Doris Meissner, the INS Commissioner. "Chennai issued more than 15,000 H1-B visas in fiscal year 1998. A significant portion of those visas may have been issued on the basis of fraudulent or unverifiable documentation."

"Non-government witnesses who testified at the May hearing, including a representative of large corporations that rely on the H1-B program to obtain key personnel and two immigration attorneys, agreed that fraud is a serious problem in the H1-B program," the letter said. "They expressed concern that the large number of fraudulent petitions severely reduces the number of visas available to legitimate employers."

Smith asked Meissner to take steps to crack down on fraud, but she has not yet responded to the letter. An INS official said a response would be sent within 60 days.

Allen Kay, a spokesman for Smith, said the congressmen will be looking closely at all the bills when Congress returns in September. But he said that Smith, like Winsky, would like to focus any new debate on longer-term reforms of the system for permanent immigrants rather than temporary visa programs.

Related Articles
White House Threatens Veto for High-Tech Visa Bill
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Bill on Immigrants Advances in House
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Subject: H-1b Grants

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Regulation, Law & Economics

Job Training

DOL Moves on High-Skill Training Program

Mandated by 1998 Law Boosting H-1B Visas

The Labor Department has started the process of awarding grants for a new training program aimed at preparing both employed and unemployed workers for jobs in occupations, such as information technology and health care, that employ large concentrations of high-skilled, foreign workers under a temporary visa program.

The program is mandated under last year's American Competitiveness and Workforce Improvement Act (ACWIA), which increased for three years the annual cap on the number of highly skilled, foreign workers allowed to work in the United States under the H-1B program. In addition to raising the ceiling on the number of visas allowed under the program, the legislation requires employers to pay a \$500 fee to a training fund for each worker hired under the program.

The Labor Department anticipates making about \$25 million available for individual grants of up to \$1.5 million in the first round of training programs initiated under the new law, according to an announcement scheduled for publication in the Aug. 16 *Federal Register*. The grants will be available to private industry councils established under the Job Training Partnership Act, local workforce investment boards set up under the new Workforce Investment Act, or regional consortia of PICs or local boards.

While ACWIA "is quite specific about the fact that only PICs, local boards, and consortia may apply for and receive these grant awards, it does not preempt the participation of other concerned entities which are integral to the process of planning for and conducting skill training in skill shortage areas," the Labor Department notice said. The agency is therefore requiring that grant applicants demonstrate that the business community in their region be widely represented in the proposed training efforts.

Applicants are also "strongly encouraged" to reach out widely and involve a broad spectrum of other organizations, such as labor unions, community colleges, other postsecondary educational institutions, and community-based organizations, the notice said. The involvement of entities that have a sound grasp

of the job market in the region and are familiar with occupations in which there are skill shortages is encouraged, as is participation by businesses and business associations with first-hand experience with the problems of coping with skill shortages.

Applications for program grants are due within 75 days of the DOL notice's publication in the *Federal Register*. The Labor Department anticipates making 15 to 20 grants, with an initial performance period of 24 months. Grants may be extended for an additional 12 months, depending on successful performance and available resources.

\$500 Training Fee

The \$500 training fee mandated under ACWIA applies to employers filing petitions to hire workers under the H-1B program on or after Dec. 1, 1998, and before Oct. 1, 2001. The fees are to be disbursed between the Labor Department and the National Science Foundation for job training programs; low-income scholarships; grants for mathematics, engineering, or science enrichment programs; and costs associated with the administration and enforcement of the H-1B program.

Successful applicants for the DOL training grants must agree to provide resources equivalent to at least 50 percent of the grant award. Grant applications should provided details regarding involved employers that will provide matching funds and that intend to employ workers participating in the technical skills training, the notice said.

The training fee was included in ACWIA in an effort to allay concerns of those who say that jobs for workers hired under the H-1B program should be going to U.S. workers. Included as part of a compromise deal leading to enactment of the legislation, the new application fee is intended to fund additional training opportunities for U.S. workers, an effort the Clinton administration maintained is a vital component of addressing the long-term demand for highly skilled workers and meeting that demand with U.S. workers.

The administration's insistence on including new training funds in the bill, as well as additional protections for U.S. workers, was a sticking point in the protracted efforts to reach a compromise on the measure. An initial proposal to impose a \$250 fee was eventually scuttled in favor of the \$500 fee, which does not apply to higher education institutions and nonprofit or governmental research organizations.

