# Does the US Labor Market Reward International Experience?<sup>†</sup>

## By Susan Pozo\*

Increased interest in globalization has led to spirited discussions about the returns to acquiring international human capital. By arming oneself with foreign language abilities, cultural sensitivities, and familiarity with alternative problem solving strategies, colleges and universities tout the benefits that students can obtain from study abroad programs. The claim is based on a belief that international experience is a form of human capital sought after by employers wishing to better manage international supply chains, engage an international customer base, and negotiate increasingly complex and unfamiliar business relationships across the globe.

While plausible, there is little scientific evidence to support the claim that there are gains to international human capital. Do international experiences, in fact, raise workers' earnings and productivity? The economics literature has approached this question in two ways: (i) by discerning whether return-migrants earn a wage premium and (ii) by measuring the contribution of immigrants to economic outcomes. Dustmann and Weiss (2007) argue that workers return to the homeland to exploit the human capital acquired in the host country because it yields a larger return at home. There is mixed evidence on this. Barrett and Goggin (2010) report that returning Irish workers are rewarded a 7 percent wage premium with greater premiums for those returning from geographically more remote areas. Co, Gang, and Yun (2000) find that returning Hungarian women are rewarded with a wage premium, but men are not. Sun (2013) examines whether returning Chinese are more productive in the venture capital business than their peers without experience abroad by comparing

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their abilities to obtain funding for firms. He finds that returning Chinese are less successful. Laboratory experiments in social psychology purport to show that individuals who have lived abroad are more creative and better at tasks such as negotiating (Maddux and Galinsky 2009).

The second approach for gauging whether there are returns to international human capital measures the contributions of immigrants to economic outcomes. Using matched firmlevel employee data, Ozgen, Nijkamp, and Poot (2013) report slight increases in innovative activity for Dutch firms employing a more diverse workforce measured by its mix of immigrants. Using a cross-country economy-wide approach, Kim (1998) finds a positive association between the proportion of the foreign-educated labor force and a country's economic growth, suggesting that international human capital contributes to higher productivity.

While the two strategies for measuring returns to international human capital are intriguing, it is a stretch to expect that immigrants and return migrants are randomly selected from the population. Consequently, it is difficult to infer a causal relationship from international experience to productivity/creativity using these populations. I propose an alternative methodology for obtaining a sample that is "treated" with international human capital but is not self-selected. I propose to use the US population that was born abroad to US citizens, arguing that they are nearly ideal for discerning whether there are returns to international human capital.

### I. An Almost Ideal Sample

I exploit the citizenship question in the 2006–2010 American Community Survey (ACS) 5-year PUMS where respondents are coded as fitting one of five situations: (i) Born in the US; (ii) Born in Puerto Rico, Guam, the US Virgin Islands, or the Northern Marianas; (iii) Born abroad of American parent(s); (iv) US citizen by naturalization; (v) Not a citizen of the US.

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I classify those under (i) or (ii) as born on US soil and those under (iv) or (v) as immigrants. I exclude immigrants. Category (iii)-born abroad of an American parent or parents-is my primary population of interest. These persons may have been born to US foreign service workers, US military personnel, US executives managing joint ventures, or NGO workers. They are colloquially know as, "Missionary Kids," "Military Brats," "Global Nomads," and "Third Culture Kids." They are born with US passports and some may be eligible for dual citizenship. They were likely acculturated into the US ethos, but were exposed to at least one non-US culture and perhaps acquired foreign language skills. At a minimum, they are likely to have a keen interest and incentive to be knowledgeable of their birth country. By being born abroad, they likely acquired international human capital and serve as my "treated" group. I refer to them as INTsinternational human capital-enhanced individuals. They are a sizable group (N = 65,908)constituting about 1 percent of the working age non-immigrant US population.

While INTs did not self-select to be born in a foreign country, they could self-select when and if to return to the US. To deal with this source of selectivity, I limit my data to those who returned to the US before the age of 17, because in such a case, it is reasonable to assume that the decision to return to the US was made by their parents' employer—the State Department, the US Military, the corporate home office. In this manner I argue that the treated population did not make the decision to return to the US. Their treatment is exogenously imposed<sup>1</sup>.

There are other individuals who have been treated with international experiences who are not captured by this methodology, including those born on US soil and traveled with their parents abroad—the siblings of our treated group. They will have international experience but will not be classified as INTs in this study, potentially biasing my empirical results against finding an international human capital-effect. However, even if it were possible to identify such individuals (not possible with the ACS) it would not be appropriate to include them in the treated group. The characteristics of children born on US soil may influence whether or not the parents accept a foreign assignment. For example, the parents of a child born in the US with a disability may be less apt to accept a foreign assignment given access to networks/family to help with care and specialized treatments. Thus, being born abroad lessens the selection bias that could occur. If I find an INT premium, I can, with greater confidence, attribute it to the foreign experience and not to selection based on the child's characteristics.<sup>2</sup> Another potential set of missing persons from my sample are individuals born abroad into US citizenship who are currently not residing in the US, because they chose to stay/return abroad. I perform sensitivity analysis using information on citizenship laws for the country of birth to account for this possibility.

