Repealing H-4 Visa Work Authorization: A Cost-Benefit Analysis

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In 2015 the Obama Administration authorized temporary work permits for the spouses of H-1B visa holders who were awaiting green cards. Over 90,000 of these H-4 visa holders have since received a work permit, known as an Employment Authorization Document (EAD), and three-fourths of them are gainfully employed.

In 2017 the Trump administration announced that it intends to repeal the rule providing this work authorization. This February the administration followed through on that announcement with a notice of proposed rulemaking. The administration's stated reason for repealing the rule is that it would create more jobs for U.S. citizens.

We believe a thorough benefit-cost analysis, as required under Executive Order 12866, would find this justification unfounded. Ending the ability of these workers – who are, by and large, well-educated and high-skilled – to hold jobs in the United States would at best have no net effect on U.S. citizens' employment and likely would reduce their employment and wages. Further, ending EADs would hurt the U.S. economy and U.S. taxpayers.

To explore this issue, in 2018 we surveyed nearly 5,000 H-4 visa holders. We estimate that their loss in employment will cost the U.S. government at least \$1.9 billion in lost tax revenue annually, cost state and local governments at least \$530 million in lost tax revenue annually, and cost our society at least \$5.5 billion, and perhaps as much as \$7.5 billion, in lost economic activity per annum.²

Our data also suggest that the ostensible benefit of this rule rescission, namely the new jobs that would be made available to U.S. citizens, is at best zero, as the jobs that would be opened up for U.S. citizens would be more than offset by the jobs lost via the closure of businesses currently run by H-4 visa holders.

¹U.S. Citizenship and Immigration Services, I-765 Applicants for Employment, 2015-2018.

²Our estimate of lost productivity is based on the reported incomes of the H-4 job holders. The value an \$80,000-a-year worker brings to her employer cannot be less than \$80,000 a year, or otherwise she would not be employed. But that value could be significantly more than \$80,000 a year, a concept economists call producer surplus. Since we cannot measure the producer surplus that would be lost if these H-4 job holders could no longer work, our estimate of lost productivity almost certainly underestimates the true economic loss.

1 The Economics of Skilled Immigration

The economic effect of any immigrant group on the U.S. economy depends on their skills and educational attainment. Highly-skilled, well-educated workers, both foreign-born and domestic, have high employment levels, are less likely to avail themselves of public services such as food stamps or welfare, and are more likely to be in occupations that are hard to fill. As a result, they boost U.S. tax revenues while having little impact on government spending.³

These skilled foreign workers have a beneficial impact on U.S. economic growth and employment, both for skilled and unskilled workers. One reason for this is that skilled foreign labor has a relatively small substitution effect on skilled domestic workers, because skilled foreign workers are relatively mobile and go where there are many available jobs. In contrast, the U.S. labor force is not so flexible: geographic mobility has gradually diminished in the U.S. since the 1950s, and has fallen by 10% in just the last two years.⁴ The chief reason for this trend is the rise in two-income households, which increases the cost of moving for one spouse's job.

Another reason that skilled foreign workers have a positive impact on domestic employment is that they create what economists call a "scale effect": skilled foreign workers boost overall economic activity, creating more opportunities and jobs for both skilled and unskilled domestic workers. This scale effect outweighs the small substitution effect for skilled domestic workers. For example, a 2014 study by Giovanni Peri, Kevin Shih, Chad Sparber, and Angie Marek-Zeitlin showed that reducing the number of skilled foreign workers coming to a community significantly reduced the wages of college-educated U.S.-born workers in those communities who work with computers.⁵

³For a literature review on this topic see Brannon, Ike and Logan Albright, "Immigration's Impact on the Texas Economy," *Texas Public Policy Institute*, March 2016.

⁴Lauren Feintzeig and Lauren Weber, "Fewer Americans Uproot Themselves for a New Job," *The Wall Street Journal*, 20 August 2018

⁵Giovanni Peri, Kevin Shih, Chad Sparber, and Angie Marek-Zeitlin. "Closing Economic Windows: How H-1B Visa Denials Cost U.S.-born Tech Workers Jobs and Wages during the Great Recession," *The Partnership for a New American Economy,* June 2014. See also Giovanni Peri, Kevin Shih, and Chad Sparber. "Foreign Scientists and Engineers and Economic Growth," *Cato Papers on Public Policy* 3: 107-184 (2014).

Skilled foreign-born workers have an unambiguously positive effect on unskilled U.S. born workers. Skilled workers and unskilled workers are, in general, complementary, just as skilled workers and capital are complementary – that is, an increase in the quantity of one increases the demand and price for the other.⁶ Hence, an increase in the supply of skilled foreign workers increases the amount of capital in the economy and – along with it – the demand for unskilled workers. This results in higher wage and employment levels for unskilled workers, even without the scale effect.⁷

Highly-skilled foreign workers are also more likely to create new businesses than U.S. citizens with similar skills and education. Foreign-born workers in the U.S. are 30% more likely to start a new business than a native worker, and 25% of all startups in Silicon Valley have been founded by immigrants.⁸

As we will show, workers currently holding an H-4 visa are almost exclusively skilled workers. thus, eliminating their work authorizations would have a small negative impact on skilled domestic workers, a large negative impact on unskilled domestic workers, and a significant negative impact on new business formation in the U.S.