At the time the compromise was reached, the administration projected that the fee would raise at least \$75 million a year, with 65 percent going to training and 30 percent to the scholarships. The remaining 5 percent is to be divided between administration of the program and enforcement of its labor protections. The fee sunsets at the beginning of fiscal year 2002, as does the temporary increase in the H-1B program's 65,000 cap.

High-Demand Occupations

The skills training funds are to be directed at occupations in which there is a demonstrated demand for workers. "One measure of this demand," the Labor Department notice said, is the number of H-1B applications filed by employers.

The Labor Department has documented the kinds of occupations certified under the H-1B program and the number of job openings certified in each occupation. The notice includes Labor Department data showing the number of job openings certified for the first eight months of the fiscal year. Occupations in systems and analysis topped the list with 360,745 certifications; followed by therapists (181,665); accountants, auditors, and related occupations (35,665); other computer-related occupations (28,529); electrical/electronic engineering occupations (16,859); and physicians and surgeons (11,264).

Business claims that worker shortages continue in high-tech occupations despite last year's increase in the H-1B cap were disputed by a representative of organized labor during a recent congressional hearing. David Smith, director of policy for the AFL-CIO, argued against any further increases, saying there is no substantial proof of the widespread worker shortage claimed by the information technology industry.

Smith also took issue with the time it has taken for the training and scholarship programs called for by ACWIA to be put in place. In addition, he maintained that the IT industry's record of training U.S. workers

both inside and outside the industry is "pathetic."

Companies Defend Efforts

However, Austin Fragomen, chairman of the American Council on International Personnel, said U.S. companies are taking numerous steps to meet the challenge of the enormous skills gap in the United States, with such programs as K-12 partnerships, tuition reimbursement, and on-site training.

Crystal Neiswonger, an immigration specialist for TRW Inc., testified during the House Judiciary Immigration and Claims Subcommittee's Aug. 5 hearing that since 1995 her company has been finding it increasingly difficult to find U.S. candidates for positions requiring degrees in electrical, mechanical, industrial, and software engineering despite the high priority it places on hiring from the U.S. workforce.

In response, Neiswonger said, TRW has funded efforts to enhance math and science curricula at the elementary and high school levels, sent more than 300 disadvantaged children to the Space Camp at the U.S. Space and Rocket Center in Huntsville, Ala., helped fund a program in which TRW engineers coach middle school students in developing an appreciation for the critical need for mathematics in the workplace, and sponsored high school teams to participate in an international engineering competition designed to inspire young people to excel in math and science.

A copy of the Labor Department notice on the H-1B technical skills training grants appears in Section E.

For further information, contact Diemle Phan at the Labor Department, SGA/DFA 99-019, 200 Constitution Ave., N.W., Room S-4203, Washington, D.C. 20210. Inquiries should include the solicitation grant award number (DFA 99-019), a contact name, and fax and phone numbers. ☎

Reid Offers Measure To Change Computer Export Rules

TECHNOLOGY

SENATE MINORITY Whip Reid has introduced companion legislation to a House bill that would reduce the time Congress has to review some of the changes made to high performance computer exports rules, *National Journal's Technology Daily* reported.

Reid's bill would cut from six months to one month the time Congress has to review certain changes to export control rules on high performance computers.

Rep. Zoe Lofgren, D-Calif., has introduced similar legislation.

It is unclear whether the legislation would affect the latest changes loosening controls on computer exports announced by the Clinton administration last month.

But it could ensure that future changes are not held up by congressional delay. The administration has expressed support for reducing the congressional review time.

Export controls on computers are divided into four tiers with the most stringent controls placed on Tier Four countries, such as Libya and Iraq, and very few controls placed on Tier One countries, which include Western European countries and other strong U.S. allies.

The six-month review requirement stems from language added by Congress in 1997 to the FY98 defense authorization bill, and applies to some of the changes to controls on Tier Three countries, such as China and Russia.

The administration announced last month that controls on the performance level of computers exported to Tier Three countries would be raised from 2,000 MTOPs — millions of theoretical operations per second — to 6,500 MTOPs for military end users and from 7,000 MTOPs to 12,300 MTOPs for civilian end users.

Congress has six months to review changes to controls on exports to military end users in Tier Three countries.

