

The International Asian Business Success Story: A Comparison of Chinese, Indian and Other Asian Businesses in the United States, Canada and United Kingdom

NBER Volume on International Differences in Entrepreneurship

Robert W. Fairlie - University of California, Santa Cruz

Julie Zissimopoulos - RAND

Harry Krashinsky - University of Toronto

December 2007

We would like to thank participants at the NBER conference on international differences in entrepreneurship for comments and suggestions. We would also like to thank Miranda Smith and Joanna Carroll for research assistance. We thank Kauffman-RAND Institute for Entrepreneurship Public Policy for partial funding.

1. Introduction

Asians have migrated to numerous countries around the world. The largest migrations have been to some of the wealthiest developed countries, such as the United States, United Kingdom and Canada. Figure 1, representing data from the World Bank, reveals that the United States receives the most Asian immigrants (29.7%) followed by India (26.3%) and Hong Kong (8.9%), Canada (7%) and the United Kingdom (5.6%). Together the United States, Canada and the United Kingdom have received the most immigrants from Asia among all non-Asian countries in the world.

Asians business ownership in the United States is well documented. In particular, Chinese, Indians and Koreans have higher rates of business ownership relative to other minority groups and typically on par with or above that of whites in the United States (Kim, Hurh, and Fernandez 1989, Fairlie and Meyer 1996, Hout and Rosen 2000, and Mar 2005). It has been argued that the economic success of Asian immigrants is in part due to their ownership of successful small businesses (Light 1972 and Bonacich and Modell 1980, Min 1993). Micro data from the U.S. Census Bureau's Characteristics of Business Owners Survey indicates that Asian-owned businesses have mean annual sales that are roughly 60 percent higher than the mean sales of white firms in the United States (Fairlie and Robb 2006). Asian businesses are also 16.9 percent less likely to close, 20.6 percent more likely to have high profit levels, and 27.2 percent more likely to hire employees than white-owned businesses in the United States. Previous studies also indicate that Asian business owners have higher earnings than other groups (Borjas 1986 and Boyd 1991). Finally, Asian immigrants' business are not located solely in low revenue industries and in fact, have been

very influential in contributing to high-tech sectors, such as Silicon Valley, and technology and engineering industries (Saxenian 1999, 2000; Wadhwa 2007).

Research from the United Kingdom documents the importance of business ownership among ethnic minorities, which Asians, particularly Indians, Pakistanis and Bangladeshis are among the largest groups (Clark and Drinkwater 1998, 2000, 2006). In contrast to the United States, the literature in the U.K. has emphasized the role of discrimination in ‘pushing’ minorities into self-employment (Modood and Virdee 1996; Clark and Drinkwater 2000). Other studies have documented lower earnings among ethnic minority entrepreneurs (Clark, Drinkwater and Leslie 1998) and the concentration in industrial sectors with high business failure rates such as retail, catering and transportation (Parker 2004).

A small literature in Canada considers self-employment and business ownership of Asian immigrants. Head and Ries (1998) consider the impact of Asian immigrants in Canada on trade creation explicitly examining Asian immigrants who are self-employed. The authors find that East Asian immigrants have a highly significant and positive effect on both exports and imports. Furthermore, Ley (2006), Johnson (2000), Li (2001) and Razin and Langlois (1996) examine the characteristics and relative success of Asian immigrants who choose to become entrepreneurs. Research on self-employment among all Canadian immigrants, and similar to the literature on immigrant self-employment in the U.K., finds some evidence to suggest that Canadian immigrants are “pushed” into self-employment due to a lack of labor market opportunities in the wage and salary sector Li (1997). Frenette (2004) finds that immigrants as a whole are somewhat more likely to be self-employed than native Canadians, but exhibit lower earnings than native self-employed Canadians.

In summary, the literature from the United States, Canada and United Kingdom provides some evidence on the rates of business ownership among Asian immigrants, but whether these rates are high, for which Asian groups, and relative to which reference group (e.g. other minorities, other immigrants, native born) is not consistently documented for any three countries. That is, the previous literature does not provide a comparative analysis of entrepreneurship rates among Asian immigrants across these three countries or offer explanations as to why the rates may or may not differ across the largest Asian immigrants receiving countries outside of Asia.¹ Moreover, it also only sparsely addresses the question of whether the businesses owned by Asian immigrants are relatively successful.

Using Census micro data from the United States, United Kingdom and Canada, this paper provides the first analysis of entrepreneurship among Asian immigrants across the three largest receiving countries in the world. The sample sizes for all three Censuses are extremely large and allow us to examine business ownership rates in the all three countries and business income in the United States and Canada.² For the United Kingdom, we examine employment among business owners. Large sample sizes are important because of the substantial heterogeneity across Asian immigrant groups and the need to compare Chinese, Indian and other Asian immigrant groups in the United States to the same groups in the United Kingdom and Canada. The Census data also provide very detailed information on education and other characteristics of the owner allowing us to explore the determinants of business ownership and income. We first examine the characteristics of Asian immigration to the United States, United Kingdom and Canada. Who immigrates to each of these countries? Of particular interest are the source countries and education levels of Asian

¹ Schuetze and Antecol (2006) provide a detailed comparison of immigrant business formation in the Australia, Canada and the United States, but do not focus on Asian immigrants.

² For the United Kingdom, we examine employment among business owners.

immigrants, which may have important implications for business ownership and especially business performance patterns.

The second question that we address is whether Asian immigrants have higher business ownership rates than the national average in the three receiving countries and in the U.S. and Canada, whether Asian immigrant business owners have higher business income than the national average. Is there substantial heterogeneity across country of origins and how do the same origin groups compare across countries that have different immigration policies, labor markets and institutions? Previous research has not provided a comparative analysis across the three countries with the largest Asian immigrant waves using consistent definitions and detailed Census micro data.

Third, we explore whether education and other demographic differences can explain why some Asian immigrant groups have high rates of business ownership and their businesses perform better than the national average.³ The focus is not only on explaining patterns with the three countries, but also across the three countries. For example, published estimates from the U.K. Census indicate that Chinese, Indians and other Asian immigrant groups have business ownership rates that are much higher than the national average. These differentials are substantially larger than those found in the United States or Canada.⁴ Differential educational endowments among Asian immigrants and returns to education across countries may contribute to these relative patterns in business ownership and outcomes. Educational differences in turn may be related to differential immigration policies and to where and which Asian immigrants decide to move.

³ Due to data limitations we cannot examine the importance of social capital which has been found to be important for Asian immigrant businesses (see Kalnins and Cheung 2006; Zhou 2004 for example).

⁴ See Fairlie (2006) for a comparison of business ownership rates for a few Asian immigrant groups from published sources and U.S. Census microdata.

2. Data

For the analysis, we use the 2000 U.S. Census of Population Public Use Microdata (PUMS) 5-Percent Samples of the (14.1 million observations), the 2001 United Kingdom Census 3-Percent Sample from the Individual Anonymised Records (1.6 millions observations), and the 2001 Canada Census Public Use Microdata File (PUMF) of about 2.7 percent of the population (approximately 800,000 observations). In all censuses, information on birth country, ethnicity and immigration status is provided and used to define the Asian immigrant groups.⁵ Furthermore, for all censuses business ownership is identified from the class of the class of worker (i.e. self-employed) question for the main job activity in the survey week. In the United States, ownership of a business includes unincorporated, incorporated, employer and non-employer businesses although we cannot distinguish between the latter two. Moreover, in the United States and Canada censuses, business income is reported and thus we can measure the performance of Asian immigrant businesses. In the United Kingdom's census, business income is not publicly available. It is possible, however, to distinguish between employer (has employees) and non-employer businesses as an alternative measure of performance.

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. We also exclude individuals who are not currently

⁵ 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 to categorized specific Asian immigrant groups.

working and who do not report working at least 15 hours per week.⁶ 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. The additional exclusion of agricultural industries has little effect on estimates of Asian immigrant entrepreneurship, and thus we include these industries in all analyses.

3. Asian Immigration

Large waves of Asians have migrated to the United States, United Kingdom and Canada in the past few decades. Table 1 reports estimates of the total population size for Asian immigrants living in the United States, United Kingdom and Canada. A striking 11.3 million Asians live in the three countries combined. The United States received by far the most Asian immigrants of the three countries. More than 7 million immigrants from Asia reside in the United States representing 2.6 percent of the U.S. population. Canada, however, has the largest concentration of Asian immigrants relative to its population size. Nearly 2.5 million Asian immigrants live in Canada representing 8 percent of the total population. In the United Kingdom, 1.6 million Asian immigrants live comprising 3.1 percent of the total population.

Another interesting feature about Asian immigration in the United States, Canada and United Kingdom is the heterogeneity in source countries. Asian immigrants in the United States have arrived from many different countries (Table 1). The Philippines, China and India have each sent more than 1 million migrants to the United States. Nearly 1 million immigrants have also arrived from both Vietnam and Korea. Eight additional countries have

⁶ 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.

sent either close to 100,000 migrants or more than 100,000 migrants to the United States. Asian immigration to Canada is also very diverse with many of the same countries representing the largest shares. The main difference is the larger share of Chinese immigrants relative to the total for all Asian immigrants. Chinese immigrants represent nearly 40 percent of all Asian immigrants in Canada. In the United States, Chinese immigrants represent 17 percent of all immigrants from Asia. Asian immigration to the United Kingdom is much more concentrated across source countries. Almost all Asian immigrants come from Commonwealth countries, such as India, Pakistan, and Bangladesh, or former territories such as Hong Kong (coded as China).⁷ India and Pakistan are the largest groups with roughly 400 and 300 thousand immigrants, respectively.

Overall, large populations of Asian immigrants live in the United States, Canada and the United Kingdom. For some specific Asian groups, such as the Chinese and Indians, large populations live in each of the three countries. For the remainder of the analysis, we focus on the seven Asian immigrant groups defined by birth country that can be identified in at least two of the three countries: Philippines, China, India, Vietnam, Korea, Pakistan, Bangladesh.