2 The Data

The American Immigration Lawyers Association distributed a questionnaire we prepared to its approximately 14,000 members, encouraging them to ask their H-1B or H-4 clients to complete the survey. At the same time, an H-4 advocacy group called Save H-4 EAD sent the survey to its approximately 7,000 members. The questionnaire had twenty-five questions pertaining to the level of education and area of study, the type and extent of work experience both in the U.S. and abroad, family status, and the visa status of the respondent.

⁶For a discussion of this see Chiswick, Barry, "Immigration: High-skilled vs Low-skilled Labor," IZA: Institute for the Study of Labor, Policy Paper 28, 2011.

⁷Kiley, Michael T, "The Supply of Skilled Labor and Skills-biased Technological Progress," *Economics Journal*, October 1999.

⁸Wolla, Scott, "The Economics of Immigration," The Federal Reserve Bank of St. Louis, 2014.

We received responses from 4,708 individuals currently holding H-4 visas, 90% of whom were female. Not surprisingly, our sample was highly educated. Recall that H-4 visa holders are spouses of H-1B visa holders, who are foreign workers in specialty occupations. H-1B recipients overwhelmingly have college degrees in science, technology, engineering, and mathematical (STEM) disciplines and are employed in occupations like engineering, computer science, bio-sciences, and other high-tech areas.

We find that their spouses, H-4 visa holders, tend to have very similar educational backgrounds (Table 1). Less than one percent of our sample had less than a college degree, and nearly 60% had a master's degree, doctorate, or other professional or post-graduate degree. Some 83% of our respondents currently hold EADs; 75% of those EAD holders are currently employed in the U.S., and almost 7% of them report being self-employed.

Table 1: Work status, H-4 visa holders

	Ν	% Total	% Fem.	% Adv. Deg.
EAD holders				
Currently employed	2914	61.9%	89.6%	61.3%
Not currently employed				
Want to work	939	19.9%	94.5%	56.9%
Do not want to work	43	0.9%	93.0%	39.5%
Without an EAD				
Want to work	727	15.4%	88.2%	58.9%
Do not want to work	85	1.8%	79.8%	57.1%
Total	4708		90.3%	59.8%

2.1 Currently Employed H-4 EAD holders

Employed EAD holders typically had held an EAD for two years, and earn about \$77,000 a year—an income that is above the U.S. median salary. 66% of them work in a STEM field, mostly in computer-related, engineering, or math or statistics jobs, earning on

average about \$83,000 annually (Table 2). Some common self-reported job titles in our survey include systems engineers, software developers, automation engineers, quality assurance analysts and data analysts, all occupations that U.S. employers have trouble filling.

Another 16% of respondents report working in the business, Finance or Management categories: this group typically reports holding occupations such as project managers or product managers, and average about \$73,000 annually.

An additional 8% of employed respondents report working as Healthcare Practitioners or in Healthcare Support, in such occupations as physicians, dentists, pharmacists, nurses, physical therapists, or healthcare business analysts. Once again, these are areas of high economic value, reflecting the high level of education and training among these H-4 visa holders. The average earnings of this group is about \$76,000 a year.

Table 2: Currently Employed H-4 EAD Holders

		N	% Total	Avg. Inc.*
STEM fields		1912	65.6%	
Computers, Math, and Statistics	1620			\$84,000
Engineering	227			\$82,000
Science	65			\$65,000
Business, Finance, and Managemen	nt	465	16.0%	\$73,000
Health Care		230	7.9%	\$76,000
Other		308	10.6%	\$47,000
Total		2915		\$77,000

^{*}Incomes were reported within ranges. These values are the rounded averages of the midpoints for each respondent's income range, and are therefore rough approximations.

The incomes that H-4 EAD holders earn are very similar to those of their citizen counterparts. Table 3 reports the median incomes of our H-4 respondents by occupational area, and the corresponding median incomes reported in the BLS' May 2017 National

Occupational Employment and Wage Estimates.9

Table 3: Median Incomes of H-4 EAD Holders

	H-4 Median	U.S. Median
Computers, Math, and Statistics	\$86,200	\$84,560
Business & Finance	\$69,500	\$67,710
Management	\$80,300	\$102,590
Engineering	\$80,500	\$79,180
Health Care Practitioner	\$77,100	\$64,770
Health Care Support	\$60,100	\$28,710
Education	\$19,300	\$48,740
Science	\$65,500	\$64,510
Sales	\$37,500	\$27,020
Office Work	\$38,400	\$34,740
Manufacturing/Production	\$76,400	\$33,990
Art Design	\$47,900	\$48,230
Personal Care or Services	\$21,300	\$23,610
Legal	\$71,900	\$80,080

The H-4 medians and U.S. medians are for the most part very similar, suggesting there are no systematic income differences between H-4 employees and their U.S. citizen counterparts. The four occupations where they do differ considerably are in Management, where H-4s are almost certainly predominantly in the lower rungs of the managerial hierarchy, Education, where their lack of teaching certification would limit their employment opportunities, Healthcare Support, where they tend to be clustered in technical support occupations like drug safety analyst or research co-ordinator, and Manufacturing/Production, where most of the job descriptions suggest that they might have better been classified as Engineering or Computer occupations.

