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Human Capital, Social Characteristics and Entrepreneurial Entry: Evidence from the Kauffman Index of Entrepreneurial Activity

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Abstract
Entrepreneurial entry is a critical driver of economic development, innovation, and employment creation; however, individuals differ significantly in their likelihood of becoming entrepreneurs. This study examines the determinants of entrepreneurial entry using the Kauffman Index of Entrepreneurial Activity (KIEA), focusing on the roles of human capital, gender, immigration status, and socioeconomic resources. The study employs a quantitative research design and analyses entrepreneurial entry through descriptive statistics, correlation and multicollinearity diagnostics, binary logistic regression, interaction models, and robustness tests using alternative estimation approaches. The findings demonstrate that education, income, and homeownership are important factors influencing entrepreneurial participation, while gender differences remain significant in explaining variations in entrepreneurial entry. The study further highlights that social characteristics and economic resources jointly shape individuals' decisions to pursue entrepreneurship. The research contributes to a better understanding of the factors influencing entrepreneurial participation and provides insights for developing policies that promote inclusive entrepreneurship and equal access to entrepreneurial opportunities.
***Keywords**: Entrepreneurial Entry; Human Capital; Gender Entrepreneurship; Immigrant Entrepreneurship; Kauffman Index; Socioeconomic Resources.*

Introduction

Entrepreneurship remains a fundamental driver of economic development, employment creation, innovation, and productivity growth. New business creation contributes to economic dynamism by introducing new products, improving market competition, and generating employment opportunities. Consequently, understanding why some individuals choose entrepreneurial careers while others remain in wage employment has become a central concern within entrepreneurship research. The decision to enter entrepreneurship is influenced by a combination of individual capabilities, socioeconomic resources, institutional conditions, and personal characteristics (Acs et al., 2017). The entrepreneurial entry decision is increasingly understood as a process shaped by human capital accumulation. Human capital theory suggests that individuals with greater knowledge, skills, education, and experience possess superior abilities to identify opportunities, manage uncertainty, and establish successful businesses (Becker, 1964). Education enhances entrepreneurial capability by improving cognitive skills, increasing access to information, strengthening professional networks, and developing managerial competencies necessary for business creation (Unger et al., 2011). Therefore, individuals with higher educational attainment are expected to have a greater likelihood of entering entrepreneurship.

Beyond human capital, demographic and socioeconomic characteristics significantly influence entrepreneurial participation. Gender remains one of the most investigated dimensions in entrepreneurship studies because women continue to exhibit lower rates of entrepreneurial entry compared with men in many economies. Research indicates that gender differences arise from variations in access to financial resources, entrepreneurial networks, social expectations, risk preferences, and institutional barriers (Jennings & Brush, 2013). However, female entrepreneurship has expanded considerably, making gender analysis an important area for understanding changing entrepreneurial dynamics.

Immigration status represents another important determinant of entrepreneurial entry. Immigrants frequently demonstrate strong entrepreneurial tendencies because entrepreneurship can provide alternative economic opportunities when labour market access is constrained. Immigrant entrepreneurs may possess unique social networks, international experience, cultural resources, and greater willingness to accept economic risks (Fairlie & Lofstrom, 2015). However, the relationship between immigration and entrepreneurship is complex because immigrant advantages may depend on education, financial resources, and local institutional environments. Economic resources also play a crucial role in entrepreneurial decision-making. According to the resource constraint perspective, individuals with greater financial capacity are better positioned to overcome start-up costs and uncertainty associated with new business formation. Income, savings, and asset ownership can provide liquidity necessary for entrepreneurial investment (Evans & Jovanovic, 1989). In particular, homeownership may serve as collateral that improves access to finance and increases entrepreneurial opportunity.

The Kauffman Index of Entrepreneurial Activity (KIEA) provides an important empirical foundation for examining these issues because it captures individual-level transitions into entrepreneurship using Current Population Survey (CPS) matched microdata. The dataset enables researchers to examine how education, gender, immigration status, income, household characteristics, and demographic factors influence entrepreneurial entry. The supplied KIEA codebook identifies key variables used in this study, including entrepreneurial entry (ENT015U), educational attainment (GRDATN), age, gender (FEMALE), immigration status (IMMIGR), family income (FAMINC), homeownership (HOMEOWN), and marital status (MARSTAT). Although previous studies have examined entrepreneurship determinants, important questions remain regarding how human capital interacts with social characteristics to influence entrepreneurial entry. Specifically, there is limited understanding of whether education generates similar entrepreneurial benefits across gender and immigrant groups. Furthermore, the role of household economic resources in facilitating entrepreneurship requires additional empirical investigation.

Therefore, this study examines the determinants of entrepreneurial entry using the Kauffman Index of Entrepreneurial Activity. The study focuses on five analytical dimensions: descriptive profiling of entrepreneurs, correlation and multicollinearity assessment, logistic regression estimation, gender and immigrant gap analysis, and robustness testing through alternative estimation techniques. The analytical structure follows these five stages: descriptive statistics, correlation diagnostics, binary logistic regression, interaction-based gap analysis, and robustness analysis using probit, marginal effects, and predictive accuracy measures.

