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Overeducation in Provinces of the Philippines: Extent and Structural Determinants

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Abstract

There is a problem in education in the Philippines, however the public discourse on its underlying issues is often oversimplified. Over the past two decades, survey data from the Philippine Statistics Authority indicated a declining return on higher education and the labor market remained dominated by labor intensive jobs in the services and agriculture sectors amidst an increasing number of secondary and college graduates. This thesis asserts that the trends postulate the phenomenon of overeducation, that is by 2021, at least 1 out of 4 Filipino workers were employed in a job that underutilized their education, particularly as construction and farm laborers. By using a cross sectional dataset of 226,895 workers that was provincial representative, this research extended on Mehta's work in 2011 and examined the extent of overeducation in the provinces in the Philippine. At the provincial level, Ordinary Least Squares regression was employed to analyze the structural determinants of this phenomenon. The share of youth was estimated to have a negative correlation with overeducation while factors such as the share of females and workers in sectors of finance, real estate, and food services has a positive relationship.

Key words: human capital, job creation, structure of labor force

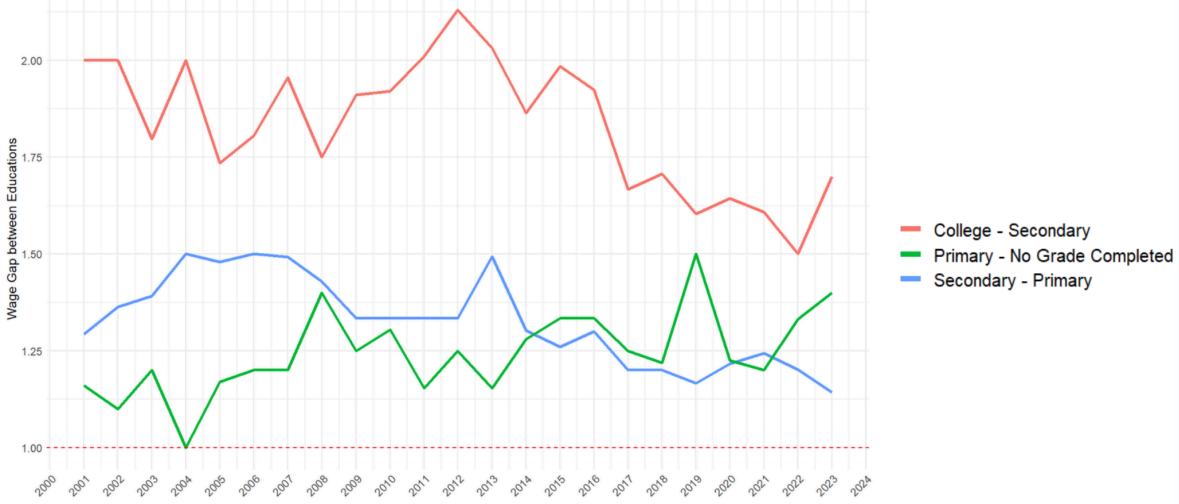
JEL Classifications: J240, J230, J210

Background

The public discourse generally views that obtaining education is instrumental for development (Booth & Snower, 1996). When individuals acquire skills, they become more productive and are better equipped to adapt to a rapidly changing environment and technology. Consequently, economists and policymakers advocate for investments in education to cultivate a skilled workforce. The same sentiment was shared by President Marcos at the National Higher Education Day Summit 2024 where higher education was said to be at the forefront of the administration's national development agenda. However, a growing literature highlighted an expanding concern on contextualizing the primary problem of education in the Philippines.

The following ***Figure I*** shows the trend of the median daily wage gap of educational levels in the Philippines in the past 2 decades (2001 to 2023) as per the Labor Force Survey of the Philippines Statistics Authority. In the past decade, the difference in median daily wages between college and secondary education has been gradually decreasing (indicated by the red line). In 2012, for instance, college graduates earned more than double what secondary education graduates earned (Php 2.13 for every Php 1). However, this college wage premium has declined to earning only about 50% more in 2022 (Php 1.50 for every Php 1).

Figure I. Difference in Median Daily Wages between Education Levels (LFS 2001 - 2023)



Source: Author's Computation; January 2001 to 2023 Labor Force Survey

There are two compelling narratives that may explain this declining returns on college and secondary education, both with regards to the structure of education and employment in the Philippines. The first argument is driven by observed evidence of poor quality education in the country. Under the Programme for International Student Assessment (PISA) in 2018 and 2022, the country has consistently found itself dead last in the global averages on assessments in mathematics, reading, and science. The Philippines was placed 78th out of 78 countries in 2018 and 77th out of 81 countries in 2022[1]. Moreover, while there are a lot of higher education institutions in the Philippines, only a small number of these institutions met acceptable quality standards (Tan, 2011). Few institutions engaged in research or provided advanced learning materials, with only three

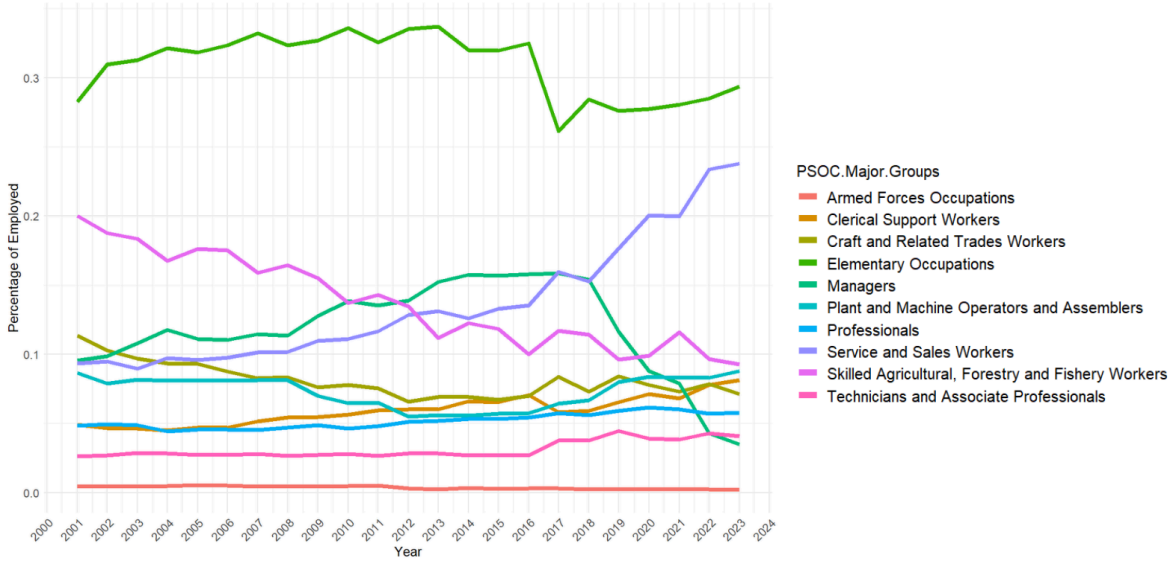
[1] (Congressional Policy and Budget Research Department, 2024)

universities making it to the 2010 list of the world's top 500 and even then, their rankings were relatively low.

The second argument on this declining wage premium is the focus of the employment structure and job creation in the Philippines on low skilled jobs in services and agriculture (Bayudan-Dacuycuy & Dacuycuy, 2021). These low skilled jobs typically involve routine physical labor and low productivity work[2] which impedes employment outcomes for educated graduates. This employment structure has been well documented[3] and particularly stemmed from the Philippine's history of poor structural transformation during the 1970s. The following ***Figure III*** shows a nationally representative trend of employment for Filipinos aged 15 to 60 in the Labor Force Surveys of 2001 to 2023.

[2] These occupations have the lowest wages among all major occupation groups. See ***Figure II*** in ***Appendix***
[3] Large employment among low value adding service occupations are rooted on the incentive for the Philippines to favor non-tradable services over tradeable goods since it could not compete with advanced and low cost production of manufactured goods under international trade (Felipe, 2023).

Figure III. Trend of Employment Distribution among Occupations (LFS 2001 - 2023)

