

## **Indian Entrepreneurial Success in the United States, Canada and the United Kingdom**

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### Abstract

Indian immigrants in the United States and other wealthy countries are successful in entrepreneurship. Using Census data from the three largest developed countries receiving Indian immigrants in the world -- the United States, United Kingdom and Canada -- we examine the performance of Indian entrepreneurs and explanations for their success. We find that business income of Indian entrepreneurs in the United States is substantially higher than the national average and is higher than any other immigrant group. Approximately half of the average difference in income between Indian entrepreneurs and the national average is explained by their high levels of education while industry differences explain an additional 10 percent. In Canada, Indian entrepreneurs have average earnings slightly below the national average but they are more likely to hire employees, as are their counterparts in the United States and United Kingdom. The Indian educational advantage is smaller in Canada and the United Kingdom contributing less to their entrepreneurial success.

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## 1. Introduction

Entrepreneurs contribute to economic growth by creating new industries, increasing productivity through competition, identifying viable new technologies, working efficiently and intensively, and creating jobs (SBA 2010; OECD 2006; Haltiwanger, Jarmin and Miranda 2010). Based on cross-country data, however, van Stel, Carree, and Thurik (2005) find that although the relationship between entrepreneurship and growth is positive for developed countries it is negative for developing countries. They speculate that the negative association may in part be due to low levels of human capital of entrepreneurs in developing countries.

The case of India is particularly interesting because Indian immigrants in the United States are highly successful in entrepreneurship.<sup>1</sup> The average net business income of Indian entrepreneurs is \$84,080, significantly higher than the national average of \$52,086. This success is particularly striking given the low per capita income of Indians in their home country – only \$2,644 even after adjusting for purchasing power parity. Immigrants from countries where the per capita income is much higher than in India, including Taiwan, Korea, Greece, Germany, and England, have substantially lower entrepreneurial earnings in the United States than Indian entrepreneurs. In fact, Indian immigrants have the highest average net business income of all immigrant groups in the United States. The evidence on Indian immigrants' entrepreneurial achievement in other wealthy countries such as the United Kingdom and Canada is less conclusive, but also suggestive of success. In both countries, Indian entrepreneurs are more likely to hire employees than the national average.

More than one million Indians have migrated to the United States making it the largest receiving country in the world. The United Kingdom, with half a million Indian immigrants, and Canada, with roughly a third of a million, are the next two largest receiving

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<sup>1</sup> India is one of the developing countries studied by van Stel et al (2005).

countries in the developed world. While many of these immigrants seek employment in established firms in the host nations, many also become entrepreneurs, especially in technology-laden fields. Twenty-five percent of engineering and technology companies started in the U.S. during the past decade were founded by immigrants many of whom are from India (Wadwaha, et al. 2007). These firms had \$52 billion in sales and hired 450,000 workers in 2005. Previous research also indicates that immigrant entrepreneurs have made important contributions to high-tech regions such as Silicon Valley (Saxenian 1999, 2000). Engineers from China and Indian run roughly one quarter all technology businesses started in Silicon Valley.

Little research has attempted to identify the sources of the relatively strong economic performance of businesses owned by immigrants from India in the United States and other industrialized countries. Although previous research using data from various countries provides some evidence on the success of Indian entrepreneurs – see Mar 2005, Fairlie and Robb 2008, Kalnins and Chung 2006, Clark and Drinkwater 2000, 2006, Li 2001, Ley 2006, Johnson 2000, and Singh 2004 for a few recent studies – a comprehensive analysis has not been performed.

Do observable characteristics explain their success, or is there a country-specific effect at work? One hypothesis, echoing the view of van Stel, Carree, and Thurik (2005), is that high levels of education contribute to the success of Indian entrepreneurs. That is, the exodus of highly-educated workers or “Brain Drain” from India may be responsible for entrepreneurial success in these developed countries although surprisingly this question has not been studied in the previous literature. Another potential explanation is that Indian

entrepreneurs concentrate in high earnings industries, which also has not been studied. We address these questions in the paper.

Moreover, a systematic exploration of Indian entrepreneurs in developed countries would be a useful first step in understanding if observable characteristics such as human capital can explain much of this success, the role of complementary inputs and institutions in determining entrepreneurial success, the contribution of immigrant groups to entrepreneurship and growth in developed countries, and the corresponding loss, if any, to the home countries. Given the above-mentioned gap in the current literature, providing a systematic description of Indian entrepreneurial success based on large datasets from three different countries, undertaking a decomposition analysis to understand the explained and unexplained differences in their success relative to the reference group (native-born whites), and motivating issues for future research based on such an examination are the initial steps we take in this paper.

We take a broad geographical and industrial approach to examine the performance of Indian entrepreneurs. In particular, we use Census data from the United States, United Kingdom and Canada to provide the first analysis of entrepreneurship among Indian immigrants in the three largest receiving developed countries.<sup>2</sup> The sample sizes for all three Censuses are extremely large and allow us to examine business performance among Indian entrepreneurs in the three countries. In fact, these are the only nationally representative micro-datasets with large enough samples sizes to conduct a focused analysis on Indian entrepreneurs.

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<sup>2</sup> Fairlie, Zissimopoulos, and Krashinsky (2008) examine business ownership and performance patterns in the United States, Canada and United Kingdom for Asian immigrants, and Schuetze and Antecol (2006) provide a detailed comparison of immigrant business formation in the Australia, Canada and the United States. Neither study, however, focuses specifically on Indian entrepreneurs examining the causes of high earnings and employment among Indian entrepreneurs.

Even though differences in data across the three countries preclude us from pooling the data, examining the success of Indian entrepreneurs across a range of industrialized countries is likely to shed light on whether similar observable traits of entrepreneurs are responsible for their performance or whether country-specific factors over and beyond these traits are primarily responsible. Using decomposition techniques, we find that education explains nearly half of the difference in business income between Indian entrepreneurs and U.S. born white entrepreneurs (which approximates the national average) and sectoral choice explains another one-fifth of the difference. Once other observable characteristics such as gender, age, and marital status are included, nearly three-quarters of the difference can be explained. In Canada, Indian entrepreneurs have average earnings slightly below the national average but they are more likely to hire employees, as are their counterparts in the United States and the United Kingdom. The Indian educational advantage is smaller in Canada and the United Kingdom partly contributing to lower relative entrepreneurial success in these countries. These results are similar in the sense they suggest that most of the Indian entrepreneurial success can be explained by observable differences that are a priori plausible rather than recourse to an India-specific effect. However, the magnitude explained by observables differs across the three countries.

It would of course be useful to understand more conclusively if the success of Indian immigrants stems from positive selection of Indian entrepreneurs into these countries or from an Indian advantage in entrepreneurship. Unfortunately, we cannot study this directly without data on Indians who stay back. But the differences in the results summarized above can shed some light on this. If Indian entrepreneurial advantage were the main factor, the outcomes of success would have been similar in all three countries. Instead, Indian

entrepreneurs are most successful in the United States, and the observed characteristics explain most of their success there when compared to that in Canada and the United Kingdom. These differences could arise because Indian entrepreneurs select into these countries differently, or because the countries differ in factors complementary to entrepreneurial success. The higher educational advantage of Indian entrepreneurs relative to natives in the United States appears to suggest that there could be selection differences across countries. However, we find that the differences in returns to education we observe for entrepreneurs across countries are similar to differences in returns for salaried workers. This suggests country factors also matter.

The rest of this paper proceeds as follows. In the next section we discuss the data sources for the three countries. Section 3 presents descriptive statistics on the performance of Indian entrepreneurs in the United States, Canada, and the United Kingdom. In Section 4, we analyze the causes of Indian entrepreneurial success in each of the three countries using decomposition techniques. Section 5 concludes.