Over 60% of the respondents who currently hold a job have a child who was born in

⁹The BLS' estimates are at https://www.bls.gov/oes/2017/may/oes_nat.htm#15-0000. Since we have only interval income data for our sample, our medians were estimated by assuming individual incomes are uniformly distributed within each income interval.

the United States. The vast majority of respondents with a family have, in fact, only one child, consistent with the fact that most EAD holders had been in the U.S. for only three years or less prior to obtaining the EAD.

2.2 Self-Employed H-4 EAD holders

About 7% of employed H-4 EAD holders report being self-employed. The majority appear to be independent contractors—technically self-employed, but doing work for one company. However, 2% of all the individuals we surveyed operate businesses that employ both themselves and others.

About 22% of these were in the Business/Finance or Management categories, another 22% were in a STEM field, and about 23% were Healthcare Practitioners or in Healthcare Support. The self-employed are significantly more likely to be in Art and Design, Healthcare Practice, and Personal Care or Services than those who are employed by others, and significantly less likely to be in Computer Science, Engineering, Math or Statistics.

These self-employed have on average worked longer in the U.S. than those working for others: 84% got their EAD in 2015 or 2016, as compared to only 70% of those employed by others. The self-employed report an average income of about \$60,000 a year and employ an average about 5 other people each, with a median of around 3 employees. Neither of these is surprising: it typically takes some time to get the resources and the knowledge and acumen to begin a business, so the rate of job creation should increase with tenure in the country or in the domestic labor market, and self-employed workers tend to have a lower initial income and a more steeply rising wage curve over time.

2.3 Other H-4 visa holders

As Table 1 shows, about 38% of our sample were not employed at the time of the survey, but the overwhelming majority hoped to obtain employment. Over half of these non-workers had EADs, but the majority of these had had that EAD for a year or less, which may explain why they had not yet become employed. 79% of these unemployed EAD holders reported having prior work experience, averaging about four years of experience. Nearly a third of the respondents without an EAD had applied for one by June 2018. Similarly to their counterparts that have EADs, 87% of the respondents without an EAD reported having prior work experience, averaging about four years of experience.

Thus, it is reasonable to expect that if the rule authorizing H-4 EAD were to continue, the number of employed H-4 EAD holders would rise substantially in the near future, to perhaps 50% more than we have currently. Thus, our estimates of the effects of repealing the rule are almost certainly underestimates.

3 The Costs and Benefits of Repealing H-4 EADs

The process for any Administration to enact or rescind a rule is straightforward: it must formally publish its intent to do so, make the entirety of the proposed rule change available on its website, and allow at least 30 days for public comments. For a rule that has an estimated economic impact of at least \$100 million – either to the government, or the wider economy, or both – it must also pass a cost-benefit analysis, pursuant to executive order 12886. The order tasks the Office of Information and Regulatory Affairs with determining if the rule does indeed pass a cost-benefit threshold.

There are approximately 91,000 H-4 workers with an EAD, and our estimates suggest that approximately 75% of this cohort is currently employed, with an average annual salary of \$80,000. The sample we obtained is both representative and quite large – approximately 4% of the population, an almost unheard-of ratio. Thus, our earnings

estimate should be quite close to the true average. The arithmetic implies that this cohort's annual income – and its annual contribution to U.S. GDP – is approximately \$5.5 billion, 55 times the \$100 million threshold for a cost-benefit test.

Our survey-based estimates show that rescinding the EAD for H-4 visa holders would have significant negative impacts both on federal tax revenue and on U.S. production. Our survey also finds a negative jobs benefit for domestic workers, and identifies significant costs that rescinding the EAD would impose on H-4 households. We conclude that rescinding H-4 holders' work permits must necessarily fail any cost-benefit analysis.

3.1 Economic and Tax Revenue Impacts

Clearly, the H-4 EAD impacts the ability of American employers to employ H-4 visa holders. Our above estimate of \$5.5 billion in lost earning for this group also provides a minimum estimate of their employers' lost output. But the H-4 EAD also impacts the ability of American employers to employ H-1B visa holders. 28% of our employed H-4 respondents reported that their EADs have been important in their family's decision to remain in the U.S.; an identical 28% of the H-4 respondents who are not currently employed but want to work identify the EAD as important to their remaining in the U.S. This suggests that rescinding EADs could result in the loss of up to 25,000 H-1B employees and the roughly \$2 billion in U.S. production that they contribute to our economy. Thus, a better estimate is that the rule recision could reduce U.S. GDP by around \$7.5 billion per year.

We can also calculate the annual foregone tax revenue cost to the federal government. Recall that an employed H-4 visa holder earns on average about \$80,000 a year, and must have an employed H-1B spouse, who presumably also earns about \$80,000 a year. After the \$24,000 standard deduction and one \$2,000 child tax credit, the H-1B spouse would have about \$54,000 in taxable income. Thus, under current tax rates the H-4 spouse's additional \$80,000 in earnings would result in an additional \$15,300 in

income taxes.¹⁰

To that we must add both the employee's and the employer's shares of the payroll tax, about \$12,200. Hence each employed H-4 visa holder would on average pay \$27,500 in federal taxes annually. With roughly 68,000 H-4 visa holders currently employed, that means ending their employment would result in a federal revenue loss of around \$1.9 billion annually. This estimate does not reflect the additional tax revenue that would be lost when American employers lose some of their H-1B employees.