In addition, changes to a government notification requirement for all exports of computers with a performance level over 2,000 MTOPs to Tier Three countries also must go through the six-month review.

The new rules will increase the performance level on computers subject to this government notification from 2,000 MTOPs to 6,500 MTOPs.

"What we need in the very near term is approval without having to wait the whole six months," said Rhett Dawson, president of the Information Technology Industry Council.

Industry officials said the changes in computer export controls were necessary to ensure that advances in technology would not subject common business machines to government review.

A six-month delay on some of the changes, however, could cause a backlog in the system, Dawson said.

— BY JULIANA GRUENWALD

Consensus Elusive On Another Increase In H-1B Visas

TECHNOLOGY

EVEN AS SOME legislators are calling on Congress to once again raise the cap on the number of temporary visas available for highly skilled foreign workers, critics argue that many of the questions that surrounded the debate around last year's increase have yet to be answered.

House Judiciary Immigration and Claims Subcommittee Chairman Lamar Smith, R-Texas, a longtime critic, was among those who raised the issue during a hearing on these visas, known as H-1Bs, before his subcommittee Thursday, *National Journal's Technology Daily* reported.

In response to pleas from the high tech industry that it could not find enough skilled U.S. workers to meet their needs, Congress raised the cap on H-1B visas in 1998, boosting the number available for 1999 and 2000 from 65,000 to 115,000.

But even with this increase, the Immigration and Naturalization Service

reported that the cap had been hit in June — more than three months before the next fiscal year.

Smith said there are a number of possible reasons why the cap has been hit, beyond the shortage of skilled workers claimed by the industry.

They include addressing a backlog of pending requests of H-1B visas from 1998 and a prevalence of fraud in the H-1B program, he said.

Smith said it was necessary to find out why the cap was reached and obtain a true picture of the high tech job market before deciding "whether or not Congress should again raise the annual quota of H-1B visas."

David Smith, director of the AFL-CIO's public policy department, argued that the high tech industry has yet to prove its case that there is a shortage of U.S. workers, pointing to statistics that show wages in the industry have not risen in response to a tight labor market.

He also pointed to a much higher

unemployment rate among older information technology workers and to layoffs by some large high tech firms such as EDS.

Still, even as he argued for an increase in the H-1B cap, Austin Fragomen, chairman of the American Council on International Personnel, noted that technology companies in his association have reported only a "slight upswing in H-1B use."

Meanwhile, **House Rules Chairman Dreier** introduced legislation Wednesday that would increase the number of H-1B visas to 200,000 for 2000-2002.

The legislation is identical to a bill introduced in the Senate by **Sen. Phil Gramm**, R-Texas.

Dreier's move came a day after **Rep. Zoe Lofgren**, D-Calif., introduced a bill that would create a new class of temporary visas for foreigners who graduate from U.S. colleges or universities with a high tech degree, and have been offered a U.S. job in that field.

