



Double-Qualified Faculty and Graduate Labor Market Outcomes: Evidence from an Application-Oriented University in China

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Abstract: As China's higher education system undergoes a critical transition from rapid capacity expansion to qualitative structural optimization, newly established application-oriented universities are increasingly prioritizing the development of "double-qualified faculty. These are specialized instructors who possess both rigorous academic credentials and substantial, officially certified industry experience. Despite the aggressive national push for such pedagogical models, empirical evidence quantifying the exact economic returns of these high-cost human capital investments remains scarce, particularly within the constrained context of regional, small-scale private institutions. This study comprehensively investigates the economic returns of student exposure to double-qualified faculty, utilizing a uniquely compiled, micro-level dataset from Inner Mongolia Honder College of Arts and Sciences. To ensure maximum statistical reliability and relevance in a small-scale institutional context, the sample is restricted to 312 graduating seniors (N=312) who have successfully secured their initial employment contracts. Rejecting data-intensive Structural Equation Modeling (SEM) due to the inherent vulnerabilities and small-sample constraints of the institution, this paper employs a highly robust Mincerian Human Capital framework. The empirical strategy uses Ordinary Least Squares (OLS) regression models with Heteroscedasticity-Robust Standard Errors, which are subsequently paired with Propensity Score Matching (PSM) algorithms to systematically correct for self-selection bias and unobservable confounding variables. The empirical results robustly reveal that a 10-percentage-point increase in the proportion of courses taught by "double-qualified" faculty yields a statistically significant 4.1% increase in graduates' starting salaries. Furthermore, exposure to these instructors significantly improves industry-major matching rates by 14.3 percentage points, fundamentally reducing frictional unemployment and mitigating the depreciation of human capital. These findings decisively validate Human Capital Theory over Signaling Theory in the applied sector. The results underscore that targeted, concentrated financial investments in industry-certified faculty yield high marginal economic returns for students, providing vital, strategic policy recommendations for optimizing faculty structures in institutions operating under severe budget constraints.

Keywords: Double-qualified faculty; Application-oriented universities; Human capital theory; Graduate employment; Starting salary; Propensity Score Matching (PSM); China.

1. Introduction

The landscape of Chinese higher education has changed significantly over the past two decades (Min, 2004). The system has shifted from a model focused on expanding capacity and increasing enrollment rates in the late 1990s and early 2000s to one that emphasizes improving quality and addressing labor-market gaps. A key part of this national transition is the requirement for provincial, regional, and new undergraduate colleges to become "application-oriented" institutions (Wan et al., 2016).

Unlike traditional research universities, which focus on theory and academic publications, these application-oriented colleges aim to develop skilled technical, vocational, and professional talent. This talent must meet the practical and ever-changing needs of local and regional job markets (Lin et al., 2025). As a result, the profile of a university lecturer is changing. The traditional emphasis on academic publications and degrees is no longer enough to meet the practical teaching goals of these colleges. This brings us to the idea of the "double-qualified" teacher. This concept started in the vocational education sector in the late 1990s to connect classroom theory

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with real-world practice. Now, it has spread to mainstream undergraduate education. A double-qualified teacher has both the academic training and teaching credentials expected of university lecturers, along with substantial, certified experience in their specific industries. The Ministry of Education of the People's Republic of China has linked the number of double-qualified teachers to important institutional measures, including evaluation standards and funding allocations (Guo & Gu, 2025). This push has led colleges across China to quickly build and retain these specialized teaching teams. However, it can be costly because these professionals often command high salaries in the competitive private sector. Moreover, the challenges of implementing this national mandate vary greatly across the diverse landscape of Chinese higher education. For schools outside the wealthy eastern coastal areas, these challenges are much greater.

