How Widespread Is the Use of the H-1B Visa for Reducing Labor Costs?

Norm Matloff Department of Computer Science University of California at Davis

ISIM Conference on Dynamics of the S&E Labor Market Georgetown University July 11, 2011 (updated July 19, 2011)

Full, updated paper at http://heather.cs.ucdavis.edu/SELabor.pdf.



• Past view of Congress:

- Past view of Congress:
 - H-1B work visa rarely used for cheap labor.

- Past view of Congress:
 - H-1B work visa rarely used for cheap labor.
 - Use of H-1Bs as cheap labor is violation of law.

- Past view of Congress:
 - H-1B work visa rarely used for cheap labor.
 - Use of H-1Bs as cheap labor is violation of law.
- New view (Sen. Schumer, Rep. Lofgren):

- Past view of Congress:
 - H-1B work visa rarely used for cheap labor.
 - Use of H-1Bs as cheap labor is violation of law.
- New view (Sen. Schumer, Rep. Lofgren):
 - Use of cheap labor is common, and legal.

- Past view of Congress:
 - H-1B work visa rarely used for cheap labor.
 - Use of H-1Bs as cheap labor is violation of law.
- New view (Sen. Schumer, Rep. Lofgren):
 - Use of cheap labor is common, and legal.
 - But the abusers are the Indian-owned firms, not the American ones.

• Schumer gives examples of (what he considers) Bad Guys

- Schumer gives examples of (what he considers) Bad Guys
 - Infosys
 - Satyam
 - Tata
 - Wipro

- Schumer gives examples of (what he considers) Bad Guys
 - Infosys
 - Satyam
 - Tata
 - Wipro

- Schumer gives examples of (what he considers) Bad Guys
 - Infosys
 - Satyam
 - Tata
 - Wipro

- Cisco
- IBM
- Intel
- Microsoft

- Schumer gives examples of (what he considers) Bad Guys
 - Infosys
 - Satyam
 - Tata
 - Wipro

- Cisco
- IBM
- Intel
- Microsoft
- Schumer accused by Indians of scapegoating

- Schumer gives examples of (what he considers) Bad Guys
 - Infosys
 - Satyam
 - Tata
 - Wipro

- Cisco
- IBM
- Intel
- Microsoft
- Schumer accused by Indians of scapegoating
- Lofgren's IDEA Act has the same theme



Here I show that use of H-1B for cheap labor is commonplace in the U.S. mainstream

Here I show that use of H-1B for cheap labor is commonplace in the U.S. mainstream—NOT limited to the Indian "bodyshops."

Here I show that use of H-1B for cheap labor is commonplace in the U.S. mainstream—NOT limited to the Indian "bodyshops." *Outline:*

Here I show that use of H-1B for cheap labor is commonplace in the U.S. mainstream—NOT limited to the Indian "bodyshops." *Outline:*

 How loopholes in the law enable paying H-1Bs at below-market rates.

Here I show that use of H-1B for cheap labor is commonplace in the U.S. mainstream—NOT limited to the Indian "bodyshops." *Outline:*

- How loopholes in the law enable paying H-1Bs at below-market rates.
- Loopholes in H-1B no different from loopholes in tax code—aggressively exploited.

Here I show that use of H-1B for cheap labor is commonplace in the U.S. mainstream—NOT limited to the Indian "bodyshops." *Outline:*

- How loopholes in the law enable paying H-1Bs at below-market rates.
- Loopholes in H-1B no different from loopholes in tax code—aggressively exploited.
- Statistical analyses showing that U.S. firms are keenly aware of the loopholes and definitely make use of them.

Legal ways to use H-1B to reduce labor costs:

Legal ways to use H-1B to reduce labor costs:

• Type I savings: Accrued by paying H-1Bs less than comparable U.S. citizens and permanent residents.

Legal ways to use H-1B to reduce labor costs:

- Type I savings: Accrued by paying H-1Bs less than comparable U.S. citizens and permanent residents.
- Type II savings: Accrued by hiring younger H-1Bs in lieu of older Americans, that is Americans over age 35.