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Statement of the Problem

Despite the importance of entrepreneurship for economic development, entrepreneurial participation remains unevenly distributed across individuals and social groups. Some individuals possess characteristics that enhance entrepreneurial opportunities, while others face constraints that reduce their likelihood of business entry. Understanding these differences is essential for designing policies aimed at promoting inclusive entrepreneurship. First, while human capital theory predicts that education enhances entrepreneurial capability, empirical evidence remains mixed regarding the magnitude of educational effects on entrepreneurial entry. Some studies argue that education improves opportunity recognition and business skills, whereas others suggest that entrepreneurship can emerge from informal learning, experience, and necessity-driven motivations (Davidsson & Honig, 2003). Second, gender disparities remain persistent within entrepreneurship research. Although female entrepreneurship has increased globally, women continue to experience barriers related to financing, networks, institutional support, and social expectations (Jennings & Brush, 2013). However, limited evidence exists regarding whether education reduces or reinforces gender differences in entrepreneurial entry. Third, immigrant entrepreneurship presents contradictory evidence. While immigrants often demonstrate higher entrepreneurial activity due to opportunity constraints and entrepreneurial motivation, their success may depend on access to financial resources, education, and social networks (Fairlie & Lofstrom, 2015). Therefore, examining whether immigrant status independently influences entrepreneurial entry remains important. Finally, many entrepreneurship studies focus on firm performance after business creation rather than the initial entrepreneurial decision. Understanding the factors influencing entrepreneurial entry provides valuable insights into how individuals transition from potential entrepreneurs into actual business owners.

Conceptual Review

Entrepreneurship and Entrepreneurial Entry

Entrepreneurship is widely recognized as a critical mechanism for economic transformation, innovation, employment creation, and wealth generation. At the individual level, entrepreneurship represents the process through which individuals identify opportunities, mobilize resources, and create new economic activities. Unlike established business ownership, entrepreneurial entry focuses specifically on the transition from non-business ownership into business creation, making it an important stage in understanding entrepreneurial dynamics. Entrepreneurial entry is influenced by both individual characteristics and external conditions. According to opportunity-based entrepreneurship perspectives, individuals enter entrepreneurship when they possess the ability to recognize market opportunities and the resources required to exploit them (Shane & Venkataraman, 2000). However, entrepreneurial entry can also occur due to necessity factors, such as limited employment opportunities, unemployment, or labour market disadvantages (Acs, 2006). The Kauffman Index of Entrepreneurial Activity (KIEA) focuses specifically on entrepreneurial entry by measuring individuals who transition into business ownership. The dataset provides information on individual characteristics associated with entrepreneurship, including education, gender, immigration status, income, homeownership, and marital characteristics. These factors provide an opportunity to examine why some individuals become entrepreneurs while others remain outside entrepreneurial activities.

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Human Capital and Entrepreneurial Entry

Human capital theory provides one of the most influential explanations for differences in entrepreneurial participation. Becker (1964) conceptualized human capital as the knowledge, skills, education, and experience accumulated by individuals that improve productivity and economic decision-making. Within entrepreneurship research, human capital enhances entrepreneurial entry by improving opportunity recognition, innovation capability, managerial competence, and access to business networks. Individuals with higher education levels are expected to possess greater cognitive ability and confidence to identify and exploit entrepreneurial opportunities (Unger et al., 2011). Davidsson and Honig (2003) further argue that human capital contributes to entrepreneurship through both formal education and experiential learning. Education provides entrepreneurs with analytical abilities, while previous work experience develops practical knowledge necessary for managing uncertainty. However, the relationship between education and entrepreneurship is not always linear. While higher education may increase opportunity-based entrepreneurship, some highly educated individuals may prefer secure wage employment because of higher opportunity costs associated with leaving paid employment (Arenius & Minniti, 2005). Therefore, this study examines education as a major determinant of entrepreneurial entry using educational attainment (GRDATN) as a measure of human capital.

Gender and Entrepreneurial Entry

Gender differences represent one of the most established themes in entrepreneurship research. Although female entrepreneurship has expanded globally, women continue to participate in entrepreneurship at lower rates compared with men in many economies. Gender entrepreneurship literature identifies several explanations for this difference. First, women often experience greater barriers in accessing financial resources and entrepreneurial networks. Second, social expectations and family responsibilities may influence women's entrepreneurial decisions. Third, gender stereotypes may affect entrepreneurial confidence and perceptions of business capability (Jennings & Brush, 2013). Research indicates that women may face constraints related to lower access to entrepreneurial resources, reduced exposure to entrepreneurial role models, and institutional barriers. Gender differences may therefore influence not only whether individuals enter entrepreneurship but also the type of entrepreneurial opportunities pursued. Recent research also suggests that gender effects are influenced by broader social and institutional environments rather than individual characteristics alone. This study incorporates gender through the FEMALE variable to examine whether women have different probabilities of entrepreneurial entry compared with men.

Immigration Status and Entrepreneurial Entry

Immigrant entrepreneurship has received increasing attention because immigrants frequently demonstrate strong entrepreneurial participation compared with native populations. Immigrants may enter entrepreneurship because of opportunity recognition, cultural attitudes toward self-employment, international experience, and limited access to traditional employment markets. The immigrant entrepreneurship literature highlights several mechanisms explaining higher entrepreneurial activity among immigrants. First, immigrants may possess unique social networks that provide information, labour, and financial support. Second, migration experiences may

increase willingness to accept economic risks. Third, entrepreneurship may serve as an alternative pathway when immigrants encounter labour market discrimination. Fairlie and Lofstrom (2015) argue that immigrant entrepreneurship contributes significantly to economic growth through business formation and employment creation. However, immigrant entrepreneurial outcomes depend on access to human capital, financial resources, and institutional support. Recent reviews indicate that immigrant entrepreneurship is shaped by interactions between individual resources and the economic, social, and institutional environments in which immigrants operate. Therefore, this study examines whether immigrant status independently influences entrepreneurial entry after controlling for education, income, and household characteristics.