EDUCATIONAL PATTERNS

One of the major factors distinguishing immigrants from different countries is education levels. Immigrants from different countries vary substantially in the levels of education that they bring to the host country because of differences in educational institutions and selection. These differences in education levels have implications for business

⁷ The U.S. Census is the only one that distinguishes between Hong Kong and China. For consistency, these two countries of birth are combined.

ownership and performance, which we examine in the next section. Education is found to be a determinant of business ownership in some countries and generally found to be a strong determinant of business earnings around the world (see Parker 2004, van der Sluis, van Praag and Vijverberg 2004, and van Praag 2005).

Figures 2.A-2.C display the educational distribution of Asian immigrants in the United States, Canada and the United Kingdom. Focusing on the U.S. results first, it is clear that Asian immigrants have much higher education levels than the national average (Figure 2.A.). Asian immigrants are much more likely to have four-year college and graduate degrees (46.3 percent) than the national average (26.5 percent). Although Asian immigrants are slightly more likely to have less than a high school education they are more likely to only have a high school degree or some college than the national average. Unfortunately, the Census data do not provide evidence on where the education was obtained.

The relative educational attainment of Canadian immigrants mirrors the pattern found in the United States. Asian immigrants are more educated than the national average. For the three lowest categories of educational attainment, Canadians overall are far more preponderant than Asian immigrants in Canada. Figure 2B demonstrates that a higher percentage of Canadians are more likely to have not graduated from high school (31.3 to 28.6), be a high school graduate (14.1 to 12.4) or have some college education (39.1 to 31.2). But Asian immigrants are relatively more likely to have high levels of education; a high percentage of Asian immigrants graduated from college (20.5 to 11.7) or have a graduate degree (7.3 to 3.7). One difference between this comparison and the U.S. comparison, however, is that the Asian educational advantage is not as large, an issue that we examine in more detail below.

In the United Kingdom, education is reported as highest qualification obtained and translated in one of five levels: level 1 (low education) 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. Figure 2.C. shows the distribution of education levels in the U.K for Asian immigrants and the entire population. Twenty-nine percent of Asian immigrants have qualifications at level 4 and level 5 compared to 22.7 percent of the entire population. The percent of Asian immigrants with level 3 education is similar to the national average (5.3 and 6.3 respectively). Just over 21 percent of Asian immigrants have levels one and two compared to 36.5 for the population as a whole. A large difference exists between the percent reporting ‘no qualification’ for Asian immigrants and the population as a whole (39.8 compared to 26.3 respectively). Part of this difference likely reflects education of Asian immigrants received abroad that does not easily translate into the U.K. system. For the analysis we assume Asian immigrants reporting no qualifications are of a level less than level 4. Although it is difficult to make comparisons, it appears as though the educational advantage of Asian immigrants in the United Kingdom is relatively small compared to the advantage in the United States.

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 this is levels 4 and 5). Table 2 reports the distribution of source countries and percent with college educations for the United States, United Kingdom and Canada.

All Asian immigrant groups in the United States except the Vietnamese have very high levels of education relative to the national average, particularly Indians whose rate of college education or more is 76 percent. This is 45 percentage points above the national average of 31 percent. Vietnamese immigrants are largely refugees, which is an explanation for their lower education levels. Likewise in Canada, every Asian immigrant group has a higher college share than the national average with the exception of the Vietnamese. A notable difference, however, between these results and the U.S. results is that for almost every source country Asian immigrants in Canada have lower education levels than Asian immigrants in the United States. The differences are large in some cases. For example, 42.1 percent of Indians living in Canada have a college education compared to 76.2 percent of Indians living in the United States.

Similarly, we find that overall the education levels of Asian immigrants in the United Kingdom are higher compared to the national average. As a group, about 50 percent of Asian immigrants have a college education or higher compared to a national average of 28.4 percent. For every Asian group, however, this rate is lower than in the United States and comparable to those in Canada. In some cases the differences are very large. In the United States, 76.2 percent of Indian immigrants have a college education compared to only 42.2 percent in the United Kingdom. For both immigrants from Pakistan and Bangladesh, nearly 60 percent have college degrees in the United States, whereas roughly 30 percent have college degrees in the United Kingdom.

Overall, Asian immigrants in the United States have very high levels of education. Asian immigrants in Canada and the United Kingdom have much lower levels of education although they are still substantially higher than the national averages for the two countries.

Higher education levels in the United States among Asian immigrants from the same countries may be due to differences in immigration policies and who selects to come to each country.

IMMIGRATION POLICIES

Educational and source country differences across countries are due to differences in immigration policies, labor markets, credit markets, tax systems, historical ties, geographical proximity, and other institutions and structural differences. Immigration policy is clearly one of the most important factors, if not the most important factor, affecting the distribution of source countries and who emigrates from each source country. For example, policies that emphasize admissions based on employment skills instead of refugee or family reunification are likely to result in immigration from more highly educated source countries or more highly educated immigrants within source countries. In fact, the focus of U.S. immigration policy on family reunification has been criticized for lowering the skills and education levels of successive waves of immigrants (Borjas 1995, 1999). 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 to more skilled immigrants compared to the United States (Borjas 1993).⁸ The larger investor and entrepreneur admission programs in Canada may also alter the skill level of immigrants.

⁸ 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.

Although a detailed discussion of differences in immigration policies in the United States, Canada and the United Kingdom is beyond the scope of this paper, a brief examination of types of immigrant admissions around the time of the censuses sheds light on the key differences.⁹ Since the 1960s U.S. immigration policy has strongly favored family reunification (Woroby 2005). In Canada, the focus has been on accepting immigrants who possessed the economic skills the country requires and encourage immigration of individuals with high education levels (Woroby 2005). 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 U.K. have shifted towards emphasizing family reunification and employment (Bauer, Lofstrom & Zimmermann 2001). Figure 3 reports immigration admissions by type for the United States, Canada, and the United Kingdom. In both the United States and United Kingdom immigrants are most likely to enter the country as 'family sponsored.' Family reunification appears to be the main route by which immigrants enter each of the two countries.

The main difference across countries is in the percentages of immigrants being admitted for employment-based preferences. Because of the point-based system in Canada, roughly half of all immigrants are admitted through employment-based preferences. In contrast, slightly more than 10 percent of immigrants in the United States are admitted under this broad classification. The percentage of admissions under this policy is even lower in the United Kingdom with less than 5 percent of all immigrants being admitted. The point-based system in Canada clearly results in a higher share of immigrants than either the United States or United Kingdom being admitted for employment-based preferences.

⁹ 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.

The related category of employment creation or investors also differs across countries.¹⁰ In Canada these immigrants are categorized as ‘investors’, ‘entrepreneurs’, or ‘self-employed’. There are minimum net worth and business experience requirements for investors and entrepreneurs, and self-employed immigrants must have relevant experience in cultural, athletic or farm management occupations.¹¹ In the United States, immigrants admitted in the ‘employment creation’ must be actively investing at least \$1 million U.S. dollars 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 3 indicate that a much larger share of immigrants in Canada are admitted under these policies than in the United States and United Kingdom. But, they represent a relatively small share of all immigrants compared to the other categories. In Canada, they represent 7 percent of all admitted immigrants compared to 0.1 and 0.2 percent in the United States and United Kingdom, respectively. Differences in these policies may alter the percent of successful immigrant business owners in Canada relative to both the United States and United Kingdom.

Another major difference in immigration policies is in the percentage of immigrants being admitted under refugee/asylee status. In the United Kingdom, 33 percent of immigrants are admitted under this category. The large portion of refugee/asylum immigrants in the UK is similar to that in other European nations and has been attributed to the political events in the former socialist states in Eastern Europe, and the wars in the former

¹⁰ 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.

¹¹ For investors and entrepreneurs the minimum net worth requirements are \$800,000 and \$300,000, respectively, and at least 2 years worth of business experience.

Yugoslavia and in Turkey (Bauer, Lofstrom and Zimmermann 2000). The percentage admitted as refugees or asylees in Canada is 13 percent, whereas in the United States the percentage is 7 percent.

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. As indicated above we find some evidence that the educational advantage of Asian 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 found that the educational advantage in the United States is higher than it is Canada, which runs counter to the greater emphasis of Canada's immigration policy on rewarding points for the general skill level of immigrants. A more generous redistribution system, more egalitarian earnings, and other institutional and structural factors, however, may make Canada less attractive to higher skilled immigrants (Antecol, Cobb-Clark and Trejo 2003).

4. Business Ownership and Business Income of Asian Immigrants

BUSINESS OWNERSHIP

The rate of business ownership among Asian immigrant workers as a whole and for specific Asian groups varies substantially within and across countries. Table 3 reports estimates of business ownership for the United States, Canada, and the United Kingdom. In the United States, 10.9 percent of Asian immigrant workers are business owners, which is

just 0.8 percentage points above the national average. In Canada, the rate of business ownership among Asian immigrants is higher than in the U.S. (12.5 percent), but is 0.7 percentage points lower than the national average. In contrast, in the United Kingdom 22.9 percent of Asian immigrant workers are business owners, which is substantially higher than in the U.S. and Canada and 8.5 percentage points higher than the national average. In sum, Asian immigrant business ownership rates are lowest in the U.S. and highest in the U.K.. They are similar to the national average in Canada and the U.S. and strikingly higher than the national average in the U.K.

In the United States, the comparison between Asian immigrants and the national average masks considerable heterogeneity in business ownership rates across Asian groups. For example, immigrants from the Philippines have very low business ownership rates. The Filipino business ownership rate is only 4.9 percent, which is less than half the national average. On the other hand, immigrants from Korea and Pakistan have very high rates of business ownership (24.1 and 14.8 percent respectively). Similar patterns are revealed in Canada with Filipino immigrants having relatively low rates (4.8 percent) and Koreans having very high rates (41.3 percent) and much higher rates than in the U.S.. The finding of high rates of business ownership is more consistent in the United Kingdom. For all reported groups, business ownership rates are considerably higher than the national average. For the two highest-rate groups, immigrants from China and Pakistan, nearly 30 percent of the workforce owns a business, which is more than twice the rate of these groups in the U.S. and Canada. Comparing across countries, we generally find that groups with relatively high rates in one country have relatively high rates in the other countries although as discussed the rates vary substantially by country.