Legal ways to use H-1B to reduce labor costs:

- Type I savings: Accrued by paying H-1Bs less than comparable U.S. citizens and permanent residents.
- Type II savings: Accrued by hiring younger H-1Bs in lieu of older Americans, that is Americans over age 35.

Key to Type I savings: Loopholes in the legal definition of prevailing wage.

• The statute defines prevailing wage in terms of the *job*, not in terms of the *worker*.

 The statute defines prevailing wage in terms of the job, not in terms of the worker.

> E.g. if having a Master's degree is just a "plus" for a job, employer gets a Master's worker for a Bachelor's price.

 The statute defines prevailing wage in terms of the job, not in terms of the worker.

> E.g. if having a Master's degree is just a "plus" for a job, employer gets a Master's worker for a Bachelor's price.

 The statute, in dealing with broad occupational categories, does not take into account specific technical skill sets,

 The statute defines prevailing wage in terms of the job, not in terms of the worker.

> E.g. if having a Master's degree is just a "plus" for a job, employer gets a Master's worker for a Bachelor's price.

 The statute, in dealing with broad occupational categories, does not take into account specific technical skill sets,

> Employer can hire a foreign worker with, say, experience with a "hot" new programming language, at the wage of workers lacking that experience.

• The statute defines prevailing wage in terms of the *job*, not in terms of the *worker*.

E.g. if having a Master's degree is just a "plus" for a job, employer gets a Master's worker for a Bachelor's price.

 The statute, in dealing with broad occupational categories, does not take into account specific technical skill sets,

Employer can hire a foreign worker with, say, experience with a "hot" new programming language, at the wage of workers lacking that experience.

• Even prominent immigration attorney Angelo Paparelli said prevailing wage is below true market wage.

• The statute defines prevailing wage in terms of the *job*, not in terms of the *worker*.

E.g. if having a Master's degree is just a "plus" for a job, employer gets a Master's worker for a Bachelor's price.

 The statute, in dealing with broad occupational categories, does not take into account specific technical skill sets,

Employer can hire a foreign worker with, say, experience with a "hot" new programming language, at the wage of workers lacking that experience.

- Even prominent immigration attorney Angelo Paparelli said prevailing wage is below true market wage.
- Employer must also pay "actual wage," but loopholes there too.



How Much Is the Prevailing Wage Undervalued?

How Much Is the Prevailing Wage Undervalued?

• Industry says H-1Bs hired because they have specific skills that Americans lack.

- Industry says H-1Bs hired because they have specific skills that Americans lack.
- "Hot" skills command a premium of 15% or more in the open market.

- Industry says H-1Bs hired because they have specific skills that Americans lack.
- "Hot" skills command a premium of 15% or more in the open market. Even more if worker has <u>multiple</u> hot skills (very common).

- Industry says H-1Bs hired because they have specific skills that Americans lack.
- "Hot" skills command a premium of 15% or more in the open market. Even more if worker has <u>multiple</u> hot skills (very common).
- But legal prevailing wage doesn't take skills into account.

- Industry says H-1Bs hired because they have specific skills that Americans lack.
- "Hot" skills command a premium of 15% or more in the open market. Even more if worker has <u>multiple</u> hot skills (very common).
- But legal prevailing wage doesn't take skills into account.
- Thus amount prevailing wage is easily undervalued by 15% or more.

- Industry says H-1Bs hired because they have specific skills that Americans lack.
- "Hot" skills command a premium of 15% or more in the open market. Even more if worker has <u>multiple</u> hot skills (very common).
- But legal prevailing wage doesn't take skills into account.
- Thus amount prevailing wage is easily undervalued by 15% or more.