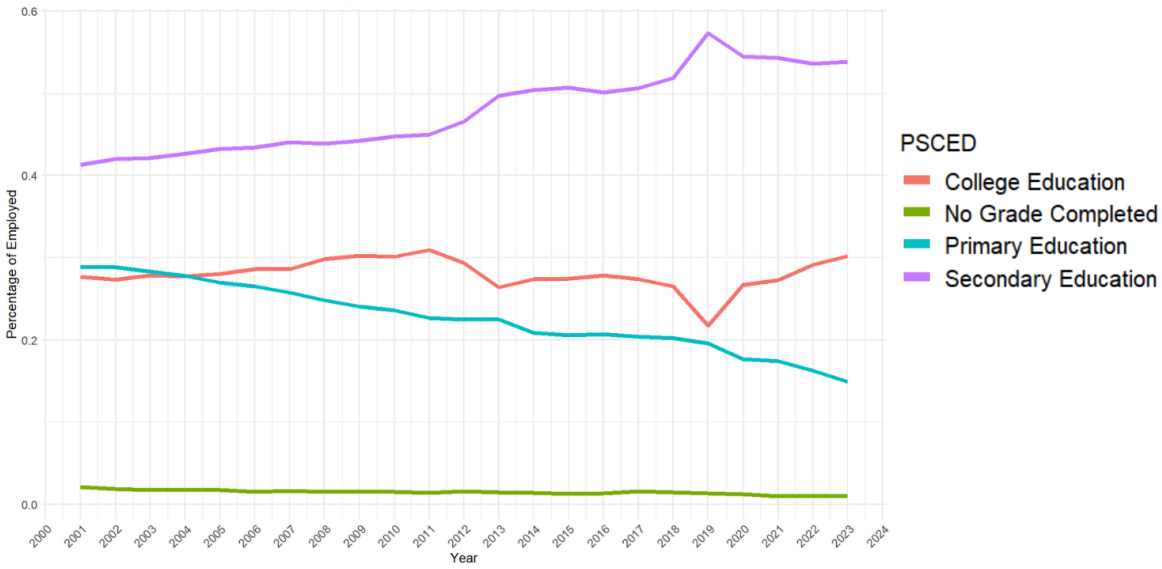


Source: Author's Computation; January 2001 to 2023 Labor Force Survey

Findings revealed a large portion of employment was concentrated in elementary occupations[4] (29.36%) and services and sales workers (23.8%) by 2023. However, while employment has focused on relatively 'low skilled jobs' defined by repetitive and simple tasks, the level of education in the country has been gradually increasing over the past two decades. The following ***Figure IV*** demonstrates the trend of highest education completed of workers in the Philippines across time. From 2001 to 2023, the share of secondary and college graduates has increased from 41.32% and 27.68% to 53.86% and 30.19%, respectively.

[4] Elementary occupations involve simple and routine physical tasks that may require handheld tools, typically with minimal literacy and numeracy skills. Examples include cleaners, agricultural laborers, construction workers, food preparation assistants, and street vendors.

Figure IV. Trend of Distribution of Highest Education Completed (LFS 2001 - 2023)



Source: Author's Computation; January 2001 to 2023 Labor Force Survey

As education levels in the population have been increasing, but available occupations often involve relatively basic tasks that require minimal education, the given trends raise questions about the implications for employment among college and secondary education graduates. We are prompted to ask the question: Where do these college and secondary graduates work? I argue that these trends postulate the existence of overeducation in the Philippines.

Overeducation has a lot of definitions throughout literature. The concept of overeducation was first introduced by Freeman's "The Overeducated American" (1976), which describes the observation where there is an increased growth of supply of graduates, outpacing the creation of jobs in the market. While the term of "overeducation" is often misleading since more education is typically associate with better economic

outcomes and rare is it to debate against educational investments, Duncan and Hoffman (1981) modeled wage returns of overeducation, revitalizing the work of Freeman by showing that the wage returns for excess education are about half the value for the required education for a job, establishing overeducation as a long-term issue of underutilization. Overeducation has since then been regarded in literature as the phenomenon when an individual is working in an occupation that requires a level of education that is significantly lower than his own to perform its tasks (Groot and Maassen van den Brink, 2000), effectively underutilizing education. More recently, modern developments have started to view overeducation as a social phenomenon; different employment outcomes reflect differences in social background and attitudes towards investing in education (Capsada-Munsech, 2017). This is best manifested in the Philippines, where college education is regarded not just as a way to increase earnings, but is also strongly believed as a pathway out of poverty and a means to climb their family and loved ones up the social ladder.

In this study, given that the Philippines emphasizes education as a key driver of growth and development, it is best to view overeducation from the lens of productivity, specifically the efficient use of education. I describe overeducation as the phenomenon when an individual is working in an occupation that does not sufficiently reward an individual's investment in education. This phenomenon represents a market inefficiency of resource misallocation as well educated individuals end up working in occupations that do

not require their level of education in completing its tasks, underutilizing productivity and investment in formal education.

On a national level, Mehta has documented cases of overeducation in 2011, revealing that several college and secondary graduates were found to be working as drivers and maids (Mehta et al., 2011). By 2004, 1 out of every 5 employed females with a post-primary education was found to be overeducated. Taking into account the structural issues from both education and employment in the Philippines, this thesis updated and extended on Mehta et al. 's research by examining overeducation in the country from a provincial context. Specifically, the paper was compelled to answer two research questions. First, ***What is the extent of overeducation in the provinces?*** Second, ***What structural characteristics of provinces influence overeducation?***

There were merits to exploring overeducation at a provincial level. Different geographical locations have different factor conditions, industries, and institutions which predominantly determine the labor market structure of these locations (Porter, 1990). For instance, findings revealed that the level of college and secondary education wage premium largely varies among different regions in the Philippines. CALABARZON, the country's industrial powerhouse and supplier of semi-processed materials and components (Department of Trade and Industry), did not show the same fall in wage premium, while the Ilocos region has been seeing a gradual decline ever since 2002[5]. These findings suggested that employment outcomes and returns on educational investments may

[5] See the college wage premium across provinces an ***Figure V*** in **Appendix**

significantly vary depending on the location of employment. The reality that workers were often limited to occupations close to their residences underscores the necessity in studying overeducation within localized contexts rather than at the national level (Fouquet, 2023).

Methodology

Data Collection

The merged Family Income and Expenditure Survey - Labor Force Survey 2021 of the Philippine Statistics Authority was used in this study. The cross sectional dataset offered information on educational attainment, occupation, and daily wages of 226,895 workers aged 15 to 60 that was provincial representatives across all 83 provinces in the country[6]. Moreover, this was one of the only few datasets as of this paper's knowledge that conducted a multistage stratified random sampling that was provincial representative and provided occupational codes at the 4-digit level.

Specification of Overeducation

I adopted Mehta et al.'s approach to identify incidents of overeducation. This methodology involved a two step process. Under the ***first step,*** since we do not have any reliable measure of educational requirements of jobs in the Philippines, we need to

[6] Removing public employees from the dataset and filtering it only included workers aged 15 to 60, the final sample size was 226,895 workers. To account for minimal responses with upper secondary and due to the fact that not all these educational degrees were completed by order (not everyone who is a college graduate took upper secondary or post-secondary education), I aggregated the highest education completed of respondents into 4 education levels: No Education, Primary Education, Secondary Education, College Education. See ***Table I*** in the ***Appendix*** for the breakdown of these educational levels

identify which jobs underutilize the post-primary education. Specifically, occupations at the national level were categorized as "unskilled" jobs if they offered returns on secondary and college education below a predetermined threshold. This was the best way to identify jobs that did not need further investment in education since these "unskilled" jobs, such as drivers or maids, typically involve basic repetitive tasks where additional investments on college and secondary education do not substantially improve performance in completing their tasks.

To statistically test whether occupations were unskilled jobs, I conducted the following mincerian wage equation for each occupation:

$$lnW = \alpha + \sum_{l \in levels} \beta_l y_{R,l} D_l + \sum_{l \in levels} \delta_l I_l + \gamma_1 Exp + \gamma_2 Exp^2 + \varepsilon$$

where lnW represents logarithmic form of daily wages, $D_l = 1$ indicates that the worker has completed education level l, $y_{R,l}$ denotes the required number of years needed to complete level l[7], $I_l = 1$ indicates that the worker did not complete their education part-way through level l, and Exp is the potential labor market experience of an individual, which is defined by the respondent's age minus 15.

[7] Primary education was assumed to require **6 years** of education, Secondary education was assumed to require **4 years** of education, and College education was assumed to require **4 years** of education. These estimates are provided as per the K-12 curriculum of the DepEd (Parrocha, 2023) while assuming that none of the survey respondents were college graduates who completed upper secondary education. An important assumption was also to disregard the difference of attaining lower secondary education from upper secondary education (and simply aggregating it as secondary education) due to the fact that only a small portion of graduates were upper secondary graduates by this period. Moreover, we hold the assumption that it takes 4 years to complete a college degree as per most programs available in the country.

The term $\alpha + \sum_{l \in levels} \beta_l y_{R,l} D_l$ underscores the effect of attaining education on the wages of said occupation. The dummy variables D_l vary depending on the highest education completed of the respondent and the coefficient β_l captures the percentage change in wage for educational level *l*. The following summary in ***Table II*** displays the value of the equation depending on the highest education completed:

Table II. Mincerian Wage Equation on Effect of Attaining Education

Highest Education Completed	Dummy Variables	Equation
if no education	$D_1 = 0,\ D_2 = 0,\ D_3 = 0$	α
if primary education	$D_1 = 1,\ D_2 = 0,\ D_3 = 0$	$\alpha + \beta_1 y_{R,1}$
if secondary education	$D_1 = 1,\ D_2 = 1,\ D_3 = 0$	$\alpha + \beta_1 y_{R,1} + \beta_2 y_{R,2}$
if college education	$D_1 = 1,\ D_2 = 1,\ D_3 = 1$	$\alpha + \beta_1 y_{R,1} + \beta_2 y_{R,2} + \beta_3 y_{R,3}$

Source: Author

Occupations were only considered unskilled jobs if the β_2 and β_3 were lower than a certain threshold; that is if the returns on wages for secondary and college education were below an expected level of return. This was a logical approach to identify 'unskilled' jobs since returns below the threshold imply that the tested occupation did not adequately reward education beyond primary education, with wage returns insufficient to justify the investment in secondary and college education. The threshold I used was 0.07, meaning jobs where returns on each year of secondary and college education contribute below 7%

of its wage were considered unskilled jobs. This 7% cutoff aligned with Mehta et al.'s research, where nearly all studies on overeducation show that surplus education returns were below 7%. Additionally, the real wage returns were likely much lower than 7% since the wage returns mentioned do not account for the direct costs of education. Nevertheless, I also conducted a robustness check for other thresholds[8].