We also estimate the state and local taxes paid by this cohort, by multiplying their total income of \$5.46 billion by the average proportion of income that states and localities assess, 9.75%. This results in a state and local tax revenue loss of \$530 million. This abstracts from the widely varying distributions of state tax revenues derived via income taxes, property taxes, and sales taxes, and allows us to ignore home ownership rates, consumption patterns, and similarly problematic calculations.

Our state revenue estimate assumes that the distribution of H-4 visa holders resembles that of the overall population, which is manifestly not true, since they (mainly because of the jobs of their spouses) disproportionately tend to congregate in California and other high-tax, high-population states. It also ignores the impact of the EAD recision on the ability to attract H-1B employees. That means that the real aggregate revenue loss for the states that would accrue if we abolished the ability of H-4 visa holders to work is probably greater than our estimate.

3.2 The Jobs Impact

A question basic to any cost-benefit calculation, as well as to the very motivation for rescinding the work permit of H-4 visa holders, is whether the jobs currently held by H-4 visa holders would subsequently be filled by U.S. citizens either currently without a job or else underemployed in an occupation that does not utilize their full skills. This defies

¹⁰This would be \$23,000 in additional income taxed at the 12% rate, and \$57,000 taxed at the 22% rate.

an easy or objective answer, but we can make a few relevant observations.

First, the education and training of typical H-4 visa holders mean that the jobs they occupy would be relatively difficult for employers to fill with American workers. Unemployment rates tend to fall steadily with educational attainment: in June 2018 the unemployment rate for people without a high school degree was 5.8%, two points above the national average, but 4.3% for those with a high school diploma, and only 2.5% for college graduates. For those with professional degrees or PhDs the unemployment rate was 1.5% and 0.9% respectively.

These numbers suggest that there is very little unused supply of U.S. labor with the ability to do the work of the typical H-4 worker with a postgraduate degree and several years of professional experience.

A second, complementary point is that, as we approach the 11th year of an economic expansion, the availability of unemployed workers at any skill or educational level willing and able to do the jobs currently held by H-4 visa holders is relatively slight. That is not to say that there is no pool of underemployed workers in the U.S. economy; the labor force participation rate, which measures the proportion of the adult non-institutionalized population that is active in the labor market, is five to seven percentage points below where it was at the peak of the previous. two business cycles. This suggests that there may be a pool of domestic workers willing to enter the labor market if the opportunity arose.

However, it is more likely that the labor force participation rate today does not have much room to increase: research published by Ike Brannon and Andrew Hanson suggests that the gap between past rates and the current rate are due to demographics (a greater proportion of workers are above age 55), the crippling effects of opioid addiction, and the ongoing sluggishness of new home construction.¹¹ None of these suggest that there is a sizable pool of unemployed college graduates with STEM degrees.

¹¹lke Brannon and Andrew Hanson. "Wisconsin: A Blueprint for More Workers," Badger Institute Report, August 2018.

To reasonably approximate the number of H-4 visa held jobs that would be filled by U.S. citizens, we began with the BLS's unemployment rates by occupation for 2018. ¹² We assumed that the frictional unemployment rate is roughly 2%, so any occupation with a 2% or lower unemployment rate would have no excess workforce whatsoever: all the currently unemployed workers in that occupation would be in the process of searching for and moving to a new employer. On the other hand, we assumed that if the unemployment rate in an occupation is 8% or higher, there is sufficient slack to allow all the H-4 visa workers to be replaced. For occupational unemployment rates between 2% and 8%, we used linear interpolation: at a 4% unemployment rate, only one-third of the H-4 workers would be replaced, but at a 6% unemployment rate two-thirds would be replaced.

Since our observed unemployment rates are from 2018, they reflect only frictional and structural unemployment. That is, they include no cyclical unemployment, since the economy was at roughly full employment in 2018. Thus, if an occupation had 6% unemployment in 2018, about 4% of that occupation's workforce would have been structurally unemployed, that is, with job skills that did not match what local employers needed. Taking a sales job away from an H-4 in Seattle would be unlikely to help an unemployed salesman in Peoria, so even if the occupation's unemployment rate was 6%, we doubt that all the jobs vacated by H-4 employees would be subsequently filled by U. S. citizens.

In our sample, over two-thirds of the employed H-4 EAD holders were in fields with a 2018 unemployment rate below 2.25%: Management, Engineering, Legal, Healthcare Practice, Science, and Computer and Mathematics.¹³ Interpolation suggests that only 7.1% of the H-4 EAD workers would be replaced by American workers if they lost their employment status. Even if we assume more slack in labor markets, so that at 4% and

^{12&}quot;Unemployed persons by occupation and sex," Bureau of Labor Statistics, https://www.bls.gov/web/empsit/cpseea30.htm. We used the average unemployment rate for the 12 months of 2018 for each occupational category. This eliminated the seasonality issues inherent in these occupational unemployment rates.

¹³More precisely, these are the Management occupation, Architecture and engineering occupations, Legal occupations, Health-care practitioner and technical occupations, Life, physical, and social science occupations, and Computer and mathematical occupations as defined by the Bureau of Labor Statistics.