## **2. Data**

For the analysis, we use the 2000 U.S. Census of Population Public Use Microdata (PUMS) 5-Percent Samples (14.1 million observations), the 2001 United Kingdom Census 3-Percent Sample from the Individual Anonymised Records (1.6 million observations), and the 2001 Canada Census Public Use Microdata File (PUMF) of about 2.7 percent of the population (approximately 800,000 observations). The Census samples from each country are representative of the entire population in the country, resulting in representative samples of all immigrant groups residing in each country at the time of the surveys.<sup>3</sup> Our analysis sample for the United Kingdom, however, includes only England and Wales. In all censuses, information on birth country, ethnicity and immigration status is provided and used to define Indian and other Asian immigrant groups.<sup>4</sup>

For all censuses we define business owners from the class of worker question for the main job activity in the survey week. In the United States the questions asked allow us to identify as self-employed business owners all owners of unincorporated, incorporated, employer and non-employer businesses although we cannot distinguish between the latter two. In Canada, the main job question allows us to identify as business owners all owners of unincorporated and incorporated businesses with and without paid help.<sup>5</sup> In the United Kingdom, the main job question allows us to identify as business owners self-employed workers with employees and those without employees.

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<sup>3</sup> Sample weights are used for the U.S. Census and Canadian Census to make them representative of their respective populations.

<sup>4</sup> The Canadian public use data restrict the detail on exact country of birth so ethnicity and immigration status is primarily used to categorize Asian immigrants. In the U.K., India, Pakistan and Bangladesh together are identified as birth countries and 'Rest of Asia.' Thus ethnicity is also used here to categorize specific Asian immigrant groups. We did not include N. Ireland and Scotland because the ethnicity variable in the UK Census (DETHEW) applies only to England and Wales.

<sup>5</sup> The job reported was the one held in the survey week. Persons with two or more jobs in the reference week were asked to provide information for the job at which they worked the most hours.

The U.S. and Canadian Censuses report business income allowing us to measure the performance of Indian and other businesses. In the U.K. Census, business income is not publicly available. We distinguish between employer businesses (which have employees) and non-employer businesses as an alternative measure of performance. The Canadian Census also allows for the identification of employer businesses.

For all countries, we restrict the samples to include individuals ages 25-64. We exclude young workers to identify completed schooling and older workers because of the complication with retirement decisions.<sup>6</sup> We also exclude individuals who are not currently working and who do not report working at least 15 hours per week.<sup>7</sup> Although side-businesses are already ruled out because of the focus on business ownership for the main job activity, these restrictions exclude all small-scale business activities. However, agricultural industries are included in all analyses.<sup>8</sup>

Educational distributions are not perfectly comparable across the three countries because of differences in educational systems. To make comparisons across countries we focus on the percent of the prime-age workforce that has a college degree. In the U.K. Census, education is reported as highest qualification obtained and translated into one of five levels such that level 4 and 5 represent a college education or higher.<sup>9</sup> Indians may obtain their education abroad or in the host country. Unfortunately, the Census data from all three

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<sup>6</sup> Zissimopoulos, Maestas and Karoly (2007) show self-employed workers in the United States and England retire at lower rates than wage and salary workers due to differential incentives from pension and health insurance systems.

<sup>7</sup> For the U.K. and Canada Censuses, hours per week refer to the survey week, whereas the U.S. Census only provides information on hours worked in the usual week worked over the previous year. Employment status, however, is determined for the survey week.

<sup>8</sup> In any case, the exclusion of agricultural industries has little effect on estimates of Indian immigrant entrepreneurship.

<sup>9</sup> Level 1 (low education) is held by 18.8 percent of the working age population, level 2 and 3 held by 18.2 and 6.3 percent of the working age population respectively, and level 4 and 5 (high, generally college and above) held by 22.7 percent of the working age population. In addition, 26.3 report no qualifications and 7.6 percent report other qualifications.

countries do not provide evidence on where the education was obtained. However, since Indians who have graduated from the leading colleges are the ones more likely to emigrate, the loss of information on the source of education and therefore the quality of such education is not likely to be severe.<sup>10</sup>

### **3. The Success of Indian Entrepreneurs**

#### **3.1. The United States**

More than one million immigrants from India reside in the United States according to estimates based on the 2000 Census. The only source countries with more immigrants in the United States are Mexico (9.3 million), the Philippines (1.5 million), and Germany (1.2 million). The rate of business ownership is not substantially higher among Indian immigrants than the national average. Estimates from the Census indicate that 10.9 percent of the Indian immigrant workforce owns a business compared with 10.1 percent of the total workforce in the United States (Fairlie, Zissimopoulos, and Krashinsky 2008). The rate of business ownership is the same as the rate for all Asian immigrants of 10.9 percent. The interesting difference between Indian immigrants and the national average is not in business ownership rates, but is in the relative success of these businesses. The businesses owned by Indian entrepreneurs are very successful on average when compared to all businesses and other Asian immigrant owned businesses.

Table 1 reports estimates of net business income by group in the United States. Indian entrepreneurs earn \$84,080 per year on average. This is roughly 60 percent higher

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<sup>10</sup> Docquier and Marfouk (2005) report that India is third among the list of skilled emigration countries (behind the U.K. and the Philippines) as measured by emigration stocks. But, more pointedly, Agrawal, Kapur, and McHale (2008) note that while the overall tertiary emigration rate from India is about 4%, rates from the elite Indian Institutes of Technology is much higher (31% of the graduates from the Mumbai campus emigrated in the 1970s when compared to 7.3% from all engineers).

than the national average income of business owners (\$52,086).<sup>11</sup> Indian entrepreneurs also earn more on average than all other Asian immigrants, whose average earnings are \$48,708.<sup>12</sup> Table 2 reports estimates of business income for detailed immigrant groups. It can be seen that Indian entrepreneurs have the highest business income among all 44 listed immigrant groups in the United States.<sup>13</sup> Indian entrepreneurs are more successful on average than entrepreneurs even from wealthy countries such as Canada, the United Kingdom, Germany, the Netherlands, and Ireland. In most cases, Indian entrepreneurs earn \$20,000 more than entrepreneurs from these countries, which is remarkable given that the GDP per capita of India is less than one tenth of that of the European Union, even after adjusting for purchasing power parity. Indian entrepreneurs are also by far the highest earning entrepreneurs from any country in Asia.

The finding of superior performance among Indian entrepreneurs is consistent with estimates from other data sources. The only other nationally representative dataset with information on the race of a business owner and a large enough sample size for examining the performance of Indian entrepreneurs is the Survey of Business Owners (SBO), and its earlier version the Characteristics of Business Owners (CBO).<sup>14</sup> Estimates from these sources provide evidence that Indian-owned businesses have higher profits and hire more employees than the average for all firms (Fairlie and Robb 2008). Indian firms are also

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<sup>11</sup> Median business income among Indian entrepreneurs is 40 percent higher than the median level for all entrepreneurs in the United States.

<sup>12</sup> Income analysis in this paper is performed on total annual earnings, instead of hourly earnings, in order to follow the approach taken by most of the existing literature. However, this choice does not impact our overall findings, Indian immigrants and native workers in self-employment do not work significantly different hours per week. As such, the findings on total earnings will be reflected in hourly earnings as well.

<sup>13</sup> All source countries with at least 300 observations (representing roughly 6,000 actual businesses in the United States) are reported. Even if the list is expanded further to include very small groups, Indian entrepreneurs remain either the first or second highest income group.

<sup>14</sup> Only aggregate data are publicly available from these sources. Confidential and restricted-access microdata from these sources are available after going through an approval and disclosure process with the Center for Economic Studies at the U.S. Census and the IRS.

substantially less likely to close than are all firms.<sup>15</sup> The only exception is that Indian firms are found to have similar levels of total sales as the national average. Business-level data thus confirms the findings from individual-level data on the success of Indian entrepreneurs.