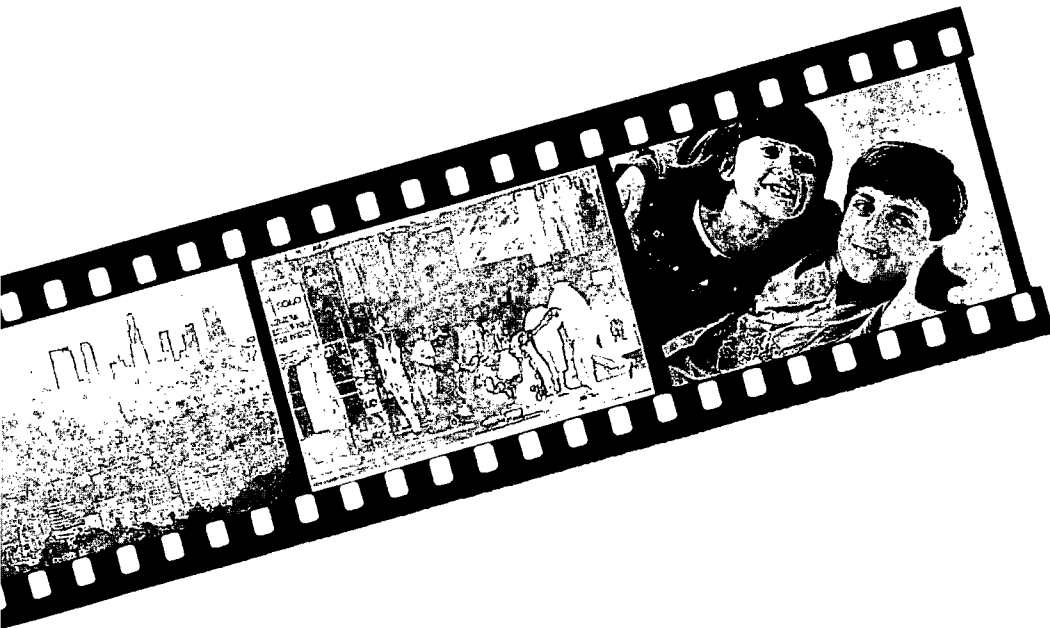
— BY JULIANA GRUENWALD

"To most American eyes, these look like poverty neighborhoods,
but this is the snapshot view; in the video version

**they are the first
frames on the way
to prosperity,**

the first way-station on the
Santa Ana and San Bernardino
Freeways to middle-income
American comfort."

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FRIDAY

Battle Expected Over Shuster Aviation Spending Plan

OUTLOOK

BUDGET AND TAX ISSUES will continue to torment House Republicans this week, as the GOP leadership attempts to defeat on the House floor the airport improvement bill sponsored by **Transportation and Infrastructure Chairman Shuster**. The Aviation Investment and Reform Act for the 21st Century, or AIR-21, spends \$14.3 billion more on aviation infrastructure over the next five years than called for in the budget baseline and the FY2000 budget resolution. The House this week also may debate the FY2000 Transportation appropriations bill, which the House leadership wants to trim once they change overall allocations to all the annual appropriations bills. Because more than

half the spending in the Transportation appropriations bill is guaranteed by last year's highway reauthorization bill, there is little room to make those cuts — and they likely will be targeted at Amtrak and the Coast Guard.

As per the agreement between Shuster and **House Speaker Hastert** just before the March vote on the FY2000 budget resolution, the debate over AIR-21 will force House members to choose between building airports or cutting taxes. **House Budget Chairman Kasich**, **Appropriations Chairman Young**, and **Ways and Means Chairman Archer** late last week sent a "Dear Colleague" to House Republicans saying they will offer an amendment to lower the spending levels in

continued on page 5

High Tech Visa Issue Stirs Again

JUDICIARY

LAST YEAR, Congress and President Clinton agreed to raise the cap on the number of so-called H-1B visas allocated each year to highly skilled foreign workers — in an effort to alleviate a labor shortage affecting high tech companies.

The issue divided both the Republican and Democratic caucuses — and placed the White House in a vise between organized labor and the Silicon Valley high tech interests that Vice President Gore is trying to cultivate in his bid for the presidency next year. After several months of intense and exhaustive negotiations, Clinton agreed to raise the annual visa cap from 65,000 to 115,000 for three years.

But, according to the Immigration and Naturalization Service, the new FY99 cap will be reached Tuesday — meaning no new H-1B visas can be issued until October. The visa well is dry.

Consequently, the high tech industry is asking Congress and the White House again to raise the caps.

But House and Senate aides said the "political well" of support for moving such legislation also is dry — drained by last year's fight.

Several House members and senators — such as **House Rules Chairman Dreier** and **Senate Banking Chairman Gramm** — are planning to introduce legislation this year to increase the caps. But those bills are unlikely to move because not enough time has passed since the last battle, supporters said.

The high tech industry has begun its lobbying push. But aides on the receiving end of those calls say the industry's focus is really to lay the groundwork for raising the caps during the 107th Congress.

"It's something we'd like to do, but it would be too tough this year," said a GOP aide. "We'll start talking about it this year, but with the expectation that it won't happen until the next Congress."

An aide to one of the primary Democratic sponsors of last year's effort to increase the

continued on page 5

TODAY'S HIGHLIGHTS

This Week's Floor Schedule
Senate

The Senate convenes today at noon to consider the FY2000 Energy and Water appropriations measure. On Tuesday, the Senate will consider cloture motions on Social Security "lock box" legislation and the oil, gas and steel assistance bill. A final vote on the Y2K liability bill is expected Tuesday. In addition, the FY2000 Military Construction and Commerce-Justice-State appropriations bills are candidates for floor action in the coming days.