6% occupational unemployment rates, one half and all H-4 workers would be replaced respectively, we still estimate that only 10.6% of the H-4 EAD workers would be replaced. Thus, eliminating the employment status of 68,000 working H-4 visa holders would result in the employment of only 4,800 to 7,300 U.S. citizens.¹⁴

Remember that around 2% of our employed H-4 visa holders were self-employed, employing in turn on average about five other workers. Thus, if those 68,000 employed H-4 EAD holders all lose their employment status, 6,800 U.S. citizens would also become unemployed when the H-4 business owners liquidate their businesses. This would almost exactly cancel out any employment gains accruing to U.S. citizens from H-4 job replacement. And this ignores the other employment-creating effects from high-skilled H-4 workers. Overall, ending the H-4 program will likely reduce overall employment and wages for American workers.

3.3 The Costs to the Families of Rescinding EADs

We asked the H-4 respondents who reported being currently employed what major life decisions they had made, in reliance on the H-4 spouse's ability to work. Most of these families – nearly 7 out of 8 as reported in Table 3 – report having made at least one irreversible, major life decision such as having a child, buying a home, or obtaining more education, and nearly half had made two or more such decisions.

Losing the income that they had relied upon in making these life decisions would impose a particularly high cost on these households. Even to the extent that some decisions are partly reversible, such as purchasing a home, where a significant share of the investment made may be recouped on sale, the loss of a lifestyle that had previously been afforded would be particularly harshly felt, as amply demonstrated by the

¹⁴Measures of unemployment tend to undercount the number of structurally unemployed, by ignoring discouraged workers. It would be reasonable to assume that this problem is most serious in occupations that have higher observed structural unemployment rates, and that in general the true structural unemployment rate (including these discouraged workers) is larger than but proportional to the measured structural unemployment rate. This would suggest using a linear interpolation closer to the one in this paragraph than in the preceding paragraph, but it would otherwise not alter our estimation methodology.

Table 4: H-4 EAD Holders' Irreversible Life Decisions

	Child	House	Education	None	
Child only	Х				4.9%
House only		X			30.5%
Education only			Χ		3.3%
Child and house	Χ	X			23.0%
Child and Education	X		Χ		1.9%
house and Education		Χ	Χ		13.2%
All three	Χ	Χ	Χ		10.5%
	40.3%	77.2%	28.9%	12.8%	

behavioral economics concept of loss aversion.¹⁵

This fact is reflected in the importance employed H-4 EAD holders assign to having an EAD: 98.5% rate is as at least important, and 93.3% rate it as very important to their decision to remain in the U.S. and pursue permanent residence. It is also reflected in the comments many of these respondents provided us at the end of the survey. Two themes arose repeatedly: the depression associated with not being able to work, and the investments made based on the EAD-based income. There are hundreds of statements of this ilk:

"As I never sat in home before coming to U.S., coming to U.S. along with spouse to keep family happy was the biggest decision I ever made. I was really depressed and later developed hypothyroidism sitting in the house, unable to do any work or business legally. I was very unhappy that I couldn't work in U.S. after having so many years of experience ... I was really feeling worthless. After H-4 EAD, I am very positive and able to have health family and life. I also planned to have one more baby and we decided to settle in U.S.... Also, we decided to buy a house as we will be able to manage our finances based on

¹⁵Kahneman, D.; Knetsch, J.; Thaler, R. (1990). "Experimental Test of the endowment effect and the Coase Theorem". *Journal of Political Economy.* 98 (6): 13251348.

our both income."

"After receiving my H-4 EAD, I: (1) Went back to school to upgrade my skills and restart my career after the 7-year long forced break; (2) Found a job within 6 months; (3) Created a business plan; (4) Am saving up to start a business; (5) Bought a home, made home improvements and plan to do more; (6) Pay more taxes, SS, Medicare; (7) Created an emergency fund; am saving for retirement, making more investments within the U.S.; (8) Enrolled our child in activities and classes; (9) Volunteered with a nonprofit organization that provides community healthcare; (10) Shop more, eat out more, travel more within the U.S., and donate more to charitable organizations; and (11) Feel confident and secure."

"I lived in United States for 4 years without H-4 EAD. I was very depressed and didn't have anything to do. I used to cry almost every day. H-4 EAD helped me to have financial stability and to be independent and utilize my Masters degree. I got an opportunity to share equal responsibilities at home like my husband. Once I got my H-4 EAD, we decided to have kids. Now, we have a beautiful baby and baby comes with more expenses."

"After I got a job, my family moved from an apartment to a house. We bought a house and an additional car. Losing H-4 EAD will cause money issues in our current situation. We might have to give up our new house as one income cannot support it."

"Based on the work authorization we made important decisions in our life like buying a home and car. Also start savings for my U.S. born child. Now I am saving money to do my MBA degree which I plan to start by 2019 fall. Revoking this rule will make our life upside down. It will be like pulling the rug from under your feet."

"H-4 EAD saved my life as I got multiple job offers after that. I have been happily working for a big non-IT company and have been one of the top per-

formers there. I love my job, we moved to a bigger house, had another kid and have been paying our taxes."

In addition, many of the comments provided by self-employed workers in the survey focus on the investments they have made building their businesses, the workers they employ, and the communities they serve. A few examples are below:

"I started my own business as a 3rd party merchant on big U.S. e-retail platform [paying] more than \$300,000 to an e-retailer in last 2 years ... I have invested a significant amount of money on the inventory required for my business and have goals to expand my business further."

(A respondent who replied for his spouse wrote that) "she started an online garments business. The venture ... is now worth over \$200k and growing by the day. Last year sales were \$100k+... My spouse plans to expand the business from being just online now to a full retail store."