Each job was identified by a combination of the occupational code from the LFS based on the Philippine Standard Occupational Classification at the 4-digit level, the sex of the worker[9], and the type of employer. This consequently led me to identify a grand total of 5,136 jobs from the survey, which were individually subjected to the mincerian wage equation.

For the ***second step***, I assumed that all unskilled jobs required primary education since there are too few workers without primary education to accurately assess returns to primary education in most occupations. Since graduates were not sufficiently rewarded in these jobs, workers with secondary or college education who were found working in unskilled jobs were considered overeducated.

[8] See ***Table III*** in ***Appendix*** for the results of the robustness checks on thresholds of 0.02, 0.05, and 0.10

[9] The consideration of occupations being different for different sexes (women and men) is due to the notion that men and women engage in different activities and they have different educational levels. See ***Figure VI*** and ***Figure VII*** in the ***Appendix*.**

Aggregation to Provincial Level and Model Specification

To answer the extent of overeducation across provinces, I aggregated the survey dataset by utilizing the final weight based on a projection per individual across the 83 provinces as provided by the Philippine Statistics Authority (2021a)[10]. An **Ordinary Least Squares regression model** was then employed to identify the relationship between overeducation and the structural characteristics of each province. For the dependent variable, the share of overeducation was calculated by dividing the estimated number of overeducated over the estimated number of employed for each province (Fouquet, 2023). The regression model is shown as:

$$ShareofOvereducation_j = \alpha_0 + \alpha_1 PopulationDensity_j + \alpha_2 UnemploymentRate_j + \sum_{s \in sectors} \alpha_{s,j} EmploymentSharebySector_{s,j}$$
$$+ \alpha_3 NumberofHigherEducationInstitutions_j + \alpha_4 OverallCMCIScore_j$$
$$+ \alpha_5 ShareofYouth_j + \alpha_6 ShareofFemales_j + \epsilon_j$$

where: $ShareofOvereducation_j$ is the amount of people overeducated relative to the total number of employed in a province *j*

For the right hand side, the labor market structure of each province was accounted for using variables on population density, unemployment rate, and employment share by sector. Population density, representing the estimated number of individuals per square kilometer in a province, served as a proxy for labor market size, allowing for normalization across province sizes (PhilippineStatistics Authority, 2021b). Additionally,

[10] See ***Figure VIII*** in ***Appendix*** for the aggregation strategy

data on the unemployment rate, obtained from the Philippine Statistics Authority (2023), was utilized to gauge labor market competition within each province. Employment share by sector was based on the Philippine Standard Industrial Classification (PSIC) at one-digit alphabetical codes (Philippine Standard Industrial Classification, n.d.). Out of the 20 identified sectors, I aggregated the sectors into 16 sectors[11] to take into account the limited number of employees in niche sectors such as in extra-territorial organizations and from here, the *"Professional and business services"* sector was used as reference to mitigate multicollinearity.

For provincial specific characteristics, I also included variables on the number of higher education institutions and overall CMCI score. This overall CMCI score, compiled by the Department of Trade and Industry (n.d.), was an index of 0 to 100 that summed measures on expansions in businesses and employment, government taxation and expenditure, and the presence of industries and infrastructure. Lastly, demographic distribution of a province necessitated control for variables on the share of the youth and the share of females. The share of youth was the estimated number of employees who were aged 25 or below. ***Table IV*** in **Appendix** provides a summary of the variables that will be used in the OLS regression model with their definition and specifications.

[11] See ***Table XII*** in ***Appendix***

Results and Discussion

Among the possible jobs in the survey, 62 out of 5136 were listed as unskilled jobs, using the 0.07 threshold. On a null hypothesis that the returns on secondary education (*coeff_secondary*) and on college education (*coeff_college*) was greater than or equal to 0.07, only jobs with results that had significant coefficients on a level of significance of 0.10 were included in the list. These unskilled jobs typically fell under elementary occupations such as shopkeepers, cleaners, and drivers, but also included occupations in agriculture and construction sectors such as crop farm and building construction laborers[12]. The following ***Table V*** shows the list of jobs as indicated by the occupation code, type of employer and sex:

Table V. List of Unskilled Jobs

Occupation	Type of Employer	Sex	Coeff_Secondary	Coeff_College	Sample Size
Welders and flame cutters	Worked for private establishment	Male	0.01369*** (0.00759)	-0.00163*** (0.01153)	1087
Crop farm laborers	Worked for private establishment	Male	0.00946*** (0.00298)	0.02272*** (0.00765)	8169
Crop farm laborers	Worked for private establishment	Female	0.00957*** (0.00441)	0.02419*** (0.00956)	2867

[12]The list of unskilled jobs were consistent with results of Mehta et al. (2011); overeducation was common among domestic cleaners and drivers, with 72.66% and 74.88% holding secondary and college degrees (See ***Figure IX*** in **Appendix**).

Occupation	Type of Employer	Sex	Coeff_Secondary	Coeff_College	Sample Size
Building construction laborers	Worked for private establishment	Male	0.00959*** (0.00166)	-0.00423*** (0.00372)	13038
Building construction laborers	Worked for private establishment	Female	0.01067** (0.02716)	-0.02852*** (0.03281)	70
Security guards	Worked for private establishment	Male	0.04975** (0.01018)	0.01467*** (0.00488)	2787
Shopkeepers	Worked for private establishment	Female	0.03497*** (0.01364)	0.03754*** (0.0078)	1587
Domestic cleaners and helpers	Worked for private household	Male	0.04317* (0.01771)	-0.04188*** (0.0343)	619
Domestic cleaners and helpers	Worked for private household	Female	0.01288*** (0.005)	0.00567*** (0.01233)	4426
Heavy truck and lorry drivers	Worked for private establishment	Male	0.01732*** (0.00739)	-0.01055*** (0.01144)	1531
Cooks	Worked for private establishment	Male	0.01299*** (0.0211)	0.03707*** (0.01314)	469
Cooks	Worked for private establishment	Female	0.031** (0.01792)	0.02715** (0.01977)	346
Waiters	Worked for private establishment	Female	0.03987** (0.01573)	0.03864*** (0.01161)	846
Messengers, package deliverers and luggage porters	Worked for private establishment	Male	0.04106*** (0.00848)	0.01494*** (0.0069)	2464
Stall and market salespersons	Worked for private establishment	Male	0.02856*** (0.01458)	0.03155*** (0.01309)	679

Occupation	Type of Employer	Sex	Coeff_Secondary	Coeff_College	Sample Size
Motorcycle drivers	Worked for private establishment	Male	0.04873** (0.01201)	0.019*** (0.01326)	1050
Shelf fillers	Worked for private establishment	Male	0.02294*** (0.01527)	0.01269** (0.02945)	442
Shelf fillers	Worked for private establishment	Female	0.01676*** (0.02013)	0.04101* (0.0177)	501
Hand launderers and pressers	Worked for private household	Female	0.00859*** (0.00743)	0.03614* (0.02377)	1886
Mixed crop and livestock farm laborers	Worked for private establishment	Male	0.01878** (0.02313)	-0.16136*** (0.06634)	177
Street food salespersons	Worked for private establishment	Female	0.00143* (0.04385)	-0.04418*** (0.04026)	53
Building caretakers	Worked for private establishment	Female	0.01832** (0.02608)	0.00182** (0.0323)	281
Motor vehicle mechanics and repairers	Worked for private establishment	Male	0.02629*** (0.01172)	0.01063*** (0.01082)	943
Butchers, fishmongers, and related food preparers	Worked for private establishment	Male	-0.00604*** (0.0198)	-0.01797*** (0.02608)	336
General office clerks	Worked for private establishment	Female	-0.01818** (0.04095)	0.03185*** (0.00699)	1390
Car, taxi, and van drivers	Worked for private establishment	Male	0.03649*** (0.00867)	0.02178*** (0.00765)	1942
Car, taxi, and van drivers	Worked for private household	Male	0.03527** (0.01752)	-0.04268*** (0.02038)	418

Occupation	Type of Employer	Sex	Coeff_Secondary	Coeff_College	Sample Size
Carpenters and joiners	Worked for private establishment	Male	0.01157*** (0.0038)	-0.00587*** (0.00916)	2746
Freight handlers	Worked for private establishment	Male	0.02346*** (0.00931)	0.01563*** (0.01655)	1203
Manufacturing laborers not elsewhere classified	Worked for private establishment	Male	0.04282** (0.01223)	0.04288* (0.02028)	780
Painters and related workers	Worked for private establishment	Male	0.00963*** (0.00597)	-0.0226*** (0.01067)	925
Kitchen helpers	Worked for private establishment	Male	0.02484* (0.02989)	-0.03164*** (0.03222)	272
Kitchen helpers	Worked for private establishment	Female	0.04802* (0.01704)	-0.02492*** (0.02836)	467
Electrical mechanics and fitters	Worked for private establishment	Male	0.01316* (0.03645)	-0.02007*** (0.01769)	77
Shop sales assistants	Worked for private establishment	Male	0.04004** (0.01529)	0.04273*** (0.00867)	931
Household service providers	Worked for private household	Female	0.01885** (0.02183)	-0.00641** (0.04341)	226
Sales workers not elsewhere classified	Worked for private establishment	Male	0.00636** (0.03119)	0.02912** (0.01758)	225
Cleaning and housekeeping supervisors in offices, hotels and other establishments	Worked for private establishment	Male	0.00803** (0.02936)	0.00578*** (0.0182)	213