My sample is limited to full-time workers (worked at least 48 weeks last year and usually more than 34 hours a week) between 26 and 64 years of age. While I report descriptive statistics for all 6.6 million working age non-immigrant adults, I limit the estimation to the 3.5 million full-time workers.

#### **II.** Descriptive Statistics and Specification

Table 1 compares the characteristics of the treated group with the non-immigrant (and born on US soil) population in the ACS. INTs are more highly educated. Fifteen percent have attained a graduate degree in comparison to 11 percent for the "born on US soil" population. The ACS birth country variable permits identification of the location of birth for each INT in the sample. While 152 countries are represented, Germany is the most common country of birth, accounting for 29 percent of the treated sample. The next most common country of birth is Japan (8.8 percent) followed by Mexico, Canada, and England (6 percent each) and the Philippines (5 percent). The distribution of birth countries coincides with other accounts of the location of Americans abroad as described by Smith (2010).

I estimate a standard Mincer-type wage equation (log of annual wage or salary income

<sup>&</sup>lt;sup>1</sup>I cannot, however, fully separate being born into a family choosing international experience from the international experience itself. Both contribute to international human capital.

<sup>&</sup>lt;sup>2</sup> My sample should not pick up foreign adoptions since adoptees are naturalized US citizens and hence are classified as immigrants.

Characteristic	Born US soil	INTs	Characteristic	Born US soil	INTs
Female	51.4	50.6***	Earnings	\$37,289	\$43,681***
Age	45.9	43.4***	Graduate	11.3	15.3***
Married	64.3	64.2	College degree	19.6	25.1***
Never married	17.3	18.9***	Some college	31.9	32.8***
Divorced	16.2	15.5***	HS graduate	28.6	19.9***
Military	10.4	13.0***	Less than HS	8.6	6.9***
Full-time	56.3	60.6***	NLF	22.6	18.0***
Unemployed	4.5	4.5***	Self-employed	10.1	10.3*
			Sample size	6,598,485	65,908

TABLE 1-MEANS FOR SAMPLE OF WORKING AGE FROM THE 2006-2010 ACS

\*\*\*Significant at the 1 percent level.

\*\*Significant at the 5 percent level.

\*Significant at the 10 percent level.

adjusted for inflation using the ADJINC variable in the ACS) using all non-immigrant fulltime workers to test whether the treated group has higher earnings, adjusting for standard characteristics.

(1) 
$$\ln E_{i} = \alpha_{0} + \alpha_{1} INT_{i} + D_{i} \gamma$$
$$+ HK_{i} \delta + O_{i} \theta + \varphi_{i} + \varepsilon_{ii},$$

Logged annual inflation adjusted earnings  $(E_i)$ for individual *i* is the dependent variable.  $INT_i$  is a dummy variable that identifies whether *i* was born abroad to US parent(s). A vector of standard demographic variables  $(D_i)$  follow—age, age<sup>2</sup>, age<sup>3</sup>, and marital status. Standard human capital variables  $(HK_i)$  are incorporated for different levels of educational attainment (less than high school, high school, some college, completed college, and graduate or professional degree) along with a dummy indicating whether the respondent has completed any military service. Time effects,  $\varphi_t$ , account for the business cycle. A further specification incorporates a vector of dummy variables for the different occupational categories. Because employment and work patterns for men and women differ, separate estimations are performed by gender. Standard errors are clustered at the state level.

#### **III. Results**

The first specification, displayed in the first two columns of Table 2, incorporates adults aged 26 to 64 from the 2006–2010 ACS 5-year PUMS who were born abroad but into US citizenship along with all respondents born on US soil. By limiting my sample of INTs to those who came to the US before adulthood,<sup>3</sup> I argue that there is no self-selection into or out of the sample. Treatment is largely exogenous with respect to each individual. The OLS coefficient on INT displayed in Table 2 is positive and statistically significant suggesting that both female and male individuals treated with international human capital are awarded a premium relative to peers without observed international experience. Treated women earn about 5 percent more and treated males half that premium (2.5 percent) relative to their untreated counterparts.

While those born abroad had no say in their location of birth, it may be that foreign birth confers dual citizenship, affording the treated individuals more location options later in life. If so, INTs who are less successful in the US might opt to use their dual citizenship to return to their country of birth, biasing my results on account of selectivity. To account for this, I consider the citizenship laws for each country in my sample. In some countries, children born within the borders of the country are automatically awarded citizenship (jus soli)-what we commonly refer to as birthright citizenship. However, for a large number of countries, citizenship is awarded based only on ancestry-jus sanguinis. In this case, being born within the borders of the country does not automatically confer citizenship. Some countries have flipped back and forth

<sup>&</sup>lt;sup>3</sup> About 17 percent of the sample of INTs came to live in the US for the first time after age 16.

