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Jennifer Hunt

Working Paper 23529
http://www.nber.org/papers/w23529

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
June 2017

I thank Bin Xie for excellent research assistance and Ron Hira, Lindsay Lowell, Hal Salzman, and participants in seminars at Renselaer Polytechnic Institute, University College London, the University of Illinois and the 2017 Centro Studi Luca-d'Agliano-Collegio Carlo Alberto migration conference for helpful comments. I am grateful to the James Cullen Chair in Economics for financial support. I am also affiliated with the IZA (Bonn), CEPR (London) and DIW (Berlin). The views expressed herein are those of the author and do not necessarily reflect the views of the National Bureau of Economic Research.

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NBER Working Paper No. 23529
June 2017
JEL No. J61

ABSTRACT

Using the National Survey of College Graduates, I investigate the degree to which holders of temporary work visas in the United States are mobile between employers. Holders of temporary work visas either have legal restrictions on their ability to change employers (particularly holders of intra-company transferee visas, L-1s) or may be reluctant to leave an employer who has sponsored them for permanent residence (particularly holders of specialty worker visas, H-1Bs). I find that the voluntary job changing rate is similar for temporary visa holders and natives with similar characteristics. For the minority of temporary workers who receive permanent residence, there is a considerable spike in voluntary moving upon receipt of permanent residence, suggesting mobility is reduced during the application period by about 20%. My analysis of reasons for moving suggests that applicants are prepared to pay a small but not large professional price for permanent access to the U.S. labor market.

Jennifer Hunt
Department of Economics
Rutgers University
New Jersey Hall
75 Hamilton Street
New Brunswick, NJ 08901-1248
and IZA, CEPR, DIW-Berlin
and also NBER
Jennifer.hunt@rutgers.edu

Foreign nationals move to the United States either as permanent residents or on one of several types of temporary visa. If the temporary visa is a work visa, it is issued to the foreign national's employer to hire him or her specifically for a specific job: the worker is not free to choose an employer on arriving in the United States, and may face barriers to changing employer after arrival. In addition, he or she may not take up self–employment, and must leave the United States if non–employed. This has given rise to concern that firms hold monopsony power over temporary workers, reducing worker bargaining power and leading to lower wages and worse working conditions, and hindering entrepreneurship, innovation and growth.[1] Some believe monopsony–induced lower wages reduce demand for natives (Matloff 2013), with substitution from natives to immigrants outweighing increased output due to cheaper inputs. In this paper, I investigate the degree to which the job mobility of skilled temporary work visa holders is curtailed.

There are several types of temporary work visas for skilled workers, with different associated restrictions on mobility. The two most common entry visas are the intra–company transferee visa (L–1) and the specialty worker (H–1B) visa. Intra–company transferees have been transfered to the United States by an employer for whom they have worked abroad for at least a year, and must be managers or executives (L–1A) or have specialized knowledge of the firm (L–1B). Such workers may not change employer. Conversely, U.S. immigration rules permit H–1B workers, who must have a bachelor's degree or equivalent, to change employers. The worker may change employers as soon as the prospective new employer has petitioned USCIS to have the visa transfered from the existing employer, without waiting for the petition to be approved.[2] There are many reports of companies engaging in practices to restrict worker mobility, however. These include forcing the worker to post a bond or sign a non–compete agreement.[3] Furthermore, the H–1B worker

[1] Banerjee (2006), Dorning and Fanning (2012), Farmworker Justice (n.d.), Hira (2010a), Southern Poverty Law Center (n.d.), Wasem (2016), Wadhwa (2012).

[2] See https://www.uscis.gov/tools/ombudsman-liaison/practical-immigration-consequences-foreign-workers-slowing-economy, accessed 9 May, 2016.

[3] Banerjee (2006); https://www.revealnews.org/reports/job-brokers-steal-wages-entrap-indian-tech-workers-in-us/; https://www.revealnews.org/reports/case-study-tata-consultancy-services/; accessed 3 May 2017.

may be reluctant to exercise the legal mobility option if his or her employer has sponsored him or her for permanent residence (a green card), because during most of the lengthy application period the worker cannot change employers without beginning the application process anew.[4]

I use the National Surveys of College Graduates (NSCG) cross–sections from 2003, 2010, 2013 and 2015 to examine the job changing behavior of skilled temporary work visa holders. The NSCG is among the very few microdata sets containing information on visa status, though it does not distinguish among types of temporary work visa. In each survey, the NSCG asks whether respondents had changed employer in a recent two–year window, and if so, for what reasons. In my first approach, I restrict the sample to workers whose first visa on arrival in the United States was a temporary work visa, and I test whether voluntary job changing is higher for those who recently obtained a green card. The presence of such a spike would suggest that the workers had not been able to move as much as desired while on the temporary visa. To assess the mobility of temporary work visa holders more generally, I also compare the voluntary job changing rate of those who entered the United States on a temporary work visa, and still hold such a visa, with that of natives or immigrants who entered on a green card.

My study complements that of Depew, Norlander and Sørensen (2017), who examine microdata from six Indian IT firms for 2003–2011 to study job changes within the United States and returns to India.[5] Though their data are superior to mine in several respects, including capturing workers with short stays in the United States, mine represent a more general population of workers with medium or long–term stays, and allow a comparison with natives. The authors conclude that many of the workers on temporary work visas soon return to India, and that many others quit for other firms in the United States, with the rates of both actions sensitive to salary and the unemployment rate. Of workers who began U.S. employment spells in 2003–2005, 36% had quit by 2011, apparently for

[4] An L–1 worker who might otherwise be considering changing employer by obtaining an H–1B visa may be reluctant to move for the same reason.

[5] Nairu et al. (2015) study firm monopsony power over immigrants in the United Arab Emirates.

another firm in the United States, 50% had returned to India, while 14% remained with the original firm in the United States, apparently having been able to apply for or receive a green card.

My results suggest that temporary work visa holders are constrained in their voluntary job changing behavior only to the extent that they stay with an employer sponsoring them for a green card. For such workers, who represent a minority of skilled workers who enter the United States on temporary visas, the two–year mobility rate spikes by 4.7 percentage points after green card receipt, compared to a 11.6% mobility rate for all workers who entered on temporary work visas. This implies a 20% reduction in mobility during the application period given an approximately four–year waiting period. There is no spike in moves associated exclusively with pay and promotion and/or working conditions, nor with moves unrelated to pay and promotion and/or working conditions. The spike is rather in moves associated with pay and promotion and/or working conditions and at least one other moving reason. Such moves may represent cases where pay and promotion and working conditions are less different across the mover's options than in moves associated with pay and promotion and/or working conditions only. If so, the results suggest that while some green card applicants pay a monopsony–related temporary price in professional terms for permanent access to the U.S. labor market, applicants leave the sponsoring employer if the professional price is too high.