Indian-owned businesses are distributed over all industries but are concentrated in different industries than the national average (see Table 3). Two of the most important differences are that Indian entrepreneurs are less likely to be located in agriculture and construction. The construction industry comprises 17.4 percent of all businesses in the United States, however only 1.8 percent of Indian entrepreneurs are located in this industry. Indian firms are also less likely to concentrate in professional services and other services. Indian entrepreneurs are more likely than business owners as a whole to concentrate in retail trade, education, health and social services, and arts, entertainment and recreation. Although sample sizes make it difficult to carefully examine detailed industries, we find that the three most common industries for Indian immigrant entrepreneurs are Offices of Physicians (15.2 percent), Traveler Accommodation (9.0 percent), and Grocery Stores (6.5 percent).

### **3.2. Canada and the United Kingdom**

Are Indian entrepreneurs also more successful in Canada and the United Kingdom? Table 4 reports average business outcomes for Indian and Asian immigrants and all entrepreneurs in Canada and the United Kingdom. In Canada, Indian entrepreneurs earn slightly less than the average income among all entrepreneurs (\$28,580 versus \$30,296).<sup>16</sup> In the Canadian Census, information on whether the business has employees (employer firms)

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<sup>15</sup> See Georgarakos and Tatsiramos (2009) for evidence on survival rates among immigrant entrepreneurs of major racial groups.

<sup>16</sup> At the beginning of 2000, the exchange rate was 1.45 Canadian dollars per U.S. dollar (International Monetary Fund 2007).

is also available. Employment may represent a rough proxy for business success.

Employment rates are highly correlated with sales, profits and survival rates (U.S. Census Bureau 1997, U.S. Census Bureau 2007). Firms with more employees are less likely to fail, have higher sales, and have higher profits on average. Examining this information, we find that 48.4 percent of Indian entrepreneurs hire employees. This is higher than the national average of 42.4 percent.

Unfortunately, earnings data are not available in the U.K. Census; therefore, we focus on employment as an indicator of a business owner's achievement. Indian entrepreneurs are substantially more likely to hire employees (53.6 percent compared to the national average of 37.1 percent).

In summary, Indian entrepreneurs are more successful when compared to the national average in Canada and the United Kingdom as measured by percent with employees, but slightly less so if income is used as a measure for Canada.

The industry distributions for Canada and the United Kingdom are reported in Tables 5 and 6, respectively. For Indian business owners in Canada, patterns in industrial concentration relative to the overall population of business owners are similar to those found in the United States. Indians are less likely than the national average to own businesses in agricultural or construction industries, but are more likely to own businesses in the transportation industry. The most common industries for Indian entrepreneurs are transportation (19.1 percent), retail trade (16.3 percent), business services (14.6 percent), and health services (12.9 percent) in Canada.

Similarly, in the United Kingdom the major difference between the industry distribution for Indian entrepreneurs and all entrepreneurs are the lower concentrations of

Indian business owners in agriculture and construction (Table 6). Indian entrepreneurs in the United Kingdom are highly concentrated in wholesale and retail trade with 41.9 percent in this industry compared to only 16.1 percent overall. Indian firms are also more concentrated in transport, storage and communication, and health and social work than the national average. Indian businesses in the United Kingdom are clearly more concentrated in specific industries than in the United States and Canada, which may contribute differently to their relative success.

#### **4. Explanations for the Success of Indian Entrepreneurs**

What factors contribute to the success of Indian entrepreneurs? One hypothesis is that Indian entrepreneurs are highly educated and this human capital contributes to their business success. We report group differences in education levels and other characteristics in Table 7. We switch to comparing Indian entrepreneurs to native-born white entrepreneurs (instead of the national average) in order to create mutually exclusive categories for the regression and decomposition analysis that follow.

In all three countries, Indian entrepreneurs are more likely to be college graduates than native-born white entrepreneurs.<sup>17</sup> Mean levels for the national average are very similar to those reported for native-born whites.<sup>18</sup> More than two thirds of Indian entrepreneurs in the United States are college graduates, and half of all Indian entrepreneurs in Canada are college graduates, which is double the rate for native-born whites or the national average in

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<sup>17</sup> The educational advantage of Indians also holds for wage/salary workers in all three countries (see Appendix Table 1).

<sup>18</sup> Decomposition estimates are also very similar whether native-born whites or the national average is used as the comparison group.

both countries.<sup>19</sup> In the United Kingdom just over one-third of Indian entrepreneurs are college educated, and while this fraction is lower than those in the United States and Canada, it is still higher than the percent of college-educated native-born whites (21 percent). Indian entrepreneurs in all three countries are also much more likely to be married than native-born whites. The differences in other characteristics such as sex and age between Indian immigrant entrepreneurs and native-born white entrepreneurs are generally small.

Employing a multivariate regression model, we assess the contribution of human capital in the entrepreneurial success of Indian immigrants in each country, investigate other determinants of business performance, and use a decomposition technique to examine the relative importance of the determinants.<sup>20</sup> We estimate the same regression model (except for the outcome variable, which is log business income and/or employment) separately for each country. As mentioned above, since not all outcome variables are available for the three countries, we are unable to pool the data. However, given the institutional differences (especially related to immigration) in the three countries and other factors that vary across them, separate regressions for each country nevertheless yield useful insights. For the United States and Canada, we estimate specifications for log net business income, and for Canada and the United Kingdom, we estimate specifications for employment.

In particular, the regressions include an indicator variable for college degree or higher as a measure of education. We control for group differences with dummy variables for all major immigrant groups and native-born ethnic/racial groups. Native-born whites, the single

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<sup>19</sup> Until the mid to late 1980s India spent more on higher education than primary and basic education. The large resulting stock of college graduates did not have complementary institutions and other capital to work with in India, and thus emigrated in large numbers to wealthy countries (Goldman, Kumar and Liu 2008).

<sup>20</sup> Due to data limitations we cannot examine the importance of social capital, which has been found to be important for Indian-owned businesses (see Kalnins and Cheung, 2006, for example).

largest ethnic/racial group, serve as the excluded group.<sup>21</sup> Other covariates include: female indicator; ages 25-29, 30-44 (excluded), 45-59, 60-64; indicator for married; and indicators for agriculture and construction industries, two industries in which Indians systematically differ from natives in order to capture inter-industry wage differentials that may contribute to the Indian-Native wage gap. We also use other specifications with richer industry controls, and the main results of the paper remain unchanged.

#### 4.1. U.S. Results

Results for business income regressions for the United States can be found in the first and second columns in Table 8. Indian entrepreneurs are found to have 62.3 percent higher earnings than native-born whites before controlling for other factors.<sup>22</sup> These estimates indicate that the Indian entrepreneurial earnings advantage holds when the reference group is native-born whites and when taking logs (which lessens the influence of high-earnings outliers). In the second specification, we include controls for education, age, marital status, region, and broad industrial sector.<sup>23</sup> The earnings differential for Indian entrepreneurs drops substantially (to 14 percent) after including these controls suggesting that differences in individual characteristics are largely responsible for why Indian entrepreneurs are so successful in the United States. We return to this finding below in the decompositions.

The returns to education on business performance are substantial. Having a college degree increases net business income by over 86 percent. The positive connection between

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<sup>21</sup> We also include dummies for the largest Asian immigrant groups in each specification.

<sup>22</sup> Some of the coefficients in the log regressions are too high to warrant their direct interpretation as percentages. Therefore we report  $(\exp(\text{coefficient})-1)*100$  in the text.

<sup>23</sup> We cannot control for year in the country in the U.K. data, and thus do not control for cohort effects (Borjas 1986; Schuetze and Antecol 2006), and do not examine assimilation patterns for Indian immigrants (Lofstrom 2002).

the two variables is in itself not a new finding. Indeed, education is found to be a strong determinant of business earnings around the world consistent with this finding (see Parker 2004, van der Sluis, van Praag and Vijverberg 2004, and van Praag 2005). However, our aim here and in the decompositions is to assess the quantitative impact of education and other observable traits in explaining differences in business income.