Occupation	Type of Employer	Sex	Coeff_Secondary	Coeff_College	Sample Size
Cleaners and helpers in offices, hotels and other establishments	Worked for private establishment	Male	0.02441*** (0.01172)	-0.01719*** (0.01413)	843
Beauticians and related workers	Worked for private establishment	Male	-0.0067* (0.05607)	-0.02229** (0.04588)	93
Beauticians and related workers	Worked for private establishment	Female	0.00942** (0.02612)	0.01143** (0.02914)	295
Sales demonstrators	Worked for private establishment	Female	-0.00093* (0.04503)	0.00856*** (0.01256)	247
Spray painters and varnishers	Worked for private establishment	Male	0.03135* (0.02545)	-0.00063** (0.03112)	93
Child care workers	Worked for private household	Female	-0.01319*** (0.0143)	0.01517*** (0.02181)	730
Electrical line installers and repairers	Worked for private establishment	Male	0.01697*** (0.02133)	-0.00901*** (0.01024)	575
Sheet metal workers	Worked for private establishment	Male	-0.03223*** (0.03442)	-0.0021** (0.03077)	48
Sewing, embroidery and related workers	Worked for private establishment	Male	-0.01479*** (0.02418)	0.00571*** (0.02588)	135
Debt collectors and related workers	Worked for private establishment	Male	0.01174* (0.04125)	0.01756*** (0.00711)	488
Building and related electricians	Worked for private establishment	Male	0.01254*** (0.02081)	0.01353*** (0.0092)	576
Stock clerks	Worked for private establishment	Female	-0.01318** (0.04744)	0.00334*** (0.00973)	246

Occupation	Type of Employer	Sex	Coeff_Secondary	Coeff_College	Sample Size
Stonemasons, stone cutters, splitters and carvers	Worked for private establishment	Male	0.01074*** (0.00457)	-0.01979*** (0.01508)	1241
Mining and quarrying laborers	Worked for private establishment	Male	0.02528*** (0.01478)	0.02457** (0.02559)	402
Structural metal preparers and erectors	Worked for private establishment	Male	0.00733** (0.02923)	-0.01025** (0.04332)	55
Commercial sales representatives	Worked for private establishment	Male	-0.08884** (0.08478)	0.05306* (0.01085)	312
Concrete placers, concrete finishers and related workers	Worked for private establishment	Male	0.00289*** (0.01592)	-0.05007*** (0.03712)	132
Food and related products machine operators	Worked for private establishment	Female	-0.17688*** (0.06609)	-0.02069*** (0.02466)	53
Production clerks	Worked for private establishment	Male	0.02791** (0.02388)	0.01312*** (0.01332)	205
Production clerks	Worked for private establishment	Female	0.01154* (0.03771)	0.01434*** (0.01547)	182
Earthmoving and related plant operators	Worked for private establishment	Male	-0.09636*** (0.04437)	-0.12023** (0.08047)	46
Electrical and electronic equipment assemblers	Worked for private establishment	Male	0.00455*** (0.02001)	0.03712*** (0.00877)	338
Sewing machine operators	Worked for private establishment	Male	0.02846* (0.02469)	-0.00174** (0.03336)	37

Occupation	Type of Employer	Sex	Coeff_Secondary	Coeff_College	Sample Size
Fruit, vegetable and related preservers	Worked for private establishment	Male	0.00801** (0.0269)	-0.03784*** (0.01991)	54

*Note: ***,**,* denotes 1%, 5%, and 10% significance level, respectively.*

Source: Author's Computation; Family Income and Expenditure Survey - Labor Force Survey 2021

These unskilled jobs occupied 36.88% of total employment in the Philippines, meaning that by 2021, at least 1 out of 3 jobs in the country did not need more than primary education to perform its tasks[13]. In NCR alone, the metropolitan capital of the Philippines which was the country's richest and most productive region[14], about 35.19% of jobs did not require secondary or college education[15]. Nationally, the most prominent among these unskilled jobs were elementary occupations which included crop farm laborers and building construction laborers, contributing 18.89% and 18.36% of unskilled jobs, followed by domestic cleaners (6.65%) and drivers (4.29%).

At the national level, I found that 27.06% of the total workforce (9.62 million out of 35.54 million) were overeducated, suggesting that at least 1 in 4 Filipinos held an education level that was underutilized by their current occupation. Most of those who were overeducated where secondary graduates (21.71%), followed by college graduates

[13] Findings suggest that among those aged 15 to 60 years old that were not employed in public institutions, total employment in unskilled jobs was 13.11 million while total employment in the country was 35.54 million

[14] The Gross Regional Domestic Product (GRDP) per capita in the National Capital Region (NCR) by 2022 was twice as large as the national average and nearly eight times greater than the region with the lowest GRDP per capita (Philippine Institute for Development Studies).

[15] See ***Table VI*** in ***Appendix***

(5.35%)[16]. Interestingly, while these graduates were mostly working as building construction laborers (17.12%) and crop farm laborers (12.71%)[17], the reason why secondary and college graduates were overeducated differs. Among the overeducated secondary college graduates, 19.41% worked as building construction laborers and 14.38% worked as crop farm laborers, however among the overeducated college graduates, 12.08% worked as general office clerks and 8.13% worked as security guards[18].

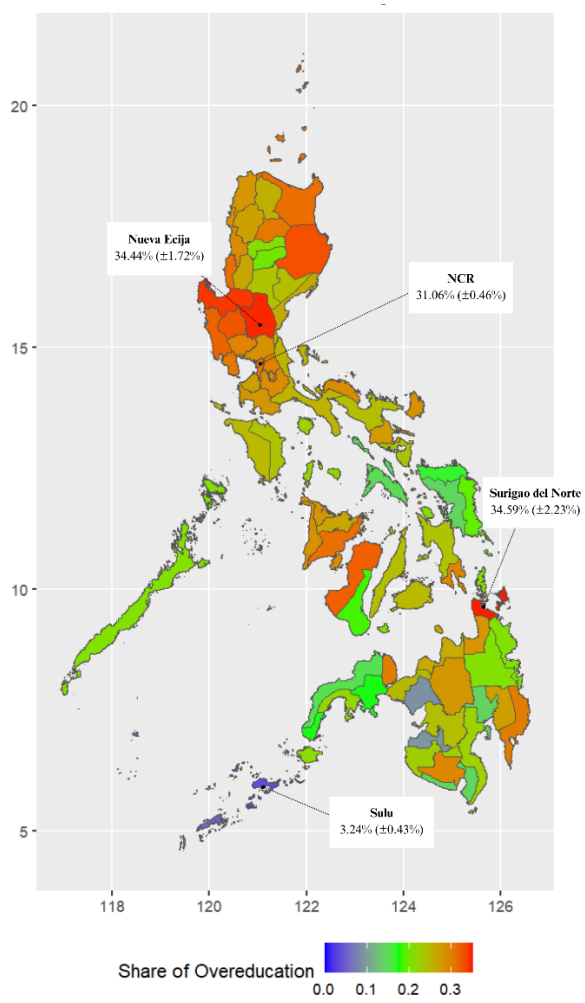
What is the extent of overeducation in provinces?

At the provincial level across 83 regions, the prevalence of overeducation varies, ranging from a minimum of 3.24% in Sulu to a maximum of 34.59% in Surigao del Norte. In 74 out of 83 provinces, over 30% of secondary graduates were overeducated and in 60 out of 83 provinces, over 20% of college graduates were overeducated. On average, across all provinces, the share of overeducation was 24.67%. The National Capital Region (NCR) has the highest employment with 5,717,402 workers, while its share of the overeducation rate stood at a high 31.06%. Cebu followed with a sizable total employment of 1,633,185 and an overeducation rate of 24.33%, slightly below the national average. In contrast, Batanes, with a mere 4,530 workers, exhibited a high share of overeducation at 31.25% and Siquijor, despite its small labor force of 32,878, also showed a notable share of

[16]Among the 9.61 million who were overeducated, 7.72 million were secondary graduates while 1.9 million were college graduates. In ***Appendix***, see ***Table VII*** for the breakdown of values at the national level.
[17]Out of the 9.61 million who were overeducated, 16.47 million were working as 16.78 million building construction laborers and 12.22 million crop farm laborers.
[18]See ***Table VIII*** and ***Table IX*** in ***Appendix*** for the top unskilled jobs where overeducated secondary and college graduates were employed in.

overeducation of 21.09%. On the other hand, Davao Occidental, employing 108,989 individuals, maintained a low share of overeducation of 14.14%, and Samar (Western Samar), with employment figures of 231,188, has a similarly low share at 14.38%. These findings are detailed in **Table X** and geographically represented in **Figure X**.