BUSINESS INCOME

Table 4 reports average net business income of self-employed business owners in the U.S. and Canada by immigrant group and for the population as a whole. Asian immigrant businesses earn more on average than the national average for businesses in the United States, but the difference is not large. The total, however, masks important differences across groups. For example, businesses owned by Indian immigrants have average income levels that are 60 percent higher than the national average. Pakistanis and Philipinos also have substantially higher average incomes. On the other end, businesses owned by immigrants from Vietnam and Bangladesh have much lower earnings than the national average.

The results for business income in the United States contrast with the outcome of Asian immigrants' businesses in Canada. On average, Asian immigrant businesses earn less than the national average for businesses (\$15,500 compared to \$18,000 per year respectively).¹² This is true for all immigrants groups with the exception of Indians who earn slightly more (\$19.3 thousand per year).

The U.K census does not provide data on business income, but includes information on which businesses have employees (employer firms). Employment represents a rough proxy for business success. Using alternative sources of data for the United States, previous research indicates that businesses with employees on average have higher business income than those businesses without employees (Zissimopoulos and Karoly 2007; Fairlie and Robb 2007). In the United Kingdom over one-half of businesses are employer firms (54.5 percent) compared with 42 percent overall and this pattern holds for all Asian groups. The Chinese

¹² At the beginning of 2000, the exchange rate was 1.45 Canadian dollars per U.S. dollar (International Monetary Fund 2007).

are most likely to have employer businesses (66.4 percent) and immigrants from Pakistan, the least (44.8 percent). Businesses with employees may be more successful businesses than those without employees. On the other hand, it may be related to the type of business the worker chooses to start. The analysis of the distribution of business owners across industries discussed in the next section sheds reveals a high concentration of Asian immigrants in just a few industries.

In sum, we find that Asian immigrants in the United States are only slightly more likely to be business owners and have only slightly higher income than the national average and we find substantial heterogeneity across groups. This is not the broad picture of success that is often portrayed. In Canada, business income is lower for all Asian immigrants with the exception of Indian immigrants and the difference for this group is small relative to the national average. In the U.K. all Asian immigrants' businesses are more likely to be employer firms than the national average.

5. The Role of Education in Explaining Asian Immigrant Business Success

We now turn to explaining rates of business ownership among Asian immigrants across countries and within countries. We focus on the role that education plays in determining who owns a business and the level of success of the business. To examine the importance of education and other demographic characteristics in explaining differences in business ownership and performance, we estimate separate regression models for the probability of business ownership and log business income (or employment) for each country (Tables 5.A-C). The models are the same for all countries. Coefficients for the seven Asian immigrant groups we study are reported when relevant to the country. In each table,

specifications 1 and 2 report estimates for the probability of owning a business. For the models based on data from the United States and Canada, specifications 3 and 4 report estimates for log net business income. For the U.K., specifications 3 and 4 report estimates for the probability the business is an employer firm. The first set of specifications for each outcome does not include any demographic controls. The coefficients on the immigrant group dummy variables capture the difference between that group's business ownership rate or log business income (employer firm rate for the U.K.) and the native-born white levels (the excluded group). The second set of specification for each outcome adds education, demographic and other controls (female, age, marital status, region, and broad industrial sector).¹³

The first model shows that Korean and Pakistani immigrants have higher business ownership rates relative to native whites while all other Asian immigrants groups have lower rates (Table 5.A.). These results hold when education and other controls are added with the exception that once we control for education, Vietnamese immigrants are slightly more likely to be business owners than native whites. Estimates from the second specification shows that having a college degree increases the likelihood of owning a business by 1.9 percentage points, which represents 18 percent of the mean business ownership rate. It has a much larger effect on business performance. Having a college degree increases business income by roughly 60 percent. In the United States, the education level of the entrepreneur determines who owns a business, but more importantly determines which businesses will be successful. The coefficients on the other controls indicate that business ownership is higher among men, married individuals, older workers, and those in agriculture and construction. Business

¹³ 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 Asian immigrants (Lofstrom 2002).

income is higher among male owners, married owners, middle-aged owners, and non-agricultural businesses.

Although there is substantial variation in education levels across groups as displayed in Table 2, controlling for education has little effect on the Asian immigrant coefficients for business ownership. The estimated business ownership rate differences remain fairly similar with the exception for the Vietnamese as noted earlier. On the other hand, education matters for business income. Controlling for education and other demographic characteristics we find large changes in the Asian immigrant coefficients in the log business specifications, suggesting that educational differences explain a lot of the variation in business incomes. For example, Indian immigrant businesses are found to have 48 log points higher business income than white natives, but after controlling for their extremely high education levels and other demographic characteristics (76.2 percent have a college degree) reduces this advantage to 13 log points.

A simple decomposition reveals that most of the drop in rates is due to education differences. To see this, we calculate $(\bar{E}^W - \bar{E}^A)\hat{\beta}^*$, where E is the average education level of native-born whites (W) or Asian group (A), and $\hat{\beta}^*$ is the coefficient estimate on education from the pooled sample used in the regressions reported in Table 5.¹⁴ This formula approximates the contribution of educational differences between whites and Indian immigrants to the log business income differential, controlling for other demographic characteristics. For Indian immigrants, the contribution is 0.21, which a large share of the 0.35 drop in log business income.

¹⁴ This is essentially the endowment contribution from a standard Blinder-Oaxaca decomposition (Blinder 1973 and Oaxaca 1973).

The higher average business income among Pakistani owned businesses disappears after controlling for education and other characteristics suggesting that high levels of education are largely responsible for why businesses owned by this group are successful in the United States. Controlling for education can also work in the opposite direction. Vietnamese immigrants are found to have lower education levels than the national average (24.8 percent have college degrees). Controlling for relatively low education levels among Vietnamese immigrants partly explains why their businesses are less successful on average. Vietnamese businesses earn roughly 30 percent less than white native businesses, but earn roughly 10 percent less after controlling for education and other characteristics. The contribution from educational differences is -0.10 log points.

For most Asian immigrant groups, the coefficients become negative or larger negative values after controlling for education and other factors. This finding indicates that Asian immigrant business owners earn less than white business owners conditioning on their higher levels of education. If these groups did not have higher levels of education than the national average, their businesses would not be as successful.

Overall, education differences are important in explaining why some Asian immigrant groups own successful businesses and other do not. Education differences appear to be much less important in explaining the variation in business ownership. The difference in findings results from the large positive effect of owner's education on business income, but smaller positive effect on determining who owns a business in the United States.

Estimates for Canada are reported in Table 5.B. Asian immigrants in Canada do not exhibit uniformly higher rates of business ownership than native Canadians. Philippino, Indian and Vietnamese immigrants to Canada are less likely to own businesses than natives,

but Chinese and Korean immigrants are more likely to own businesses. These results are generally unaffected by the inclusion of education and other demographic characteristics. Interestingly, education has a larger effect on business ownership than it does in the United States. The coefficient estimate reported in specification 2 implies that business ownership increases by 2.8 percentage points for workers with a college degree. But, the effect of education on business ownership is still small enough that controlling for the higher education levels of Asian immigrants in Canada does not substantially alter the relative business ownership.

The last two columns of the table demonstrate that, unlike the United States, Asian immigrants in Canada exhibit almost uniformly lower levels of self-employment earnings relative to natives. Without any control variables, Philippino, Chinese and Korean immigrants exhibit significantly lower earnings than native Canadians, while Indians and Vietnamese immigrants have business incomes not significantly different than natives. Another difference found from the results in Table 5B to the results from the United States is that the inclusion of control variables accounts for very little of these differences in business income. The only change of note from the third column to the fourth is that there is now a significantly negative difference in earnings exhibited by Indian immigrant business owners compared to natives, and the inclusion of educational controls is not the cause of this (which will be echoed in Table 6B). Instead, the inclusion of marital status is the reason for the significance of the earnings differential. Both groups have very high marital rates – both on the order of 90%, which is much higher than the national average of approximately 68% – but given that married men earn significantly more than unmarried men, and that Indian

immigrants do not earn significantly higher self-employment earnings, the inclusion of the marital control adjusts downward relative earnings for this group.

We next discuss results for the United Kingdom, which are reported in Table 5.C. The results from the business ownership models show that all Asian immigrant groups have higher business ownership rates relative to native whites and the coefficient estimates on Asian immigrant groups increase only slightly when education and other demographic characteristics are added. The lack of change in the Asian immigrant coefficients for business ownership is consistent with the finding that having a college degree has no effect on the likelihood of owning a business. The coefficient estimate is essentially zero, which differs from the positive coefficients found for the United States and Canada. Similar to the two other countries, however, business ownership is higher among men, married individuals, older workers, and those in agriculture and construction.

Unfortunately, we do not have a measure of business income in the United Kingdom and instead use a rough proxy for business performance, whether the firm hires employees.¹⁵ Employer firms are more likely among male owners, married owners, middle-aged owners, and non-agricultural, non-construction businesses, which is generally consistent with the results for log business income for the United States and Canada. Most importantly, we find a positive and statistically significant effect of education on employment. The coefficient estimate indicates that college graduate level 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

¹⁵ ** can we cite that all of the action is between 0 and 1 for employment, and thus we do not examine 2+ employees???

is much smaller. The estimated effect on British employment represents roughly 5 percent of the mean employment rate compared to roughly 60 percent of business income in the United States and 33 percent of business income in Canada.

The inclusion of education and other covariates even given the large variation in education levels across groups as seen in Table 2 has little effect on the coefficients of the various Asian immigrant groups in models of business ownership and of the likelihood of having employees. An exception is the effect of being Pakistani on the likelihood of being an employer firm. The addition of education and other covariates reduces the magnitude of the Pakistani immigrant coefficient from 9.7 percentage points to 5.0 percentage points.