The coefficients on the other individual and job characteristics indicate that business income is higher among male owners, married owners, middle-aged owners, and non-agricultural businesses. Differences between Indian entrepreneurs and native-born white entrepreneurs in education and these other characteristics clearly contribute to the relative success of Indian entrepreneurs in the United States. In order to categorize the relative importance of education and the other characteristics we employ decomposition techniques.

#### **4.1.1. Additional Estimates**

Before turning to the decompositions, we estimate several additional specifications to check the sensitivity of the estimates (results omitted for brevity). One concern is that education might proxy for wealth instead of skill or aptitude. Limited access to financial resources may result in undercapitalized businesses and restrict the growth of businesses (Fairlie and Robb 2007, 2008). Measures of total wealth are unavailable in the U.S. Census, however, home ownership is available and the inclusion of this variable in the models does not alter either the estimated effect of Indian immigrants or education on business performance.

We also estimate specifications that include more detailed education levels for the United States. We find that business ownership and income are increasing functions for each

higher level of education. The coefficient on the Indian immigrant dummy, however, is not sensitive to the switch from the inclusion of the college dummy variable to more detailed dummy variables. The U.S. Census also allows us to control for English language ability and number of children. The Indian dummy and college coefficients do not noticeably change with the inclusion of these variables.

Finally, we estimate a regression specification that includes dummy variables for the more detailed industries listed in Table 3. The coefficient on the Indian dummy is now 0.176 which is not substantially different than Specification 2 in Table 8, where we include controls only for agriculture and construction. As discussed earlier, the largest under-representation of Indian entrepreneurs relative to the national average are in the low-income industries of agriculture and construction. We continue to include only agricultural and construction sector dummies in the main specifications because of concerns that controlling for more detailed industries might partly proxy for business success.

#### **4.1.2. Decompositions**

Estimates from the log business income regressions identify several determinants of business performance. If Indian entrepreneurs differ substantially from the national average in any of these characteristics then it could explain why Indian entrepreneurs are so successful. To explore these issues further, we employ the Blinder-Oaxaca technique of decomposing inter-group differences in a dependent variable into those due to different observable characteristics across groups (often referred to as the “endowment effect”) and those due to different determinants of outcomes (often referred to as the “coefficient or

unexplained effect”) (Blinder 1973, Oaxaca 1973). The standard decomposition of the white/minority gap in the average value of the dependent variable, Y, can be expressed as:

$$(1) \quad \bar{Y}^W - \bar{Y}^M = [(\bar{X}^W - \bar{X}^M) \hat{\beta}^W] + [\bar{X}^M (\hat{\beta}^W - \hat{\beta}^M)].$$

We use log net business income as the dependent variable and define Indian entrepreneurs as the minority group.

Similar to most recent studies applying the decomposition technique, we focus on estimating the first component of the decomposition, which captures contributions from differences in observable characteristics or “endowments.” We do not report estimates for the second or “unexplained” component of the decomposition because it partly captures contributions from group differences in unmeasured characteristics and is sensitive to the choice of omitted categories making the results difficult to interpret. Another issue that arises in calculating the decomposition is the choice of coefficients or weights for the first component of the decomposition. The first component can be calculated using either the white or minority coefficients often providing different estimates, which is the familiar index problem with the Blinder-Oaxaca decomposition technique. An alternative method is to weight the first term of the decomposition expression using coefficient estimates from a pooled sample of the two groups (see Oaxaca and Ransom 1994 for example). We follow this approach to calculate the decompositions by using coefficient estimates from regressions that includes a sample of all racial groups. Finally, Equation (1) provides an estimate of the contribution of Indian-White differences in the *entire* set of independent variables to the income gap. We further decompose this component into the contributions from each set of independent variables included in the regression.

Table 9 reports estimates from this procedure for decomposing the Indian/white gaps in business outcomes. The most important factor explaining why Indian entrepreneurs perform better on average than white entrepreneurs in the United States is that they have higher levels of education. The education difference explains 43.9 percent of the gap in log business income.<sup>24</sup> The favorable sectoral distribution of Indian entrepreneurs explains 9.3 percent of the log business income differential.<sup>25</sup> In sum, all of the observed variables explain roughly three quarters of the gap in business income between Indians and native whites. While there is a large enough gap that remains to be explained (cultural or institutional factors may well play a role in explaining this gap), our findings indicate that observable characteristics play a crucial role in explaining the income difference of Indian entrepreneurs.<sup>26</sup>

## 4.2 Canadian Results

We now turn to the results for Canada. Estimates for log net business income regressions are reported in the third and fourth columns in Table 8. Indian entrepreneurs do not have notably higher incomes than native-born white entrepreneurs in Canada. The point estimate in the log business income regression is positive, but small (amounting to a 6 percent difference) and insignificant. This is largely consistent with the estimates for average business income for Indian entrepreneurs and the national average reported in Table 4, but

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<sup>24</sup> We also estimate a decomposition for wage/salary earnings and find that education explains why Indians have higher wage/salary earnings than white natives. The level contributions are very similar and the percentages are larger because the gap size is smaller for wage/salary earnings.

<sup>25</sup> Decomposition estimates from including more detailed industries provide a smaller contribution. Industry differences explain 5.8 percent of the gap in log business income.

<sup>26</sup> For potential cultural factors, see Helweg and Helweg (1990) for example.

different from what was observed for relative earnings of Indian entrepreneurs in the United States.

Another difference between the results for Canada and the United States is that the return to education is relatively lower in Canada. The coefficients imply that business income for Canadians is over 66 percent higher among college-educated owners, which is lower than the return of over 86 percent found in the United States. The other variables have similar estimated effects as for the United States -- business income is higher for male, older and married entrepreneurs, and lower in agriculture.<sup>27</sup>

One similarity between the Canadian and American results, though, is that controlling for education and other individual characteristics reduces the Indian coefficient substantially. The coefficient is now negative and statistically significant. The point estimate implies that Indian entrepreneurs earn 17 percent less than white entrepreneurs given their education levels and other characteristics. The decomposition estimates discussed below shed light on why this is the case.

We also examine the determinants of whether an entrepreneur hires employees (reported in the first and second columns in Table 10).<sup>28</sup> Having a college education is associated with business success measured by employment. Entrepreneurs with a college education are 7.2 percentage points more likely to hire employees than entrepreneurs with no college education, which is a large effect relative to the mean employment rate of 45 percent.

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<sup>27</sup> We estimate several additional specifications for Canada as robustness checks. First, we checked the sensitivity of the education and Asian immigrant dummies to the inclusion of home ownership. The coefficients are not sensitive to the inclusion of this asset measure. Second, we included more detailed education codes available in the Canadian Census. This also does not have a large effect on the Asian group coefficients. Finally, we included the number of children as an additional control and did not find changes in the group coefficients. Similar to the U.S. results, the Canadian results are robust to alternative specifications.

<sup>28</sup> A linear probability model is used for all employer regressions.

Married, male and middle-aged entrepreneurs are also more likely to hire employees.<sup>29</sup>

Finally, agricultural firms are less likely to hire employees, and construction firms are slightly more likely to hire employees. These results are consistent with those for business income. One difference between the results, however, is that the coefficient on the Indian dummy variable drops from 0.05 to essentially zero. This implies that, in Canadian data, we can entirely explain why Indian entrepreneurs are more likely to hire employees than white entrepreneurs.

#### **4.2.1. Decompositions**

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<sup>29</sup> The correlation between being married and having employees may be partly due to married entrepreneurs hiring their spouses, but the strong association between marriage and net business income suggests it is a factor of independent importance.

To further investigate the importance of various characteristics on income and being an employer firm, we report decompositions for Canada in Table 9. Focusing on the results for log business income first, as in the U.S., we find that education contributes substantially to the difference in business income. We do not report percentage contributions in this case because they can be misleading in decompositions when the gaps are relatively small. We instead focus directly on the contribution estimates. Indian entrepreneurs are more educated than white entrepreneurs. Fifty percent have a college degree compared with 25.4 percent of white entrepreneurs. This educational advantage and the large positive returns to education for business income imply that Indian entrepreneurs should earn 12.5 log points more than white entrepreneurs in Canada, all else equal. Of course, not all else is equal and other factors, which are largely unobservable, work to suppress the incomes of Indian entrepreneurs.