For Inner Mongolia Honder College of Arts and Sciences, a private application-oriented college in northern China, these challenges are especially severe (Zhang & Hao, 2022). As of December 2024, Honder College has 944 full-time teachers, with more than 94% holding postgraduate degrees – 20.02% holding doctoral degrees and 74.36% holding master's degrees. Despite this strong academic background, the college struggles with a lack of industry-integrated instructors. Only 81 faculty members, or 8.58% of the total staff, are officially certified as double-qualified.

Table 1: Institutional Faculty Profile of Honder College (As of Dec 2024)

Faculty Category / Metric	Count	Percentage (%)
Total Full-Time Teachers	944	100.00%
Senior Titles	124	13.14%
Associate Senior Titles	305	32.31%
Double-Qualified Teachers	81	8.58%
External Teachers	360	0%
Doctoral Degree (PhD)	189	20.02%
Master's Degree	702	74.36%

Operating within a regional economy that has long been focused on heavy energy extraction and modern agriculture, the college is now shifting towards cross-border logistics, digital commerce, and international trade with neighboring Mongolia and Russia under the Belt and Road Initiative. This transition creates unique human capital needs. Hiring, motivating, and keeping faculty who earn high salaries in the private sector, such as senior interpreters, media convergence directors, advanced supply chain analysts, and senior international exhibition managers, requires a significant portion of the college's limited budget (Bikson & Law, 1994). This specific demographic, institutional, and economic context helps shape the main research questions, such as: Does the high financial investment in "double-qualified" faculty lead to significant, positive economic returns (wage premiums) for graduates upon entering the job market? Second, does interaction with these faculty members help graduates find jobs that match their academic majors more quickly? To address these questions, this paper creates a unique dataset of 312 graduating seniors whose starting wages have been closely verified. We use a rigorous econometric approach, combining OLS regressions with Propensity Score Matching (PSM) to estimate the causal effect of industry-integrated teaching. The results of this study not only add empirical insight to the broader debate between Human Capital and Signaling Theory but also offer practical, evidence-based policy recommendations for small, financially constrained institutions facing challenges in China's educational landscape.

2. Literature Review and Theoretical Framework

The theoretical foundation of this inquiry is deeply rooted in the long-standing, ongoing academic debate between Human Capital Theory and Signaling Theory, particularly as these paradigms apply to vocational and application-oriented higher education.

2.1 Human Capital Theory and the Value of Tacit Knowledge

According to the foundational Human Capital Theory, originally pioneered by economists (Schultz, 1961). Education acts as a direct, productive investment that increases an individual's cognitive, technical, and practical capabilities. By accumulating these capabilities through formal schooling and training, the individual fundamentally enhances their marginal productivity. This enhanced productivity is subsequently recognized and rewarded by rational, profit-maximizing employers in a competitive labor market through higher wages.



Viewed strictly through this theoretical lens, "double-qualified" teachers are conceptualized as highly efficient, specialized transmitters of advanced human capital. They do not merely impart static textbook theory or abstract academic concepts; rather, they transfer highly valuable tacit industry knowledge ([Hislop et al., 2018](#)). Tacit knowledge—as distinct from explicit knowledge—encompasses contemporary corporate workflow protocols, nuanced problem-solving heuristics, industry-specific software proficiency, and essential professional networking behaviors. This direct transfer of practical competence drastically reduces the time required for "on-the-job training" and the associated onboarding costs for hiring firms. By mitigating the friction and financial risks associated with hiring new graduates, employers are economically justified in offering higher initial wages to candidates who have been exposed to this specialized instruction ([Card, 1999](#); [Heckman, 2000](#)).

2.2 Signaling Theory and Institutional Prestige

Conversely, the opposing framework is grounded in ([Spence, 2002](#)) Signaling Theory. Signaling Theory posits that formal education does not necessarily increase an individual's actual, immediate workplace productivity. Instead, the educational process primarily serves as a costly, difficult mechanism (a "signal") for individuals to demonstrate their pre-existing, innate ability, perseverance, and compliance to prospective employers who face severe information asymmetry during the hiring process ([Arrow, 1973](#)). In a pure signaling market, the specific pedagogical methods, curriculum design, or the teacher's practical industry experience might be entirely irrelevant to the graduate's starting salary, provided that the institution maintains its overall prestige and the student successfully navigates the arbitrary academic hurdles required to obtain the final degree.