In sum, all Asian immigrant groups are substantially more likely to be business owners and be employer firms than native whites but there is substantial heterogeneity among Asian immigrant groups. At the high end are Chinese immigrants who are 17 percentage points more likely to be business owners and among business owners, 26 percentage points more likely to have employees relative to native whites. At the low end are Indian immigrants who are 7.6 percentage points more likely to be business owners. Among business owners, Pakistanis are 5 percentage points more likely to have employees relative to native whites.

In sum, comparing estimates from the three countries reveals two interesting patterns. First, the effects of education on business ownership and performance differ across countries. Education has a positive effect on business ownership in the United States and Canada, but has no effect on business ownership in the United Kingdom. This finding potentially has important implications for the effects of relatively high levels of education among Asian immigrants in the three countries. We find, however, that it does not. The positive effects,

although statistically significant, are just not large enough to contribute substantially to why some Asian immigrant groups have higher business ownership rates than the national average.

Second, the effects of education on business income are large in the United States and Canada. In the United States, for example, college educated business owners have more than 60 percent higher earnings than non-college educated owners. The effect of education on employment is positive in the United Kingdom, but smaller than the effects on income in the United States and Canada. In the United States, the combination of large returns to education and highly educated Asian immigrants contributes to why Asian immigrants such as Indians and Pakistanis, have relatively high business incomes. For many other Asian immigrant groups, however, controlling for education lowers their earnings well below the native-born white level. The return to education is slightly lower in Canada compared to the U.S., and controlling for education lowers immigrants' earnings even further below the native-born white level.

MULTIVARIATE RESULTS FOR BUSINESS OWNERSHIP AND INCOME BY EDUCATION GROUP

Education may proxy for several characteristics related to entrepreneurship and business success such as skill or aptitude, and wealth. The hypothesis that limited access to financial resources may impede the propensity to start a business or grow a business (generally referred to as liquidity constraints in the literature on entrepreneurship) has found empirical support (Holtz-Eakin, Joulfaian, and Rosen 1994; Bruce, Holtz-Eakin, and Quinn 2000; Fairlie and Krashinsky 2006) although a recent paper presents evidence to the contrary

in the U.S. (Hurst and Lusardi 2004). Measures of total wealth are unavailable in these censuses, however, home ownership is available and inclusion of this variable in the models does not alter either the estimated effect of immigrant group or education on business ownership or business outcome. We interpret education broadly as an imperfect proxy for skill.

To explore further the relationship between education and business ownership and performance among Asian immigrants and to measure the magnitude of the effect at different levels of the education distribution, we estimate our models of business ownership and business outcomes separately by groups: individuals with college education or above and all others. If education is the main factor explaining Asian immigrants' propensity to start businesses, as suggested by the results from the U.S. model, then differences will disappear when disaggregated by education level. In the U.K. we are interested in the differences in the magnitude between Asian immigrant groups' propensity to be business owners and propensity to have employees by education level given the overall small or insignificant effect of high education on business ownership outcomes. Tables 6.A. through 6.C. report estimates for separate regressions by education level for the U.S., Canada and the U.K. respectively.

MULTIVARIATE RESULTS FOR BUSINESS OWNERSHIP AND INCOME BY EDUCATION GROUP: UNITED STATES

We first discuss the U.S. results reported in Table 6.A. Among less-educated workers, Koreans have the highest business ownership rate. Indians and Pakistanis also have relatively high rates of business ownership among the less-educated. For Indians, this finding contrasts with the main results that combine education levels indicating no difference

in business ownership rates. In contrast to having high business ownership rates, Philipinos have rates of business ownership that are substantially lower than native white rates. For most Asian groups, the college-educated workforce has relatively low rates of business ownership. This finding suggests that more educated Asian immigrants are not "forced" into business ownership as a last resort in the face of language barriers and transferable educational credentials in the U.S. labor market. With the exception of Koreans and Pakistanis, all of these groups are more likely than native whites to own businesses in the United States. The exceptionally high rates of business ownership for Koreans among both the non-college and college are noteworthy. These results provide further support that Koreans have high rates of business ownership and these relatively high rates are independent of having higher education levels than the national average.

Focusing on education levels matters more for business income. For the less-educated workforce, Asian immigrant businesses typically perform worse than native white businesses. Five of the Asian groups have large negative coefficients in the log business income regressions. Less-educated Korean businesses are the exception. They have earnings that are slightly more than 10 percent higher than native white businesses. Among the college-educated workforce, several Asian groups have lower earnings including Korean immigrants, which contradicts the positive coefficient for the non-college sample. The one exception being Indians who have average business income that is 14.5 log points higher than native whites.

Comparing these results to the main results reported in Table 5.A indicates that Asian owned businesses generally do worse when separating business owners by education level. Chinese immigrant business owners earn considerably less for both education levels. The

same is true for Pakistani and Bangladeshi immigrant business owners. The negative coefficients are considerably larger in absolute value for both the less-educated and more-educated samples than for the total sample. These findings provide clear evidence that businesses owned by these three groups do not perform as well as the national average. Another interesting finding is that the log business income coefficient for less-educated Indians is essentially zero and the coefficient for more-educated Indians is positive, but much smaller than the main coefficient. These results indicate that in contrast to the findings for Chinese, Pakistani and Bangladeshi immigrants, Indian business owners perform better than the national average and much of the better performance is due to high levels of education in the United States.

MULTIVARIATE RESULTS FOR BUSINESS OWNERSHIP AND INCOME BY EDUCATION GROUP: CANADA

Table 6B replicates the analysis in Table 6A with data from the Canadian census. The first two columns of the table demonstrate that bifurcating the sample by those who have or have not graduated from college does not affect the main results in the data. Korean immigrants are significantly more likely to own a business, regardless of their educational attainment, and both more- and less-educated Philippino immigrants are significantly less likely to own a business. The results for Chinese immigrants reveals the reason why they are significantly more likely to own a business in the pooled sample: less-educated Chinese immigrants are much more likely to own a business than less-educated natives, but college-educated Chinese immigrants exhibit highly similar business ownership rates in comparison with native Canadians.

The results in the last two columns of the table show the earnings regression results bifurcated for the self-employed who are or are not college graduates. The findings do not alter any of the earlier conclusions drawn about the relative earnings for any of the Asian immigrant groups in the analysis. Bifurcating the sample into college graduates and those with less education than a college graduate shows the same results as in column four of Table 5B. Basically, all groups except for Vietnamese immigrants (who comprise a relatively small portion of the sample) exhibit significantly lower earnings than native Canadians in self-employment. This suggests that there are negative selection effects into self-employment for immigrants to Canada, regardless of their education level. And in one sense, this result is not surprising. The earlier discussion of policies, which govern entry rules for immigrants to Canada, emphasized the fact that most Canadian immigrants fall into the “economic” class. This means that they migrate to Canada seeking work, and one of the most important factors which govern entry is the probability of employment upon entering Canada – having a job waiting for the immigrant significantly improves the chance that he or she will be granted admission to Canada. Because of this, we see most immigrants enter into wage and salary employment; those who are in self-employment consist of immigrants who could not keep their first jobs in Canada, or those who chose to leave them. The results here suggest that the former group (who are negatively selected into self-employment) may be the predominant group of Canadian immigrant workers in self-employment.

MULTIVARIATE RESULTS FOR BUSINESS OWNERSHIP AND INCOME BY
EDUCATION GROUP: UNITED KINGDOM

Table 6.C. reports estimates from the models by education for workers in the United Kingdom. There is substantial difference in business ownership rates for those with and without college for Chinese and Pakistani immigrant groups. Low educated Pakistanis and 17.9 percentage points more likely to be a business owner than native white compared with high educated Pakistanis, who are only 9.2 percentage points more likely to be a business owner than native whites. Chinese immigrants with no college education are 30 percentage points more likely to be business owners than native whites, which is a 200 percent increase from the baseline probability of 15 percent. This number falls to under 3 percentage points among college-educated Chinese immigrants. Indian and Bangladeshi immigrants with less than a college education are 8.0 and 8.7 percentage points more likely to be a business owner than native whites and compared to college educated Indian and Bangladeshi immigrants, the difference in effect is small (6.9 and 6.2 respectively) and given the lower baseline probability for college educated workers, the difference in percent increase from the baseline is also small across education groups. In sum, the exceptionally high rates of business ownerships among the Chinese and Pakistanis in the U.K. reported in Table 5.C. are driven primarily by these immigrants without a college education. Indians and Bangladeshis from both education levels are more likely to be business owners than native whites and the difference by education group is small. These results are not consistent with a hypothesis that Asian immigrants as a whole are primarily ‘pushed’ into business ownership because of language barriers or discrimination.

Overall, 40.4 percent of business owners with a college education have employees compared with 36.2 percent of not college educated business owners. Among business owners without a college degree or higher, all Asian immigrant groups are more likely to

have employees than the native white group with the Chinese being the most likely to have employees. Among business owners with a college degree or higher, all Asian immigrant groups are again more likely to have employees than the native white group with Pakistani immigrants being the most likely to have employees. In models of probability of having employees that include detailed industry controls, we continue to find that Asian immigrant groups are still more likely to have employees than native whites but the magnitude of the effect is smaller.

6. Conclusions

The United States, Canada and the United Kingdom have received the most immigrants from Asia among all non-Asian countries in the world. These three countries combined have received more than 11 million immigrants from Asia. Some specific Asian groups, the Chinese and Indians, have large populations in all three countries. Using Census microdata from each country, we provide the first comparative examination of the education levels, business ownership, and business performance of Asian immigrants. We specifically compare the effects of education and other determinants of business ownership and performance in the three countries to help explain the heterogeneity across Asian immigrant groups within countries and across countries.

Asian immigrants to all three countries have education levels that are higher than the national average, and in the United States the education levels of Asian immigrants are particularly high relative to the entire population. Some of the variation in the education of Asian immigrants across the U.S., Canada and the U.K is likely due to immigration policy. For example, the U.K. is more likely to accept immigrants in the refugee or asylee category

than the other two countries. We find that business ownership rates of Asian immigrants in the U.S. and Canada are similar to the national average and in the U.K are substantially higher than the national average and highest among all three countries. The broad average across Asian immigrants masks substantial heterogeneity within Asian immigrant groups, however. Koreans in Canada and the U.S. have high rates of business ownership while Philipinos in both countries have low rates of business ownership. On average, business income of Asian immigrants business owners is only slightly above the national average (in the U.S.) or below the national average (in Canada) and is thus not the broad picture of success that is often portrayed. Again, there is substantial heterogeneity among Asian immigrant groups and common to both the U.S. and Canada is high business income of Indians relative to the national average.