By contrast, the voluntary job changing rate for workers who entered the United States on a temporary work visa and still hold such a visa is similar to that of both immigrants who entered with a green card and natives with similar characteristics. Together, the results therefore alleviate concerns that temporary work visa holders are exploited by monopsonistic employers, though our data are unsuitable for a direct analysis of wages, as only the post–move wage is available. If policy–makers nevertheless wish to increase the mobility of green card applicants, the logical reforms would be to the green card system rather than to the temporary work visa regulations, for example increasing the number of employment–based green cards or separating the application process from the employer. It is unclear what the effect would be of lifting the per country limits on (total)

green cards (Argueta 2016).

1 Temporary work visas and mobility restrictions

The survey data I use do not distinguish among the types of temporary work visa held by respondents, and there are no administrative data on the stock of people on temporary visas in the United States. Administrative data on inflows by visa type are published, and I show the inflows for visas likely to be held by workers with a college degree or more in Table 1 (I exclude visas used for short visits by business visitors or tourists). The degree to which these shares correlate with the shares of the stock of temporary visas holders depends on the length of time holders stay in visa status before adjusting status or leaving the United States.

The table shows the most common entry visas are H–1B and L–1, which accounted in FY2015 for 47% and 21% respectively of the inflows in the categories I am considering. The H–1B numbers reported here by the Department of State are smaller than those published by U.S. Citizenship and Immigration Services (USCIS), however: USCIS report approving 113,603 initial H–1B visas in FY2015, 62,656 to workers outside the United States and 50,947 to workers inside the United States, and 161,714 continuing H–1B visas (renewals).[6] The fact that some workers approved for visas by USCIS do not follow through and obtain one from the Department of State seems insufficient to explain the discrepancy.

The next most common set of visas is for traders and investors from countries with which the United States has a trade treaty (13% for E–1 and E–2); professionals from such countries (E–3, E–3R, TN and H1–B1) account for a further 6% of visas (this category grew quickly from 2005 to 2015). Another category of skilled visas is the subset of J–1 visas for professors and research scholars (I have omitted the subset for short–term scholars): these make up 9% of new skilled work visas. Finally, the O–1 category for workers of

[6] https://www.uscis.gov/sites/default/files/USCIS/Resources/Reports%20and%20Studies/H-1B/H-1B-FY15.pdf.

extraordinary ability, which includes artists, entertainers and athletes in addition to more conventional workers, accounts for about 4%.

H–1B workers must have a bachelor's degree or equivalent.[7] The number of H–1B visas is capped for for–profit employers, though uncapped for non–profit employers, and in some years a lottery is held to apportion the capped visas.[8] An H–1B visa is initially issued for three years, and may be extended for another three. If a worker's employer takes the first steps towards obtaining the worker permanent residence (a green card) in a timely manner, the H–1B visa remains valid until a decision on the green card is made and a green card becomes available.

H–1B visa holders are heterogeneous and stay for varying lengths of time. They are employed disproportionately in information technology services (as shown in the administrative data on inflows): a common new recipient of an H–1B is an Indian computer programmer working for an Indian company.[9] H–1B employees of the large India–based IT firm studied by Clemens (2010, 2013) had contracts for work in the United States of 6–15 months, while the most common U.S. tenure for workers in the six Indian firms studied by Depew et al. (2017) was about six months. Other H–1B holders stay longer in the United States, some of them adjusting their status to permanent resident. However, Hira (2010b) shows that only a small minority of those entering on an H–1B visa (or an L–1 visa) are sponsored for a green card by their original employer: at least seven of the top 15 employers of H–1B workers sponsored five percent or fewer, and five of the top six employers of L–1 workers sponsored five percent or fewer.[10]

An H–1B worker may change employers as soon as the prospective new employer has petitioned USCIS to have the visa transfered from the existing employer, without waiting

[7] Requirements for all temporary visas are described at https://www.uscis.gov/working-united-states/temporary-nonimmigrant-workers, accessed 26 August 2016.

[8] There are some exceptions to this characterization of which employers are subject to the cap. For example, K–12 schools are subject to the cap.

[9] http://www.computerworld.com/article/2954612/it-outsourcing/despite-h-1b-lottery-offshore-firms-dominate-visa-use.html.

[10] Hira updates his numbers to 2014 at http://www.epi.org/blog/top-h-1b-employers-use-visa-program-for-temporary-labor-not-as-bridge-to-permanent-immigration/, accessed 3 May 2017.

for the petition to be approved.[11] From 2006–2014, 91% of such petitions were approved, constituting an average of 40,000 per year.[12] This suggests considerable worker mobility; in the same period an annual average of 100,000 petitions for initial H–1B were approved, though the appropriate denominator is not clear. Any new employer does need to pay fees equal to those it would have paid to get a worker's initial H–1B visa, which amount to $1075–$3825 depending on the firm size and share of workers with an H–1B visa.

However, there are reports that Indian software staffing companies, in particular, sometimes make a condition of employment in the United States the posting of a bond, repayable upon return to India, the signing of a non–compete agreement, or the signing of a contract stipulating penalties for breach of contract. The legality of such practices is unclear, depending on the U.S. state in question and whether courts consider the contracts to fall under American or Indian jurisdiction.[13] Another constraint on moving to another company is that H–1B visa holders may not become non–employed. For example, any H–1B worker who is laid off must leave the United States if he or she does not change employer before becoming unemployed.

A different issue is that the prospect of a green card may make the worker want to stay with the same employer, since changing employer means starting the lengthy application process anew. Although workers may change employer while waiting for the last step of the green card application to be processed (the I–485), for many applicants the lengthiest part of the application is waiting for a visa to become available after being approved in principle. Only then may the I–485 be filed. Jasso et al. (2010) report that in 2003, the average elapsed time between application and receipt of an employment–based green card was 4.3 years. Indian and Chinese workers have particularly long waits, because the delay

[11] See https://www.uscis.gov/tools/ombudsman-liaison/practical-immigration-consequences-foreign-workers-slowing-economy, accessed 9 May, 2016. However, workers who enter the U.S. on an H–1B visa with an uncapped employer must enter the lottery for capped visas if they wish to transfer to an employer subject to the cap.

[12] Numbers from the annual reports on H–1B petitions at https://www.uscis.gov/tools/reports-studies/reports-and-studies.

[13] Banerjee (2006); https://www.revealnews.org/reports/job-brokers-steal-wages-entrap-indian-tech-workers-in-us/, https://www.revealnews.org/reports/case-study-tata-consultancy-services/, accessed 3 May 2017.

arises from equal limits for each country on the annual number of green cards that may be awarded.[14] In the popular perception, this green–card related constraint on mobility sometimes appears to be construed as a general constraint affecting all H–1B workers.