House

The House convenes today at 12:30 p.m. to consider six bills under suspension of the rules. For the balance of the week, the House will consider the Protect America's Treasures of the Revolution for Independence for Our Tomorrow Act, the Aviation Investment and Reform Act, juvenile justice legislation, and the FY2000 Transportation appropriations bill.

(Committee schedules begin on page 11.)

High Tech Visas

Continued from page 1

caps said: "Republicans may be talking about it, but they have problems [on the immigration issue] within their own caucus. They need Democratic support to pass it — and it's not there."

Because a large chunk of the House Republican Conference opposes any increase in immigration levels, H-1B advocates last year relied on support from Democratic House members with large high tech constituencies.

In the Senate, **Minority Leader Daschle** said he is "open to looking at" raising the H-1B caps "if the need can be demonstrated. But they haven't done that yet."

Meanwhile, White House officials said raising the caps is a nonstarter this year. "We just raised the caps dramatically on a short-term basis," said a White House official. "Now the industry needs to take the long-term steps to address worker training."

The official added that the higher cap limit for FY99 will be hit Tuesday due to a backlog of 20,000 applications left over from FY98 — which were applied to this year's cap. Thus, the situation should not be as tight during FY2000, this official said.

During last year's negotiations, the White House insisted that the higher caps expire after three years, meaning

the cap will return to 65,000 annually beginning in FY2002.

White House aides argue that last year's three-year fix was a short-term solution to alleviate the immediate labor shortage in the high tech industry.

In return for signing last year's bill, the White House insisted that the long-term solution to the labor shortage is industry-funded programs and schools to train American workers for high tech jobs.

At a news conference last week, high tech industry representatives said they have embarked on such training efforts — but added they still want the caps raised permanently.

Information Technology Association of America President Harris Miller argued that the raised caps did not adversely affect employment among American high tech workers last year.

In interviews, high tech executives acknowledged privately that another short-term raising of the caps will be difficult this year. But their long-term goal is to raise the caps permanently, and they used the occasion this month of reaching the FY99 cap to shine the spotlight on their long-term objectives.

Because any serious push to raise the H-1B caps will be punted until the next Congress, the issue could become significant in the 2000 presidential campaign.

It is not that the general public feels strongly about the issue. Rather Gore

and his Republican rivals are in fierce competition for contributions from the high tech industry.

Republicans already are trying to woo Gore's traditional high tech supporters by pushing the version of Y2K liability legislation supported by the industry but opposed by the Clinton administration.

Republicans believe they also can win over more industry support by promising action on the H-1B visa issue early in the 107th Congress — with, they hope, a Republican president in the White House.

But there are a significant number of Republicans opposed to more immigration who last year swallowed hard when voting for the H-1B visa increase — and are not likely to go along again.

House Judiciary Immigration Subcommittee Chairman Lamar Smith, R-Texas, opposes any increase — and instead has trained his sights on getting the most out of the existing visa cap.

Smith believes there is a significant amount of "fraud" in the H-1B visa program, for which he blames the administration.

"Every visa handed out fraudulently takes one away from candidates qualified to fill high tech jobs," Smith said last week in a press release — in which he attempted to turn the blame for the H-1B visa shortage on the administration.

— BY MATTHEW MORRISSEY

Outlook

Continued from page 1

Shuster's bill. If they win, the proposed Republican tax cut would be increased by \$14.3 billion. If they lose, Shuster's bill will be fully funded using money from the budget surplus.

While the leadership would appear to have the upper hand, Shuster during the last Congress repeatedly stunned top GOP leaders with the depth of support for the higher spending levels in his highway and transit bill.

The more than 40 Republicans on his committee are expected to vote with Shuster, along with a sizable number of Democrats.

While the Clinton administration already has said it opposes the spending levels in Shuster's bill, House Democrats may vote with Shuster just to hand the GOP leadership another defeat, aides said. Shuster last week met with several groups of House members, including the Conservative Action Team — some of whom will support his bill.

On the other side of the Capitol, the Senate is expected to vote Tuesday on final passage of Y2K liability legislation. GOP leaders last Thursday postponed the final vote until this week — but allowed debate to continue on amendments offered by **Sens. Jeff Sessions**, R-Ala., and **Judd Gregg**, R-N.H., on which the Senate has yet to vote.