Higher marriage rates, lower female shares, and overrepresentation in British Columbia and Ontario<sup>30</sup> among Indian entrepreneurs contribute slightly to higher business incomes. Differences in industry structure are advantageous for Indian entrepreneurs. Indian entrepreneurs are less likely to locate in agriculture explaining 4.4 log points of the gap in business income. The decomposition estimates indicate that differences in education and other observable characteristics should result in Indian entrepreneurs earning roughly 25 percent more than white entrepreneurs. Unobservable factors, which may include discrimination, non-transferable credentials and differences in preferences, reduce this advantage to 6 percent.<sup>31</sup>

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<sup>30</sup> These are Canada's two most populous provinces, and the largest recipients of immigrants overall.

<sup>31</sup> We also estimated a decomposition for wage and salary earnings of Indian immigrants in Canada in comparison with native workers, and very similar results were found. In particular, the regression-adjusted earnings for Indian immigrants in the wage and salary sector were significantly lower than earnings of native

The employer decompositions indicate that higher rates of employment among Indian entrepreneurs are partly due to higher education levels.<sup>32</sup> Higher education levels among Indian entrepreneurs contribute 1.8 percentage points to the difference in employment rates (amounting to over 35% of the contribution). Higher marriage rates, male shares and advantaged regional distributions also contribute slightly to why Indian entrepreneurs are more likely to hire employees. Taken together, these factors explain more than the entire gap in employment rates between Indian and white businesses.<sup>33</sup> Similar to the U.S. decompositions of business income, appealing to cultural factors is evidently not needed to explain differences in employment rates of Indian entrepreneurs.

### **4.3. U.K. Results**

Estimates for employer regressions for the United Kingdom are reported in the third and fourth columns in Table 10. Unfortunately, we do not have a measure of business income in the United Kingdom, and thus only report results for employment. Indian entrepreneurs are 17 percentage points more likely to hire employees than white entrepreneurs. But the inclusion of education and other covariates decreases the coefficient estimates on the Indian dummy variable, to 12.5 percentage points.

Employer firms are more likely among male, married and middle-aged owners, and non-agricultural, non-construction businesses, which is generally consistent with the results

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workers in the wage and salary sector – approximately 36% lower (compared to the estimate of 17% lower business income). And as was the case in the self-employment sector, it is also true that Indian immigrants in the wage and salary sector are more educated than their native counterparts – about 42% of all Indian immigrants in this sector have a college degree, whereas only 23.5% of native workers have a similar level of education (see Appendix Table 1). As it would be expected, education has a highly significant and positive effect on earnings in the wage and salary sector.

<sup>32</sup> A Non-linear decomposition using a logit regression for having employees indicates similar results. See Fairlie (2005) for a discussion of the non-linear decomposition technique.

<sup>33</sup> The total contribution from all variables can exceed 100% if there are unobservable factors providing a negative and offsetting contribution to the gap (Blinder 1973 and Oaxaca 1973).

for log business income for the United States and Canada. Most importantly, we find a positive and statistically significant effect of education on employment.<sup>34</sup> The coefficient estimate indicates that college-graduate owners have a 1.8 percentage point higher likelihood of hiring employees than do owners with lower levels of education. The positive effect of education on employment is consistent with the estimated effects of education on log business income in the United States and Canada, but the relative magnitude of the effect is much smaller. The estimated effect on British employment represents roughly 5 percent of the mean employment rate compared to roughly 15 percent on Canadian employment. And, as discussed above, the returns to a college education are also quite high in the U.S. and Canada, at 86 percent and 66 percent of business income, respectively.

#### **4.3.2. Decompositions**

The decomposition estimates reported in Table 9 indicate that high levels of education among Indian entrepreneurs contribute very little to why they are more likely to hire employees. The estimated effect of education on employment is weak even though the educational difference is sizeable. Thirty-six percent of Indian entrepreneurs have the equivalent of a college education compared with 21.4 percent of white entrepreneurs.

Instead, higher marriage rates and lower concentrations in agriculture and construction

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<sup>34</sup> For the United Kingdom, we assessed the sensitivity of the Indian and education dummies to the inclusion of a home ownership indicator in the employer firm regressions and found the estimates were insensitive to this inclusion. Second, we included an indicator for each level of qualifications including no qualifications (with levels 4 and 5 as the excluded group). We find that there is no difference in the effect of level 2 qualifications or level 3 qualifications, relative to level 4 or 5, on business ownership and employer firm. Having no qualifications reduces business ownership and being an employer firm by 1.3 percentage points and 2.6 percentage points respectively and having level one qualifications reduces business ownership and being an employer firm by 2.6 percentage points and 2.7 percentage points respectively. These estimates are statistically different from zero, but small. The inclusion of more detailed education indicators has no effect on the Indian dummy. Finally, we included the number of usual household residents in the regressions and found that it had no effect on the estimated Indian immigrant indicators. The U.K. results are thus not overly sensitive to alternative specifications.

contribute to the higher likelihood of Indian entrepreneurs hiring employees relative to native British entrepreneurs.

#### **4.4. Discussion: Immigration Policies and Cross-Country Differences**

The finding that Indian entrepreneurs in the United States are more likely to be college educated than Indian entrepreneurs in Canada and the United Kingdom compared to the national average may be due to differences in immigration policies and who decides to move to each country. Although differences in labor markets, credit markets, tax systems, historical ties, geographical proximity, and other institutional and structural differences are all important, immigration policy is clearly one of the most important factors affecting who emigrates. The goal of this paper is to fill a gap in the literature by providing a systematic, cross-country description of Indian entrepreneurial success and understanding the explained and unexplained differences in their relative success. As such, a detailed discussion of differences in immigration policies in the United States, Canada and the United Kingdom, and a structural modeling of the above-mentioned selection issue is beyond the scope of this paper. However, a brief discussion of the key differences in how immigrants are admitted into each country might shed light on our findings, especially on why the return to education is higher in the United States and Canada, and why education explains much more of the success of Indian immigrants in these two countries.<sup>35</sup>

Figure 1 reports immigration admissions by type for the United States, Canada, and the United Kingdom. The breakdown by type is for all immigrants, not just Indians, but the differences are nevertheless interesting. In both the United States and United Kingdom,

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<sup>35</sup> See Bauer, Lofstrom and Zimmermann (2000), Antecol, Cobb-Clark and Trejo (2003), Woroby (2005), and Schuetze and Antecol (2006) for more information on immigration policies.

immigrants are most likely to enter the country under the “family sponsored” category. Since the 1960s U.S. immigration policy has strongly favored family reunification (Woroby 2005) and has been criticized for lowering the skills and education levels of successive waves of immigrants (Borjas 1995, 1999). The United Kingdom’s immigration policies were at one time restricted to citizens of the states in the Commonwealth. However, over the past four decades the policies in the United Kingdom have shifted towards emphasizing family reunification and employment (Bauer, Lofstrom & Zimmermann 2001). On the other hand, Canada's point-based system which awards immigration admission points based on education, language ability (English or French), years of experience in a managerial, professional or technical occupation, age, arranged employment in Canada, and other factors, leads more immigrants being skilled when compared to the United States (Borjas 1993, Woroby 2005).<sup>36</sup> Because of the point-based system, roughly half of all immigrants are admitted through employment-based preferences (Figure 1). In contrast, only around 10 percent of immigrants in the United States are admitted under this broad classification.