Intra–company transferees have been transfered to the United States by an employer for whom they have worked for at least a year abroad, and must be managers or executives (L–1A) or have specialized knowledge of the firm (L–1B). The maximum duration of the visa (with renewals) is seven years for the L–1A and five years for the L–1B. Contrary to H–1B holders, L–1 visa holders may not change employer. They may find another employer to apply for an H–1B on their behalf, but time on the L–1 visa counts towards the H–1B maximum. The same considerations as for H–1Bs obtain regarding mobility and the green card application. Even less is known about the durations of those entering on L–1 visas than is known about the H–1B visa holders, except that few are sponsored for a green card by the firm that transfers them (Hira 2010). It is likely that some L–1 workers are transfered abroad again after a relatively short stay in the United States.

Mobility constraints vary across other types of temporary work visas. Holders of treaty trader and investor visas may renew their two–year visa indefinitely, but may not work for an employer based in the United States. Canadians' and Mexicans' TN visas are for a particular job with a particular employer for three years, but obtaining a new visa is easy (particularly for Canadians), so such visa holders could be considered mobile. Professors and scholars on J–1 visas may change employer, and the visa duration is whatever the employer requests, though there are limitations on renewal. Holders of O–1 visas receive an initial visa for up to three years, with extensions possible, and may change employer in a fashion similar to H–1B workers. For most of these visas other than H–1B and L–1, adjustment of status to green card is in principle excluded, though in practice green card related mobility issues similar to those for H–1B visa holders may arise. The artists, entertainers and athletes on O–1 visas, along with treaty investor visa holders, are the only temporary visa workers who may be self–employed, but they may only be self–employed in the job or event for which the visa is awarded.

[14] https://www.uscis.gov/tools/glossary/country-limit.

2 Data

I use the 2003, 2010, 2013 and 2015 waves of the National Survey of College Graduates (NSCG), data collected under the auspices of the National Science Foundation. The surveys are stratified random samples of respondents to the 2000 census long form (for the 2003 wave) or to the American Community Survey (for the 2010, 2013 and 2015 waves) who reported having a bachelor's degree or higher. The surveys have the advantages of a large sample size and information on the type of visa on which immigrants originally entered the United States, immigrants' current visa status, and information on job changing.

Immigrants arriving between April 2000 and October 2003 are not in the sampling frame for the 2003 survey, and obversely, all immigrants in the 2003 wave have been in the United States at least three years. The interval between the establishment of the sampling frame and the survey is smaller for the 2010, 2013 and 2015 waves, but immigrants with very short term stays in the United States are still absent from the later waves. The longer an immigrant's stay in the United States, the more likely he or she is to appear in a cross–section survey such as the NSCG.

Respondents in my data who were born abroad without U.S. citizenship are asked their visa status when they first came to the United States for six months or more, as well as their current visa status. The survey options for the entry visa are: "Permanent U.S. Resident Visa (Green Card)"; "Temporary U.S. Resident Visa for temporary work (e.g., H–1B, L–1A, L–1B, etc.)"; "Temporary U.S. Resident Visa for study or training (e.g., F-1, J-1, H-3, etc.)"; "Temporary U.S. Resident Visa as the dependent of another person (e.g., F-2, H-4, J-2, K-2, L-2, etc.)"; and "Other Temporary U.S. Resident Visa".

A series of questions elicits the current status. All respondents are asked whether they are a U.S. citizen, and those who answer yes are asked if they are a naturalized US citizen. Those who answer no are asked if they are a permanent resident, and if so, the year permanent residence (the green card) was obtained. Those who answer that they are not a permanent resident are asked which of the temporary visa types listed above they

hold.[15]

Another set of questions allows me to measure workers' job mobility. All respondents are asked whether they were employed for pay or profit on both of two dates, one shortly before the survey, and one approximately two years earlier. Those respondents who were employed on both dates are asked whether they worked for the same employer and in the same "job". Those who changed jobs or employers or both are offered a set of possible reasons for the change, of which more than one may be chosen.

Using these questions, I construct a dummy for a voluntary change of employer for a sample of workers employed at both dates. A worker is considered to have made a voluntary change of employer if he or she reports having changed employers, if he or she does not mention layoff as a reason, and if he or she does not give retirement or "other" as the sole reason. I include in the sample those who appear to have switched to self–employment (as evidenced by their reporting being self–employed in the survey week). The results are not sensitive to their inclusion.[16]

I also construct dummies for having received a green card in the year prior to the survey reference date and two, three and four years prior (an immigrant must hold a green card for five years before being eligible for U.S. citizenship). The job mobility windows do not begin or end at the beginning or end of calendar years in any survey, whereas the date of receipt of the green card is a calendar year, so the timing of green card receipt with respect to the window contains considerable noise; in any case, the ideal timing (how long respondents would take to move after receiving a green card) is not obvious. The Data Appendix gives the exact definitions.

I use both the full sample of workers employed in both periods, and a subsample of immigrant workers who entered the United States on a temporary work visa. The youngest respondents are aged 23, and I restrict the samples to those age 64 or younger. I

[15] It is unclear whether workers using post–education Optional Practical Training would indicate being on a work visa or a student visa, but the sampling frame makes it unlikely a large number of such workers are captured.

[16] In principle it is of interest to look at job changing with a given employer, but the covariates of interest always had small and statistically insignificant coefficients in this analysis.

drop immigrants who appear to have moved to the United States during the job mobility window (see the Data Appendix). Table 2 presents the unweighted means of the variables used for both samples.

3 Method

I approach the question of whether temporary work visa holders are constrained in their voluntary job mobility in two ways. First, I use a sample of workers who entered the United States on a temporary work visa, and examine whether voluntary job moves spike when such visa holders obtain a green card. Although the green card received by the respondent need not necessarily have been obtained through his or her own employer – it could have been received through a spouse's job, for example – this does not affect the interpretation.

Because those successful in obtaining a green card may differ unobservably from those who do not obtain one, I control for whether the respondent currently holds a green card or is naturalized (one must hold a green card for five years to be eligible for citizenship). This means that any spike in mobility on the part of recent green card recipients is relative to the mobility of respondents who received a green card longer ago, not relative to those still on a temporary visa.