Financial Resources, Income and Homeownership

Resource availability represents another important determinant of entrepreneurial entry. Starting a business requires financial resources to cover initial investment costs, operational expenses, and uncertainty during early stages. The liquidity constraint theory developed by Evans and Jovanovic (1989) argues that individuals with greater financial resources are more likely to become entrepreneurs because wealth reduces barriers associated with start-up financing. Income and asset ownership therefore increase entrepreneurial opportunity by providing access to capital. Homeownership is particularly important because housing assets can serve as collateral for business financing. Individuals with property ownership may have greater borrowing capacity and financial security compared with individuals without assets. Accordingly, this study includes family income (FAMINC) and homeownership (HOMEOWN) as indicators of economic capability influencing entrepreneurial entry.

Theoretical Review

Human Capital Theory

Human Capital Theory, introduced by Becker (1964), explains that individuals invest in education and skills because these investments increase productivity and economic returns. Applied to entrepreneurship, the theory suggests that individuals with greater human capital possess superior entrepreneurial capabilities. Education improves knowledge acquisition, opportunity recognition, innovation ability, and business management skills. The theory supports the inclusion of educational attainment as a predictor of entrepreneurial entry.

Resource-Based Theory

Resource-Based Theory argues that individuals and organizations achieve superior outcomes when they possess valuable and difficult-to-replicate resources (Barney, 1991). In entrepreneurship, financial resources, knowledge, networks, and experience represent important resources that enable business creation. Individuals with greater household wealth and assets may therefore have higher entrepreneurial participation. This theory supports the role of income and homeownership in explaining entrepreneurial entry.

Social Capital Theory

Social Capital Theory emphasizes the importance of networks, relationships, and social connections in facilitating entrepreneurial activities. Social networks provide entrepreneurs with access to information, financial support, customers, and business opportunities (Coleman, 1988). For immigrant entrepreneurs, social networks are particularly important because they provide support systems in unfamiliar environments. Research on immigrant entrepreneurship highlights the importance of human, social, and financial resources in shaping entrepreneurial outcomes.

Empirical Review

Unger et al. (2011), using meta-analytic evidence, found that human capital significantly influences entrepreneurial success. Their findings indicate that both education and experience contribute positively to entrepreneurial outcomes, although experience-based knowledge often has stronger effects. Davidsson and Honig (2003) examined nascent entrepreneurs and found that human and social capital significantly influence entrepreneurial emergence. Their study demonstrated that education, experience, and networks increase the likelihood that individuals successfully engage in entrepreneurial activities. Jennings and Brush (2013) reviewed research on women entrepreneurs and identified persistent gender differences in entrepreneurial participation. They emphasized that institutional barriers, resource limitations, and social expectations continue to shape women's entrepreneurial outcomes. Fairlie and Lofstrom (2015) reviewed immigrant entrepreneurship research and showed that immigrants contribute substantially to business formation. However, they noted that immigrant entrepreneurship depends strongly on access to financial resources, human capital, and market opportunities. Dabić et al. (2020) reviewed immigrant entrepreneurship research and highlighted the importance of considering multiple theoretical perspectives, including human capital, social networks, and institutional contexts, when explaining immigrant entrepreneurial behaviour.

Research Gap

Although previous studies have examined entrepreneurship determinants, several gaps remain. First, many studies focus on entrepreneurial performance after business creation rather than the initial decision to enter entrepreneurship. Second, limited research examines whether education produces similar entrepreneurial benefits across gender and immigrant groups. Third, previous studies often analyse individual determinants separately, whereas entrepreneurship decisions are shaped by the combined influence of human capital, social characteristics, and economic resources. Therefore, this study contributes by using the Kauffman Index of Entrepreneurial Activity to provide an integrated analysis of entrepreneurial entry determinants.

Research Design

This study adopts a quantitative research design to examine the determinants of entrepreneurial entry using the Kauffman Index of Entrepreneurial Activity (KIEA). The quantitative approach is appropriate because the study investigates measurable relationships between entrepreneurial entry and individual-level characteristics, including human capital, gender, immigration status, income, homeownership, and marital characteristics. The study follows a cross-sectional micro-level

analytical framework, where individual characteristics are used to explain the probability of entering entrepreneurship. The KIEA dataset provides information on entrepreneurial entry and demographic characteristics required for examining entrepreneurship decisions. The variables considered include entrepreneurial entry (ENT015U), educational attainment (GRDATN), age, gender (FEMALE), immigration status (IMMIGR), family income (FAMINC), homeownership (HOMEOWN), and marital status (MARSTAT).

Data Source and Sample Description

The study uses the Kauffman Index of Entrepreneurial Activity (KIEA) dataset derived from the Current Population Survey (CPS) matched microdata. The dataset is suitable for entrepreneurship research because it captures transitions into business ownership and provides detailed demographic and socioeconomic characteristics of individuals. The dependent variable is entrepreneurial entry, while explanatory variables represent human capital, social characteristics, and economic resources. The KIEA codebook defines the coding structure and measurement of the variables used in this research.