Variable	Women		Men		Women <sup>a</sup>		Men <sup>a</sup>	
	β	SE	β	SE	β	SE	β	SE
INT	0.049***	(0.009)	0.025***	(0.007)	0.050***	(0.010)	0.023***	(0.008)
Age	0.110***	(0.006)	0.135***	(0.006)	0.110***	(0.006)	0.135***	(0.006)
Age <sup>2</sup>	$-0.002^{***}$	(0.001)	$-0.002^{***}$	(0.000)	$-0.002^{***}$	(0.000)	$-0.002^{***}$	(0.000)
Age <sup>3</sup>	0.000***	(0.000)	0.000***	(0.000)	0.000***	(0.000)	0.000***	(0.000)
Married	0.032***	(0.005)	0.209***	(0.005)	0.032***	(0.005)	0.209***	(0.004)
Grad	1.041***	(0.014)	0.983***	(0.016)	1.042***	(0.014)	0.982***	(0.016)
BA	0.812***	(0.015)	0.732***	(0.016)	0.812***	(0.015)	0.732***	(0.016)
< BA	0.454***	(0.011)	0.377***	(0.011)	0.455***	(0.011)	0.377***	(0.011)
HS	0.232***	(0.010)	0.190***	(0.006)	0.233***	(0.010)	0.180***	(0.006)
Military	0.058***	(0.013)	$-0.035^{***}$	(0.007)	0.059***	(0.002)	$-0.035^{***}$	(0.007)
$R^2$	0.233		0.240		0.233		0.240	
Observations	1,545,876		1,968,916		1,544,063		1,966,455	

TABLE 2-LN(EARNINGS) WOMEN AND MEN 26-64 YEARS

Notes: Year dummies not shown. Robust SE in parentheses. Less than HS excluded category.

<sup>a</sup>The regression excludes INTs born in countries with *jus soli*.

\*\*\* Significant at the 1 percent level.

\*\*Significant at the 5 percent level.

\*Significant at the 10 percent level.

on the question of birthright. I make use of these laws (see US Office of Personnel Management 2001) to identify legal birth status of each *INT*. In columns 3 and 4 of Table 2, I estimated the earnings equation excluding all individuals who were born in countries with a *jus soli* statute in place, limiting my sample to individuals *without* the means to easily self-select out of the sample by returning to their birth country. Despite eliminating this source of self-selection, the *INT* premium persists with women (men) earning a 5 (2.5) percent premium.

A further concern is that of occupational selection. If more INTs select into high paying occupations then we should expect to see that they earn a premium. But this premium must be attributed to occupation and not to international human capital. To account for this I perform two separate estimations. First, I account for each person's occupation in a series of estimations (see online Appendix Table 1) and show that despite accounting for occupation, an earnings premium for INTs remain. It is a bit smaller (4.1 percent for women and 1.9 percent for men) but with comparable significance levels to the earlier premiums estimated. The treated group still outperforms the control group. Second, in the interest of further exploring the earnings premium, I interact the INT dummy with each of the occupation variables to get at the size of the premium (or discount) by occupation. It is possible that in some occupations, international experience is more valuable than in others.

(2) 
$$\ln E_i = \alpha_0 + \alpha_1 INT_i + D_i \gamma + HK_i \delta$$
  
+  $cMgmt + d(Mgmt \times INT)$   
+  $eProf + f(Prof \times INT)$   
+  $\dots + qTrans$   
+  $r(Trans \times INT) + \varphi_i + \varepsilon_{ir}$ 

Treated individuals in the managerial occupation earn a premium (or discount) of  $(\alpha_1 + d)$ over individuals in the managerial occupation in the control group. The premia are reported in Table 3. Female INTs earn a premium in all occupations save farming. For males, the results are mixed. While men still earn premia in most occupations, they are compensated more poorly than the control group in sales, construction, repair, and production. Nonetheless, INT men still earn sizable premiums in the managerial, professional, farming, transport, and service occupational categories.

A further statistical concern is the issue of selection into full-time work. While labor

Occupation	Women	Men	Occupation	Women	Men
Managerial	2.90***	4.0***	Repair	4.9***	-2.2***
Professional	6.30***	2.7***	Production	6.0***	$-0.7^{***}$
Sales	2.50***	$-0.5^{***}$	Transport	4.2***	4.0***
Farming	20.7	6.0**	Service	2.4***	0.3***
Construction	16.0**	-3.5**			

TABLE 3—INTERNATIONAL HUMAN CAPITAL PREMIUM OR DISCOUNT BY OCCUPATION  $(in \ percent)$ 

Note: Premia derived from Table 2 in the online Appendix.

\*\*\*Significant at the 1 percent level.

\*\* Significant at the 5 percent level.

\*Significant at the 10 percent level.

economists often ignore this potential bias in the case of men, it is harder to justify not accounting for selection into work in the case of women. I estimated a Heckman model to account for "full-time" work, using the baseline specification and find the INT premium is largely unchanged at 4.8 percent (see online Appendix Table 3).

#### **IV.** Conclusions and Discussion

My results suggest that there are measurable returns to international human capital. While, on average, these returns are modest—about 5 percent for women and 2.5 percent for men—the returns are sizable in certain occupations and seem to always be present in the managerial and professional categories, occupations that particularly value creativity and innovation. These results have implications for the current debate on college study-abroad programs, bolstering the claim that the US labor market rewards international experience.

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