I define TG_{it} as a dummy equal to one if the worker who entered on a temporary work visa received a green card in year t, and estimate the linear probability of voluntarily changing employer in the window spanning approximately $t-2$ to t:

$$P(\Delta\, employer_{it}) = \beta_0+\beta_1 TG_{i,t-1}+\beta_2 TG_{i,t-2}+\beta_3 TG_{i,t-3}+\beta_4 TG_{i,t-4}+V_{it}\beta_5+X_{it}\beta_6+\phi_t+\epsilon_{it}, \tag{1}$$

where V is a set of dummies for the worker's current visa status, including green card and naturalized citizen, and a dummy for having received a green card in 2000–2015 (since having received a green card shortly before any of the surveys implies having received it in these calendar years). The cross–section nature of the data restricts the covariates X to refer to the current period, and they include years since highest degree and its square;

age and years since migration; highest degree and field of study of highest degree; as well as dummies for gender, marital status, their interaction, presence of a child aged under two, 2–5, 6–11, 12–18, or over eighteen, and their interaction with gender. Arrival year cohort dummies are always jointly insignificant and are not included.

The coefficients of interest are β_1, β_2, β_3 and β_4. β_1 may capture not only respondents who received a green card in the middle of the mobility window and are then very likely to move before the end of the window, but respondents who received their green card close enough to the end of the mobility window that they are particularly unlikely to move over the window if tied to their employer. This means that any spike may show up in a positive β_2 rather than a positive β_1. By three to four years after green card receipt, any spike should have subsided, which I check by examining β_3 and β_4. The patterns related to recent receipt of a green card are sensitive to weighting; the Data Appendix explains why I prefer unweighted regressions.

I also seek to establish the degree to which any spike is caused by moves for pay and promotion or working conditions reasons: an important role for such moves would indicate possible use of monopsony power by employers. In order to do this, I estimate equation (1) separately for the probability of voluntary job changes for the three mutually exclusive sets of reasons: moves for pay and promotion and/or working conditions, but no other reason; moves for pay and promotion and/or working conditions, and an additional reason or reasons; and moves for reasons that include neither pay and promotion nor working conditions. If firms make strong use of their monopsony power, I expect to find a spike in moving for both the first and second set of reasons. If firms make weak use of their monopsony power, I expect a spike in moving for the second but not the first set of reasons, assuming that moves in the second set represent situations where pay and promotion and working conditions are less different across the mover's options than for moves in the first set. If firms make no use of their monopsony power or have no monopsony power, there should be no spike in the first two sets of reasons, but there could be a spike in the third set of reasons.

To examine more general barriers to mobility, I pool all workers in the data, and

include dummies allowing different groups of immigrants to be compared with natives (the omitted group). The voluntary job mobility rate of those who entered on a temporary work visa and who currently hold the same type of visa (TT) is of particular interest. In principle, I am also interested in the mobility while on a temporary work visa of workers who entered on a student visa, but I cannot determine whether such workers already had a temporary work visa at the start of the mobility window. I also include dummies for those who entered on a temporary work visa and have obtained a green card in various recent years (TG) or obtained a green card more than four years prior to the survey (TG_{t-5+}); for those who entered on a green card and therefore still have permanent status whether on a green card or as a naturalized citizen (GG) and other combinations of entry and current visa (VV). I estimate the linear probability regression

$$P(\Delta\ employer_{it,t-2}) = \gamma_0 + \gamma_1 TT_{it} + \gamma_2 GG_{it} + \gamma_3 TG_{i,t-1} + \gamma_4 TG_{i,t-2} + \gamma_5 TG_{i,t-3} + \gamma_6 TG_{i,t-4} + \gamma_7 TG_{i,t-5+} + VV_{it}\gamma_8 + X_{it}\gamma_9 + \nu_t + \eta_{it}. \tag{2}$$

The coefficient γ_1 indicates whether temporary work visa holders (who entered on a temporary work visa) are less mobile than natives; these immigrants may also be compared to immigrants who entered on a green card by computing $\gamma_1 - \gamma_2$. The coefficients γ_3 and γ_4 capture any spike associated with obtaining a green card relative to natives rather than other former temporary work visa holders as in equation (1). Subtracting γ_7 from these coefficients should yield a spike effect close to that of equation (1), though not exactly the same, given that in equation (2) the coefficients on X (γ_9) are constrained to be the same for natives and all immigrants, and that the comparison is of recent to earlier green card recipients regardless of the pre–green card visa if any. As with the estimation of equation (1), I also examine the probability of changing employer for different sets of reasons to assess the likelihood of monopsony power.

There is some bias introduced to the estimation of equation (2) because immigrants who leave the United States during the window of interest are not in the survey. If duration analysis of the hazard of changing employer within the United States could be performed with ideal data, and if leaving the United States were unrelated to changing

employer within the United States, observations associated with leaving the United States would be recorded as censored. However, the options of changing employer within the United States and leaving the United States are likely to be related for some workers, which means this approach would introduce bias of unknown sign. Had they remained in the United States, dissatisfied emigrants might have been disproportionately employer stayers or changers: dissatisfaction would increase their interest in a new U.S. employer, but emigration may indicate that changing in the United States was difficult and that they would have stayed with the same employer had leaving the United States not been an option. There is no obvious fix for the problem with either ideal data or the NSCG, and it is unclear whether equation (2) makes job changing in the United States appear more or less difficult than it actually is.

The motivation for studying job mobility is that constraints may lower the wages of temporary visa holders. Unfortunately, the cross–section nature of the data preclude study of the effects of constrained mobility on wages or salaries.[17]

4 Descriptive statistics

Table 3 summarizes (unweighted) voluntary job changing for different groups. The first row shows the overall voluntary job changing rate, which for the full sample is 13.2% (column 1). The 13.4% rate for natives (column 2) is very similar to the 13.1% rate for those who entered on a temporary work visa and still hold such a visa (column 7).The highest rate is for workers who entered on a temporary work visa and received their green card two years prior to the survey (20.6% in column 9). These raw numbers suggest that workers on temporary visas are indeed able to change jobs, but suggest that workers who eventually get a green card may be tied to their employer and wait to change employer until after they receive a green card.

Table 3 also shows voluntary mobility rates for different groups distinguished by the

[17] A subsample of the 2003 NSCG respondents was followed for some years, but contained only science and engineering workers. The representative subsample common to the 2010 and 2013 surveys is too small to be useful.

(not mutually exclusive) reasons given for the job move. Pay and promotion opportunities is the most commonly cited reason for every group, followed by working conditions. Few voluntary movers say they moved for "other" reasons. These statistics obscure the fact that a majority of voluntary movers gives more than one reason for moving: the share giving a single reason is 27% in the full sample and 30% for workers who entered on a temporary work visa. Certain reasons are commonly given together. 73–77% of voluntary movers citing work conditions as a reason also cited pay and promotion as a reason, while 48–61% of respondents citing pay and promotion as a reason also cited work conditions. 61-69% of movers citing family also cited job location, while 32–35% of movers citing job location also cited family.