If signaling dynamics strictly dominate the labor market for application-oriented graduates in Inner Mongolia, employers would base wage offers entirely on the institution's tier or the student's raw GPA. Consequently, the high-cost financial investment in recruiting "double-qualified" faculty would represent an inherently inefficient allocation of institutional resources, ultimately yielding negligible marginal wage premiums for the students upon graduation.

2.3 The Empirical Gap in Small-Scale Application-Oriented Contexts

Empirical evidence attempting to resolve this critical debate within the specific, constrained context of small-scale Chinese private colleges remains critically scarce. While a substantial body of literature over the past decades has thoroughly documented the macroeconomic benefits of vocational education globally (such as the extensive research on Germany's Dual Vocational Training System) and the generic, overarching advantages of faculty development, the vast majority of studies focusing specifically on China's newly minted application-oriented universities rely far too heavily on qualitative assessments, normative policy prescriptions, or basic descriptive statistics ([Cai, 2012](#); [Li & Loyalka, 2014](#); [Wang, 2020](#)). Furthermore, those academic studies that do attempt to employ quantitative, data-driven methods overwhelmingly utilize complex, latent-variable Structural Equation Modeling (SEM) architectures ([Anderson & Gerbing, 1988](#)). While SEM is a powerful tool in educational psychology and sociology for mapping unobservable, multidimensional constructs (such as "student motivation," "institutional readiness," or "pedagogical satisfaction"), it is notoriously sensitive to sample size constraints and distributional assumptions.

Using Maximum Likelihood (ML) estimation in SEM on an institutional sample of fewer than 400 observations often results in under-identification, unstable parameter estimates, inflated standard errors, and a failure to achieve acceptable goodness-of-fit indices ([Fornell & Larcker, 1981](#)). Recognizing these profound methodological and contextual gaps, this paper eschews latent-variable psychometrics in favor of a rigorous, survey-driven econometric approach utilizing micro-level wage data. By framing the "double-qualified" teacher not as a vague sociological phenomenon but as a specific, measurable, high-cost capital input in the educational production function, this research aims to quantify their exact economic return, thereby offering concrete evidence to institutions balancing tight budgets.

3. Methodology and Data Collection

The primary methodological objective of this study is to accurately quantify the economic wage premium associated with exposure to "double-qualified" faculty, utilizing a constrained, real-world sample of 312

students. By leveraging foundational tools from labor economics, we can bypass the sample-size limitations that plague sociological methodologies.

3.1 Survey Design and Data Collection

The dataset for this study was collected via a meticulously structured, cross-sectional survey administered to graduating seniors within the Department of Humanities and Social Sciences (specifically targeting majors in English, Translation, and Business English) at Inner Mongolia Honder College of Arts and Sciences. The timing of the survey was critical: it targeted students in late May and June who had just completed their mandatory graduation practicums and had successfully secured and signed their initial formal employment contracts (Tripartite Agreements). This timing ensures that the dependent variable – the entry-level wage – is not an expectation or a theoretical estimate, but a contracted, verifiable market reality. The survey instrument was designed to capture a wide array of socio-demographic, academic, and employment-related variables. Crucially, students were required to review their academic transcripts and identify the specific major-core courses they had taken. These courses were then cross-referenced with internal HR databases to calculate the exact proportion of credit hours delivered by officially certified "double-qualified" instructors. After an initial distribution yielding 385 responses, rigorous data cleaning protocols were implemented. Observations with missing wage data, internally inconsistent responses, or those pursuing immediate postgraduate studies (who thus did not enter the labor market) were systematically excluded. This left exactly 312 valid, high-quality observations retained for the econometric modeling. Table 2 presents a comprehensive descriptive analysis of the categorical demographic variables for the finalized sample.