Estimates from regression models for business ownership, log business income and employment reveal interesting differences across the three countries. In particular, education is found to be a positive, although not strong, determinant of business ownership in the United States and Canada, but not in the United Kingdom. In the United Kingdom, education has no effect on business ownership. When we examine business income, we find large, positive effects of education in the United States and Canada. In the United Kingdom, we find smaller positive effects of education on employment. The findings for education imply that the relatively high levels of education among some Asian immigrant groups do not have a large influence on business ownership rates for the groups, but have a large effect on business performance at least in the United States and Canada. We find this to be the case: in regression models for business ownership the coefficients on Asian immigrant groups generally do not change after controlling for education and other demographic

characteristics. In contrast, we find large changes in coefficients for log business income in the United States and Canada after controlling for education and other variables suggesting that education differences are important. Decomposition estimates indicate that high levels of education contribute to higher business income levels among Indians and Pakistanis in the United States.

Another interesting finding from the analysis is that Asian immigrants even from the same source country are generally much more educated in the United States than in Canada or the United Kingdom. For example, 76.2 percent of Indian immigrants in the United States have a college degree compared to 42.1 percent in Canada and 42.2 percent in the United Kingdom. Lower levels of education among Asian immigrants to the United Kingdom may partly be the result of the greater focus of immigration policy in the United Kingdom. In Canada, however, we would expect the point-based system of immigration to result in higher education levels among Asian immigrants than the United States. For every group except Koreans, Asian immigrants in the United States are more educated than those residing in Canada. Although there are many institutional, structural and historical differences between the two countries that might be responsible, one possibility is that the higher returns to education in the United States result in a more selective immigrant pool.¹⁶ We find that the returns to a college degree in business earnings are larger in the United States than in Canada. The returns to a college degree are also higher in the wage and salary sector in the United States than in Canada.

¹⁶ Antecol, Cobb-Clark, and Trejo (2003) note the possibility that the more redistributive tax and benefit system and egalitarian wage structure in Canada might attract less skilled workers compared to the United States.

References

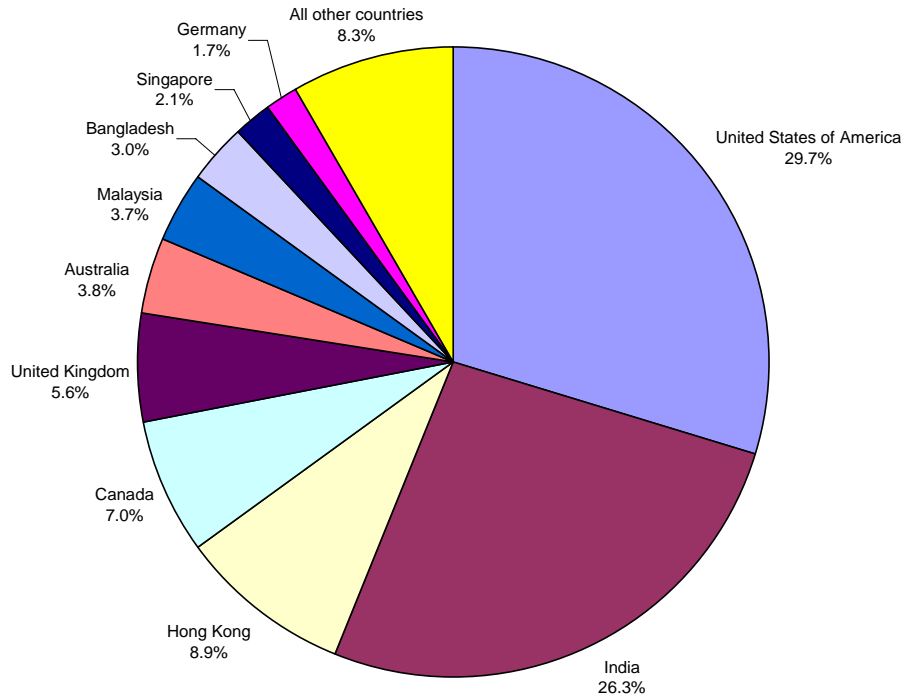
- Antecol, Heather, Deborah A. Cobb-Clark, and Stephen J. Trejo. 2003. "Immigration Policy and the Skills of Immigrants, *Journal of Human Resources*, 38(1): 192-218.
- Bauer, Thomas K., Magnus Lofstrom, and Klaus F. Zimmermann. 2000. Immigration Policy, Assimilation of Immigrants and Natives' Sentiments towards Immigrants: Evidence from 12 OECD-Countries. Discussion Paper. Bonn, Germany: Institute for the Study of Labor.
- Blinder, Alan S. 1973. "Wage Discrimination: Reduced Form and Structural Variables." Journal of Human Resources 8: 436-455.
- Bonacich, Edna and John Modell. 1980. The Economic Basis of Ethnic Solidarity in the Japanese American Community. Berkeley: University of California Press.
- Borjas, George. 1986. "The Self-Employment Experience of Immigrants." Journal of Human Resources, 21, Fall: 487-506.
- Borjas, George. 1993. "Immigration Policy, National Origin, and Immigrant Skills: A Comparison of Canada and the United States." in Small Differences that Matter: Labor Markets and Income Maintenance in Canada and the United States, eds. David Card and Richard B. Freeman, 21-43. Chicago: University of Chicago Press.
- Borjas, George. 1995. "Assimilation and Changes in Cohort Quality Revisited: What Happened to Immigrant Earnings in the 1980s?" Journal of Labor Economics, 13(2): 201-45.
- Borjas, George. 1999. Heaven's Door: Immigration Policy and the American Economy. Princeton, NJ: Princeton University Press.
- Boyd, Robert L. 1990. "Black and Asian Self-Employment in Large Metropolitan Areas: A Comparative Analysis," Social Problems, 37(2): 258-274.
- Boyd, Robert L. 1991. "Inequality in the Earnings of Self-Employed African and Asian Americans," Sociological Perspectives, 34(4): 447-472.
- Bruce, Donald, Douglas Holtz-Eakin, and Joseph Quinn, *Self-Employment and Labor Market Transitions at Older Ages*, Boston College Center for Retirement Research Working Paper No. 2000-13, 2000.
- Citizenship and Immigration Canada. 2007. "Investors, entrepreneurs and self-employed persons," <http://www.cic.gc.ca/english/immigrate/business/index.asp> and <http://www.cic.gc.ca/english/immigrate/business/self-employed/index.asp>

- Clark, Kenneth and Stephen Drinkwater. 1998. "Ethnicity and Self-Employment in Britain." Oxford Bulletin of Economics and Statistics. 60, pp.383-407.
- Clark, Kenneth and Stephen Drinkwater. 2000. "Pushed out or pulled in? Self-employment among ethnic minorities in England and Wales." Labour Economics. 7, pp.603-628.
- Dudley, Jill and Paul Harvey, "Control of Immigration statistics: United Kingdom, 2000", Immigration Research and Statistics Service, United Kingdom 2001.
- Fairlie, Robert W. 2006. "Entrepreneurship among Disadvantaged Groups: Women, Minorities and the Less Educated," International Handbook Series on Entrepreneurship, Volume 2, eds. Simon C. Parker, Zoltan J. Acs, and David R. Audretsch. New York: Springer.
- Fairlie, Robert W., and Harry Krashinsky. 2006. "Liquidity Constraints, Household Wealth and Entrepreneurship Revisited," University of Toronto Working Paper.
- Fairlie, Robert W., and Bruce D. Meyer. 1996. "Ethnic and Racial Self-Employment Differences and Possible Explanations," Journal of Human Resources, 31, Fall 1996, pp. 757-793.
- Fairlie, Robert W., and Alicia Robb. 2007. "Determinants of Business Success: An Examination of Asian-Owned Businesses in the United States," University of California, Santa Cruz Working Paper.
- Frenette, Marc. 2004. "Do the Falling Earnings of Immigrants Apply to *Self*-employed Immigrants?" Labour, Vol. 18, no. 2, June 2004, pp. 207-32.
- Head, K. and J. Ries. (1998) Immigration and trade creation: econometric evidence from Canada. Canadian Journal of Economics 31:1, 47-63.
- Holtz-Eakin, Douglas, David Joulfaian, and Harvey S. Rosen, "Entrepreneurial Decisions and Liquidity Constraints," RAND Journal of Economics, Vol. 25, Summer 1994, pp. 334-347.
- Hout, Michael and Harvey S. Rosen. 2000. "Self-Employment, Family Background, and Race," Journal of Human Resources., 35 (4): 670-692.
- Hurst, Erik and Annamaria Lusardi. 2004. "Liquidity Constraints, Household Wealth and Entrepreneurship," Journal of Political Economy. 112(2): 319-347.
- International Monetary Fund. 2007. "Representative Exchange Rates for Selected Currencies for January 2000,"
www.imf.org/external/np/fin/data/rms_mth.aspx?SelectDate=2000-01-31&reportType=REP