Wide variation in skills pay, e.g. in programming languages:

language	mean wage
JDBC	\$97,000
Perl	\$94,000
Python	\$90,000
C#	\$86,000
Visual Basic	\$78,000



Younger workers are cheaper, say for software engineers (2005 data):

Younger workers are cheaper, say for software engineers (2005 data):

group	25th percentile	median	90th percentile
new workers	\$45,000	\$50,664	\$61,500
all workers	\$65,070	\$82,120	\$120,410

Younger workers are cheaper, say for software engineers (2005 data):

group	25th percentile	median	90th percentile
new workers	\$45,000	\$50,664	\$61,500
all workers	\$65,070	\$82,120	\$120,410

Crucial yet little-known aspect of the H-1B controversy:

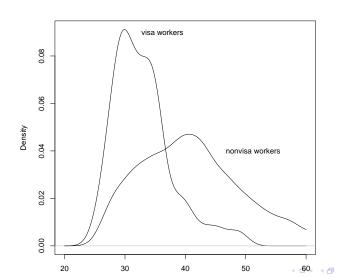
Younger workers are cheaper, say for software engineers (2005 data):

group	25th percentile	median	90th percentile
new workers	\$45,000	\$50,664	\$61,500
all workers	\$65,070	\$82,120	\$120,410

Crucial yet little-known aspect of the H-1B controversy:

Type II savings form the core attraction of H-1B to employers—the H-1Bs are young, so Type II savings are often larger than Type I.

H-1Bs Are Young



• As mentioned, employers say they hire the H-1Bs because they have rare specialized skills, that older Americans lack.

- As mentioned, employers say they hire the H-1Bs because they have rare specialized skills, that older Americans lack.
- Yet Americans have been forced to train their H-1B replacements. So who lacks the skills?

- As mentioned, employers say they hire the H-1Bs because they have rare specialized skills, that older Americans lack.
- Yet Americans have been forced to train their H-1B replacements. So who lacks the skills?
- Competent programmers can pick up new skills quickly, on the job, through self-instruction.

- As mentioned, employers say they hire the H-1Bs because they have rare specialized skills, that older Americans lack.
- Yet Americans have been forced to train their H-1B replacements. So who lacks the skills?
- Competent programmers can pick up new skills quickly, on the job, through self-instruction.
- Many American workers with the exact specified skill set rejected without even an interview.

- As mentioned, employers say they hire the H-1Bs because they have rare specialized skills, that older Americans lack.
- Yet Americans have been forced to train their H-1B replacements. So who lacks the skills?
- Competent programmers can pick up new skills quickly, on the job, through self-instruction.
- Many American workers with the exact specified skill set rejected without even an interview.
- The real issue is that even with the skills, the older American is too expensive.

- As mentioned, employers say they hire the H-1Bs because they have rare specialized skills, that older Americans lack.
- Yet Americans have been forced to train their H-1B replacements. So who lacks the skills?
- Competent programmers can pick up new skills quickly, on the job, through self-instruction.
- Many American workers with the exact specified skill set rejected without even an interview.
- The real issue is that even with the skills, the older American is too expensive. See case study in full paper.

- As mentioned, employers say they hire the H-1Bs because they have rare specialized skills, that older Americans lack.
- Yet Americans have been forced to train their H-1B replacements. So who lacks the skills?
- Competent programmers can pick up new skills quickly, on the job, through self-instruction.
- Many American workers with the exact specified skill set rejected without even an interview.
- The real issue is that even with the skills, the older American is too expensive. See case study in full paper.
- Sun Microsystems admitted: Retraining is NOT the solution.

Contrary to the Schumer/Lofgren view, **legal underpayment** of H-1Bs is commonplace among **mainstream U.S. employers**, not just the Indian "bodyshops."

Contrary to the Schumer/Lofgren view, **legal underpayment** of H-1Bs is commonplace among **mainstream U.S. employers**, not just the Indian "bodyshops."

Types of statistical evidence to be presented:

Contrary to the Schumer/Lofgren view, **legal underpayment** of H-1Bs is commonplace among **mainstream U.S. employers**, not just the Indian "bodyshops."

Types of statistical evidence to be presented:

• Regression analysis by original entry visa type.

Contrary to the Schumer/Lofgren view, **legal underpayment** of H-1Bs is commonplace among **mainstream U.S. employers**, not just the Indian "bodyshops."

Types of statistical evidence to be presented:

- Regression analysis by original entry visa type.
- Data showing that mainstream employers know the loopholes and use them.

Contrary to the Schumer/Lofgren view, **legal underpayment** of H-1Bs is commonplace among **mainstream U.S. employers**, not just the Indian "bodyshops."