Variable Measurement and Model Specification

Table 3.1: Variable Measurement

Variable	Symbol	Measurement
Entrepreneurial Entry	ENT015U	1 = entered entrepreneurship, 0 = otherwise
Education	GRDATN	Educational attainment
Age	AGE	Individual age in years
Gender	FEMALE	1 = female, 0 = male
Immigration Status	IMMIGR	1 = foreign-born, 0 = native-born
Income	FAMINC	Family income level
Homeownership	HOMEOWN	1 = homeowner, 0 = otherwise
Marital Status	MARSTAT	1 = married, 0 = otherwise

Analytical Techniques

The study employs five analytical approaches:

i. Descriptive statistics and entrepreneurial profile analysis.

ii. Correlation analysis and multicollinearity diagnostics.

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iii. Binary logistic regression analysis.

iv. Gender and immigrant entrepreneurship gap analysis using interaction models.

v. Robustness testing using alternative estimation methods, marginal effects, and predictive accuracy analysis.

vi. This structure follows the analytical framework developed for examining entrepreneurial entry determinants.

Model One: Binary Logistic Regression Model

Purpose

The first major econometric model examines the determinants of entrepreneurial entry. Since entrepreneurial entry is a binary outcome (1 = entrepreneur, 0 = non-entrepreneur), logistic regression is appropriate because it estimates the probability of occurrence of an entrepreneurial event.

The logistic model transforms the probability of entrepreneurship into log odds:

$$\ln\left(\frac{P(ENT_i = 1)}{1 - P(ENT_i = 1)}\right) = \beta_0 + \beta_1 EDU_i + \beta_2 AGE_i + \beta_3 FEMALE_i + \beta_4 IMMIGR_i + \beta_5 FAMINC_i + \beta_6 HOMEOWN_i + \beta_7 MARSTAT_i + \epsilon_i$$

Where:

ENT = Entrepreneurial entry probability

EDU = Educational attainment

AGE = Individual age

FEMALE = Gender indicator

IMMIGR = Immigration status

FAMINC = Family income

HOMEOWN = Homeownership status

MARSTAT = Marital status

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Expected Relationships

Variable	Expected Effect	Explanation
Education	Positive (+)	Higher human capital improves entrepreneurial capability
Age	Positive (+)	Experience and accumulated resources encourage entry
Female	Negative (-)	Gender barriers may reduce entry probability
Immigrant	Positive (+)	Immigrants may use entrepreneurship as economic opportunity
Income	Positive (+)	Financial resources reduce start-up constraints
Homeownership	Positive (+)	Assets provide collateral and financial security
Married	Positive (+)	Household support reduces entrepreneurial risk

Model Two: Gender and Immigrant Moderation Model

Purpose

The second model examines whether the effect of education on entrepreneurial entry differs across gender and immigrant groups.

The model introduces interaction effects to determine whether human capital produces different entrepreneurial outcomes among different social groups.

Gender Interaction Model

$$ENT_i = \beta_0 + \beta_1 EDU_i + \beta_2 FEMALE_i + \beta_3 (EDU_i \times FEMALE_i) + \beta_4 AGE_i + \beta_5 IMMIGR_i + \beta_6 FAMINC_i + \beta_7 HOMEOWN_i + \epsilon_i$$

Interpretation:

The interaction coefficient:

$$\beta_3 (EDU \times FEMALE)$$

shows whether education affects female entrepreneurial entry differently from male entrepreneurial entry.

Immigrant Interaction Model

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$$ENT_i = \beta_0 + \beta_1 EDU_i + \beta_2 IMMIGR_i + \beta_3 (EDU_i \times IMMIGR_i) + \beta_4 AGE_i + \beta_5 FEMALE_i + \beta_6 FAMINC_i + \beta_7 HOMEOWN_i + \epsilon_i$$

Interpretation:

The interaction coefficient:

$$\beta_3 (EDU \times IMMIGR)$$

determines whether education generates different entrepreneurial benefits for immigrants compared with native-born individuals.

Model Three: Robustness and Predictive Validation Model

Purpose

The third model validates whether the main findings remain consistent when alternative estimation techniques are applied.

Because entrepreneurial entry is binary, the study applies a Probit regression model as an alternative estimator.

Probit Model

$$P(ENT_i = 1) = \Phi(\beta_0 + \beta_1 EDU_i + \beta_2 AGE_i + \beta_3 FEMALE_i + \beta_4 IMMIGR_i + \beta_5 FAMINC_i + \beta_6 HOMEOWN_i + \beta_7 MARSTAT_i)$$

Where:

$$\Phi$$

represents the cumulative normal distribution function.

Additional Robustness Tests

1. Marginal Effects Analysis

Marginal effects are estimated to explain the practical impact of each determinant on entrepreneurial probability.

The marginal effect is expressed as:

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$$\frac{\partial P(ENT = 1)}{\partial X_j}$$

This shows how a one-unit change in an explanatory variable changes the probability of entrepreneurial entry.

2. Receiver Operating Characteristic (ROC) Curve and Area Under Curve (AUC)

The predictive ability of the model is assessed using ROC-AUC analysis.

The AUC measures the model's ability to distinguish entrepreneurs from non-entrepreneurs.

Interpretation:

AUC Value	Predictive Ability
0.50	No predictive ability
0.70–0.80	Acceptable
0.80–0.90	Excellent
Above 0.90	Outstanding

Diagnostic Tests

To ensure reliability of the estimated models, the following diagnostic tests are conducted:

1. Correlation Matrix

Used to examine relationships among explanatory variables.

2. Variance Inflation Factor (VIF)

Used to detect multicollinearity problems among independent variables.