Figure X. Map of Share of Overeducation by Province



Source: Author's Computation; Family Income and Expenditure Survey - Labor Force Survey 2021

Table X. Aggregated Share of Overeducation per Province

Province	Total Employment	Total Overeducated	Share of Overeducation
Abra	94,561.674 (3.473%)	25,551.256 (5.453%)	27.02% (1.47%)
Agusan del Norte	216,045.078 (2.046%)	60,762.381 (3.503%)	28.12% (0.99%)
Agusan del Sur	265,391.145 (3.046%)	54,631.860 (5.556%)	20.59% (1.14%)
Aklan	179,589.494 (3.403%)	49,931.250 (5.487%)	27.80% (1.53%)
Albay	389,784.811 (3.216%)	107,532.904 (4.972%)	27.59% (1.37%)
Antique	182,933.255 (3.306%)	51,730.032 (5.147%)	28.28% (1.46%)
Apayao	36,737.043 (4.929%)	9,365.681 (8.215%)	25.49% (2.09%)
Aurora	69,964.261 (3.298%)	18,186.544 (5.288%)	25.99% (1.37%)
Basilan	120,470.480 (2.729%)	25,587.027 (5.239%)	21.24% (1.11%)
Bataan	263,028.123 (3.483%)	80,304.257 (5.245%)	30.53% (1.60%)
Batanes	4,530.172 (9.093%)	1,415.888 (8.713%)	31.25% (2.72%)
Batangas	1,088,793.540 (3.062%)	302,423.273 (4.616%)	27.78% (1.28%)
Benguet	318,024.253 (2.324%)	84,198.594 (4.031%)	26.48% (1.07%)
Biliran	52,471.397 (3.382%)	11,034.040 (6.241%)	21.03% (1.31%)

Province	Total Employment	Total Overeducated	Share of Overeducation
Bohol	372,957.138 (3.445%)	92,704.678 (5.783%)	24.86% (1.44%)
Bukidnon	555,752.761 (3.005%)	155,255.949 (4.912%)	27.94% (1.37%)
Bulacan	1,147,479.939 (3.162%)	326,947.681 (4.96%)	28.49% (1.41%)
Cagayan	454,225.869 (2.953%)	141,394.183 (4.597%)	31.13% (1.43%)
Camarines Norte	167,611.777 (3.37%)	48,595.103 (5.477%)	28.99% (1.59%)
Camarines Sur	502,399.736 (3.335%)	121,962.867 (5.89%)	24.28% (1.43%)
Camiguin	26,259.902 (5.003%)	6,966.923 (7.613%)	26.53% (2.02%)
Capiz	274,115.656 (3.156%)	72,957.749 (5.357%)	26.62% (1.43%)
Catanduanes	76,892.819 (3.69%)	21,710.370 (6.184%)	28.23% (1.75%)
Cavite	1,297,613.306 (3.225%)	350,627.600 (5.115%)	27.02% (1.38%)
Cebu	1,633,184.933 (2.005%)	397,328.700 (3.443%)	24.33% (0.84%)
Compostela Valley	216,211.132 (3.182%)	58,639.739 (5.479%)	27.12% (1.49%)
Davao del Norte	348,367.730 (2.857%)	115,995.557 (4.359%)	33.30% (1.45%)
Davao del Sur	905,834.977 (2.14%)	272,420.604 (3.333%)	30.07% (1.00%)
Davao Occidental	108,988.642	15,413.684	14.14%

Province	Total Employment	Total Overeducated	Share of Overeducation
	(3.116%)	(6.88%)	(0.97%)
Davao Oriental	158,469.335 (3.146%)	35,044.101 (6.004%)	22.11% (1.33%)
Dinagat Islands	30,091.860 (5.259%)	6,189.538 (9.721%)	20.57% (2.00%)
Eastern Samar	133,225.094 (3.602%)	25,547.261 (6.774%)	19.18% (1.30%)
Guimaras	53,648.185 (4.944%)	15,456.915 (9.134%)	28.81% (2.63%)
Ifugao	68,111.851 (3.18%)	13,486.039 (6.119%)	19.80% (1.21%)
Ilocos Norte	267,369.470 (2.853%)	74,987.862 (4.574%)	28.05% (1.28%)
Ilocos Sur	226,735.931 (3.001%)	65,145.480 (4.944%)	28.73% (1.42%)
Iloilo	877,776.520 (2.606%)	273,839.791 (3.916%)	31.20% (1.22%)
Isabela	541,524.996 (2.928%)	177,746.151 (4.458%)	32.82% (1.46%)
Kalinga	69,753.358 (3.324%)	21,147.347 (5.375%)	30.32% (1.63%)
La Union	246,974.915 (3.134%)	76,637.223 (5.026%)	31.03% (1.56%)
Laguna	1,170,127.059 (3.062%)	337,514.381 (4.541%)	28.84% (1.31%)
Lanao del Norte	298,264.322 (2.269%)	73,167.443 (4.128%)	24.53% (1.01%)
Lanao del Sur	313,808.194 (2.637%)	27,613.981 (7.714%)	8.80% (0.68%)

Province	Total Employment	Total Overeducated	Share of Overeducation
Leyte	608,924.811 (2.774%)	145,426.775 (4.883%)	23.88% (1.17%)
Maguindanao	405,239.146 (3.017%)	37,704.981 (8.348%)	9.30% (0.78%)
Maguindanao del Norte	102,665.566 (3.64%)	22,766.289 (6.618%)	22.18% (1.47%)
Marinduque	64,902.280 (3.486%)	14,486.006 (6.256%)	22.32% (1.40%)
Masbate	312,479.063 (3.155%)	46,762.238 (6.808%)	14.96% (1.02%)
Misamis Occidental	206,540.603 (3.317%)	61,587.174 (4.933%)	29.82% (1.47%)
Misamis Oriental	594,015.871 (2.015%)	155,244.307 (3.415%)	26.13% (0.89%)
Mountain Province	64,019.892 (3.303%)	13,432.737 (6.199%)	20.98% (1.30%)
NCR	5,717,401.822 (0.884%)	1,775,966.889 (1.478%)	31.06% (0.46%)
Negros Occidental	1,079,278.117 (2.484%)	345,292.852 (3.87%)	31.99% (1.24%)
Negros Oriental	456,616.531 (3.275%)	83,325.882 (6.035%)	18.25% (1.10%)
North Cotabato	542,641.467 (2.99%)	131,147.004 (5.244%)	24.17% (1.27%)
Northern Samar	175,375.551 (3.299%)	29,200.861 (6.905%)	16.65% (1.15%)
Nueva Ecija	733,452.311 (3.286%)	252,595.816 (4.987%)	34.44% (1.72%)
Nueva Vizcaya	149,120.450	35,632.518	23.90%

Province	Total Employment	Total Overeducated	Share of Overeducation
	(3.163%)	(5.398%)	(1.29%)
Occidental Mindoro	159,499.065 (3.181%)	39,580.752 (5.625%)	24.82% (1.40%)
Oriental Mindoro	273,820.691 (3.166%)	64,751.766 (5.406%)	23.65% (1.28%)
Palawan	379,208.810 (2.38%)	78,197.587 (4.321%)	20.62% (0.89%)
Pampanga	1,010,159.455 (2.324%)	298,367.329 (3.666%)	29.54% (1.08%)
Pangasinan	894,012.036 (3.116%)	303,461.683 (4.656%)	33.94% (1.58%)
Quezon	650,759.989 (2.802%)	164,401.816 (4.878%)	25.26% (1.23%)
Quirino	59,548.639 (3.312%)	14,361.513 (5.863%)	24.12% (1.41%)
Rizal	852,710.124 (3.231%)	251,009.517 (4.976%)	29.44% (1.46%)
Romblon	89,053.066 (3.321%)	19,555.353 (6.625%)	21.96% (1.45%)
Samar (Western Samar)	231,188.866 (3.316%)	33,243.518 (6.977%)	14.38% (1.00%)
Sarangani	167,803.046 (3.215%)	24,168.073 (6.9%)	14.40% (0.99%)
Siquijor	32,878.009 (4.929%)	6,933.765 (8.375%)	21.09% (1.77%)
Sorsogon	243,443.283 (3.082%)	57,245.280 (5.479%)	23.51% (1.29%)
South Cotabato	573,065.603 (2.022%)	166,397.702 (3.38%)	29.04% (0.98%)

Province	Total Employment	Total Overeducated	Share of Overeducation
Southern Leyte	106,859.774 (3.432%)	31,529.407 (5.586%)	29.51% (1.65%)
Sultan Kudarat	279,674.996 (2.943%)	63,670.515 (5.354%)	22.77% (1.22%)
Sulu	241,544.545 (2.937%)	7,825.593 (13.267%)	3.24% (0.43%)
Surigao del Norte	150,407.522 (4.451%)	52,021.104 (6.434%)	34.59% (2.23%)
Surigao del Sur	181,490.755 (3.102%)	37,268.386 (5.648%)	20.53% (1.16%)
Tarlac	431,118.267 (3.188%)	141,116.213 (4.968%)	32.73% (1.63%)
Tawi-Tawi	86,903.378 (2.888%)	4,638.585 (10.501%)	5.34% (0.56%)
Zambales	275,413.945 (2.506%)	87,552.647 (3.837%)	31.79% (1.22%)
Zamboanga del Norte	365,331.983 (3.132%)	63,212.883 (6.346%)	17.30% (1.10%)
Zamboanga del Sur	558,230.877 (1.9%)	119,627.228 (3.967%)	21.43% (0.85%)
Zamboanga Sibugay	205,283.538 (3.129%)	31,239.146 (6.645%)	15.22% (1.01%)

The standard errors for total employment and overeducated are reported in parentheses as estimated by the aggregation strategy. The standard error for the share of overeducation is equal to the standard error of the total overeducated divided by the total employment.