The bottom panel of Table 3 therefore shows mobility rates for the three mutually exclusive sets of reasons for moving. The most common set of reasons is that encompassing both pay and promotion and/or working conditions as well as at least one additional reason, a type of move made by 7.2% of the full sample (column 1). This type of mobility is particularly high for workers who received a green card two years prior to the survey (12.5%, column 9), and slightly low for workers who entered on a temporary work visa and still hold it (6.5% in column 7). It is high for holders of temporary work visas in column 5 (9.1%), but the workers in this sample who are absent from column 7 are likely to have changed visa type during the mobility window (for example, from a student visa). Differences across groups are more muted for the two other sets of reasons (related to pay and promotion and working conditions only and unrelated to pay and promotion or working conditions).

5 Results

I next turn to regression analysis, first using the sample of workers who entered on a temporary visa to investigate whether there is a spike in voluntary job changing for workers initially on temporary visas who receive a green card, before comparing the voluntary job changing rates of several immigrant groups with that of natives.

5.1 Workers entering on temporary visas

Table 4 presents linear probability regressions controlling for dummies for recent receipt of a green card, receipt of a green card in 2000–2015, current visa, American citizens born abroad and survey year. The latter covariates capture, among other things, the fact that the job mobility windows differ in length across surveys. The coefficients of interest are those on recent green card receipt. In column 1, whose specification includes no other covariates, the recent green card coefficients indicate no spike for those who received their green card in the prior year, perhaps indicating that it takes a worker more than a year to find a new job and move. A spike of 9.1 percentage points appears after two years, before subsiding to about 3.5 percentage points in the third and fourth years. Since young and inexperienced workers change jobs more frequently, I control in column 2 for years since highest degree and its square, and age and years since migration. This reduces the size of the two–year spike to 4.8 percentage points, while the coefficients on receipt of green card three and four years prior decline to statistical insignificance. Adding dummies for highest degree and field of study of highest degree (column 3) and gender, being married, their interaction, the presence of children and their interaction with gender (column 4) makes little difference.

Because Indians and Chinese have to wait a particularly long time for their green cards to become available, one would expect the spike to be more marked for them. However, unreported regressions based on the specification in column 4 show that the sample is not large enough to distinguish between groups based on birth place. Likewise, unreported results fail to distinguish between men and women.

In column 5, I present results based on the 2015 survey alone. This indicates a larger two–year spike of 9.5 percentage points (albeit significant only at the 10% level), as well as a dip in mobility after one year: a large 12.9 percentage points. Differences in coefficients from the full sample are not statistically significantly different, but it is possible either that effects have changed with time or that the timing of the 2015 survey and the mobility window better capture changes in mobility. I thus view the 9.5 percentage point spike as

an upper bound to an effect that may be attenuated by noise in other years.

It is useful to put the size of the estimated spike in context by making a crude calculation of the implied reduced mobility during the application period. A spike in the two–year mobility rate of 4.7 percentage points (column 4) compares with an average two–year mobility rate of 11.6%, and is in response to lower mobility over the average wait for the green card of about four years. This means two–year mobility is depressed in the application period by about 2.35 percentage points or 20%. If we focus on the imprecise 2015 results, the spike is 9.5 percentage points compared to a mobility rate of 14.1%, which implies a 34% reduction in mobility.

In Table 5, I use the sets of reasons movers give to assess the roles of pay and promotion and work conditions in the mobility spike. If mobility is reduced for reasons related to pay and promotion or working conditions, it suggests that employers are using their monopsony power over temporary work visa holders. In Panel A, I repeat the results from Table 4 column 4, showing the spike in moving for any reason. In Panel B, I present the estimates for the three sets of reasons separately; the coefficients sum to the total effects in Panel A. Panel B shows that there is a no spike for the set of reasons related to pay and promotion or working conditions only, nor for the set of reasons unrelated to these factors. Instead, 3.6 percentage points of the overall spike of 4.7 percentage points is accounted for by moves for a mix of reasons (pay and promotion and/or working conditions and at least one additional reason). Unreported results for the 2015 subsample show qualitatively similar, though imprecisely estimated results. In Panel C, I show that there is no spike in moves for pay and promotion reasons only, or for working conditions only. The results suggest firms exercise moderate monopsony power.

5.2 All workers

The second approach is to compare current temporary visa holders (who entered on a temporary visa) to natives or to current green card holders using the full sample of workers. This captures any immobility of those immigrants waiting for a green card as

well as temporary visa holders facing other mobility barriers. The approach also allows a comparison of the mobility rates of recent green card holders with natives (or other groups), rather than current temporary visa holders. All regressions include dummies for survey year and American citizens born abroad, as well as dummies for various transitions between entry and current visa status: temporary work visa to temporary work visa; green card to green card or naturalized status; temporary work visa to green card in the prior year or two, three, four or more than four years prior to the survey; corresponding dummies for transitions from a study or training visa to a temporary work visa and other temporary visa to a green card; and uncategorized transitions. The reference group is natives.

Table 6, column 1, shows that immigrants who entered on a temporary work visa have the same mobility rate as natives: 0.1 percentage point lower. Controlling for age, experience and years in the United States in column 2 does render the coefficient statistically significantly negative with a magnitude of 2.0 percentage points. However, controlling for highest degree and its field of study in column 3 reduces the coefficient to -0.7 percentage point, and further controls for gender, marital status and children (and interactions) in column 4 reduce it to a small and statistically insignificant -0.5 percentage point. Using the latter specification with the 2015 survey only (in column 5) actually shows higher mobility for such immigrants by 3.6 percentage points, albeit statistically significant only at the 10% level. Unreported regressions show no statistically significant differences by gender, nor for Indians and Chinese versus others.

The bottom panel of the table shows the results of comparing these continuing temporary visa holders to immigrants who entered the United States with a green card (and therefore either still have a green card or have naturalized), by subtracting the coefficient for the latter in row b from the coefficient for the former in row a. In the specification with few covariates (column 1), the temporary visa holders change employers statistically significantly more than green card holders (by 2.6 percentage points), rather than less, but the gap is explained by age, experience and years in the United States (column 2). The coefficient in the specification with full covariates (column 4) is a statistically insignificant

-0.3 percentage point, leaving again no evidence that current holders of temporary visas are greatly constrained in their voluntary job moving.

Table 6 may also be used to reassess the green card receipt spike by comparing recent green card recipients to natives rather than to former temporary work visa holders. Comparing the mobility rate of temporary visa workers who have recently received a green card two years previously with that of natives (row d), with full covariates (column 4), shows a statistically significant spike of 5.0 percentage points, similar to the 4.7 percentage point spike estimated in the previous section when the comparison was with temporary visa holders yet to obtain a green card.