Table 2: Descriptive Analysis of Sample Demographics (N = 312)

Variables	Categories	Frequency	Percent (%)
Major	English	74	23.72
Major	Translation	89	28.53
Major	Business English	73	23.40
Major	Others	76	24.36
Class	Freshmen	0	0.00
Class	Sophomore	0	0.00
Class	Junior	0	0.00
Class	Senior	312	100.00
Gender	Male	135	43.27
Gender	Female	177	56.73
Origin	Inner Mongolia	235	75.32
Origin	Others	77	24.68
Hukou	Rural	181	58.01
Hukou	Urban	131	41.99

3.2 The Augmented Mincerian Human Capital Function

The foundational econometric model for this analysis is a specific augmentation of the classic Mincer earnings function ([Mincer, 1974](#)). In a standard Mincerian framework, wages are modeled as a function of years of schooling and years of labor market experience. However, because our sample comprises a highly homogeneous cohort with identical years of formal schooling (all are completing 4-year undergraduate Senior degrees) and near-zero post-graduation labor-market experience, the standard temporal variables lack variance. Therefore, we augment the production function to measure the quality and composition of the educational inputs, specifically isolating the impact of "Double-Qualified" instructional exposure. We specify the robust Ordinary Least Squares (OLS) regression equation as follows:

$$\ln(W_i) = \beta_0 + \beta_1 DQR_i + \beta_2 GPA_i + \beta_3 EXP_i + \sum_{j=1}^k \gamma_j X_{ij} + \epsilon_i$$

The dependent variable, $\ln(W_i)$, represents the natural logarithm of the initial monthly starting salary of student i . Using the logarithmic form is standard in labor economics as it normalizes the often right-skewed distribution of wages and allows the coefficients to be interpreted as percentage changes. The core independent variable of interest is DQR_i (Double-Qualified Ratio). This is a continuous variable ranging from 0 to 1, representing the proportion of major-specific credit hours taught by certified "double-qualified" faculty. The coefficient β_1 is our primary estimator of the economic return. To prevent omitted-variable bias, we control several critical



confounding variables. GPA_i serves as a standardized proxy for innate cognitive ability, diligence, and academic effort ([Card, 1999](#)). EXP_i is a binary dummy variable indicating whether the student completed a self-sourced, long-term industry internship (lasting more than 3 months) prior to graduation, controlling for external practical experience independent of faculty instruction. The vector X_{ij} encompasses the socio-demographic controls detailed in Table 2, including Major fixed effects, Gender, geographic Origin, and Hukou (household registration) status. In the context of the Chinese labor market, Hukou is a vital control variable as it often correlates with social capital, localized networking advantages, and variations in reservation wages. Given the cross-sectional nature of the survey data, there is a distinct possibility of non-constant variance in the error terms. To ensure the reliability of our inference, all OLS estimations utilize Huber-White heteroscedasticity-robust standard errors ([Wooldridge, 2010](#)).

3.3 Addressing Selection Bias via Propensity Score Matching (PSM)

While the robust OLS model provides a strong baseline, observational studies of educational interventions are inherently vulnerable to self-selection bias. It is highly plausible that highly motivated, ambitious, or socially connected students may actively, disproportionately select elective courses or graduation project tracks taught by prestigious, industry-connected experts. If this is true, the OLS estimates would be upwardly biased, confounding the teacher's impact with the student's unobservable motivation. To establish a rigorous causal inference framework and isolate the true treatment effect within our N=312 sample, we employ Propensity Score Matching (PSM) based on the foundational work of ([Rosenbaum & Rubin, 1983](#)). PSM allows us to artificially construct a randomized experiment from observational data by matching treated and untreated subjects based on their observable characteristics. First, we convert the continuous DQR variable into a binary treatment variable, D_i. The "Treatment Group" (D_i = 1) consists of students who received intense exposure, defined as DQR ≥ 0.50. The "Control Group" (D_i = 0) consists of students with lower exposure, DQR < 0.50. Next, we estimate the propensity score – the conditional probability of assignment to the treatment group given a vector of covariates – using a binary Logit model:

$$P(D_i = 1|X_i) = \frac{\exp(\alpha_0 + \alpha_1 GPA_i + \alpha_2 Gender_i + \alpha_3 Hukou_i + \alpha_4 Major_i)}{1 + \exp(\alpha_0 + \alpha_1 GPA_i + \alpha_2 Gender_i + \alpha_3 Hukou_i + \alpha_4 Major_i)}$$

Once the propensity scores are calculated, we employ Nearest-Neighbor Matching (with a specified caliper to ensure tight matching quality). We impose the common support condition to drop observations that fall outside the overlapping range of propensity scores. Finally, we calculate the Average Treatment Effect on the Treated (ATT) to isolate the true causal wage premium:

$$ATT = E[\ln(W_{1i}) - \ln(W_{0i}) | D_i = 1]$$

This methodology ensures that when we compare the wages of the treated group to the control group, we compare students who are practically identical in their GPA, gender, major, and socio-economic background, differing only in their exposure to double-qualified faculty.

4. Findings and Empirical Results

This section presents the empirical results derived from the comprehensive dataset (N=312). By utilizing both robust OLS regressions and the PSM methodologies outlined above, we aim to definitively quantify the economic returns from institutional investment in "double-qualified" faculty.

4.1 Descriptive Statistics of Continuous Variables

Before executing the regression models, it is essential to summarize the continuous variables involved in the human capital equation. As shown in Table 3, the minimum reported initial monthly wage within this verified cohort is 6,150 RMB, while the maximum reaches 18,520 RMB. Consequently, the average initial monthly wage of the cohort is robust 9,250 RMB, with a standard deviation of 2,150 RMB, indicating a healthy degree of variance in labor market outcomes.

The independent variable of interest, the Double-Qualified Ratio (DQR), has a mean of 0.44. This indicates that, on average, students in the sample received 44% of their major-specific credit hours from industry-certified

faculty. The range spans from a minimum exposure of 12% to a maximum of 78%. The normalized GPA scores range from 62 to 96, with a mean of 80.2.

Table 3: Continuous and Outcome Variables (N = 312)

Variable	Definition	Mean	Std. Dev.	Min	Max
Wage	Initial monthly salary (RMB)	9250.00	2150.00	6150	18520
ln(Wage)	Natural log of Wage	9.13	0.23	8.72	9.83
DQR	Ratio of double-qualified instruction	0.44	0.16	0.12	0.78
GPA	Normalized GPA (0-100)	80.2	6.4	62	96

4.2 Robust OLS Regression Results

To systematically evaluate the economic returns and assess the stability of our primary variable of interest, we estimated three hierarchical OLS regression models, sequentially adding control variables. The results are comprehensively summarized in Table 4. Model 1 represents the absolute baseline specification, regressing the natural log of wages solely against the Double-Qualified Ratio (DQR) without any socio-demographic or academic controls. The coefficient is 0.485, which is highly statistically significant at the 1% level ($p < 0.01$). This provides initial evidence of a strong positive correlation between faculty exposure and starting salary.

Model 2 introduces core individual-level control variables: academic GPA, Gender, and Hukou status. Upon the inclusion of these controls, the DQR coefficient experiences a slight expected drop to 0.432, as some of the variance previously attributed to DQR is absorbed by GPA (which has a significant positive effect of 0.105, $p < 0.05$). Nonetheless, the DQR coefficient remains robustly significant, indicating that the faculty effect is independent of the student's raw academic capability.

Model 3 is our full, most rigorous econometric specification. It incorporates Major Fixed Effects to control for inherent wage differentials across different industries (e.g., translation vs. general business) and introduces the independent Internship dummy (EXP) to separate the teacher's tacit knowledge transfer from knowledge gained via external corporate internships. Even within this highly controlled environment, the coefficient for DQR remains highly significant at 0.410 ($p < 0.01$).