- Johnson, P.J. (2000) Ethnic differences in self-employment among Southeast Asian refugees in Canada. *Journal of Small Business Management* 38:4, 78.
- Kalnins, Arturs, and Wilbur Chung. 2006. Social Capital, Geography, and Survival: Gujarati Immigrant Entrepreneurs in the U.S. Lodging Industry," *Management Science*, 2006, 52(2): 233-247.
- Kim, Kwang, Won Hurh, and Maryilyn Fernandez. 1989. "Intragroup Differences in Business Participation: Three Asian Immigrant Groups," *International Migration Review* 23(1).
- Ley, D. (2006) Explaining variations in business performance among immigrant entrepreneurs in Canada. *Journal of Ethnic and Migration Studies* 32:5, 743-764.
- Li, Peter S. 1997 "Self-Employment among Visible Minority Immigrants, White Immigrants, and Native-Born Persons in Secondary and Tertiary Industries of Canada," *Canadian Journal of Regional Science*, vol. 20, no. 1-2, Spring-Summer 1997, pp. 103-117.
- Li, P. (2001) Immigrants' propensity to self-employment: Evidence from Canada. *International Migration Review* 35:4, 1106-1128.
- Light, Ivan. 1972. *Ethnic Enterprise in America*. Berkeley: University of California Press.
- Lofstrom, Magnus. 2002. "Labor market assimilation and the self-employment decision of immigrant entrepreneurs", *Journal of Population Economics*, 15(1), January, 83-114.
- Mar, Don. 2005. "Individual Characteristics vs. City Structural Characteristics: Explaining Self-Employment Differences among Chinese, Japanese, and Filipinos in the United States," *Journal of Socio-Economics*, 34.
- Min, Pyong Gap. 1993. "Korean Immigrants in Los Angeles," in *Immigration and Entrepreneurship: Culture, Capital, and Ethnic Networks*," in eds., Ivan Light and Parminder Bhachu, New Brunswick: Transaction Publishers.
- Oaxaca, Ronald. 1973. "Male-Female Wage Differentials in Urban Labor Markets," *International Economic Review*, 14 (October), 693-709.
- Parker, Simon C. 2004. *The Economics of Self-Employment and Entrepreneurship*. Cambridge: Cambridge University Press.
- Parsons, Christopher R, Ronald Skeldon, Terrie L. Walmsley and L. Alan Winters (2005) Quantifying the International Bilateral Movements of Migrants, Mimeo. The World Bank and the Development Research Centre on Migration, Globalisation and Poverty at Sussex University.

- Razin, E. and A. Langlois (1996) Metropolitan characteristics and entrepreneurship among immigrants and ethnic groups in Canada. *International Migration Review* 30: 3, 703-727.
- Saxenian, Annalee. 1999. Silicon Valley's New Immigrant Entrepreneurs, San Francisco: Public Policy Institute of California.
- Saxenian, Annalee. 2000. "Networks of Immigrant Entrepreneurs," in The Silicon Valley Edge: A Habitat for Innovation and Entrepreneurship, eds. Chong-Moon Lee, William F. Miller, and Henry S. Rowen, Stanford: Stanford University Press.
- Schuetze, Herbert J., and Heather Antecol. 2006. "Immigration, Entrepreneurship and the Venture Start-up Process," The Life Cycle of Entrepreneurial Ventures, International Handbook Series on Entrepreneurship, Vol. 3, ed. Simon Parker. Springer: New York.
- U.K. Border and Immigration Agency. 2007. "Law and Policy: Part 6 Persons Seeking to Remain in the United Kingdom," <http://www.ind.homeoffice.gov.uk/lawandpolicy/immigrationrules/part6>
- U.S. Citizenship and Immigration Services. 2007. "Employment Creation Entrepreneur Cases," <http://www.uscis.gov/propub/ProPubVAP.jsp?dockey=987fe2c6b1c3f9e6725655e39a26a247>
- van der Sluis, J., van Praag, M., and Vijverberg, W. 2004. *Education and Entrepreneurship in Industrialized Countries: A Meta-Analysis*. Tinbergen Institute Working Paper no. TI 03-046/3, Amsterdam: Tinbergen Institute.
- van Praag, Mirjam. 2005. "Successful Entrepreneurship: Confronting Economic Theory with Empirical Practice," Cheltenham, UK ; Northampton, MA : E. Elgar.
- Wadhwa, Vivek, AnnaLee Saxenian, Ben Rissing, and Gary Gereffi. 2007. "America's New Immigrant Entrepreneurs," Duke University Report.
- Woroby, Tamara. 2005. Should Canadian immigration policy be synchronized with U.S. immigration policy? Lessons learned at the start of two centuries. American Review of Canadian Studies, 35(2): 247-65.
- Zissimopoulos, J. and L. Karoly. 2007. "Work and Well-Being Among the Self-Employed at Older Ages," Washington, D.C.: AARP Public Policy Institute.
- Zhou, M. 2004. "Revisiting Ethnic Entrepreneurship: Convergencies, Controversies, and Conceptual Advancements." International Migration Review, 38 (3): 1040-1074.

Figure 1
Top 10 Asian Immigrant Receiving Countries



[Data from the World Bank and the Development Research Centre on Migration, Globalisation and Poverty at Sussex University (see Parsons, et al. 2005)]

Figure 2.A
Educational Distribution of Asian Immigrants
U.S. Census 2000

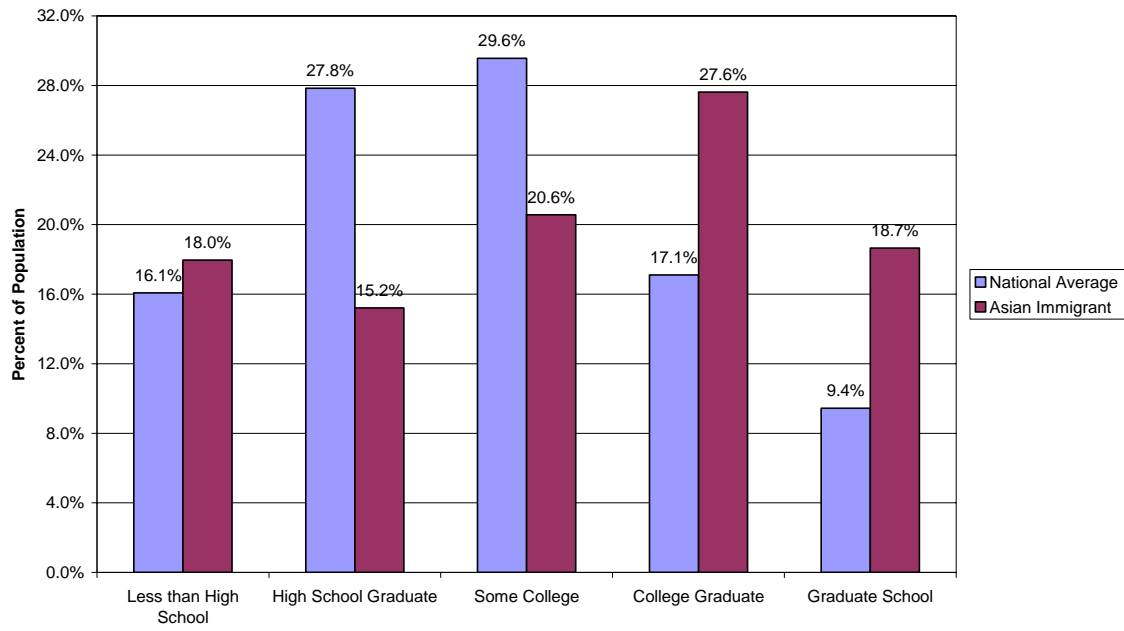


Figure 2.B
Educational Distribution of Asian Immigrants
Canada Census 2000

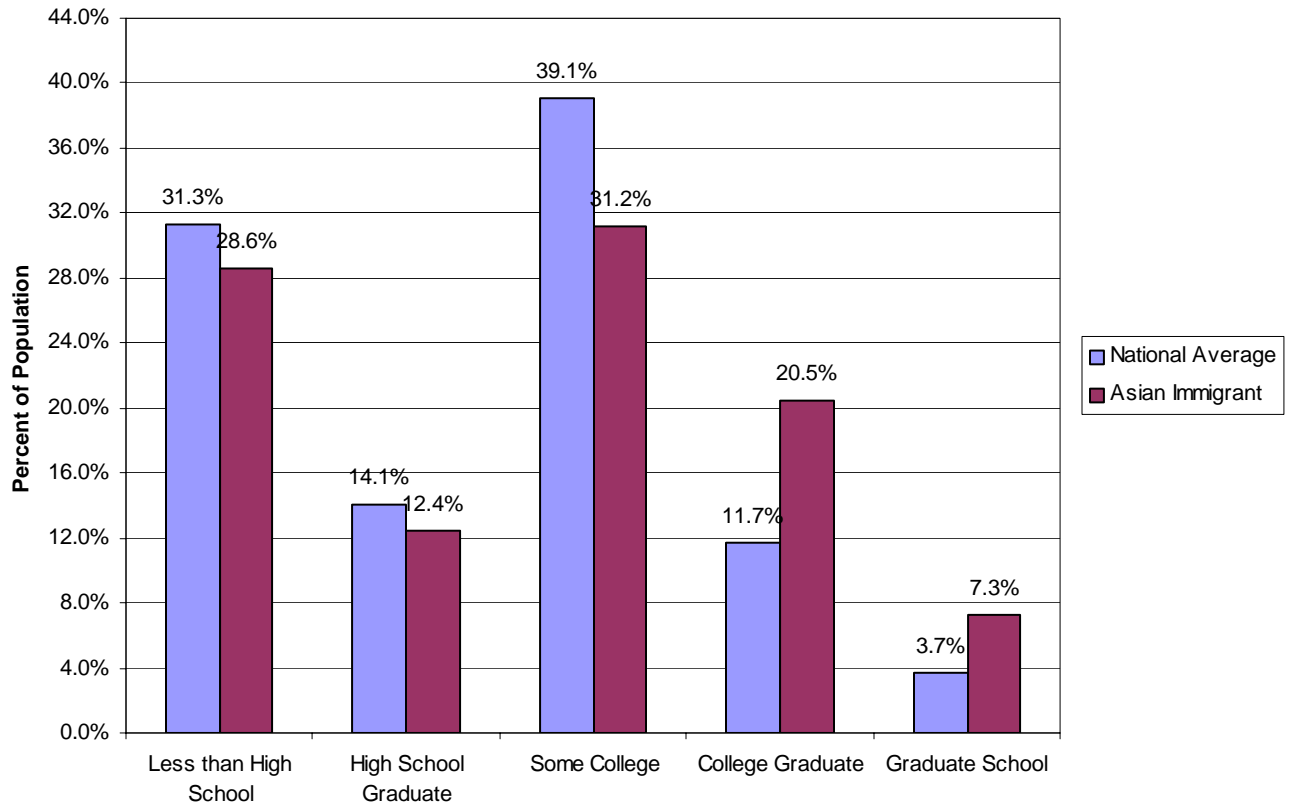


Figure 2.C.
Distribution of Education for All and Asian Immigrants
U.K. Census 2001