Source: Author's Computation; Family Income and Expenditure Survey - Labor Force Survey 2021

What structural characteristics of provinces influence overeducation?

Interestingly, the results suggested that the reason for overeducation of college graduates differed among these provinces[19]. For instance, in NCR and and Cebu, a large portion of college graduates were overeducated because they working as general office clerks (18.99% and 11.41% respectively) while in Batanes and Siquijor, the larger portion of overeducation from college graduates came from working as building construction laborers. On the other hand, provinces with relatively high employment and a low share of overeducation such as Davao Occidental and Western Samar did not have the same problems where most of their overeducated graduates ended up working as shelf fillers and electrical line installers and repairers instead.

When I tested the correlation of overeducation with the structural characteristics of provinces, the share of youth and females had significant results until I fitted variables on the share of employment by sector. Interestingly, the share of youth had a negative impact while the share of females had a positive correlation on the share of overeducation, suggesting implications on underlying issues on employment outcomes for the elderly and for women. Surprisingly, while CMCI score and the number of higher education institutions had a positive correlation, both proved to be statistically insignificant. Notably, in comparison to the "Professional and business services" sector, the sector of food services, finance, and real estate have positive correlations.

[19] See ***Table XI*** in **Appendix** for the top unskilled jobs where overeducated graduates were employed across provinces.

Table XII. OLS Regression Results

Dependent Variable is Share of Overeducation (0 to 100)

Variables	Model A	Model B	Model C	Model D
(Intercept)	5.59596 (6.06437)	2.4506 (7.2993)	-0.53345 (8.33891)	-43.56309 (45.28058)
ShareofYouth (0 to 100)	***-0.57397**** ***(0.21421)***	***-0.53964**** ***(0.24852)***	***-0.54913**** ***(0.25868)***	0.18469 (0.25887)
ShareofFemales (0 to 100)	***0.84865**** ***(0.15677)***	***0.89422**** ***(0.17758)***	***0.94655**** ***(0.19455)***	0.11668 (0.20341)
NumberofHigherEducationInstitutions		-0.00671 (0.0299)	0.0047 (0.03593)	-5e-04 (0.03805)
OverallCMCIScore		0.03018 (0.10197)	0.05112 (0.10617)	0.04603 (0.09303)
PopulationDensity			-0.00153 (0.00199)	-0.00242 (0.00205)
UnemploymentRate			0.13065 (0.28067)	-0.16082 (0.26582)
Accommodation and Food Service Activities				***1.71022**** ***(0.94528)***
Agriculture, Forestry And Fishing				0.48393 (0.44879)
Construction				1.08169* (0.56207)
Education				1.65686 (1.69275)
Electricity, steam, water and waste management				-3.39319 (3.17187)
Financial and Insurance Activities				***3.37159**** ***(1.65951)***
Human Health and Social Work Activities				3.23716 (2.42526)
Information and Communication				0.29247 (2.25418)
Manufacturing				0.41525

Dependent Variable is Share of Overeducation (0 to 100)

Variables	Model A	Model B	Model C	Model D
				(0.49012)
Mining And Quarrying				0.51608 (0.61761)
Other services				0.91644 (0.57173)
Public Administration and Defense; Compulsory Social Security				-10.50089 (14.83491)
Real Estate Activities				***10.63587***** ***(5.30552)***
Transportation and Storage				0.39569 (0.63118)
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles				0.24809 (0.43002)
Prob > F	1.745e-06	3.891e-05	0.0002367	1.602e-06
R-squared	0.2851	0.2889	0.2952	0.6344
N	83	80	80	80

Note: Out of the 16 identified sectors, the "Professional and business services" sector was used as reference to mitigate multicollinearity.
****,**,* denotes 1%, 5%, and 10% significance level, respectively.*
The standard errors are reported in parentheses.
Source: Author's Computation; Family Income and Expenditure Survey - Labor Force Survey 2021

These findings of sectors and their relation with overeducation is not surprising. A study utilizing data from the European Social Survey Round 5, covering 27 countries, support this by providing evidence that the highest number of overeducation is found in the Administrative and Accommodation industries, while this is followed by the finance industry, where women are more likely to be overeducated (Tarvid, 2015). The tolerance

of the finance industry on overeducation can be attributed to the business structure of the sector where employers value educational credentials as signals of competence (Zheng, Zhang, & Zhu, 2021). Compared to other industries, the sector prioritizes academic achievements, associating higher education with critical skills and analytical thinking, regardless if the applicant has a relevant degree to the job or not. This was evident in our original survey dataset where 80.54% of total employment in the finance and insurance activities sectors were college graduates while half (52.73%) of the occupations were clerical support workers. The real estate industry also shares the same characteristics with 63.98% of total employment being college graduates but occupations were a mix of associate professionals and managers. The accommodation and food services sector, on the other hand, was dominated by services & sales workers (58.38%) and elementary occupations (21.45%) while 91.74% of their workers were post-primary education graduates.

Conclusion

Overall, while education is instrumental for development, the findings of this thesis highlights 3 key points to contextualize the primary problems faced by secondary and college education graduates in the Philippines to adopt appropriate policy reforms to improve employment outcomes and wages.

First, there is a problem with employment and education. The wage premium for having college and secondary education has declined to about half its value from 2001 and this decline alludes to the mismatch between education and employment in the

country. By 2021, about 77.37% of the workforce were secondary and college graduates but 37% of jobs in the Philippines did not need more than primary education to fully perform its tasks. A large portion of these unskilled jobs consisted of elementary occupations such as crop farm laborers and building construction laborers.

Second, findings provided evidence that 1 out of 4 working Filipinos were overeducated. This extended across all provinces and evidence from the OLS regression suggests that structure of sectors, specifically for finance, real estate, and accommodation and food services, significantly contribute to the high share of overeducation. Moreover, the jobs where overeducated graduates differed across provinces, implying different reasons for overeducation across provinces. A large portion of overeducation among college graduates in rich and metropolitan areas such as NCR and Cebu were caused by employment in general clerical work while overeducation in isolated provinces such as Batanes and Siquijor were driven by employment in construction labor. This evidence of widespread overeducation should suggest that further tailored investigation needs to be conducted on local narratives of mismatches in the Philippines at the provincial level and within the business structure of sectors.

Lastly, the problems of overeducation in the Philippines affected secondary education graduates the most. Among the 9.61 million who were overeducated, 7.72 million were secondary graduates and out of the total employment for secondary

graduates, 42.64% were overeducated[20]. I argue that is the more concerning problem on education in the Philippines in comparison to 20.23% of all college graduates being overeducated (which may simply be due to inexperience in entering the workforce or waiting for employment opportunities abroad).

Yes, the Philippines needs quality education for college graduates, but the findings of this thesis asserts that the public discourse on education is often oversimplified. The reality is that many jobs in the country only require basic literacy and cognitive skills, not advanced college degrees. Survey data suggests a pressing need to first improve employment opportunities for secondary education graduates, who are now often working as construction and farm laborers, which underutilizes their educational investments at the individual level and hampers national productivity as a whole.

[20]Out of 18.09 million secondary graduates, 7.72 million were overeducated while out of 9.4 million college graduates, 1.9 million were overeducated.

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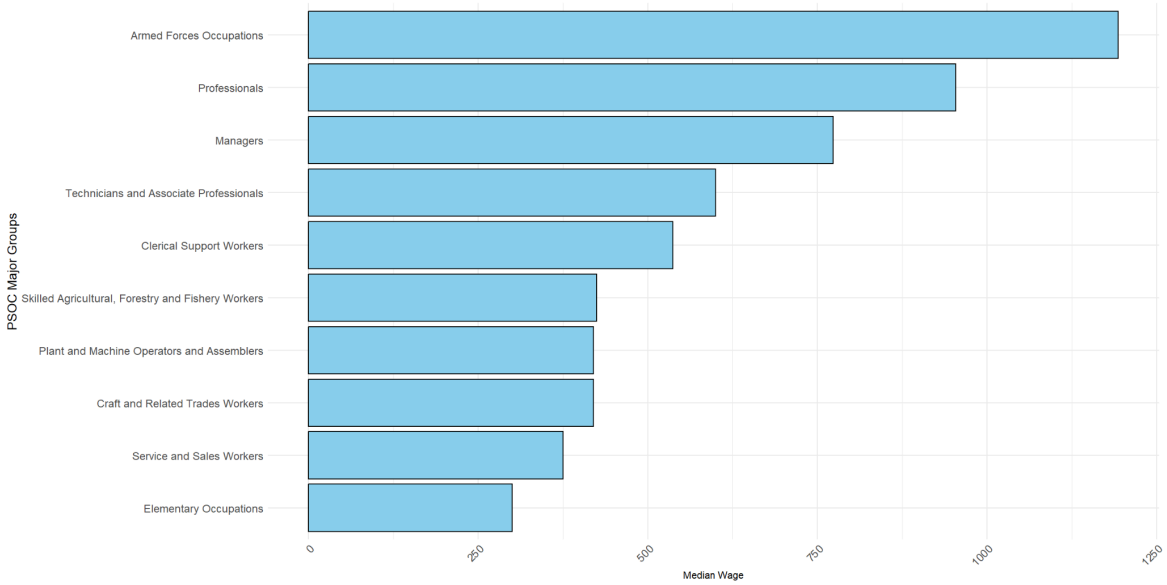
Appendix