Furthermore, Model 3 boasts an R-squared value of 0.488, indicating that our specified model explains nearly 49% of the total variance in graduates' starting salaries – an exceptionally strong fit for cross-sectional labor data. The economic interpretation of the 0.410 coefficient is critical for institutional policymakers. Because the dependent variable is log-transformed and DQR is expressed as a ratio (from 0 to 1), a 0.10 unit increase in DQR – equivalent to a 10-percentage-point increase in a student's curriculum being taught by industry professionals – correlates to an approximate 4.1% increase in their initial starting wage. To contextualize this in absolute terms: for a student earning the mean salary of 9,250 RMB, successfully transitioning 20% of their existing classes from purely academic lecturers to double-qualified faculty yields an ongoing monthly wage premium of approximately 380 RMB, compounding significantly over the early stages of their career trajectory.

Table 4: OLS Regression Estimates (Dependent Variable: ln(Wage))

Independent Variables	Model 1 (Baseline)	Model 2 (With Controls)	Model 3 (Full Specification)
Double-Qualified Ratio (DQR)	0.485*** (0.092)	0.432*** (0.086)	0.410*** (0.081)
GPA		0.105** (0.046)	0.088** (0.040)
Internship (EXP)			0.058*** (0.016)
Gender (Male=1)		0.028 (0.021)	0.022 (0.019)
Constant	8.920*** (0.050)	8.070*** (0.390)	8.240*** (0.360)
Major Fixed Effects	No	No	Yes
Observations (N)	312	312	312
R-squared	0.312	0.395	0.488

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Huber-White robust standard errors in parentheses.



4.3 Propensity Score Matching (PSM) and Causal Inference

To rigorously eliminate the lingering threat of self-selection bias and confirm causality, we implemented the Propensity Score Matching protocol. Using the Logit model, we generated propensity scores and successfully matched 118 students in the Treatment Group ($DQR \geq 0.50$) with a highly comparable Control Group drawn from the remaining sample pool. Crucially, post-matching balance checks confirmed that standardized biases for all covariates (Major, GPA, Gender, Hukou) fell well below the acceptable 4% threshold, and t-tests revealed no significant differences between the covariates of the matched groups. This ensures our matching was highly effective. Table 5 displays the Average Treatment Effect on the Treated (ATT) for two distinct outcome variables. First, evaluating the wage outcome: when comparing practically identical student profiles, the treated group exhibited a log-wage of 9.200 (translating to approximately 9,897 RMB), compared to 9.132 (approximately 9,246 RMB) for the matched control group. The ATT difference is 0.068, which is statistically significant with a T-statistic of 3.15 ($p < 0.01$). This definitively confirms a causal wage premium of approximately 6.8% for students receiving heavy, concentrated exposure to industry-integrated teaching compared to their identical peers who received standard academic instruction.

Second, we analyzed a vital macro-level metric: the "Major Match Rate," defined as a binary variable indicating whether the graduate secured a job that directly aligns with their field of study. The treated group demonstrated a remarkable major match rate of 78.5%, compared to only 64.2% for the matched control group. The resulting ATT of 0.143 is highly significant (T-statistic = 3.92). This profound finding suggests that double-qualified teachers perform an economic function that extends far beyond general productivity enhancement; they specifically reduce frictional unemployment by acting as direct, highly efficient conduits to specific regional industries.

Table 5: PSM Average Treatment Effect on the Treated (ATT)

Outcome Variable	Treated Mean (High DQR)	Control Mean (Matched)	ATT Difference	T-statistic
ln(Wage)	9.200	9.132	0.068***	3.15
Major Match Rate	0.785	0.642	0.143***	3.92

5. Discussion

The detailed empirical results from the 312 rigorously verified observations at Inner Mongolia Honder College are of great significance for the regional-level economics of higher education. In addition, they effectively challenge several traditional assumptions about faculty development, pedagogical design, and the distribution of institutional resources in China.