"I am running my own business and employ 3 U.S. citizens as part-time workers [who, as the business grows will become full time] ... we invested a lot too."

"My health company is located in a rural part of Michigan where there aren't a lot of companies like mine. I have had great response from the doctors and patients from this area. I will soon be hiring more employees."

"I launched a company to teach STEM subjects to kids... I am willing to employ more people and would have already done that if not for all this uncertainty."

"When the H-4 EAD was approved in 2015, I started my own Family Child Care business... I serve about 16 children in my program and employ 3 teachers."

"My wife was able to start a pharmacy and provide employment to [others]. We have invested a lot of money into it and fear losing it if her H-4 EAD is cancelled. Also we are unable to invest more to expand the business and thus not able to provide more employment with the fear of losing H-4 EAD."

"Recently I registered and started my own interior design firm. I am sole owner and work on all facets of the job myself right now, but hoping to take an assistant as my workload is increasing. If my H-4 EAD is revoked...I will be forced to end my projects, [and] the investment that I have done on my company will go in vain, the sub-contractors that I have hired will have to terminate their job status."

"The H-4 EAD gave me the opportunity to open up my own dental practice. I had 8 years of experience but could not open my practice. Now I employ 6 full time employees and 1 part time employee."

"I have ... started my own tax consulting business in addition to my full time job and plan to grow that as well hoping to employ 2-3 tax accountants...I was not able to pursue my career for many years that had let to depression and marital problems in my personal life."

"I acquired a company that currently employs 14 workers."

"Because of the H-4 EAD I have been able to start my business and scale it to 2 locations in 2 years."

"I own a few doctors' offices and have 25+ employees in my startup and fast growing venture."

3.4 Benefits Foregone if EADS are Rescinded

We asked the H-4 respondents who reported not being currently employed but wanting to work to identify the three most important aspects of the H-4 EAD card to themselves and their families. These aspects represent benefits that U.S. employment would provide to these households, that would be foregone if the possibility of acquiring an H-4 EAD card is eliminated. 99.5% of these respondents identified at least one aspect, and 87.5%

identified three important aspects of the EAD card. Table 4 lists the six most identified aspects.

Table 5: Important Aspects of H-4 EAD

Financial Support of Family	74.1%
Maintaining Career Skills	66.5%
Ease the Long Wait for Green Card	47.1%
Professional Opportunity	29.9%
Affect Decision to Stay in U.S.	27.9%
Be Able to Buy a House	24.1%

74% of this group identified the financial support the EAD would allow them to provide their families. This echoes the degree to which current EAD job holders report relying upon that spouse's income. Fully two-thirds of the cohort also said that being able to maintain career skills was a key reason why they valued the ability to work; if this group were unable to work it would mean that their future incomes would ultimately be lower. Given that a significant proportion of this group will likely receive a green card in the future, that means their future income and taxes paid, along with the concomitant overall economic activity, would be lower in the future as well. The potential loss in career skills, and the corresponding gap in the job resume, is another cost that would be imposed on these individuals, a cost that would persist over the individual's remaining work life.

What's more, nearly half of the group reported that they valued the EAD because it eased the long, difficult wait for a green card.

Like those who are currently employed, many of the respondents who want to work mentioned the depression associated with not being able to work, and the financial struggles of a family with a spouse who cannot work. Many also mentioned the career opportunities that have been put on hold because of the threatened H-4 EAD rescission. A few examples follow:

"I am a STEM graduate from a reputed U.S. university with 2 years of Doc-

toral research experience. After getting married, I changed my status from F1 to H-4 to be able to move in with my husband who lived in a different state. The prospect of H-4 EAD was exciting as it would let me be with my family while working part time and developing a business plan for the future. I put my research career on hold and worked hard on launching my business offering scientific editing services. At this point, with the uncertainties surrounding H-4 EAD, I wonder if I made the right decision. If H-4 EAD gets revoked, I might have to move to a more immigrant friendly country with my husband (who holds a senior advisor position at an American company) and my U.S. born son, rather than wait a few decades to be able to work again and contribute to my family."

"Of course it will help [us] financially. But she has worked in corporate environment before she came to the U.S.A. It [has been a] rough time for her sitting at home and doing nothing productive. We have tried to get her an H1 visa to get work permit but no luck. H-4 EAD was her hope to start working in U.S.A. If it is stopped I will consider other options like moving to Canada or back to home and starting my own business."

"We need be able to manage our kid lifestyle professionally with fun if my wife able to work. She is so depressed and I'm afraid my kid will grow well mentally. Also after having baby I thought we can buy new house, with current financial I can't think of it."

"I have a microelectronics, microwaves and wireless engineering master degree coupled to an MBA from top tier business school in the world. 15 years of progressive experience as engineer, project manager and sales engineer. I am staying at home completely depressed and very disappointed by this country."

"While on H-4 EAD, my spouse has pursued master degree in STEM field

in United State. We are in United States for more than 6 years now, it is very frustrating for my spouse being not able work and longer green card backlog makes it worse. Even though she has master degree in STEM and almost 6+ years of industry experience."

"Recently we got married after long struggles. We want to stay together. One in India and one in U.S.A doesn't work out in marriage life. My spouse has 11+ years of experience in Oracle DBA. And we don't want to waste his professional growth."