The related category of employment creation or investors differs across countries.<sup>37</sup> In Canada these immigrants are categorized as “investors,” “entrepreneurs,” or “self-employed.” There are minimum requirements on net worth and business experience for investors and entrepreneurs; self-employed immigrants must have relevant occupational experience in culture, athletics or farm management.<sup>38</sup> In the United States, immigrants

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<sup>36</sup> Antecol, Cobb-Clark and Trejo (2003) find that Canadian immigrants have higher skills than U.S. immigrants, but the disparity disappears after removing Latin American immigrants, which is roughly similar to the finding in Borjas (1993). They argue, however, that policy differences are less important than geographical and historical differences.

<sup>37</sup> See Citizenship and Immigration Canada (2007) for more information on the Canadian selection criteria, U.S. Citizenship and Immigration Services (2007) for requirements for employment creation immigrants, and U.K. Border and Immigration Agency (2007) for U.K. investment immigration information.

<sup>38</sup> For investors and entrepreneurs the minimum net worth requirements are \$800,000 and \$300,000, respectively, and at least 2 years of business experience.

admitted in the “employment creation” category must actively invest at least \$1 million in a commercial enterprise with at least 10 employees. “Business” immigrants to the United Kingdom must invest a minimum of £\$200,000, and “innovator” immigrants must employ at least two U.K. residents. The estimates reported in Figure 1 indicate that a larger, but still relatively small, share of immigrants in Canada are admitted under these policies than in the United States and United Kingdom. In Canada, they represent 7 percent of all admitted immigrants compared to 0.1 and 2.4 percent in the United States and United Kingdom, respectively. Differences in these policies may attract a different profile of entrepreneurial immigrants and alter the percent of successful immigrant business owners across countries, but overall only a small share of immigrants enter all three countries through this path.

Canada's point based immigration system results in a higher share of employment-based immigrants compared to the United States and United Kingdom. On the other hand, the United Kingdom admits a much higher share of immigrants under its refugee and asylee programs than the United States or Canada. All else equal, we would expect skill levels of immigrants to be the highest in Canada and the lowest in the United Kingdom. And we expect this to be true for Indian immigrants if they fit the overall pattern. As indicated above, we find some evidence that the educational advantage of Indian immigrants compared to the national average is lower in the United Kingdom than in the United States, which is consistent with these differences in immigration policies. But, we also find that the educational advantage in the United States is higher than it is in Canada, which runs counter to the greater emphasis of Canada's immigration policy on rewarding points for the general skill level of immigrants.

In summary, differences in immigration policies appear to be important in determining the types of entrepreneur who decide to move to a particular country and how successful they become after they move, but they are not the entire story. A model of country selection by entrepreneurs would need to take into account a more complete set of factors. For instance, the positive effect of a greater emphasis on the skill level of immigrants placed by Canada might be undone by a more generous redistribution system, more egalitarian earnings, and other institutional and structural factors, making it less attractive to higher skilled immigrants such as Indian immigrants (Antecol, Cobb-Clark and Trejo 2003).

## **5. Conclusions**

Over 1 million Indians have migrated to the United States making it the largest receiving country in the world. Nearly another million Indians have migrated to Canada and the United Kingdom, which have received the next largest waves of Indian immigrants besides Bangladesh (World Bank 2007). Indians also represent either the largest or one of the largest single immigrant groups in each of these countries. In the United States, for example, only immigrants from Mexico, the Phillipines and Germany represent larger shares of the total population. Given the importance of this migration, we use Census microdata from the United States, Canada and United Kingdom, to provide the first comparative examination of the performance of Indian entrepreneurs.

We find that Indian entrepreneurs are much more successful than the national average in the United States. Indian businesses also perform well in Canada and the United Kingdom, but the evidence is not as strong. In the United States, Indian entrepreneurs earn

roughly 60 percent more than white entrepreneurs and have the highest average business income of any immigrant group. Estimates from business-level data sources also indicate that Indian firms have higher profits, hire more employees, and have lower failure rates than the average for all U.S. firms (Fairlie and Robb 2008, U.S. Census Bureau 2007).

To explain the relative success of Indian entrepreneurs we focus on the role of human capital. Indian immigrants in all three countries have education levels that are higher than the national average, and in the United States the education levels of Indian immigrants are particularly high relative to the entire population; 68 percent of Indian entrepreneurs have a college education which is twice the rate for whites or the national average.

Estimates from regression models for log business income and employment reveal interesting differences across the three countries. When we examine business income, we find large, positive effects of education in the United States and Canada. We also find large positive effects of education on employment in Canada, but smaller positive effects in the United Kingdom. Decomposition estimates provide exact estimates of the contribution of higher levels of education among Indian entrepreneurs to their higher business incomes and employment levels. In the United States, higher levels of education among Indian entrepreneurs result in a business income advantage of 21 log points, which represents 43.9 percent of the gap. High levels of education also contribute substantially to why Indian entrepreneurs earn more in Canada (12.5 log points), but the difference is not as large. The combination of the larger education advantage held by Indian entrepreneurs and the larger return to education is responsible for the increased importance of education as an explanatory factor in the United States compared to Canada. In contrast to these results, the smaller educational advantage and lower returns to education in the United Kingdom result in less

explanatory power in the United Kingdom. Lower concentrations of Indian entrepreneurs in agriculture and construction, lower female share, higher marriage rates, and favorable regional distributions also generally contribute to why Indian businesses perform better than white businesses or the national average.

Some of the variation in the education of Indian immigrants across the United States, Canada and United Kingdom is likely due to immigration policy that affects the immigrant pool. Another possibility is that the higher returns to education in the United States result in a more selective immigrant pool in the United States compared to Canada and the United Kingdom. Constructing a structured framework that simultaneously examines the determinants of entrepreneurial performance and migration decisions (e.g. immigration policies, credit and labor markets, tax policies and institutions) using cross-country data would be a useful, but very difficult avenue for future research. Census data, while rich along many dimensions, limit our efforts answer these types of questions. It is also not clear that the data necessary for research on this topic currently exist and new data, perhaps from linked administrative sources is needed (e.g Department of Homeland Security, Census, and IRS data).

Another issue is that it is likely that the returns to education are much larger for entrepreneurs in the countries we study than in India, which causes them to emigrate. Van der Sluis, van Praag, and Vijverberg (2005) conduct a meta-analytical empirical review and note that the return to schooling in terms of enterprise income in developing economies is actually comparable to that of industrial countries. But they also note that educated people prefer wage employment to nonfarm entrepreneurship, an effect that is stronger in economies where agriculture is dominant and literacy rates are lower. Nearly two-thirds of the Indian

labor force is in agriculture and only around 60% of its population is literate.<sup>39</sup> Therefore, it is likely that educated Indians who want to become entrepreneurs are more likely to start their enterprises in wealthier countries rather than at home.

Indian entrepreneurs contribute substantially to their host economies. Indian firms hire 610 thousand employees and have total sales of \$88 billion in the United States alone (U.S. Census Bureau 2007). In Canada, and especially in the United Kingdom, Indian entrepreneurs are more likely to hire employees. From India's perspective, these findings have implications for “brain drain.” Although concerns over “brain drain” usually focus on the loss of highly educated workers in professional occupations, the loss of entrepreneurial talent is also important. The loss of Indian entrepreneurial talent to developed countries such as the United States, Canada and United Kingdom may have severe consequences for aggregate income, the creation of wealth, and employment. However, as Saxenian (2006) notes, successful entrepreneurs might return home to seed entrepreneurship in their home countries. In other words, “brain circulation,” a positive effect, might be operative in addition to “brain drain.” What the net effect is to a country with a rich history of emigration would be another research topic to pursue.

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<sup>39</sup> See, for instance, World Bank's *India at a Glance*, [devdata.worldbank.org/AAG/ind\\_aag.pdf](http://devdata.worldbank.org/AAG/ind_aag.pdf).