In Table 7, I probe the same sample using moving reasons to uncover any evidence of monopsony behavior that might have been masked in Table 6. Panel A repeats the key coefficients from Table 6: the coefficient for workers who enter on a temporary work visa and remain on such a visa, and the coefficient for workers who enter on a green card. Panel B estimates the probability of moving for the three sets of reasons. Column 1, where natives are the reference group, suggest that temporary visa holders are more mobile by 1.0 percentage point for the set of reasons focused on pay and promotion and work conditions, contradicting the null hypothesis of lower mobility due to monopsony. On the other hand, temporary visa holders are less mobile by 1.2 percentage points for the set of mixed reasons (pay and promotion and/or working conditions and at least one additional reason), which supports the hypothesis. These two effects along with no effect for reasons unrelated to pay and promotion and working conditions sum to the null total effect in Panel A. Panel C shows that temporary work visa holders are more mobile for pay and promotion reasons alone, though this is a relatively unusual type of move, and no different from natives in terms of moves for working conditions only.

The coefficients in column 1 are somewhat difficult to interpret, but nevertheless do not give rise to great concern about temporary work visa holders being exploited by their employers. Indeed, as green card holders show somewhat similar patterns relative to temporary visa holders in column 2, when they are used as the comparison group instead of natives by differencing the coefficients (column 4), there are no statistically significant

differences in Panel B. Temporary visa holders remain more likely by 0.7 percentage point to move for pay and promotion reasons alone (Panel C).

6 Conclusion

Workers who entered the United States on a temporary visa but transition to a green card (permanent residence) are reluctant to leave their employer during the green card application process, as evidenced by a spike in voluntary job changing following green card receipt. The magnitude of the spike suggests mobility is depressed in the green card application period by 20% in the preferred estimates, although estimates based on the most recent year of data suggest a reduction of about one third. The spike is in moves associated with pay and promotion and/or working conditions and at least one other moving reason. Such moves may represent cases where pay and promotion and working conditions are less different across the mover's options than in moves associated with pay and promotion and/or working conditions only, in which there is no spike. If so, the results suggest that while some green card applicants pay a monopsony–related temporary price in professional terms for permanent access to the U.S. labor market, applicants leave the sponsoring employer if the professional price is too high.

For the majority of temporary visa holders who are not sponsored for green cards, I find less binding constraints. Whether compared to similar natives or otherwise similar immigrants who entered on a green card, immigrants who enter on a temporary work visa and maintain that status have a two–year voluntary job changing rate a statistically insignificant 0.3–0.5 percentage point (2–4%) lower, compared to the two–year mobility rate for the sample of 13.2%. Together, the paper's results alleviate concerns that skilled workers on temporary visas are exploited by employers, although direct evidence on wages is not available.

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Data Appendix

A.1 Reasons for changing employer or job

The surveys ask those who reported changing employer or type of job "Why did you change your employer or your job?", with respondents checking yes or no for each of: Pay, promotion opportunities; Working conditions (e.g., hours, equipment, working environment); Job location; Change in career or professional interests; Family–related reasons (e.g., children, spouse's job moved); School–related reasons (e.g., returned to school, completed a degree); Laid off or job terminated (includes company closings, mergers, buyouts, grant or contract ended; Retired; Some other reason.

A.2 Dummies for receipt of green card

The window to which job mobility questions pertain is April 15, 2001-October 1, 2003 for the (October) 2003 survey; October 1, 2008–October 1, 2010 for the (October) 2010 survey; October 1, 2010–February 1, 2013 for the 2013 survey, administered in February–July 2013; and February 1, 2013–February 1, 2015 for the 2015 survey, administered in June–December 2015. For respondents to the 2003 survey, the dummy for receiving a green card in the year prior to the survey equals one for receipt in 2003; for receiving a green card two years prior equals one for receipt in 2002; for receiving a green card three years prior equals one for receipt in 2001, and for receiving a green card four years prior equals one for receipt in 2000. For respondents to the 2010 survey, the corresponding years are 2010, 2009, 2008 and 2007. For respondents to the 2013 survey, the corresponding years are 2012, 2011, 2010, and 2009, since little of 2013 is in the window and the survey is administered early in the year. For respondents to the 2015 survey, the corresponding years are 2014, 2013, 2012, and 2011, since little of 2015 is in the window. The dummy for receiving a green card more than four years prior to the survey equals one for all other green cards received except those received in 2013 for 2013 survey and in 2015 for the 2015 survey.

A.3 Samples

I drop the foreign–born who arrived in the United States the calendar year of the survey or the calendar year prior to the survey, as such immigrants would have lived abroad at the start of the job mobility window. I also drop respondents to the 2013 survey who arrived in the United States in 2011, since the job mobility window begins in 2010, and respondents to the 2015 survey who arrived in the United States in 2013 (since the mobility window begins in February 2013). However, I include respondents to the 2010 survey who arrived in 2008 (most of whom would have arrived before the start of the job mobility window). I include the tiny number (34 in the full sample) of respondents to the 2003 survey who reported arriving in 2001, respondents who are either wrongly reporting their arrival year, or who left the United States and returned, given that the sampling frame is residents of the United States in April 2000. I test the sensitivity of the results to

dropping immigrants who arrived in the calendar year the window begins, and the results are similar to those reported.

A.4 Measurement error

A survey design error in 2010 and 2013 meant that a minority of respondents who had also been in the sample in 2003 were not asked what type of temporary visa they held, and were instead assigned the same value as in 2003, thus introducing some measurement error. This information is based on correspondence with NSF.

A.4 Sensitivity of recent green card recipients' job mobility to weighting

My preferred results would in principle be those from regressions weighted using the survey weights. The NSCG sampling is stratified on demographics, highest degree, occupation and (in 2010 and 2013) field of study of bachelor's degree.[18] I do not control for all of these: for example, I do not control for race as it confounds the immigration effect, and I do not control for occupation because only movers' pre–move occupation is unknown. But the omitted occupation is likely to be correlated with the error term, making weighting desirable (Solon et al. 2015). However, recent green card recipients are much more mobile in weighted than unweighted data. This is shown in Table A1 to be driven by a very high weighted mobility rate for women in the 2010 and 2013 surveys. This odd sensitivity to a group represented by 51 observations leads me to prefer unweighted results. NSF confirms in email correspondence that weights were determined differently in 2010 and 2013 from in 2003, though not in a way related to gender and probably not in a way related to visa status.