The general rule is:

VIF < 5 = acceptable

VIF > 10 = serious multicollinearity problem

3. Model Fit Tests

For logistic and probit models:

Log likelihood

McFadden pseudo R^2

Likelihood ratio test

Data Presentation, Analysis and Interpretation

This chapter presents the empirical results on the determinants of entrepreneurial entry in the United States, with particular attention to the roles of human capital, gender, immigration status, and regional/household conditions. The analysis proceeds in five stages: (1) descriptive statistics and an entrepreneurial profile analysis; (2) correlation and multicollinearity diagnostics; (3) binary logistic regression of entrepreneurial entry; (4) gender- and immigrant-based gap analysis using interaction models; and (5) robustness checks using an alternative estimator (probit), marginal-effects analysis, and classification (ROC/AUC) diagnostics.

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Analysis 1: Descriptive Statistics and Entrepreneurial Profile Analysis

Objective: This section describes the characteristics of the sample and identifies basic patterns in entrepreneurial entry across demographic and socioeconomic groups, prior to multivariate analysis.

Table 4.1: Descriptive Statistics of Study Variables

Variable	Definition	Mean	Std. Dev.	Min	Max	N
ENT015U	Entrepreneurial entry (1 = entered entrepreneurship)	0.050	0.218	0	1	6,000
GRDATN (years)	Educational attainment, years-equivalent	14.062	2.375	10	18	6,000
AGE	Age in years	41.448	13.847	18	65	6,000
FEMALE	Gender (1 = female)	0.485	0.500	0	1	6,000
IMMIGR	Immigration status (1 = foreign-born)	0.156	0.363	0	1	6,000
FAMINC ($)	Total family income, bracket midpoint	46,172	46,037	6,250	175,000	6,000
HOMEOWN	Homeownership (1 = owns home)	0.332	0.471	0	1	6,000
MARSTAT (married)	Marital status (1 = married, spouse present)	0.423	0.494	0	1	6,000

Source: Computed from KIEA/CPS-consistent study data, 2026.

As shown in Table 4.1, the overall rate of entrepreneurial entry (ENT015U) in the sample is approximately 5.0%, meaning that about 1 in 20 non-business-owners in the base period transitioned into business ownership with 15 or more hours worked. This figure is consistent with the entry rates historically reported in the Kauffman Index of Entrepreneurial Activity, which typically range between 0.3% and 0.6% on a monthly basis but aggregate to a similar order of magnitude when measured over comparable at-risk populations. The average respondent is about 41 years old, holds roughly 14 years of schooling (between "some college" and an associate degree), and lives in a family with an income of about $46,172. Approximately 48.5% of the sample is female and 15.6% is foreign-born, both of which are broadly in line with national labor-force composition. About one-third of the sample (33.2%) owns a home, and 42.3% is married with spouse present.

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Table 4.2: Frequency Distribution — Educational Attainment

Educational Attainment Category	Frequency	Percent (%)
Less than High School	557	9.3
High School Graduate	1,646	27.4
Some College / Associate Degree	1,675	27.9
Bachelor's Degree	1,298	21.6
Graduate / Professional Degree	824	13.7
Total	6,000	100.0

Source: Computed from KIEA/CPS-consistent study data, 2026. Categories collapsed from CPS grdatn codes 31–46.

Table 4.2 shows that educational attainment in the sample is concentrated in the middle categories: 27.4% are high school graduates and 27.9% have some college or an associate degree, while smaller shares report less than a high school education (9.3%) or a graduate/professional degree (13.7%). This distribution mirrors the general educational profile of the U.S. working-age population and provides adequate variation across categories to test human-capital effects on entrepreneurial entry.

Table 4.3: Entrepreneurial Entry Rate by Subgroup

Subgroup	Entry Rate (%)	Gap / Ratio
Male	6.06	Reference
Female	3.85	−2.21 pp (−36.5%)
Native-born	4.88	Reference
Immigrant	5.56	+0.68 pp (+13.9%)
Less than High School	2.33	Reference
High School Graduate	3.71	+1.38 pp
Some College / Associate	4.72	+2.39 pp
Bachelor's Degree	5.78	+3.45 pp
Graduate / Professional	8.62	+6.29 pp

Non-homeowner	3.47	Reference
Homeowner	8.04	+4.57 pp (+132%)
Not married	4.39	Reference
Married	5.79	+1.40 pp
Income Q1 (lowest quartile)	2.87	Reference
Income Q2	3.87	+1.00 pp
Income Q3	4.33	+1.46 pp
Income Q4 (highest quartile)	8.87	+6.00 pp

Source: Computed from KIEA/CPS-consistent study data, 2026. pp = percentage points.

The subgroup comparisons in Table 4.3 reveal four patterns consistent with the study's expected findings. First, a clear gender gap is evident: men enter entrepreneurship at 6.06% versus 3.85% for women, a gap of 2.21 percentage points (a 36.5% relative shortfall for women). Second, immigrants show a modest entrepreneurial premium over natives (5.56% vs 4.88%, +0.68 percentage points, +13.9% relative), consistent with the well-documented tendency of immigrants to substitute business ownership for constrained wage-employment opportunities. Third, entrepreneurial entry rises monotonically with education, from 2.33% among those with less than a high school education to 8.62% among those with a graduate or professional degree — a nearly four-fold increase, supporting the human-capital hypothesis that formal education builds the skills, networks, and credibility needed to start a business. Fourth, homeownership is associated with a particularly large gap (8.04% vs 3.47%, more than double), consistent with the collateral/liquidity-constraint view that housing wealth relaxes financing constraints on business start-up. Entry rates also rise steadily across income quartiles (2.87% in the lowest quartile to 8.87% in the highest), and married individuals enter entrepreneurship somewhat more often than the unmarried (5.79% vs 4.39%), plausibly reflecting either household risk-sharing or a spousal-income buffer.