Types of statistical evidence to be presented:

- Regression analysis by original entry visa type.
- Data showing that mainstream employers know the loopholes and use them.
- Data showing that most mainstream employers pay *only* the prevailing wage (shown earlier to be undervalued).

Regression Analysis

NSCG data (2003), workers 29 or under, software/electrical engineers. Excluded those who originally entered U.S. on a work visa.

Regression Analysis

NSCG data (2003), workers 29 or under, software/electrical engineers. Excluded those who originally entered U.S. on a work visa.

factor coefficient	beta \pm marg. err.	significant?
const.	21164 ± 37881	no
age	1342 ± 1336	yes
MS	6855 ± 3922	yes
PhD	29715 ± 17493	yes
entered US on student visa	-7427 ± 5125	yes
highCOL	7153 ± 3067	yes

Regression Analysis

NSCG data (2003), workers 29 or under, software/electrical engineers. Excluded those who originally entered U.S. on a work visa.

factor coefficient	beta \pm marg. err.	significant?
const.	21164 ± 37881	no
age	1342 ± 1336	yes
MS	6855 ± 3922	yes
PhD	29715 ± 17493	yes
entered US on student visa	$\text{-}7427\pm5125$	yes
highCOL	7153 ± 3067	yes

Former student visa holders underpaid. Yet, hired by mainstream, not bodyshops.



Employers who favor aliens have an arsenal of legal means to reject all U.S. workers who apply—Joel Stewart, prominent immigration attorney

Employers who favor aliens have an arsenal of legal means to reject all U.S. workers who apply—Joel Stewart, prominent immigration attorney

H-1B and employer-sponsored green card law is riddled with loopholes.

Employers who favor aliens have an arsenal of legal means to reject all U.S. workers who apply—Joel Stewart, prominent immigration attorney

H-1B and employer-sponsored green card law is riddled with loopholes.

Mainstream U.S. firms know and use even the minor loopholes.

Green card PERM data.

Green card PERM data.

• Before 2005, it was legal to pay 5% below prevailing wage.

Green card PERM data.

- Before 2005, it was legal to pay 5% below prevailing wage.
- Very minor loophole, yielding only small savings.

Loophole Usage Example

Green card PERM data.

- Before 2005, it was legal to pay 5% below prevailing wage.
- Very minor loophole, yielding only small savings.
- But we can use it to show that <u>mainstream</u> American firms do know and use the loopholes. (The bodyshops rarely sponsor for green cards.)

Loophole Usage, contd.

From PERM data, 2001-2004; look at software engineers (se) and electrical engineers (ee); for individual firms, both se and ee:

% of cases < prev wg
33.1%
34.6%
50.5%
25.0%
10.2%
14.6%
20.2%
70.9%

Loophole Usage, contd.

From PERM data, 2001-2004; look at software engineers (se) and electrical engineers (ee); for individual firms, both se and ee:

group	% of cases < prev wg
all se	33.1%
all ee	34.6%
Cisco	50.5%
Intel	25.0%
Microsoft	10.2%
Motorola	14.6%
Oracle	20.2%
Qualcomm	70.9%

So, all major U.S. firms here used even this minor loophole.

Loophole Usage, contd.

From PERM data, 2001-2004; look at software engineers (se) and electrical engineers (ee); for individual firms, both se and ee:

group	% of cases < prev wg
all se	33.1%
all ee	34.6%
Cisco	50.5%
Intel	25.0%
Microsoft	10.2%
Motorola	14.6%
Oracle	20.2%
Qualcomm	70.9%

So, all major U.S. firms here used even this minor loophole.

Beware: Different firms use different sources for prevailing wage.

The interfirm variation may not be meaningful.



More PERM Analysis: Post-2004

Percentage of employers that paid no more than prevailing wage:

More PERM Analysis: Post-2004

Percentage of employers that paid no more than prevailing wage:

group	med. WR
se	1.01
ee	1.00

More PERM Analysis: Post-2004

Percentage of employers that paid no more than prevailing wage:

group	med. WR
se	1.01
ee	1.00

Half of the green card sponsorees were paid *only* the prevailing wage, thus paid below-market rates. Since the bodyshops rarely sponsor for green card, once again see abuse is commonplace among mainstream U.S. firms.