A final vote on the Y2K legislation, heavily supported by the computer industry, will come just as top industry executives — including Microsoft Corp. CEO Bill Gates — arrive in Washington today for a three-day National Summit on High Technology hosted by the Joint Economic Committee.

The Business Software Alliance also has scheduled a series of activities this week to correspond with the arrival of industry executives.

Following are updates on other action expected this week:

APPROPRIATIONS/BUDGET: The Senate takes up the FY2000 Energy and Water spending bill *continued on page 6*

New TechNet Chief Arrives Amid Great Expectations

By Charlie Mitchell and Keith Koffler

■ WASHINGTON GETS ITS FIRST CLOSE LOOK at Roberta Katz as the new president of the Technology Network when she comes to town next week to testify at the Joint Economic Committee's "high tech summit." Federal Reserve Chairman Greenspan, Microsoft Chairman Bill Gates and assorted Silicon Valley bigwigs will be participating in the summit — which one lobbyist with close ties to the GOP characterized as "part of the effort by Republicans to learn the language" of the high tech industry.

Katz, however, will receive some special attention. She is the first full-time president of TechNet — a bipartisan network of high tech executives, based in Palo Alto, Calif. — and a self-described political independent who has spent more time on policy than politics in her career. Katz, who has a Ph.D. in anthropology, is the former general counsel of Netscape and took the reins at TechNet just last week. But her appointment quickly stirred expectations among Beltway lobbyists.

"They've spent their time being prosperous — which is good," commented Gregory Casey, the recently installed president of the Business-Industry Political Action Committee of America and former Senate sergeant at arms. "But now they're here, and you have to give them high marks for recognizing that they can't spend all their time being prosperous. ... I'm excited. [Now] they're sharing the same responsibilities of prosperity that all other industries have shared."

Some high tech representatives caution against viewing TechNet as a typical trade association. "A normal trade association focuses on issues, and in the course of pursuing its policy agenda, it builds relationships [with members of Congress]," said Michael Maibach, vice president for government affairs at Intel, a TechNet member. "TechNet, on the other hand, focuses on bringing people out to Silicon Valley and building relationships with them. ... One approach is policy-driven and one is relationship-driven, but the two are very complementary."

"We'll lobby on an as-needed basis," Katz said in an interview with *Outside Influences*. She explained that the organization, after canvassing its members, focuses on "a couple of issues per year." TechNet will not open its own office in Washington, she said, but the group retains issue-specific lobbyists here while the member companies also hire inside-the-Beltway lobbying firms.

Research and development and accounting issues top TechNet's agenda this year, according to Katz and TechNet Vice President Michael Engelhardt — who said that other priorities, such as Y2K liability, are being handled on a day-

to-day basis by the Information Technology Association of America and the U.S. Chamber of Commerce, among others.

Some Washington lobbyists detect darker motives. "Why isn't Y2K their No. 1 priority? It should be the No. 1 issue for the whole industry," said a D.C.-based lobbyist for a major technology firm. "It's because [TechNet founder] John Doerr is Al Gore's best pal." Likewise, the source said, TechNet was staying out of the high tech-related debate over visas for highly skilled foreign workers — an issue that could complicate Gore's relationship with organized labor.

"There's a Y2K Coalition in place. Why reinvent the wheel?" Katz responded. "It's not our issue, and that predates Al Gore."

But the perception that Doerr — one of Silicon Valley's top venture capitalists and a prominent supporter of the vice president — was running TechNet as an arm of the Clinton-Gore political machine has been widespread and somewhat difficult to shake, according to industry insiders.