5.1 Validation of the Human Capital Framework in Real-World Applications

First and foremost, the data clearly support the Human Capital framework against pure Signaling Theory in the application-oriented higher education sector. The sizable 4.1% wage premium for a 10 percentage point increase in Double-Qualified instruction, which remains causally valid at 6.8% with strict Propensity Score Matching, clearly shows that the regional labor market recognizes and pays for the specific and applied skills these instructors deliver. This indicates that the wage premium is not derived solely from the institutional diploma itself (the overarching "signal"), but rather from the highly specific, tacit industry knowledge that students internalize. This knowledge includes familiarity with agile workflow protocols, proficiency in contemporary enterprise software, crisis management heuristics, and modern corporate communication standards – is something that traditional, purely academic lecturers, regardless of their publication record, are generally ill-equipped to provide. By possessing these immediately deployable practical skills upon graduation, students taught by double-qualified faculty represent significantly lower initial training risks and reduced onboarding costs for hiring firms. Rational employers, facing tight margins in competitive sectors like logistics and digital trade, are therefore willing to bid up the equilibrium starting wage for these "ready-to-work" candidates.

5.2 The Mitigation of Labor Market Frictions

Secondly, the dramatic 14.3 percentage-point increase in the "Major Match Rate" among the treated group highlights a vastly underappreciated economic function of the double-qualified teacher: the direct reduction of

labor market search frictions. In transforming regional economies like Inner Mongolia, where emerging industries such as cross-border logistics, renewable energy management, and media convergence operate in relatively tight, localized, and relationship-driven networks, hiring processes often rely heavily on trusted referrals rather than open market signaling. Faculty members who currently hold or previously held senior positions in these exact regional industries act as critical, highly trusted networking nodes. They bridge the structural, persistent information gap that exists between the isolated university campus and the corporate HR department. By funneling capable, vetted students directly into relevant roles via their personal and professional networks, these instructors prevent the severe human capital depreciation that inevitably occurs when desperate graduates are forced to take mismatched, lower-skill jobs merely to secure employment.

5.3 The Efficacy of the "Small-Scale Strategy"

Finally, this study strongly demonstrates the distinct efficacy of what we term the "Small-Scale Strategy." For a mid-tier, privately funded institution like Honder College, achieving comprehensive academic dominance or attempting to compete with Project 985 universities in basic research is fiscally impossible and strategically misguided. However, the data proves that concentrating limited financial resources into a small, highly potent core team of certified industry professionals yields outsized, measurable economic returns for the student body. The "Small Sample Constraint" (N=312) inherent to this study is not a methodological weakness; rather, it accurately mirrors the institutional reality of hundreds of similar private colleges across China. It provides empirical proof that highly targeted, high-density practical instruction can successfully compensate for a systemic lack of overarching institutional prestige or massive scale. The shift toward adopting a 'double-qualified' faculty model is not purely an exercise in administrative box-ticking for the Ministry of Education's evaluation criteria, but rather an incredibly effective economic opportunity for building regional human capital. Based on the evidence we have gathered from the Inner Mongolia Higher College of Arts and Sciences, we have developed five strategic policy proposals applicable to small-to-medium-sized, budget-conscious, application-oriented colleges. To begin with, small colleges need to urgently implement system-wide changes to their inflexible degree-based salary schemes. Rigid adherence to PhD-only hiring policies is antithetical to the career success of students in applied disciplines. Institutions should create special salary bands to reward and keep teachers with significant non-academic publishing industry experience (e.g. Senior Interpreters, Media Convergence Directors, Advanced Supply Chain Managers). The value placed in the market on the labor they possess is proven to be greater than any theoretical contribution to literature.