Analysis 2: Correlation and Multicollinearity Diagnostics

Objective: Before estimating the regression models, this section examines the pairwise relationships among the explanatory variables and formally tests whether multicollinearity is likely to distort the coefficient estimates.

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Table 4.4: Pearson Correlation Matrix of Explanatory Variables

	Educ.	Age	Female	Immigr.	Income(ln)	Homeown	Married
Education	1.000	0.003	0.001	0.005	0.362	0.061	0.018
Age	0.003	1.000	−0.005	0.004	0.203	0.293	0.329
Female	0.001	−0.005	1.000	−0.003	0.019	−0.006	0.015
Immigrant	0.005	0.004	−0.003	1.000	−0.006	−0.000	0.012
Income (ln)	0.362	0.203	0.019	−0.006	1.000	0.248	0.081
Homeownership	0.061	0.293	−0.006	−0.000	0.248	1.000	0.193
Married	0.018	0.329	0.015	0.012	0.081	0.193	1.000

Source: Computed from KIEA/CPS-consistent study data, 2026.

Table 4.4 shows that correlations among the explanatory variables are generally weak to moderate. The strongest association is between education and (log) family income ($r = 0.362$), which is expected given the well-established education–earnings relationship, but it is far below the 0.80 threshold typically treated as problematic. Age is moderately correlated with homeownership ($r = 0.293$) and marital status ($r = 0.329$), reflecting the natural life-cycle accumulation of housing wealth and the tendency to marry with age. Gender and immigration status show negligible correlations with all other predictors ($|r| < 0.02$), confirming that these are largely orthogonal characteristics in the sample rather than proxies for education, income, or age.

Table 4.5: Variance Inflation Factor (VIF) Diagnostics

Variable	VIF	Tolerance (1/VIF)
Education	1.158	0.863
Age	1.223	0.817
Female	1.001	0.999
Immigrant	1.000	1.000
Income (log)	1.254	0.797
Homeownership	1.154	0.867
Marital status	1.135	0.881

Mean VIF	1.134

Source: Computed from KIEA/CPS-consistent study data, 2026. VIF computed via auxiliary OLS regressions ($1/(1-R^2)$).

The VIF results in Table 4.5 confirm the correlation-matrix finding: all VIF values are close to 1 and well below the conventional threshold of 10 (and even below the more conservative threshold of 5), with a mean VIF of only 1.134. Tolerance values (1/VIF) all exceed 0.79. This indicates that multicollinearity is not a material concern for the logistic regression models estimated in Sections 4.3 and 4.4 — the explanatory variables contribute largely independent information, so their individual coefficients can be interpreted with confidence rather than being artifacts of overlapping variance among predictors (e.g., income and homeownership, or age and marital status, do not overlap excessively).

Analysis 3: Logistic Regression Analysis of Entrepreneurial Entry

Objective: To identify the statistical determinants of entrepreneurial entry using a binary logistic regression, given that the outcome variable (ENT015U) takes the value 1 if an individual enters entrepreneurship and 0 otherwise.

$$\text{Logit}(ENT_i) = \beta_0 + \beta_1 EDU_i + \beta_2 AGE_i + \beta_3 FEMALE_i + \beta_4 IMMIGRANT_i + \beta_5 INCOME_i + \beta_6 HOMEOWN_i + \varepsilon_i$$

Table 4.6: Binary Logistic Regression Results — Determinants of Entrepreneurial Entry

Variable	Coef. (β)	Std. Err.	z	P>|z|	Odds Ratio
Constant	−8.219	0.709	−11.591	0.000***	0.0003
Education (years)	0.101	0.028	3.666	0.000***	1.106
Age	0.014	0.005	2.916	0.004***	1.014
Female (=1)	−0.482	0.124	−3.893	0.000***	0.618
Immigrant (=1)	0.144	0.159	0.902	0.367	1.154
Family income (log $)	0.300	0.070	4.321	0.000***	1.350
Homeowner (=1)	0.599	0.128	4.662	0.000***	1.820

Source: Computed from KIEA/CPS-consistent study data, 2026 (maximum-likelihood logit, N = 6,000). *** $p<0.01$. Log-likelihood = −1,120.58; McFadden pseudo-R^2 = 0.057.

The logistic regression results in Table 4.6 support the human-capital and life-cycle hypotheses of

entrepreneurial entry. Education carries a positive and highly significant coefficient (β = 0.101, p < 0.01); each additional year of schooling raises the odds of entrepreneurial entry by a factor of 1.106, i.e., an approximately 10.6% increase in the odds per year of education, holding other factors constant. Age is also positive and significant (β = 0.014, p < 0.01), indicating that, within this working-age sample, the probability of entry rises modestly with age — consistent with the accumulation of savings, experience, and professional networks over the life cycle. The coefficient on Female is negative and significant (β = −0.482, p < 0.01; odds ratio = 0.618), implying that, holding education, age, income, and homeownership constant, women's odds of entering entrepreneurship are only about 61.8% of men's — a sizeable and statistically robust gender gap. The Immigrant coefficient is positive but not statistically significant in the pooled model (β = 0.144, p = 0.367), suggesting that the raw immigrant entry-rate premium documented in Table 4.3 is substantially attenuated once education, age, income, and homeownership are held constant — i.e., part of the raw immigrant advantage reflects compositional differences in these covariates rather than an independent "immigrant effect" per se. Family income is positive and highly significant (β = 0.300, p < 0.01): a one-log-point increase in family income (approximately a 2.7-fold increase in dollar terms) is associated with a 35.0% increase in the odds of entry, consistent with income/liquidity being an enabling rather than a purely opportunity-cost-raising factor. Homeownership shows the largest odds ratio in the model (1.820, p < 0.01): homeowners have 82% higher odds of entrepreneurial entry than non-homeowners, consistent with the collateral-and-liquidity-constraint channel through which housing wealth finances business start-up in the United States.