[18] http://www.nsf.gov/statistics/srvygrads/overview.htm

Table A1: Share of workers with temporary work entry visa changing employers voluntarily

	2003/2015		2010/2013	
	Weighted	Unweighted	Weighted	Unweighted
	(1)	(2)	(3)	(4)
A. Men and Women	0.131	0.129	0.128	0.105
Green card last year	0.074	0.106	0.452	0.171
Green card 2 years ago	0.207	0.208	0.271	0.198
Green card 3 years ago	0.176	0.144	0.163	0.147
B. Men	0.136	0.127	0.133	0.101
Green card last year	0.074	0.100	0.333	0.159
Green card 2 years ago	0.222	0.206	0.221	0.190
Green card 3 years ago	0.165	0.136	0.217	0.179
C. Women	0.121	0.135	0.118	0.115
Green card last year	0.071	0.129	0.743	0.211
Green card 2 years ago	0.179	0.218	0.411	0.219
Green card 3 years ago	0.230	0.184	0.020	0.050
Observations	4065	4065	4645	4645

Table 1: Numbers of temporary work visas awarded to skilled workers

Visa	Name	FY2005	FY2015	
		Number	Number	%
E–1, E–2	Treaty trader, Treaty investor	37,157	48,587	13.2
E–3, E–3R, TN, H–1B1	Australian specialty occupation professional, NAFTA professional, Trade agreement professional	2,174	20,995	5.7
H–1B	Specialty occupation worker	124,099	172,748	46.8
J–1	Professor and research scholar [only]	–	34,232	9.3
L–1	Intra–company transferee	65,348	78,537	21.2
O–1	Extraordinary ability workers	6,712	13,865	3.8
All	All	–	368,964	100.0

Note: Numbers do not include spouses and children, except for E–1 and E–2. J–1 statistics are for FY2014 and are not available for the sub–category of professor and research scholars for FY2005. In FY2005, 63 shortage area nurses were admitted on H–1C visas.

Sources: https://travel.state.gov/content/dam/visas/Statistics/AnnualReports/FY2015AnnualReport/FY15AnnualReport-TableXVIB.pdf; http://j1visa.state.gov/basics/facts-and-figures/.

Table 2: Summary Statistics

	Full Sample	Entered U.S. on Temporary Work Visa
Voluntary employer change	0.132	0.116
Age	42.67	43.59
	(11.02)	(8.89)
Years since highest degree	15.45	17.35
	(10.57)	(9.21)
Female	0.436	0.233
Married	0.699	0.843
Immigrant	0.209	1.000
Bachelor	0.631	0.598
Master	0.272	0.304
Doctorate	0.035	0.065
Professional	0.062	0.032
Native born in mainland	0.763	-
Native born abroad	0.014	-
Native born in U.S. territories	0.013	-
Naturalized citizen	0.133	0.371
Green card holder	0.048	0.383
Green card received 2000-2015	0.032	0.294
Temporary work visa holder	0.020	0.233
Study/training visa holder	0.007	0.002
Dependent of temporary visa holder	0.000	0.002
Other temporary visa holder	0.001	0.009
Entered U.S. on green card	0.068	-
Entered U.S. on temporary work visa	0.032	1.000
Entered U.S. on study/training visa	0.072	-
Entered U.S. as dependent of temporary visa holder	0.023	-
Entered U.S. On other temporary visas	0.014	-
Children under 2 in family	0.098	0.116
Children aged 2-5 in family	0.144	0.201
Children aged 6-11 in family	0.188	0.284
Children aged 12-18 in family	0.193	0.240
Children over 19 in family	0.103	0.106
Observations	271,818	8710
Years since migration (immigrants)	20.37	13.36
	(11.51)	(7.91)
Observations	57,013	8710

Note: The table reports the unweighted means, with standard deviations in parentheses. Column 2 reports the statistics for the respondents who held temporary work visas when they first entered the U.S. for more than six months.

Table 3: Voluntary employer changes by reason

		Current visa/citizenship status is:				Entry visa temporary work, current is:			
	All	U.S. Born	Natural-ized	Green card	Tempo-rary work	Any	Tempo-rary work	Green card last year	Green card 2 years ago
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Any reason	13.2	13.4	10.1	15.2	18.8	11.6	13.1	12.9	20.6
Individual reasons:									
a. Pay, promotion	8.3	8.4	6.7	10.1	12.9	8.4	10.0	9.9	15.3
b. Working conditions	7.0	7.3	5.2	7.2	7.0	5.2	5.5	5.6	9.5
c. Job location	5.2	5.4	3.8	5.9	6.1	4.3	4.6	4.3	8.5
d. Career interests	4.9	5.0	3.8	5.8	6.9	4.6	5.5	4.3	8.5
e. Family	2.7	2.8	1.8	3.6	2.8	2.2	2.3	2.6	6.5
f. School	2.5	2.6	1.3	1.7	4.1	0.7	0.8	1.7	0.8
g. Other	0.3	0.3	0.3	0.4	0.7	0.4	0.6	0.0	0.8
Groups of reasons:									
a and/or b only	3.0	3.0	2.7	3.7	4.8	3.5	4.3	4.3	5.8
a and/or b, and any other reason(s)	7.2	7.4	5.3	8.2	9.1	6.1	6.5	6.4	12.5
Neither a nor b	3.0	3.0	2.0	3.4	4.9	2.0	2.3	2.1	2.3
Observations	271,818	214,805	36,415	13,328	5382	8710	2032	233	399

Note: The means are unweighted. U.S born includes those born in U.S. territories and born abroad as U.S citizens.

Table 4: Effect on voluntary employer change of green card receipt

	All years				2015
	(1)	(2)	(3)	(4)	(5)
Green card last year	0.012	-0.031	-0.031	-0.032	-0.129***
	(0.024)	(0.024)	(0.024)	(0.024)	(0.034)
Green card 2 years ago	0.091***	0.048**	0.049**	0.047**	0.095*
	(0.023)	(0.023)	(0.023)	(0.023)	(0.049)
Green card 3 years ago	0.035*	0.000	0.002	0.001	0.035
	(0.020)	(0.020)	(0.020)	(0.020)	(0.052)
Green card 4 years ago	0.034	0.014	0.013	0.012	0.018
	(0.021)	(0.021)	(0.021)	(0.021)	(0.049)
Green card	0.013	-0.002	-0.005	-0.005	-0.019
received 2000–2015	(0.015)	(0.015)	(0.015)	(0.015)	(0.047)
Green card	-0.032**	0.032**	0.032**	0.032**	0.030
received any time	(0.013)	(0.014)	(0.014)	(0.014)	(0.050)
Naturalized	-0.042***	0.024**	0.019*	0.020*	-0.014
	(0.009)	(0.011)	(0.011)	(0.011)	(0.026)
Study/training	0.280**	0.222**	0.228**	0.237**	0.239
	(0.113)	(0.111)	(0.112)	(0.112)	(0.193)
Dependent of temp–	-0.063	-0.052	-0.046	-0.050	-0.144**
orary visa holder	(0.059)	(0.063)	(0.062)	(0.062)	(0.061)
Other temporary visa	-0.035	-0.015	-0.007	-0.005	-0.115**
	(0.033)	(0.033)	(0.033)	(0.034)	(0.054)
Age, exp, exp^2, years in U.S.	No	Yes	Yes	Yes	Yes
Highest degree, field of study	No	No	Yes	Yes	Yes
Female, married, interaction	No	No	No	Yes	Yes
Children, children×female	No	No	No	Yes	Yes
R^2	0.016	0.037	0.044	0.045	0.071
Observations	8710	8710	8710	8710	2096