 NSF (Peter House), Greenspan: explicitly say use H-1B to suppress wages

- NSF (Peter House), Greenspan: explicitly say use H-1B to suppress wages
- all data counterindicate a tech labor shortage:

- NSF (Peter House), Greenspan: explicitly say use H-1B to suppress wages
- all data counterindicate a tech labor shortage:
 - wages of new grads up only 3% since 2010 (NACE)

- NSF (Peter House), Greenspan: explicitly say use H-1B to suppress wages
- all data counterindicate a tech labor shortage:
 - wages of new grads up only 3% since 2010 (NACE)
 - ullet wages of all tech workers up only 1% since 2010 (Dice)

- NSF (Peter House), Greenspan: explicitly say use H-1B to suppress wages
- all data counterindicate a tech labor shortage:
 - wages of new grads up only 3% since 2010 (NACE)
 - wages of all tech workers up only 1% since 2010 (Dice)
 - Silicon Valley wages up only 3% since 2009 (SJ Merc. News)

- NSF (Peter House), Greenspan: explicitly say use H-1B to suppress wages
- all data counterindicate a tech labor shortage:
 - wages of new grads up only 3% since 2010 (NACE)
 - wages of all tech workers up only 1% since 2010 (Dice)
 - Silicon Valley wages up only 3% since 2009 (SJ Merc. News)
- Bill Gates \$100K claim to WP's David Broder; consider PERM data:

- NSF (Peter House), Greenspan: explicitly say use H-1B to suppress wages
- all data counterindicate a tech labor shortage:
 - wages of new grads up only 3% since 2010 (NACE)
 - wages of all tech workers up only 1% since 2010 (Dice)
 - Silicon Valley wages up only 3% since 2009 (SJ Merc. News)
- Bill Gates \$100K claim to WP's David Broder; consider PERM data:
 - withdrawn?

- NSF (Peter House), Greenspan: explicitly say use H-1B to suppress wages
- all data counterindicate a tech labor shortage:
 - wages of new grads up only 3% since 2010 (NACE)
 - wages of all tech workers up only 1% since 2010 (Dice)
 - Silicon Valley wages up only 3% since 2009 (SJ Merc. News)
- Bill Gates \$100K claim to WP's David Broder; consider PERM data:
 - withdrawn?
 - 6% of sponsored se's over \$100K

- NSF (Peter House), Greenspan: explicitly say use H-1B to suppress wages
- all data counterindicate a tech labor shortage:
 - wages of new grads up only 3% since 2010 (NACE)
 - wages of all tech workers up only 1% since 2010 (Dice)
 - Silicon Valley wages up only 3% since 2009 (SJ Merc. News)
- Bill Gates \$100K claim to WP's David Broder; consider PERM data:
 - withdrawn?
 - 6% of sponsored se's over \$100K
 - 17% of sponsored financial analysts over \$100K

- NSF (Peter House), Greenspan: explicitly say use H-1B to suppress wages
- all data counterindicate a tech labor shortage:
 - wages of new grads up only 3% since 2010 (NACE)
 - wages of all tech workers up only 1% since 2010 (Dice)
 - Silicon Valley wages up only 3% since 2009 (SJ Merc. News)
- Bill Gates \$100K claim to WP's David Broder; consider PERM data:
 - withdrawn?
 - 6% of sponsored se's over \$100K
 - 17% of sponsored financial analysts over \$100K
 - 100% of sponsored lawyers over \$100K

- NSF (Peter House), Greenspan: explicitly say use H-1B to suppress wages
- all data counterindicate a tech labor shortage:
 - wages of new grads up only 3% since 2010 (NACE)
 - wages of all tech workers up only 1% since 2010 (Dice)
 - Silicon Valley wages up only 3% since 2009 (SJ Merc. News)
- Bill Gates \$100K claim to WP's David Broder; consider PERM data:
 - withdrawn?
 - 6% of sponsored se's over \$100K
 - 17% of sponsored financial analysts over \$100K
 - 100% of sponsored lawyers over \$100K
- "stapled green cards" NOT the solution; new foreign grads are still YOUNG