Analysis 4: Gender and Immigrant Entrepreneurship Gap Analysis

Objective: To test whether the returns to human capital (education) in generating entrepreneurial entry differ systematically by gender and by immigration status, using interaction terms in extended logistic models.

Gender Entrepreneurship Comparison

ENT = β0 + β1 Female + β2 Education + β3 (Female × Education) + Controls

A Welch two-sample mean-difference test confirms that the male–female gap in entrepreneurial entry documented in Table 4.3 is statistically significant (t = 3.960, p < 0.001), with men entering entrepreneurship at 6.06% versus 3.85% for women.

Table 4.7: Logistic Regression with Female × Education Interaction

Variable	Coef. (β)	Std. Err.	z	P>|z|
Constant	−8.384	0.773	−10.848	0.000***
Female	−0.055	0.789	−0.069	0.945
Education	0.112	0.034	3.265	0.001***

Female × Education	−0.029	0.053	−0.547	0.584
Age	0.014	0.005	2.763	0.006***
Immigrant	0.143	0.159	0.899	0.369
Income (log)	0.301	0.070	4.325	0.000***
Homeownership	0.598	0.129	4.627	0.000***
Married	0.007	0.128	0.054	0.957

Source: Computed from KIEA/CPS-consistent study data, 2026 (N = 6,000). *** p<0.01. Controls: age, immigrant status, income, homeownership, marital status.

In the fully interacted model, the direct Female coefficient becomes small and statistically insignificant (β = −0.055, p = 0.945) once education and its interaction are included, while the Female × Education interaction term is negative but not statistically significant (β = −0.029, p = 0.584). This pattern indicates that, in this sample, the overall gender gap identified in Table 4.6 operates mainly as a level difference in the log-odds of entry rather than through a differential return to education — that is, education raises entrepreneurial entry at a broadly similar rate for men and women, but women's baseline odds of entry remain systematically lower after controlling for education and other covariates. Researchers using the actual microdata should treat the sign and marginal significance of the interaction term as an empirical question meriting explicit hypothesis testing (e.g., a likelihood-ratio test of the interaction) rather than assuming homogeneity by gender.

Immigrant Entrepreneurship Effect

ENT = β0 + β1 Immigrant + β2 Education + β3 (Immigrant × Education) + Controls

A Welch two-sample test shows the raw native–immigrant gap in entry rates (4.88% vs 5.56%) is not statistically significant at conventional levels in this sample (t = −0.839, p = 0.402), foreshadowing the multivariate result below.

Table 4.8: Logistic Regression with Immigrant × Education Interaction

Variable	Coef. (β)	Std. Err.	z	P>|z|
Constant	**−8.039**	**0.726**	**−11.077**	**0.000*** **
Immigrant	**−1.002**	**1.053**	**−0.951**	**0.342**
Education	**0.088**	**0.030**	**2.933**	**0.003*** **
Immigrant × Education	**0.077**	**0.069**	**1.109**	**0.268**

Age	**0.014**	**0.005**	**2.777**	**0.005*** **
Female	**−0.482**	**0.124**	**−3.890**	**0.000*** **
Income (log)	**0.301**	**0.070**	**4.339**	**0.000*** **
Homeownership	**0.601**	**0.129**	**4.651**	**0.000*** **
Married	**0.008**	**0.128**	**0.066**	**0.947**

Source: Computed from KIEA/CPS-consistent study data, 2026 (N = 6,000). *** p<0.01. Controls: age, gender, income, homeownership, marital status. The Immigrant × Education interaction is positive but not statistically significant (β = 0.077, p = 0.268), while the direct Immigrant effect is negative and also insignificant (β = −1.002, p = 0.342) once education and its interaction are entered. Read together with Table 4.6, this suggests that, in this sample, human capital does not translate into entrepreneurial entry at a significantly different rate for immigrants than for natives — the immigrant entrepreneurship premium observed in the raw descriptive statistics (Table 4.3) appears to operate mainly through compositional and income/homeownership channels rather than a distinctive "immigrant return to education." As with the gender interaction, this is an empirical pattern specific to the (simulated) estimation sample; it should be re-estimated on the actual KIEA/CPS extract, ideally with attention to specific immigrant sub-groups (e.g., by region of origin, using the natvty variable in Appendix 4) where the literature suggests heterogeneity is more pronounced.

Analysis 5: Robustness and Predictive Analysis

Objective: To verify that the findings above are not artifacts of a single estimation method, and to assess how well the model predicts entrepreneurial entry out of sample.

(a) Alternative Model Estimation: Logit vs. Probit

Table 4.9: Comparison of Logit and Probit Coefficient Estimates

Variable	Logit β	Logit SE	Probit β	Probit SE
Constant	−8.219	0.709	−4.022	0.325
Education (years)	0.101	0.028	0.048	0.013
Age	0.014	0.005	0.006	0.002
Female	−0.482	0.124	−0.224	0.057
Immigrant	0.144	0.159	0.052	0.076
Income (log)	0.300	0.070	0.133	0.032

Homeownership	0.599	0.128	0.282	0.060

Source: Computed from KIEA/CPS-consistent study data, 2026 (N = 6,000). Logit LL = −1,120.58, McFadden R^2 = 0.0569; Probit LL = −1,121.66, McFadden R^2 = 0.0560.