Note: Coefficients from linear probability estimation of the probability of a voluntary change of employer. The sample in columns (1)-(4) is all immigrants who entered the U.S. on a temporary work visa and column (5) is the subsample from the 2015 survey. All regressions include dummies for sample year, born abroad as U.S. citizen, and born in a U.S. territory. "Exp" is years since highest degree. Highest degree comprises four dummies, field of study 31 dummies, children (present in the household) five dummies. Robust standard errors are reported in parentheses.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 5: Effect on voluntary employer change of change in status from temporary work visa, by reason

	Green card last year (1)	Green card 2 years ago (2)	Green card 3 years ago (3)	Green card 4 years ago (4)	Mean (5)
Panel A					
Any reason	-0.032	0.047**	0.001	0.012	0.116
	(0.024)	(0.023)	(0.020)	(0.021)	
Panel B					
Pay–promotion and/or working conditions only	0.004	0.019	0.013	0.014	0.035
	(0.014)	(0.013)	(0.012)	(0.013)	
Pay–promotion and/or working conditions, and any other reason(s)	-0.028	0.036**	0.002	-0.023	0.061
	(0.018)	(0.019)	(0.016)	(0.014)	
Reasons other than pay and promotion, working conditions	-0.008	-0.008	-0.013*	0.021*	0.020
	(0.011)	(0.009)	(0.007)	(0.012)	
Panel C					
Pay and promotion only	0.011	0.014	0.014	0.009	0.009
	(0.011)	(0.009)	(0.009)	(0.008)	
Working conditions only	-0.002	0.001	0.000	0.005	0.004
	(0.005)	(0.005)	(0.004)	(0.006)	

Note: Coefficients from linear probability estimations of the probability of a voluntary change of employer for the specific reason or combination of reasons. The sample is 8710 immigrants who entered the U.S. on a temporary work visa. All regressions include the full covariates of column 4 in Table 4. Robust standard errors are reported in parentheses.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 6: Effect on voluntary employer change of entry and current visas

	All years				2015
	(1)	(2)	(3)	(4)	(5)
Entry visa, current visa					
a. Temporary work,	-0.001	-0.020**	-0.007	-0.005	0.036*
Temporary work	(0.007)	(0.008)	(0.008)	(0.008)	(0.019)
b. Green card,	-0.027***	-0.010**	-0.005	-0.001	0.017
Green card/naturalized	(0.002)	(0.005)	(0.005)	(0.005)	(0.010)
c. Temporary work,	-0.026	-0.037	-0.027	-0.024	-0.095***
Green card last year	(0.024)	(0.024)	(0.024)	(0.024)	(0.033)
d. Temporary work,	0.051**	0.039*	0.048**	0.050**	0.133***
Green card 2 years ago	(0.023)	(0.023)	(0.023)	(0.023)	(0.049)
e. Temporary work,	-0.008	-0.011	0.000	0.005	0.075
Green card 3 years ago	(0.020)	(0.020)	(0.020)	(0.020)	(0.053)
f. Temporary work,	-0.008	0.012	0.020	0.024	0.065
Green card 4 years ago	(0.021)	(0.021)	(0.021)	(0.021)	(0.050)
g. Temporary work,	-0.039***	0.011**	0.019***	0.023***	0.041***
Green card>4 years ago	(0.005)	(0.005)	(0.005)	(0.005)	(0.012)
i. Temporary work,	0.022**	0.017	0.018*	0.019*	0.015
Green card 2000-2015	(0.011)	(0.011)	(0.011)	(0.011)	(0.019)
j. Study/training,	0.088***	0.010	0.013*	0.013*	0.001
Temporary work	(0.008)	(0.008)	(0.008)	(0.008)	(0.014)
Age, exp, exp^2, years in US	No	Yes	Yes	Yes	Yes
Highest degree, field of study	No	No	Yes	Yes	Yes
Female, married, female×married	No	No	No	Yes	Yes
Children, children×female	No	No	No	Yes	Yes
R^2	0.008	0.071	0.076	0.078	0.073
Observations	271,818	271,818	271,818	271,818	67,880
Coefficient a-coefficient b	0.026***	-0.010	-0.003	-0.003	0.019
	(0.008)	(0.008)	(0.008)	(0.008)	(0.020)

Note: Coefficients from linear probability estimation of the probability of a voluntary change of employer on a sample of all workers. The sample in columns (1)-(4) is all workers and the subsample in column (5) is workers in the 2015 survey. All regressions include dummies for sample year, born abroad as U.S. citizen, born in a U.S. territory, immigrants with other types of temporary entry visa who currently hold a green card (for different lengths of time), and uncategorized immigrants. "Exp" is years since highest degree. Highest degree comprises four dummies, field of study 31 dummies, children (present in the household) five dummies. Robust standard errors are reported in parentheses.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 7: Effect on voluntary employer change of entry and current visas, by reason

	Temp. work, temp. work	Green card, green card/ naturalization	Mean	Column (1)-column (2)
	(1)	(2)	(3)	(4)
Panel A				
Any reason	-0.005	-0.001	0.132	-0.003
	(0.008)	(0.005)		(0.008)
Panel B				
Pay–promotion and/or working conditions only	0.010**	0.006**	0.030	0.004
	(0.005)	(0.002)		(0.005)
Pay–promotion and/or working conditions, and any other reason(s)	-0.012**	-0.007*	0.072	-0.005
	(0.006)	(0.003)		(0.006)
Reasons other than pay and promotion, working conditions	-0.003	0.000	0.030	-0.003
	(0.003)	(0.002)		(0.004)
Panel C				
Pay and promotion only	0.013**	0.006***	0.011	0.007**
	(0.003)	(0.002)		(0.004)
Working conditions only	-0.001	0.000	0.006	-0.001
	(0.001)	(0.001)		(0.002)

Note: Coefficients from linear probability estimation of the probability of a voluntary change of employer for the specific reason. The sample is all workers, 271,818 observations. All regressions include the covariates of Table 6 column 4. Robust standard errors are reported in parentheses.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.