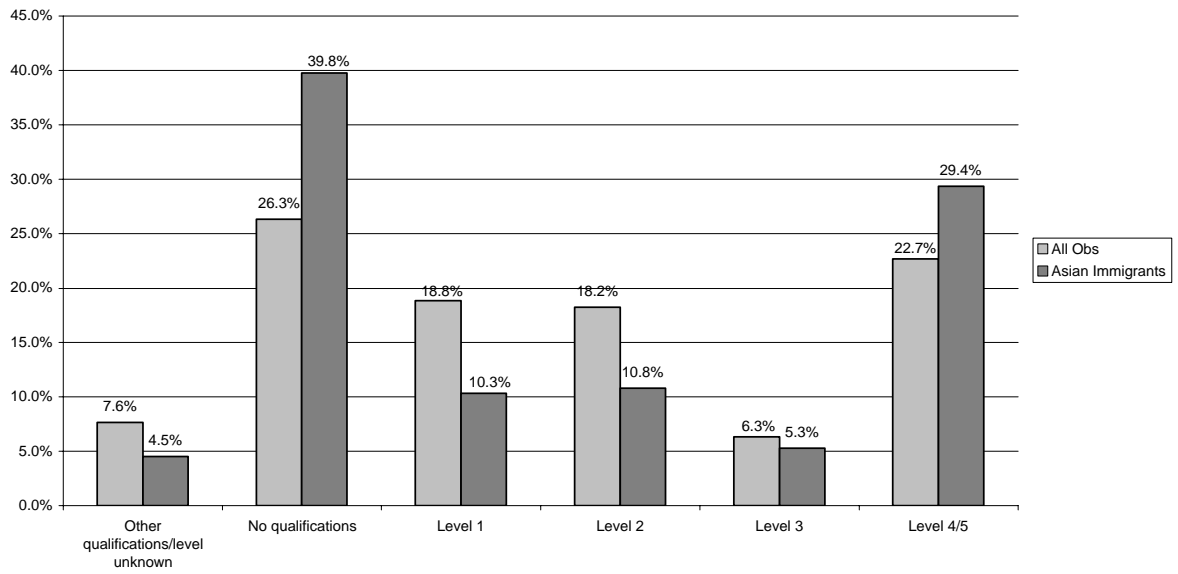
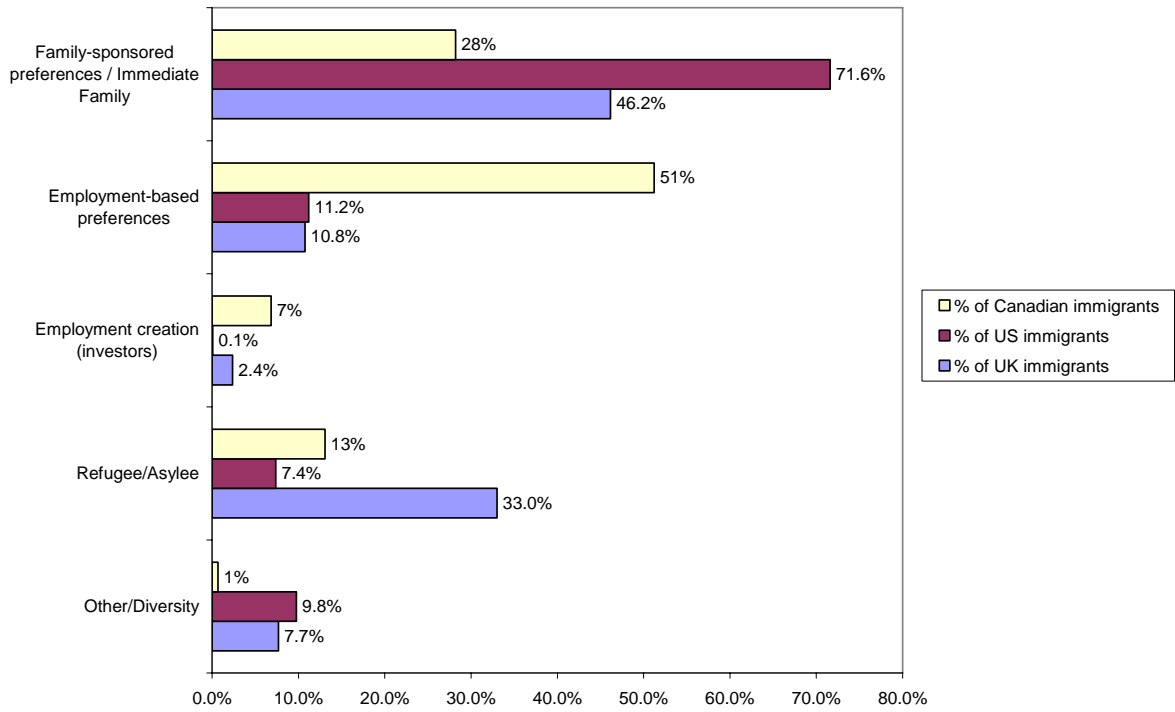


Figure 3
Immigration by Type of Admission for 1998-2000



[Sources: Dudley and Harvey (2001), "Control of Immigration Statistics: United Kingdom, 2000"; U.S. Department of Homeland Security (2007); Citizenship and Immigration Canada (2007)]

Table 1
Total Population by Country of Origin
U.S. Census 2000, Canada Census 2001, U.K. Census 2001

Immigrant Group	United States		Canada		United Kingdom	
	Total Population	N	Total Population	N	Total Population	N
All	281,421,910	14,081,466	30,007,094	801,055	53,679,267	1,610,378
Asian Nationals	3,449,170	164,143			1,161,033	34,831
Other Nationals	246,839,250	12,467,807			48,234,167	1,447,025
Non-Asian Immig.	23,875,980	1,117,151			2,633,467	79,004
Asian Immigrants	7,257,510	332,365	1,765,180	47,758	1,650,600	49,518
Philippines	1,374,210	65,288	237,625	6,437		
China	1,198,660	54,622	581,162	15,724	160,867	4,826
India	1,027,140	45,759	320,267	8,664	409,900	12,297
Vietnam	991,990	45,991	147,923	4,003		
Korea	870,540	39,504	80,733	2,183		
Japan	346,450	15,973				
Taiwan	325,230	15,144				
Other Asian	290,480	13,049			146,267	4,388
Pakistan	229,210	10,051			297,967	8,939
Laos	205,930	9,019				
Thailand	168,850	7,775				
Cambodia	137,370	6,381				
Bangladesh	91,440	3,809			152,767	4,583

Notes: (1) The sample consists of all individuals. (2) US estimates are calculated using sample weights provided by the Census. (3) UK includes England and Wales only. For UK 'Asian immigrants' group is defined by country of birth. Individual ethnic groups of Asian immigrants is define by self-reported ethnicity and country of birth and does not include all persons born in Asia and residing in the UK. For example, Asian Immigrant, India, does not include ethnic British born in India.

Table 2
Percent of Workforce with a College Education by Country of Origin
U.S. Census 2000, Canada Census 2001, U.K. Census 2001

	United States	N	Canada	N	United Kingdom	N
National Average	31.0%	5,070,919	25.1%	303,165	28.4%	502,532
Native Asians	51.1%	31,995			49.8%	4,099
Asian Immigrants	51.4%	154,448	40.7%	21,182	40.1%	3,002
Philippines	52.3%	33,058	47.4%	3,557		
China	53.1%	25,427	42.9%	6,368	46.3%	1,391
India	76.2%	23,868	42.1%	4,303	42.2%	4,429
Vietnam	24.8%	21,711	18.5%	2,102		
Korea	47.7%	16,343	55.0%	734		
Pakistan	59.0%	4,196			30.4%	1,876
Bangladesh	56.4%	1,570			28.1%	903

Notes: (1) The sample consists of the workforce 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 3
Business Ownership Rates by Country of Origin
U.S. Census 2000, Canada Census 2001, U.K. Census 2001

Immigrant Group	United States		Canada		United Kingdom	
	Business Ownership Rate	N	Business Ownership Rate	N	Business Ownership Rate	N
National Average	10.1%	5,070,919	13.2%	303,165	14.4%	586,971
Native born Asians	7.6%	31,995			13.8%	4,757
Asian Immigrants	10.9%	154,448	12.5%	21,182	22.9%	13,098
Philippines	4.9%	33,058	4.8%	3,557		
China	9.6%	25,427	14.9%	6,368	29.5%	1,974
India	10.7%	23,868	12.5%	4,303	20.1%	5,540
Vietnam	10.5%	21,711	9.0%	2,102		
Korea	24.1%	16,343	41.3%	734		
Pakistan	14.8%	4,196			28.7%	2,631
Bangladesh	8.7%	1,570			20.6%	1,137

Notes: (1) The sample consists of the workforce 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. (4) For Canada, South Asian* includes Bangladeshi, Bengali, East Indian, Goan, Gujarati Pakastani, Punjabi, Sinhalese, Sri Lankan, Tamil.