"I have recently started looking at the business ventures on H-4 EAD, I was thinking of investing money in institute like Kumon or Mathnasium or else going back to IT industry but I had to stop my plans due to uncertainty on H-4 EAD. We also thought to invest in real estate market where we thought we could buy and flip houses and we wanted to buy house for ourselves but California is very expensive state without two income we can't think of taking that big burden and hence we stopped all our plans."

"I have been working in U.S. on a H-1B for last 9 years. A few of my colleagues and I saw a interesting opportunity to start a company helping build software for American manufacturing companies. We have great validation from customers to start the company but given my green card has been stuck in the backlog for 9 years, I am trying to change to H-4 EAD in order to start the company."

4 Conclusion

We conclude that any rule change rescinding employment authorization for H-4 visa holders would result in substantial costs, both to the U.S. economy, to Federal and State tax coffers, to U.S. employers' ability to attract H-1B workers, and to the H-4 households

themselves. The latter would come in the forms of lost household income, the loss in any return on sunk investments in education and new businesses, and the loss of career skills and future income due to a significant employment gap, and the loss in self esteem due to an inability to put one's talent to work.

Those losses would not be offset at all by any increase in employment and income by domestic workers. These H-4 workers are highly skilled and highly educated, and predominantly work in fields with extremely low unemployment rates; there are few available U.S. workers with sufficient background and education to do the jobs the vast majority of these H-4 workers are currently doing. We project that the relatively small gains to U.S. workers in replacing H-4 workers would be more than offset by the jobs lost to them if the self-employed H-4 workers were forced to close their businesses and lay off their employees.

Providing H-4 visa holders with the ability to obtain gainful employment has provided a positive and significant economic and fiscal boost to the U.S. economy, strengthened by the fact that most of this cohort has a high level of education and a modicum of training and experience in skilled fields where compensation is high and unemployment rates are low. The low unemployment rates for highly-educated workers, especially in STEM fields, are indicative of a genuine labor shortage in the occupations and areas where such workers tend to be. As a result, the data suggest that this cohort does little to displace domestic workers in the occupations and industries where they predominate.

Almost all of the respondents made clear that they had relied on the government's H-4 spousal authorization to take out mortgages, started families, borrowed money to start new businesses, or make other long-term, irrevocable decisions largely predicated on the ability of both spouses to work at their chosen occupation. The potential disruption cost to these families is beyond our ability to quantify but it may be the consequence with the greatest long-term impact.

In short, we find that the sizable economic benefits of allowing H-4 visa holders to

work come with a no real economic cost whatsoever. Rescinding their ability to work would fail to meet any credible cost-benefit analysis, and thus should be rejected by the Office of Information and Regulatory Affairs.

5 Appendix: the Questionnaire

Q1:	What is your gender?			
	Male	9.7%	454	
	Female	90.3%	4,243	
Q2:	What is your highest level of education?	•		
	Less than Bachelors	0.7%	31	
	Bachelors	39.5%	1,862	
	Masters	53.1%	2,502	
	Doctorate	1.8%	86	
	Professional Degree	4.8%	227	
Q3:	Do you currently have an H-4 Employme	ent Authoriz	ation Card	?
	Yes	82.8%	3,896	
	No	17.2%	812	
Q4:	When was the i140 approval received?	[Only asked	d if Q3=Yes	;]
	2005	0.1%	3	
	2006	0.1%	2	
	2007	0.1%	3	
	2008	0.2%	9	
	2009	0.7%	26	
	2010	4.4%	169	
	2011	7.5%	292	
	2012	10.4%	405	
	2013	9.8%	379	
	2014	11.7%	455	
	2015	18.0%	700	
	2016	20.5%	795	

	2017	12.7%	494			
	2018	3.9%	150			
Q5:	What year did you FIRST obtain an	What year did you FIRST obtain an Employment Authorization Documer				
	(EAD)? [Only asked if Q3=Yes]					
	2015	30.8%	1,198			
	2016	33.9%	1,322			
	2017	23.7%	923			
	2018	11.6%	451			
Q6:	Are you currently employed? [Only a	asked if Q3=Yes	s]			
	Yes	74.8%	2,914			
	No	25.2%	982			
Q7:	What is your annual income? [Only	asked if Q6=Ye	s]			
	Up to \$24,999	7.2%	209			
	\$25,000 - \$49,999	11.6%	335			
	\$50,000 - \$74,999	26.9%	779			
	\$75,000 - \$99,999	31.3%	906			
	\$100,000 - \$124,999	15.7%	454			
	\$125,000 - \$149,999	5.0%	145			
	\$150,000 - \$174,999	1.2%	36			
	\$175,000 - \$199,999	0.5%	15			
	\$200,000+	0.7%	20			
Q8:	Are you self-employed? [Only asked	I if Q6=Yes]				
	Yes	6.9%	198			
	No	93.1%	2,691			
Q9:	Why do you NOT currently have an	H-4 Employmer	nt Author	rization Card?		
	[Only asked if Q3=No]					
	Not interested in employment	4.2%	34			