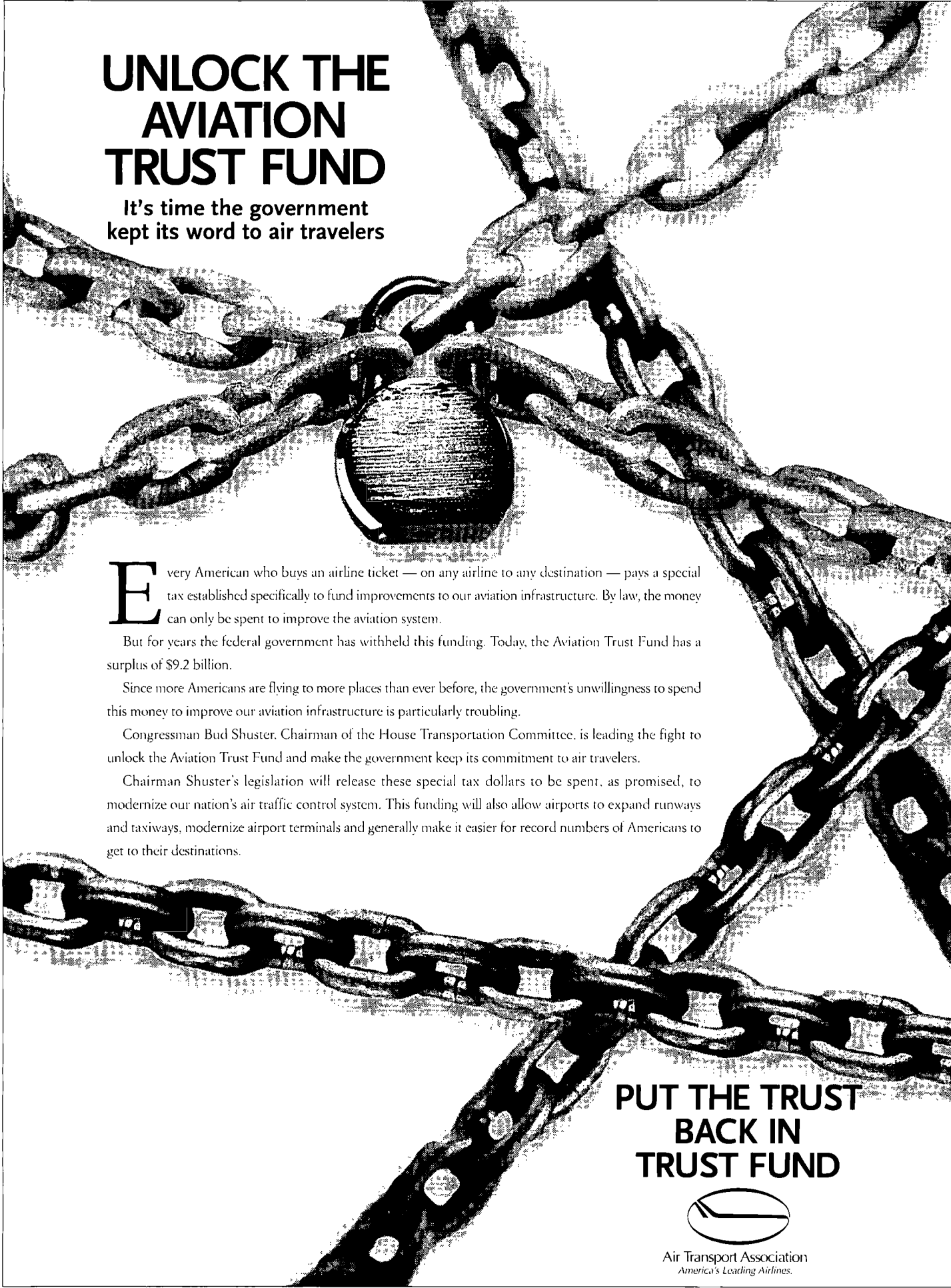
"There was a perception that they were tied in with Gore," said Connie Correll, a one-time press secretary for former **Rep. Rick White**, R-Wash., and now a spokeswoman for the Information Technology Industry Council. "But [TechNet's GOP political director] Lezlee Westine is doing more Republican outreach for the group and I think that perception is changing." Correll and her boss — ITIC President Rhett Dawson, a former Reagan administration official — recently held what Correll called a "very productive" meeting with Katz.

■ RATHER THAN INSIDE-THE-BELTWAY LOBBYING, TechNet's stock-in-trade has been escorting politicians to the futuristic campuses of the Silicon Valley. Along with the visits come fundraising opportunities: TechNet primarily coordinates the events for favored candidates, rather than cutting big checks itself. TechNet is hosting two events for Texas Gov. George W. Bush over the next month, and likewise will hold events for Gore.

The group's bipartisanship was tested recently when the TechNet staff recommended holding an event for **Rep. Debbie Stabenow**, D-Mich., who is challenging GOP **Sen. Spencer Abraham** in 2000. The event was scratched after some members loudly objected that Abraham has been a strong defender of the high tech industry, particularly on the H-1B visa issue.