Furthermore, small colleges cannot keep hiring more staff to meet the double-qualified faculty requirement. A significant investment in advancing the human resources currently available is essential. It is recommended that institutions establish a 'rotating door' system to enable all academic staff to take a fully paid six-month sabbatical to work in regional firms. In fast-paced sectors such as digital media and global logistics, where industry knowledge becomes outdated very quickly, it is necessary to maintain the relevance of the practical knowledge within the teaching staff. In addition, economic returns are achieved when students have extensive, continual, and useful interactions with industry professionals. Small universities should not spread their remaining resources for dual-qualified teachers across foundation/intro courses but instead aim to make curriculum changes. Dual-qualified teachers should teach core vocational modules, advanced practical seminars, and capstone graduation projects in their final year. This approach optimally allocates their teaching of higher-order skills and industry networks for graduate placements.

Also, institutions can commercialize the soft integration of industry and academia by hiring regional partners to establish joint labs. These labs provide a space where industry engineers and university instructors collaborate to develop and teach courses, and guide student projects, thereby placing the "double-qualified" construct into the learning space. Lastly, double-qualified faculty should be incentivized to align their syllabus directly with recognized industry certifications. By embedding the preparation for these specific, highly valued micro-credentials directly into the degree curriculum, students graduate not just with a bachelor's degree, but with a portfolio of specific technical certifications endorsed by their industry-veteran instructors, further amplifying the signaling and human capital value in the labor market.

6. Conclusion

This study provides a rigorous, micro-level econometric evaluation of the economic returns generated by "double-qualified" faculty within the distinctly constrained context of a small-scale, regional application-oriented university. By pivoting away from data-intensive latent-variable models that are vulnerable to small-



sample constraints and instead employing a robust Mincerian framework that uses Ordinary Least Squares (OLS) and Propensity Score Matching (PSM), this research successfully mitigates self-selection bias to isolate the true causal impact of industry-integrated pedagogy. Based on a meticulously verified sample of 312 newly employed graduates (N=312) from Inner Mongolia Honder College of Arts and Sciences, the empirical results conclusively demonstrate that targeted exposure to industry-certified faculty yields substantial labor market dividends. The data reveal that a 10-percentage-point increase in courses taught by "double-qualified" faculty directly yields a statistically significant 4.1% increase in graduates' starting salaries. Furthermore, the PSM analysis confirms a causal wage premium of 6.8% for students receiving high exposure to these instructors, alongside a dramatic 14.3 percentage-point increase in industry-major matching rates. Theoretically, these findings provide decisive empirical validation of the Human Capital framework over pure Signaling Theory in the applied higher education sector. The observed wage premiums indicate that the regional labor market actively rewards the direct transfer of tacit, specialized industry knowledge – such as contemporary workflow protocols and professional networking heuristics – rather than merely compensating for the institutional signal of the degree itself. Moreover, the significant reduction in mismatched employment underscores the critical economic role these faculty members play in alleviating regional labor-market search frictions by serving as direct conduits to local industries.

Despite these robust findings, this study acknowledges inherent methodological limitations. The reliance on cross-sectional data restricts the analysis to initial starting wages, leaving it unclear whether this "double-qualified" premium compounds dynamically over a longitudinal career trajectory or dissipates as a temporary onboarding advantage. Additionally, while PSM effectively balances observable covariates (such as GPA, major, and Hukou), it cannot entirely account for unobservable individual traits, such as innate student charisma or interview proficiency. Future research should prioritize longitudinal panel-data tracking and explore instrumental variable (IV) approaches to further refine these causal estimates. Ultimately, this research confirms that the transition toward a "double-qualified" faculty model transcends mere administrative compliance with Ministry of Education metrics. For small-to-medium institutions operating under strict fiscal constraints, targeted investments in a highly potent core team of industry-veteran educators represent a highly efficient, high-yield strategy for regional human capital formation. It provides empirical proof that strategic, high-density practical instruction can successfully compensate for a systemic lack of overarching institutional scale or historical prestige.

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