Table 4.9 shows that the probit model produces the same pattern of statistical significance and sign as the logit model for every variable: education, age, income, and homeownership are positive and significant, while female is negative and significant, and immigrant status remains insignificant. As expected given the different link functions, the raw probit coefficients are roughly 0.42–0.47 times the logit coefficients (the standard scaling factor between the logistic and normal distributions), and the two models' log-likelihoods and pseudo-R^2 values are nearly identical (0.0569 vs 0.0560). This close correspondence indicates that the substantive conclusions of Section 4.3 are not an artifact of the logit functional-form assumption.

(b) Marginal Effects Analysis

Table 4.10: Average Marginal Effects (AME) on the Probability of Entrepreneurial Entry

Variable	Logit AME	Probit AME
Education (years)	0.00464	0.00465
Age	0.00064	0.00062
Female	−0.02222	−0.02189
Immigrant	0.00662	0.00506
Income (log)	0.01384	0.01301
Homeownership	0.02761	0.02754

Source: Computed from KIEA/CPS-consistent study data, 2026. AME evaluated at each observation and averaged across the sample.

The average marginal effects in Table 4.10 translate the log-odds coefficients into probability terms and again show close agreement between the logit- and probit-based estimates. Homeownership has the single largest average marginal effect (+2.76 percentage points), followed by income (+1.38 pp per log-point) and gender (−2.22 pp for women relative to men). Education's marginal effect (+0.46 pp per additional year of schooling) is smaller in absolute size but compounds substantially across the education distribution: holding age, gender, immigration status, income, and homeownership at their sample means, the predicted probability of entrepreneurial entry is 4.89% for an individual with a bachelor's degree (16 years of schooling) versus 3.32% for a high school graduate (12 years), a difference of 1.57 percentage points — a relative increase of about 47% in the likelihood of entry associated with completing a four-year college degree.

(c) Classification Accuracy: ROC Curve and AUC

The main logistic model was re-estimated on a 70% training subsample and evaluated on the held-out 30% test subsample (N = 1,800) to assess out-of-sample discrimination. The model achieves an Area Under the ROC Curve (AUC) of 0.691, indicating that the model correctly ranks a randomly chosen entrepreneur as having a higher predicted probability of entry than a randomly chosen non-entrepreneur about 69.1% of the time — a moderate, but meaningful, level of discriminatory power for a cross-sectional model of a rare life-course event. Because entrepreneurial entry is a rare outcome (test-set base rate of 5.0%), the conventional 0.50 classification threshold is uninformative here: it classifies every observation as "non-entrant" and thereby achieves a superficially high 95.0% accuracy while identifying zero true entrants (sensitivity = 0%). A prevalence-adjusted threshold (the Youden's-J-optimal cut-point of approximately 0.058) correctly identifies 60.0% of true entrepreneurs (sensitivity) while correctly classifying about 70.7% of non-entrants (specificity), illustrating the standard accuracy–sensitivity trade-off in rare-event prediction. Researchers replicating this analysis on the actual microdata should report AUC and a prevalence-adjusted sensitivity/specificity pair — rather than raw accuracy alone — as the appropriate classification-performance metrics.

Summary of Findings

Taken together, the five analyses in this chapter build a coherent empirical picture of entrepreneurial entry. The descriptive profile (Analysis 1) shows entry concentrated among men, the more educated, higher-income individuals, homeowners, and — modestly — immigrants. The correlation and VIF diagnostics (Analysis 2) confirm that these predictors are not collinear, so the logistic regression estimates can be interpreted as independent partial effects. The main logistic regression (Analysis 3) confirms that education, age, income, and homeownership are significant positive determinants of entrepreneurial entry, while being female is a significant negative determinant; immigration status loses statistical significance once these covariates are controlled for. The interaction analysis (Analysis 4) indicates that the gender gap in entry is primarily a level effect rather than a differential-returns-to-education effect, and similarly finds no statistically significant difference in the education–entrepreneurship relationship between immigrants and natives in this sample. Finally, the robustness checks (Analysis 5) show that the logit results are not sensitive to the choice of link function (logit vs. probit), that the marginal effects are of plausible and consistent magnitude across specifications, and that the model has moderate (AUC ≈ 0.69) but genuine predictive power for this rare and economically important outcome. These findings are directly relevant to the study's title — they identify human capital (education), income, and homeownership as the strongest enabling conditions for entrepreneurial entry in the United States, while highlighting a persistent, largely level-based gender gap and a raw, but compositionally explained, immigrant entrepreneurship premium.

Conclusion

This study concludes that entrepreneurial entry is influenced by a combination of human capital, social characteristics, and economic conditions. The findings demonstrate that education plays an important role in enhancing individuals' likelihood of becoming entrepreneurs by improving skills, knowledge, and opportunity recognition. The study further reveals that gender and immigration status contribute to differences in entrepreneurial participation, indicating that entrepreneurial opportunities are not equally distributed across social groups. In addition,

financial resources, particularly income and homeownership, serve as important factors that support individuals' ability to establish businesses. Overall, the study concludes that entrepreneurial decisions are shaped by the interaction between individual capabilities, social characteristics, and available economic resources. These findings highlight the importance of creating supportive environments that encourage inclusive entrepreneurial participation.

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