Katz sees this as a rare episode, stressing that partisanship is an infrequent sight in Silicon Valley. "All I care about is involvement and that [TechNet members] have access to members of both parties," Katz said. "My agenda is the issues of the 'new economy.'"

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Hill Briefs

Gore Slings Soc. Sec. Arrows, Podesta Offers Olive Branch

■ THE WHITE HOUSE Monday displayed what amounted to a good-cop, bad-cop routine in addressing apparent GOP sentiment for tabling Social Security reform until after the 2000 elections.

After Vice President Gore's sarcasm-laced broadside earlier Monday against the GOP, White House Chief of Staff Podesta later Monday sent a more conciliatory letter to **Senate Majority Leader Lott** reaffirming President Clinton's "commitment to put politics aside and find common ground."

Podesta — responding to comments Sunday by Lott that without more presidential leadership, Social Security reform was sunk — urged that "everyone avoid self-fulfilling prophecies" and find instead "the right spirit."

While complaining that "some have chosen to raise the level of rhetoric" without "advancing ideas of their own," Podesta argued that Clinton's plan presents an opportunity for merging "differing perspectives."

But White House Press Secretary Joe Lockhart declined to assuage the chief fear of Republicans — that they will be left hanging should they put forward a tough reform plan.

Under repeated questioning by reporters, Lockhart refused to identify any idea Clinton might support that would involve curtailing benefits.

Brownback Offers Internet Incentives For Phone Companies

■ SEN. SAM BROWNBACK, R-Kan., Monday introduced legislation that would encourage the regional Bell operating companies to deploy high speed Internet connections — especially in rural areas — by offer-

ing them reduced regulation in exchange for building broadband networks.

"For many rural customers, including those in Kansas, high speed Internet access may only be available in the next several years through the telephone network," Brownback said in offering the bill.

The bill, cosponsored by **Senate Majority Whip Nickles** and **Sen. Larry Craig**, R-Idaho, would allow so-called incumbent phone companies that upgrade 70 percent of their lines to escape requirements to lease those networks to their competitors.

The bill would deregulate the prices the Bells charge for high speed services if they face a competitor — and would give them more flexibility in pricing when they did not have a competitor.

Senate Commerce Communications Subcommittee Chairman Conrad Burns, R-Mont., is planning on introducing his own Internet bill soon.

Abraham, Others Hit Administration On Visa Rules

■ SEN. SPENCER ABRAHAM, R-Mich., lead sponsor of last year's legislation to expand the number of so-called H-1B visas for highly skilled foreign workers, Friday sent a letter to Labor Secretary Herman and OMB Director Lew arguing that the proposed regulations resulting from the bill create an "excessive level of red tape and bureaucracy."

The letter was signed by a bipartisan group of 23 senators and House members who negotiated the final H-1B visa bill — including **Sens. Joseph Lieberman**, D-Conn., and **Bob Graham**, D-Fla., and **Reps. Zoe Lofgren** and **Ellen Tauscher**, both D-Calif.

The letter said the new regulations create unneeded "record keeping burdens," mandate employers to change their current salary

and compensation structures to replace them with "rigid wage and salary categories used by state and federal government pay systems," and require "unnecessary litigation" on private contractual matters.

"The paperwork burdens in the regulations result directly from the [Labor Department's] perspective of presuming that all employers are guilty and must therefore prove their innocence through elaborate, time-consuming and costly record-keeping," the legislators wrote.

Collins Sweepstakes Bill ALREADY MAY BE A WINNER!

■ SENATE GOVERNMENTAL Affairs Permanent Investigations Subcommittee Chairwoman **Susan Collins**, R-Maine, said late last week that she has enlisted 25 of her Senate colleagues as cosponsors of legislation aimed at curbing deceptive practices in sweepstakes mailings.

Collins' legislation — which follows two days of hearings her subcommittee recently held on the issue — is tentatively due to be marked up May 12 by the full Governmental Affairs panel. It already has been approved in subcommittee.

"I'm extremely pleased with the broad bipartisan support this bill is receiving," Collins said in a statement, noting the list of cosponsors includes 11 Republicans and 14 Democrats.

"Since my subcommittee began this investigation into deceptive mailings and sweepstakes, we have heard from people all across the country, urging us to take action to end the misleading practices that are causing thousands of people to spend millions of dollars on products they neither want nor need," Collins said.

Collins' bill also has picked up the endorsement of the National Association of Attorneys General.