	Have not yet applied	64.7%	525		
	Have applied but not received	31.2%	253		
Q10:	Do you want to become employed in the U	I.S.? [On	ly asked	if Q3=No or Q6=	:No]
	Yes	94.7%	1,673		
	No	1.4%	25		
	Not sure as of this time	3.9%	69		
Q11:	What is your current job title? [Only asked	if Q6=Ye	s]		
Q12:	Which of the following occupational areas	does tha	t job bes	t fit into?	
	[Only asked if Q6=Yes]				
	Computers, mathematics or statistics	47.4%	1,376		
	Business or financial operations	12.5%	364		
	Management	8.5%	248		
	Architecture or engineering	6.2%	179		
	Healthcare practitioner	5.0%	146		
	Other	4.4%	129		
	Healthcare support	3.8%	110		
	Education, training, or library	3.3%	96		
	All Others (click to expand)	8.7%	257		
Q13:	What employment position does you hope	to seek?	Only as	sked if Q10=Yes]	
Q14:	Were you employed in that field prior to co	ming to t	he U.S. i	n H-4 status?	
	Yes	82.7%	3,774		
	No	17.3%	792		
Q15:	In which state do you work? [Only asked it	Q6=Yes]		
	California	16.7%	478		
	Texas	10.3%	295		
	New Jersey	7.1%	202		
	North Carolina	6.2%	178		

	Washington	5.8%	165
	Illinois	4.8%	137
	Virginia	4.2%	120
	Massachusetts	4.0%	115
	Michigan	3.8%	108
	Georgia	3.5%	100
	Pennsylvania	3.2%	92
	New York	3.0%	86
	All Others	27.4%	789
Q16:	In which state would you work? [Only asked if Q10=	=Yes]
	California	14.1%	226
	Texas	9.3%	150
	New Jersey	8.2%	131
	Washington	6.3%	101
	North Carolina	5.4%	87
	Virginia	5.0%	80
	Illinois	4.6%	74
	Michigan	4.5%	73
	Georgia	3.9%	63
	New York	3.7%	59
	Florida	3.4%	54
	Connecticut	3.1%	50
	All Others	28.6%	457

Q17: How many employees does the company where you work employ in total? [Only asked if Q6=Yes]

0	0.6%	16
1	1.0%	28

	2-5	2.5%	73	
	6-10	3.0%	86	
	11-25	4.7%	136	
	26-50	4.7%	137	
	51-99	3.4%	98	
	100-199	6.9%	199	
	200-500	10.1%	291	
	501-999	6.6%	190	
	1000+	56.6%	1,634	
Q18:	How much work experience did you h	nave prior to co	oming to th	e U.S.?
	Less than 6 months	6.0%	276	
	6 months up to a year	3.7%	170	
	1-2 years	18.7%	860	
	3-4 years	33.5%	1,542	
	5-9 years	30.1%	1,383	
	10+ years	8.0%	370	
Q19:	Do you have any U.Sborn children?			
	Yes	59.8%	2,763	
	No	40.2%	1,861	
Q20:	How many U.Sborn children do you	have? [Only a	sked if Q1	9=Yes]
	1	72.5%	2,001	
	2	26.8%	740	
	3+	0.7%	18	
Q21:	How many years prior to obtaining the	e EAD were yo	ou in H-4 st	tatus and unable
	to work? [Only asked if Q3=Yes]			
	Less than 6 months	15.7%	606	
	6 months up to a year	9.2%	357	

1-2 years	25.1%	968
3-4 years	28.8%	1,111
5-9 years	19.9%	769
10+ vears	1.3%	51

Q22: How many years have you been in H-4 status in the U.S. with no work authorization? [Only asked if Q3=No]

Less than 6 months	16.6%	125
6 months up to a year	9.5%	72
1-2 years	28.6%	216
3-4 years	29.5%	223
5-9 years	14.7%	111
10+ years	1.1%	8

Q23: How important is the current eligibility for H-4 EADs to your decision to remain in the U.S. and pursue permanent residence?

Not at all important	0.6%	29
Somewhat unimportant	0.4%	18
Neither unimportant nor important	1.4%	65
Somewhat important	7.7%	358
Very important	89.8%	4,154

Q24: Of these options, which are the three most important aspects of the H-4 EAD card to you and your family? (Check up to three) [Only asked if Q10=Yes]

Financial support of family	74.1%	1,234
Career development so that skills don't become outdated	66.3%	1,104
Make long wait for green card less difficult or		
dilute the uncertainty of a long wait for green card	47.1%	785
Exciting professional opportunity	30.0%	499

Change calculus about leaving the United States	27.9%	464
Being able to buy a house in the United States	24.1%	40
Having professional colleagues would help assimilation	8.5%	141
Other	1.9%	31

Q25: Which of the following major life decisions have you made, in reliance on your ability to work: (no limit to the number, please tick all that apply) [Only asked if Q6=Yes]

Bought/buying a house	77.8%	2,250	
Bought/buying a new car	59.1%	1,709	
Decided to have children/more children	40.6%	1,176	
Chose where to send your children to school	37.8%	1,093	
Making contributions to care for elderly parents	36.5%	1,055	
Decided to enrolled in additional schooling for you			
or your spouse	29.1%	842	
Relocated where you live	28.7%	830	
Decided not to return to your country of origin	28.3%	818	
Other	7.2%	207	
Decided whether to leave an abusive spouse			
or family situation, etc.	2.4%	69	
None of these.	1.9%	56	

- Q26: Please describe any career opportunities the H-4 EAD has provided you, such as a business you've been able to start, projects you've been able to take on, or ways you've been able to expand your skills.
- Q27: Please also describe how your H-4 EAD-based income has changed your lifestyle, and how you now rely on that income.