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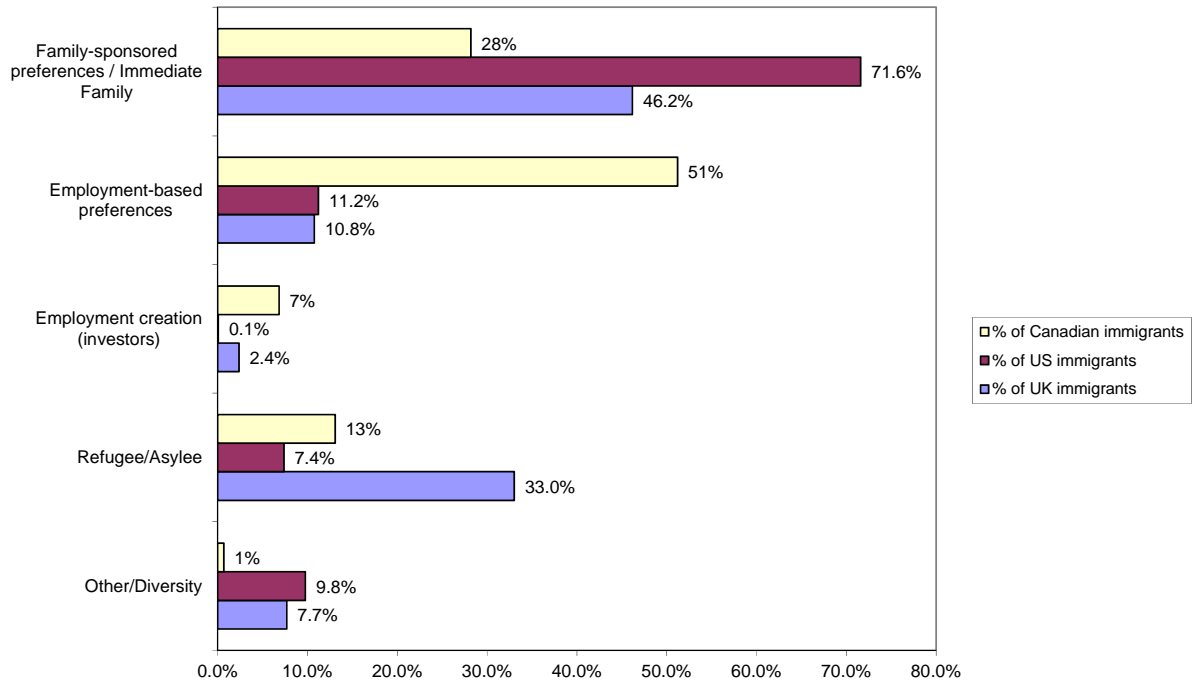
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Appendix Table 1  
Mean Education and Characteristics among Indian and White Wage/Salary Workers  
U.S. Census 2000, Canada Census 2001, and U.K. Census 2001

	United States		Canada		United Kingdom	
	Indians	Whites	Indians	Whites	Indians	Whites
College graduate	77.2%	33.0%	41.3%	23.3%	41.4%	26.8%
Female	35.4%	47.0%	42.3%	47.4%	43.8%	46.6%
Ages 25-29	21.2%	13.0%	15.7%	12.9%	14.2%	14.8%
Ages 45-59	26.7%	36.2%	31.0%	35.8%	33.6%	34.5%
Ages 60-64	3.0%	4.3%	3.9%	3.2%	3.6%	3.9%
Married	82.1%	67.4%	89.7%	61.8%	84.0%	60.4%
Agriculture	0.2%	0.6%	3.1%	3.4%	0.1%	0.7%
Construction	1.3%	5.9%	2.1%	5.1%	5.0%	2.4%
Sample size	21,184	3,316,461	3,764	230,110	4,429	498,433

Notes: (1) The sample consists of wage/salary workers ages 25-64. (2) UK includes England and Wales only. For UK 'Asian immigrants' group is defined by country of birth and self-reported ethnicity and does not include all persons born in Asia and residing in the UK. For example, does not include ethnic British born in India.

**Figure 1**  
**Immigration by Type of Admission for 1998-2000**



Source: Canadian data from Citizenship and Immigration Canada, U.S. data from Department of Homeland Security, U.K. data from Home Office

Table 1  
 Business Outcomes by Country of Origin  
 U.S. Census 2000

Immigrant Group	Net Business	
	Income	N
U.S. Total	\$52,086	534,194
All Asian Immigrants	\$54,208	17,093
Indian Immigrants	\$84,080	2,684

Note: The sample consists of all business owners ages 25-64.

Table 2  
Net Business Income for Detailed Immigrant Groups  
U.S. Census 2000

Source Country	Net Business Income	Sample Size
India	84,080	2,684
Iran	77,452	1,473
Egypt	69,707	352
Canada	68,795	2,208
Lebanon	66,500	512
Israel	65,499	632
Iraq	64,201	311
Hungary	63,283	311
United Kingdom	63,278	414
Pakistan	61,701	621
Greece	61,021	881
Other Asian	60,981	665
Philippines	59,990	1,634
Taiwan	59,192	1,085
England	58,672	1,238
Germany	57,877	1,750
Netherlands	57,706	353
Argentina	56,523	469
Russia	55,749	617
Japan	55,192	775
Romania	54,496	368
France	52,184	419
Italy	51,809	1,457
Ireland	51,512	510
Cuba	50,868	2,070
Nigeria	48,811	319
Portugal	48,561	480
Korea	48,074	4,015
Ukraine	46,177	454
China	45,815	2,481
Poland	43,801	1,228
Haiti	41,156	378
Peru	36,887	604
Jamaica	36,714	780
Vietnam	34,862	2,253
Colombia	34,375	1,116
Nicaragua	32,624	349
Brazil	31,237	675
Ecuador	29,906	491
Mexico	28,153	11,008
Dominican Republic	27,716	828
El Salvador	27,481	1,383
Honduras	24,545	367
Guatemala	23,419	774

Notes: (1) The sample consists of all business owners ages 25-64. (2) All immigrant groups with a sample size of 300 or more are reported.

Table 3  
 Industry Distribution of Indian Immigrant Businesses  
 U.S. Census (2000)

	U.S. Total	Indian Immigrants
Agriculture and mining	5.8%	1.0%
Construction	17.4%	1.8%
Manufacturing	4.6%	3.3%
Wholesale trade	3.3%	5.6%
Retail trade	10.1%	21.1%
Transportation	3.8%	5.5%
Information	1.6%	0.7%
FIRE	7.6%	5.7%
Professional services	18.5%	13.8%
Education, health and social services	10.5%	22.9%
Arts, entertainment and recreation	5.9%	14.5%
Other services	10.8%	4.0%
Sample size	534,194	2,684

Notes: (1) The sample consists of individuals ages 25-64 who own a business with 15 or more hours worked per week. (2) All estimates are calculated using sample weights provided by the Census.

Table 4  
 Business Outcomes by Country of Origin  
 Canada Census 2001 and U.K. Census 2001

Immigrant Group	Net Business Income	Canada	N	United Kingdom	N
		Percent Employer Firms		Percent Employer Firms	
Total	\$30,296	42.4%	39,933	37.1%	84,439
All Asian Immigrants	\$24,301	51.4%	2,652	54.5%	3,002
Indian Immigrants	\$28,580	48.4%	539	53.6%	1,111

Note: UK includes England and Wales only. For UK 'Asian immigrants' group is defined by country of birth and self-reported ethnicity and does not include all persons born in Asia and residing in the UK. For example, does not include ethnic British born in India.

Table 5  
Industry Distribution of Indian Immigrant Businesses  
Canada Census (2000)

	Canada Total	Indian Immigrants
Agriculture and mining	12.7%	3.0%
Construction	13.1%	4.5%
Manufacturing	5.0%	5.0%
Wholesale trade	3.9%	5.4%
Retail trade	12.0%	14.8%
Transportation	4.8%	20.4%
Communication	1.0%	0.6%
FIRE	3.9%	5.0%
Business services	15.8%	14.1%
Government services	0.1%	0.0%
Education, health and social services	10.6%	12.2%
Accommodation, food and beverages	4.4%	6.3%
Other services	12.8%	8.7%
Sample size	39,933	539

Notes: (1) The sample consists of individuals ages 25-64 who own a business with 15 or more hours worked per week. (2) All estimates are calculated using sample weights provided by the Census.