Table 4
Business Outcomes by Country of Origin
U.S. Census 2000, Canada Census 2001, U.K. Census 2001

Immigrant Group	United States		Canada		United Kingdom		
	Net Business Income	N	Net Business Income	Percent Employer Firms	N	Percent Employer Firms	N
National Average	\$52,086	534,194	\$18,025	42.4%	39,933	37.1%	84,439
Native Born Asians	\$62,080	2,483				50.8%	658
Asian Immigrants	\$54,208	17,093	\$15,450	51.4%	2,652	54.5%	3,002
Philippines	\$59,990	1,634	\$13,584	42.9%	170		
China	\$45,815	2,481	\$14,496	54.4%	952	66.4%	583
India	\$84,080	2,684	\$19,267	48.4%	539	53.6%	1,111
Vietnam	\$34,862	2,253	\$16,101	50.3%	189		
Korea	\$48,074	4,015	\$11,191	53.8%	303		
Pakistan	\$61,701	621				44.8%	755
Bangladesh	\$36,954	147				64.5%	234

Notes: (1) The sample consists of all 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 5.A.
Business Ownership and Net Business Income Regressions
U.S. Census 2000

Explanatory Variables	Business Ownership		(Log) Business Income	
	(1)	(2)	(3)	(4)
Philippino Immigrant	-0.0604 (0.0016)	-0.0600 (0.0016)	0.0155 (0.0332)	-0.0815 (0.0311)
Chinese immigrant	-0.0139 (0.0018)	-0.0105 (0.0018)	-0.0851 (0.0270)	-0.2022 (0.0253)
Indian immigrant	-0.0036 (0.0018)	0.0002 (0.0018)	0.4843 (0.0262)	0.1314 (0.0246)
Vietnamese immigrant	-0.0064 (0.0020)	0.0045 (0.0019)	-0.2873 (0.0283)	-0.1337 (0.0266)
Korean immigrant	0.1265 (0.0022)	0.1306 (0.0022)	0.0514 (0.0213)	-0.0479 (0.0201)
Pakistani immigrant	0.0368 (0.0043)	0.0379 (0.0042)	0.1441 (0.0527)	-0.1947 (0.0494)
Bangladeshi immigrant	-0.0222 (0.0069)	-0.0156 (0.0068)	-0.3329 (0.1095)	-0.6766 (0.1026)
College graduate		0.0185 (0.0003)		0.6223 (0.0041)
Female		-0.0322 (0.0003)		-0.7520 (0.0041)
Ages 25-29		-0.0385 (0.0004)		-0.2540 (0.0079)
Ages 45-59		0.0317 (0.0003)		0.0023 (0.0040)
Ages 60-64		0.0694 (0.0007)		-0.1867 (0.0074)
Married		0.0207 (0.0003)		0.1633 (0.0043)
Agriculture		0.3427 (0.0012)		-0.6274 (0.0083)
Construction		0.1586 (0.0005)		-0.0545 (0.0052)
Mean dependent variable	0.1007	0.1007	10.14	10.14
Sample size	5,069,610	5,069,610	534,044	534,044

Notes: (1) The sample consists of individuals (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, multiple race dummies and region controls. (3) The omitted categories are white natives and ages 30-44.

Table 5.B.
Business Ownership, Net Business Income, Employer Firm Regressions
Canada Census 2001

Explanatory Variables	Business Ownership		(Log) Business Income	
	(1)	(2)	(3)	(4)
Philippino Immigrant	-0.0844 (0.0036)	-0.0688 (0.0037)	-0.1982 0.0403	-0.2905 0.0880
Chinese immigrant	0.0172 (0.0045)	0.0203 (0.0045)	-0.1982 0.0404	-0.3439 0.0397
Indian immigrant	-0.0069 (0.0051)	-0.0137 (0.0052)	0.0583 0.0526	-0.1855 0.0518
Vietnamese immigrant	-0.0422 (0.0063)	-0.0248 (0.0063)	-0.0809 0.0721	-0.0787 0.0705
Korean immigrant	0.2804 (0.0182)	0.2826 (0.0180)	-0.2315 0.0638	-0.3806 0.0663
College graduate		0.0282 (0.0014)		0.5081 0.0139
Female		-0.0475 (0.0012)		-0.5185 0.0130
Ages 25-29		-0.0532 (0.0015)		-0.2057 0.0265
Ages 45-59		0.0293 (0.0014)		0.0056 0.0123
Ages 60-64		0.0873 (0.0039)		-0.1574 0.0271
Married		0.0218 (0.0013)		0.1234 0.0135
Agriculture		0.4451 (0.0056)		-0.4192 0.0206
Construction		0.1693 (0.0035)		-0.0062 0.0165
Mean dependent variable	0.1317	0.1317	9.999	9.999
Sample size	303,127	303,127	33,676	33,676

Notes: (1) The sample consists of individuals (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, multiple race dummies and region controls (3) The left-out categories are white natives and ages 30-44.

Table 5.C.
Business Ownership and Employer Firm Regressions
U.K. Census 2001

Explanatory Variables	Business Ownership		Employer Firm	
	(1)	(2)	(3)	(4)
Chinese immigrant	0.146 (0.008)	0.173 (0.007)	0.299 (0.020)	0.260 (0.020)
Indian immigrant	0.062 (0.004)	0.076 (0.004)	0.170 (0.011)	0.125 (0.011)
Pakistani immigrant	0.146 (0.006)	0.153 (0.006)	0.097 (0.017)	0.050 (0.017)
Bangladeshi immigrant	0.064 (0.010)	0.082 (0.010)	0.281 (0.031)	0.233 (0.031)
College graduate		0.001 (0.001)		0.018 (0.004)
Female		-0.074 (0.001)		-0.021 (0.004)
Ages 25-29		-0.054 (0.001)		-0.037 (0.007)
Ages 45-59		0.040 (0.001)		-0.011 (0.004)
Ages 60-64		0.085 (0.002)		-0.052 (0.007)
Married		0.011 (0.001)		0.080 (0.004)
Agriculture		0.413 (0.004)		-0.073 (0.007)
Construction		0.260 (0.002)		-0.111 (0.004)
Mean dependent variable	0.144	0.144	0.371	0.371
Sample size	586971	586971	84439	84439

Notes: (1) The sample consists of individuals (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. (3) The left-out categories are white natives and ages 30-44.

Table 6.A.
Business Ownership and Net Business Income Regressions by Education Level
U.S. Census 2000

Explanatory Variables	Business Ownership		Log Business Income	
	(1)	(2)	(3)	(4)
Education Group	No College	College	No College	College
Philippino Immigrant	-0.0584 (0.0022)	-0.0620 (0.0023)	-0.1354 (0.0468)	-0.0525 (0.0432)
Chinese immigrant	0.0192 (0.0025)	-0.0350 (0.0026)	-0.1731 (0.0320)	-0.2389 (0.0418)
Indian immigrant	0.0451 (0.0035)	-0.0146 (0.0022)	0.0293 (0.0421)	0.1450 (0.0317)
Vietnamese immigrant	0.0161 (0.0021)	-0.0270 (0.0041)	-0.1657 (0.0284)	0.0459 (0.0660)
Korean immigrant	0.1573 (0.0029)	0.0993 (0.0033)	0.1244 (0.0257)	-0.2733 (0.0324)
Pakistani immigrant	0.0617 (0.0064)	0.0183 (0.0058)	-0.1269 (0.0722)	-0.2586 (0.0701)
Bangladeshi immigrant	0.0172 (0.0100)	-0.0428 (0.0096)	-0.5128 (0.1356)	-0.8829 (0.1596)
Mean dependent variable	0.0972	0.1086	9.90	10.61
Sample size	3,574,679	1,494,931	365,639	168,405

Notes: (1) The sample consists of individuals (ages 25-64) who work 15 or more hours per week. (2) Additional controls include female, age group, married, agriculture, construction, other Asian immigrant, Asian native, white immigrant, black native, black immigrant, Latino native, Latino immigrant, Native American, other race, and multiple race dummies. (3) The omitted categories are white natives and ages 30-44.

Table 6.B.
Business Ownership, Net Business Income, Employer Firm Regressions by Education Level
Canada Census 2001

Explanatory Variables	Business Ownership		(Log) Business Income	
	(1)	(2)	(3)	(4)
Education Group	No College	College	No College	College
Philippino Immigrant	-0.0584 0.0049	-0.0822 (0.0057)	-0.1938 (0.1071)	-0.4256 (0.1377)
Chinese immigrant	0.0356 0.006	0.0001 (0.0068)	-0.2918 (0.0496)	-0.4344 (0.0653)
Indian immigrant	-0.0211 0.0066	-0.0075 (0.0082)	-0.1358 (0.0685)	-0.2892 (0.0781)
Vietnamese immigrant	-0.0263 0.0069	-0.0195 (0.0156)	-0.1116 (0.0784)	0.0309 (0.1505)
Korean immigrant	0.3392 0.0273	0.2316 (0.0236)	-0.1662 (0.0895)	-0.6542 (0.0962)
Mean dependent variable	0.1297	0.1375	9.857	10.38
Sample size	226,979	76,148	24,561	9,115

Notes: (1) The sample consists of individuals (ages 25-64) who work 15 or more hours per week. (2) Additional controls include female, age group, married, agriculture, construction, other Asian immigrant, Asian native, white immigrant, black native, black immigrant, Latino native, Latino immigrant, Native American, other race, and multiple race dummies. (3) The left-out categories are white natives and ages 30-44.

Table 6.C.
Business Ownership and Employer Firm Regressions by Education
U.K. Census 2001

Explanatory Variables	Business Ownership		Employer Firm	
	(1)	(2)	(3)	(4)
Education Group	No College	College	No College	College
Chinese immigrant	0.290 (0.010)	0.026 (0.011)	0.309 (0.022)	0.080 (0.043)
Indian immigrant	0.080 (0.005)	0.069 (0.006)	0.113 (0.014)	0.142 (0.019)
Pakistani immigrant	0.179 (0.007)	0.092 (0.011)	0.025 (0.019)	0.147 (0.035)
Bangladeshi immigrant	0.087 (0.012)	0.062 (0.018)	0.265 (0.035)	0.131 (0.064)
Mean dependent variable	0.151	0.123	0.362	0.404
Sample size	433,232	153,739	65,527	18,912

Notes: (1) The sample consists of individuals (ages 25-64) who work 15 or more hours per week. (2) Additional controls include female, age group, married, agriculture, construction, other Asian immigrant, Asian native, white immigrant, black native, black immigrant, Latino native, Latino immigrant, Native American, other race, and multiple race dummies. (3) The left-out categories are white natives and ages 30-44.