Table 6  
Industry Distribution of Indian Immigrant Businesses  
U.K. Census (2001)

	U.K. Total	Indian Immigrants
Agriculture, Hunting and Forestry	5.7%	0.0%
Fishing	0.1%	0.0%
Mining and Quarrying	0.1%	0.1%
Manufacturing	8.9%	7.5%
Electricity, Gas and Water Supply	0.3%	0.2%
Construction	20.1%	7.8%
Wholesale and Retail Trade; Repair of Motor Vehicles	16.1%	41.9%
Hotels and Restaurants	5.3%	5.2%
Transport, Storage and Communication	6.7%	10.8%
Financial Intermediation	2.2%	2.3%
Real Estate, Renting and Business Activities	17.2%	9.0%
Public Administration and Defence; Compulsory Social Security	0.8%	0.5%
Education	2.3%	1.4%
Health and Social Work	6.3%	10.1%
Other Community, Social and Personal Service Activities	7.8%	3.1%
Private Households Employing Domestic Staff	0.1%	0.1%
Extra - Territorial Organisations and Bodies	0.0%	0.0%
Sample size	84,439	1,111

Notes: (1) The sample consists of individuals ages 25-64 who own a business with 15 or more hours worked per week. (2) UK includes England and Wales only. For UK 'Asian immigrants' group is defined by country of birth and self-reported ethnicity and does not include all persons born in Asia and residing in the UK. For example, does not include ethnic British born in India.

Table 7  
Mean Education and Characteristics among Indian and White Entrepreneurs  
U.S. Census 2000, Canada Census 2001, and U.K. Census 2001

	United States		Canada		United Kingdom	
	Indians	Whites	Indians	Whites	Indians	Whites
College graduate	68.3%	34.6%	50.0%	25.4%	35.8%	21.4%
Female	25.7%	31.1%	26.6%	31.8%	27.7%	24.8%
Ages 25-29	4.3%	5.8%	5.0%	5.1%	2.6%	6.4%
Ages 45-59	47.1%	44.6%	43.3%	44.2%	46.1%	44.3%
Ages 60-64	5.6%	7.5%	6.9%	6.3%	5.6%	7.5%
Married	91.3%	75.5%	91.6%	72.2%	90.6%	66.3%
Agriculture	0.9%	6.5%	1.4%	11.7%	0.1%	6.3%
Construction	1.8%	18.2%	4.3%	13.6%	6.8%	21.1%
Sample size	2,684	432,399	418	30,171	1,825	78,016

Notes: (1) The sample consists of the self-employed business owners ages 25-64. (2) UK includes England and Wales only. For UK 'Asian immigrants' group is defined by country of birth and self-reported ethnicity and does not include all persons born in Asia and residing in the UK. For example, does not include ethnic British born in India.

Table 8  
Log Net Business Income Regressions

Explanatory Variables	U.S. Census 2000		Canada Census 2001	
	(1)	(2)	(3)	(4)
Indian immigrant	0.4843 *** (0.0262)	0.1314 *** (0.0246)	0.0583 (0.0526)	-0.1855 *** (0.0518)
College graduate		0.6223 *** (0.0041)		0.5081 *** (0.0139)
Female		-0.7520 *** (0.0041)		-0.5185 *** (0.0130)
Ages 25-29		-0.2540 *** (0.0079)		-0.2057 *** (0.0265)
Ages 45-59		0.0023 (0.0040)		0.0056 (0.0123)
Ages 60-64		-0.1867 *** (0.0074)		-0.1574 *** (0.0271)
Married		0.1633 *** (0.0043)		0.1234 *** (0.0135)
Agriculture		-0.6274 *** (0.0083)		-0.4192 *** (0.0206)
Construction		-0.0545 *** (0.0052)		-0.0062 (0.0165)
Region controls	No	Yes	No	Yes
Mean of dependent variable	10.14	10.14	9.9990	9.9990
Sample size	534,044	534,044	33,676	33,676

Notes: (1) The sample consists of self-employed business owners (ages 25-64) who work 15 or more hours per week. (2) Additional controls include other Asian immigrant, Asian native, white immigrant, black native, black immigrant, Latino native, Latino immigrant, Native American, other race, and multiple race dummies in the U.S. specifications. Additional controls in the specifications with Canadian data include indicators for being a Chinese immigrant, an immigrant from the Phillipines, a Vietnamese immigrant, a Korean immigrant, a white immigrant, a black native, a black immigrant, and Asian native, an immigrant from another Asian country. (3) The left-out categories are white natives and ages 30-44. \*, \*\*, and \*\*\* denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.

Table 9  
 Decompositions of Indian/Native-Born White Gaps in Business Performance  
 U.S. Census 2000, Canada Census 2001, and U.K. Census 2001

	U.S.	Canada	Canada	U.K.
Dependent variable	Log Business Income	Log Business Income	Employer	Employer
Indian mean	10.65	10.07	0.4910	0.5360
Native-born white mean	10.17	10.01	0.4410	0.3710
Indian/native-born white gap	0.4781	0.0600	0.0500	0.1650
Contributions from group differences in:				
Education	0.2098 43.9%	0.1250	0.0177 35.4%	0.0026 1.6%
Female	0.0405 8.5%	0.0270	0.0056 11.2%	-0.0006 -0.4%
Age	0.0072 1.5%	-0.0008	-0.0002 -0.4%	0.0022 1.3%
Marital status	0.0258 5.4%	0.0239	0.0235 46.9%	0.0194 11.8%
Industrial sector	0.0446 9.3%	0.0438	0.0121 24.3%	0.0204 12.4%
Region	0.0265 5.5%	0.0296	0.0095 19.1%	
All included variables	0.3544 74.1%	0.2484	0.0683 136.5%	0.0440 26.7%

Notes: (1) The samples and regression specifications are the same as those used in Tables 8 and 10.  
 (2) See text for more details on decomposition equations.

Table 10  
Employer Firm Regressions

Explanatory Variables	Canada Census 2001		U.K. Census 2001	
	(1)	(2)	(3)	(4)
Indian immigrant	0.0510 ** (0.0250)	-0.0020 (0.0250)	0.170 *** (0.011)	0.125 *** (0.011)
College graduate		0.0720 *** (0.0060)		0.018 *** (0.004)
Female		-0.1080 *** (0.0060)		-0.021 *** (0.004)
Ages 25-29		-0.0620 *** (0.0120)		-0.037 *** (0.007)
Ages 45-59		0.0010 (0.0060)		-0.011 *** (0.004)
Ages 60-64		-0.0430 *** (0.0110)		-0.052 *** (0.007)
Married		0.1210 *** (0.0060)		0.080 *** (0.004)
Agriculture		-0.1340 *** (0.0090)		-0.073 *** (0.007)
Construction		0.0180 ** (0.0090)		-0.111 *** (0.004)
Region controls	No	Yes		
Mean of dependent variable	0.45	0.45	0.371	0.371
Sample size	33,676	33,676	84,439	84,439

Notes: (1) The sample consists of self-employed business owners (ages 25-64) who work 15 or more hours per week. (2) Additional controls in the U.K. specifications include Chinese immigrant, Indian immigrant, Pakistani, immigrant, Bangladeshi immigrant, other Asian immigrant, Asian native, white immigrant, black native, black immigrant, other race, and multiple race dummies. Additional controls in the specifications with Canadian data include indicators for being a Chinese immigrant, an immigrant from the Phillipines, a Vietnamese immigrant, a Korean immigrant, a white immigrant, a black native, a black immigrant, and Asian native, an immigrant from another Asian country. (3) The left-out categories are white natives and ages 30-44. \*, \*\*, and \*\*\* denote statistical significance at the 0.10, 0.05, and 0.01 levels, respectively.