Figure II. Median Daily Wages by Occupations

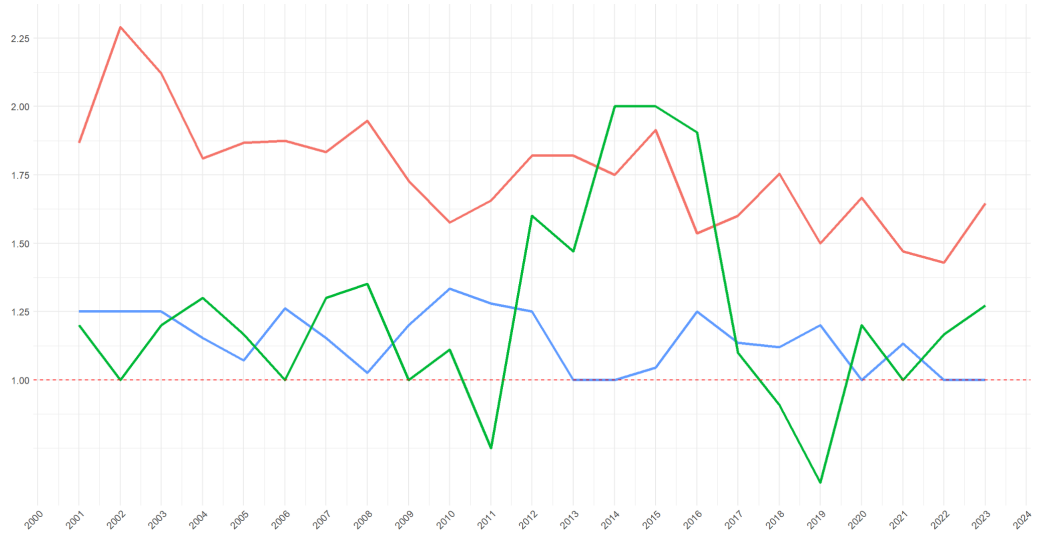


Occupations are referenced from 2012 Philippine Standard Occupational Classification (PSOC)

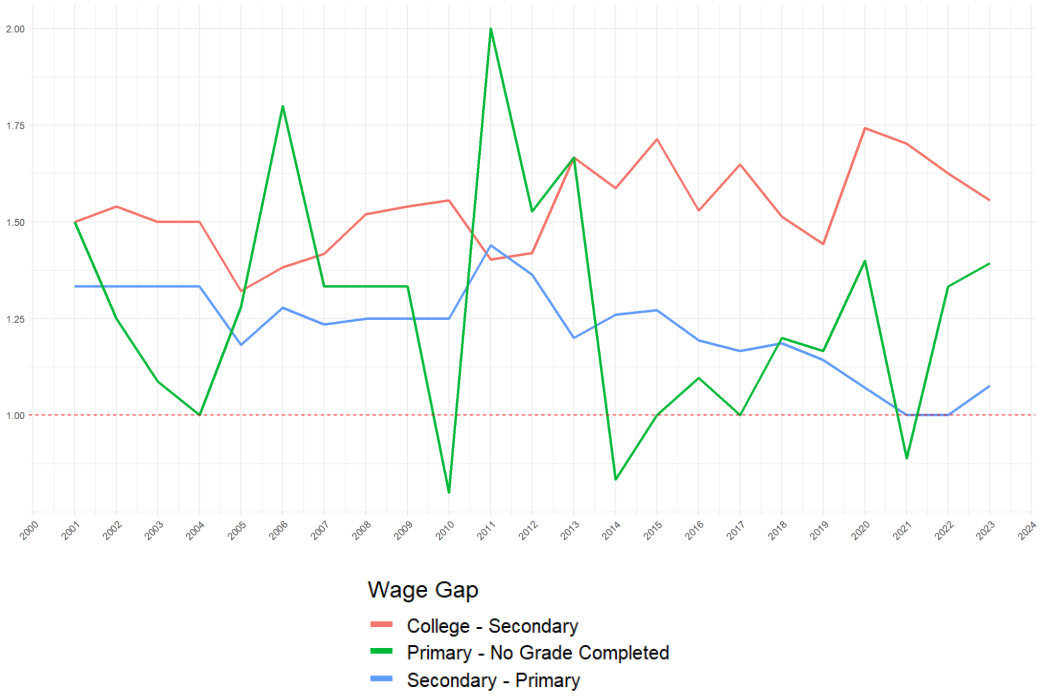
Source: Author's Computation; January Labor Force Survey 2021

Figure V.

Ilocos Region: Difference in Median Daily Wages between Education Levels

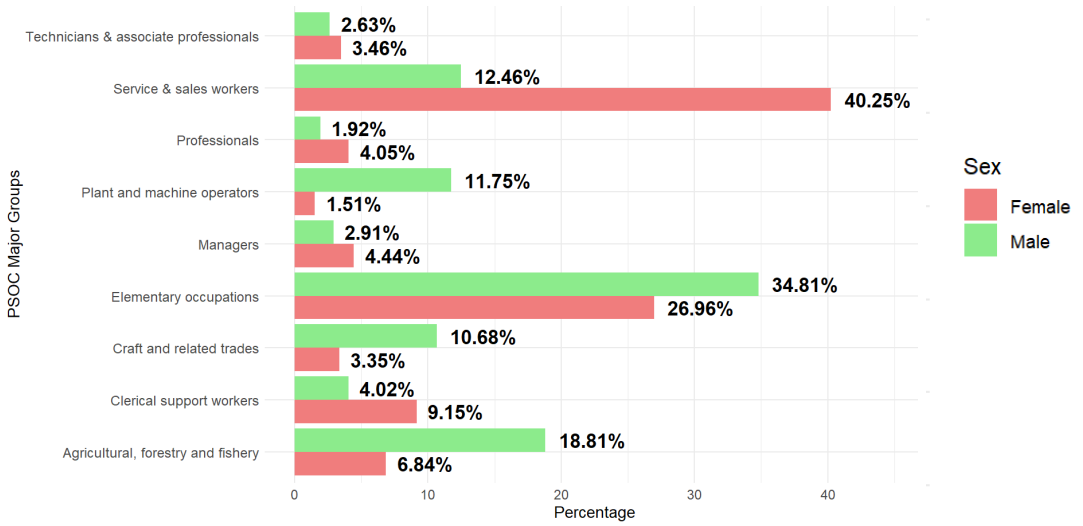


CALABARZON Region: Difference in Median Daily Wages between Education Levels



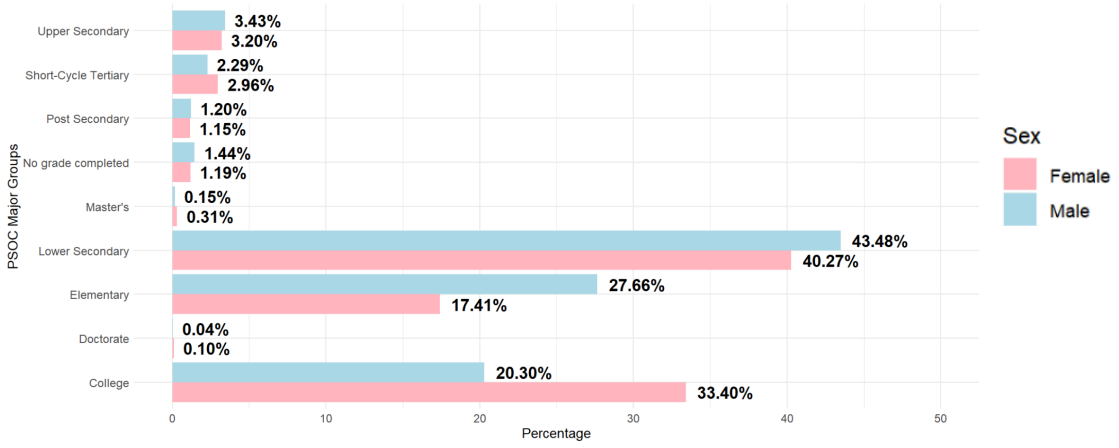
Source: Author's Computation; January 2001 to 2023 Labor Force Survey

Figure VI. Occupation Composition by Gender



Source: Author's Computation; Family Income and Expenditure Survey - Labor Force Survey 2021

Figure VII. Educational Composition by Gender



Source: Author's Computation; Family Income and Expenditure Survey - Labor Force Survey 2021

Figure VIII. Aggregation Strategy

Given that the number of sample replicates were obtained, the weighted total for a province will be solved by utilizing the provided final weight based on a projection ($w'_{p\tau\alpha,fin}$) per individual provided by the Philippines Statistics Authority (2021a). The following model (1) estimates the number of overeducated in a province by performing a summation of the number of overeducated in all sample households multiplied by the respective weight of each respondent within all primary sampling units (α) for all replicates (τ) in a province (ρ).

$$\widehat{Y}_p = \sum_{\tau=1}^{l} \sum_{\alpha=1}^{a_\tau} \sum_{\beta=1}^{b_{\tau\alpha}} w'_{p\tau\alpha,fin} y_{p\tau\alpha\beta} \quad \textit{for } l = 1 \textit{ to } L \textit{ sample replicates}$$

where:

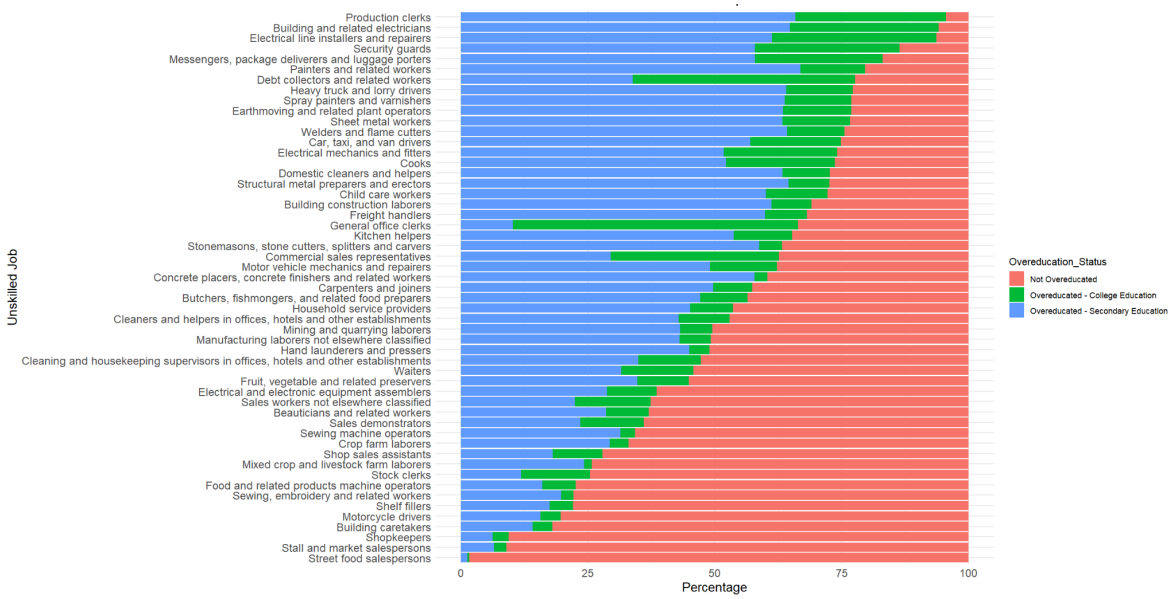
$y_{p\tau\alpha\beta}$ *is the variable of interest for a sampling house unit/respondent* *(dummy variable of overeducation)*

$w'_{p\tau\alpha,fin}$ *is the final weight for a sampling house unit*

$\widehat{Y}_p$ *is the estimated value of the variable of interest in domain* ρ *(number of overeducated in province* ρ*)*

The same strategy was used to aggregate at the national level.

Figure IX. Distribution of Secondary and College Graduates in Unskilled Jobs



Note: The provided total percentages were aggregated levels of the 63 unskilled jobs based on their occupational classification at the 4 digit level. However, the numbers used for the percentages of overeducated secondary and college graduates were from the 63 unskilled jobs.

Source: Author's Computation; Family Income and Expenditure Survey - Labor Force Survey 2021

Table I. Breakdown of Educational Levels to Aggregated Level

Aggregated Educational Levels	Respondent's Answers on Highest Education Completed
No Education	"None"
Primary Education	"Elementary"
Secondary Education	"Lower Secondary", "Upper Secondary", "Post Secondary", "Short-Cycle Tertiary"
College Education	"Bachelor", "Master's", or "Doctorate

Source: Author

Table III. Robustness Checks on Mincerian Wage Equation

Threshold	Number of Unskilled Jobs out of 5136 Occupations
0.10	101
0.07	62
0.05	33
0.02	7

The significance of the coefficients for secondary and college education were tested on the null hypothesis that the coefficient is greater than or equal to the threshold value. Only occupations with a level of significance of 0.10 were considered unskilled jobs.

Source: Author's Computation; Family Income and Expenditure Survey - Labor Force Survey 2021

Table IV. Summary of Variables and Definitions in the OLS Regression Model

VARIABLES	DEFINITIONS
OUTCOME VARIABLE	
Share of overeducation	This variable is the amount of people overeducated relative to the total number of employed in a province. The variable will range from 0 to 100, indicating the percentage share of overeducation. *Derived from the author's own calculation from the 2021 LFS*
EXPLANATORY VARIABLES	
ShareofYouth	This variable is the share of employed individuals aged between 15 to 25 years. The variable will range from 0 to 100. The estimated share of the age group is weighted and calculated relative to the total estimated population. *Derived from the author's own calculation from the 2021 LFS*
ShareofFemales	The share of females is the estimated percentage of employed females relative to the total employed. The variable will range from 0 to 100. *Derived from the author's own calculation from the 2021 LFS*
PopulationDensity	The variable serves to capture the size of a labor market. Population density is the

	estimated amount of individuals in a province, per square kilometer *Derived from the calculation of the Philippines Statistics Authority (2021b)*
UnemploymentRate	The rate of unemployment in a province will serve to proxy for labor market conditions and competition per province. *Derived from the Philippines Statistics Authority (2023)*
EmploymentSharebySector	The number of employed individuals relative to the total employed are grouped based on the sector of their occupation. Sectors were based on the Philippine Standard Industrial Classification (PSIC) at one-digit alphabetical codes (Philippine Standard Industrial Classification, n.d.). The variable will range from 0 to 100. Out of the 20 identified sectors, I aggregated the sectors into 16 sectors to take into account the limited number of employees in niche sectors such as in extra-territorial organizations and from here, the "Professional and business services" sector was used as reference to mitigate multicollinearity. *Derived from the author's own calculation from the 2021 LFS based on the PSIC at one-digit alphabetical codes.*
NumberofHigherEducation Institutions	Number of institutions that teach higher education in a province. *Derived from the Commission on Higher Education (n.d.).*
OverallCMCIScore	The overall CMCI score is an index of the Economic Dynamism, Government Efficiency, Infrastructure, Resiliency, and Innovation of a province. The variable aims to capture the competitiveness and agglomeration that a province is experiencing. *Derived from the Cities and Municipalities Competitive Index by Department of Trade and Industry (n.d.).*

Source: Author

Table VI. Share of Unskilled Jobs per Province

Province	Total Employment	Unskilled Jobs	Number of Secondary Grads.	Number of College Grads.	Share of Unskilled Jobs	Share of College Grads.	Share of Secondary Grads.
Abra	94,561.674 (3.473%)	34,196.836 (5.446%)	51,495.419 (4.132%)	22,710.716 (6.625%)	36.16% (1.97%)	24.02% (6.63%)	54.46% (4.13%)
Agusan del Norte	216,045.078 (2.046%)	81,288.674 (3.114%)	112,534.958 (2.744%)	51,552.346 (4.039%)	37.63% (1.17%)	23.86% (4.04%)	52.09% (2.74%)
Agusan del Sur	265,391.145 (3.046%)	81,753.070 (4.761%)	141,223.481 (3.84%)	40,033.768 (6.257%)	30.80% (1.47%)	15.08% (6.26%)	53.21% (3.84%)

Province	Total Employment	Unskilled Jobs	Number of Secondary Grads.	Number of College Grads.	Share of Unskilled Jobs	Share of College Grads.	Share of Secondary Grads.
Aklan	179,589.494 (3.403%)	62,058.996 (5.03%)	98,909.409 (4.095%)	43,258.988 (6.237%)	34.56% (1.74%)	24.09% (6.24%)	55.08% (4.09%)
Albay	389,784.811 (3.216%)	149,295.732 (4.352%)	203,435.070 (3.986%)	92,223.135 (6.067%)	38.30% (1.67%)	23.66% (6.07%)	52.19% (3.99%)
Antique	182,933.255 (3.306%)	66,750.295 (4.653%)	101,725.924 (4.007%)	43,837.434 (5.98%)	36.49% (1.70%)	23.96% (5.98%)	55.61% (4.01%)
Apayao	36,737.043 (4.929%)	14,823.993 (7.087%)	16,069.406 (6.253%)	7,150.018 (8.512%)	40.35% (2.86%)	19.46% (8.51%)	43.74% (6.25%)
Aurora	69,964.261 (3.298%)	26,423.685 (4.617%)	37,529.722 (4.135%)	13,533.838 (6.288%)	37.77% (1.74%)	19.34% (6.29%)	53.64% (4.14%)
Basilan	120,470.480 (2.729%)	49,800.023 (3.982%)	39,890.658 (4.218%)	20,008.789 (5.657%)	41.34% (1.65%)	16.61% (5.66%)	33.11% (4.22%)
Bataan	263,028.123 (3.483%)	99,150.864 (4.914%)	160,233.122 (4.043%)	59,997.957 (6.276%)	37.70% (1.85%)	22.81% (6.28%)	60.92% (4.04%)
Batanes	4,530.172 (9.093%)	1,537.373 (8.392%)	2,168.519 (7.098%)	2,134.078 (16.925%)	33.94% (2.85%)	47.11% (16.92%)	47.87% (7.10%)
Batangas	1,088,793.540 (3.062%)	407,509.331 (4.23%)	614,696.861 (3.717%)	278,995.923 (5.304%)	37.43% (1.58%)	25.62% (5.30%)	56.46% (3.72%)
Benguet	318,024.253 (2.324%)	104,078.564 (3.947%)	155,649.689 (3.128%)	113,365.239 (3.324%)	32.73% (1.29%)	35.65% (3.32%)	48.94% (3.13%)
Biliran	52,471.397 (3.382%)	19,140.653 (4.931%)	23,732.206 (4.412%)	11,086.306 (6.433%)	36.48% (1.80%)	21.13% (6.43%)	45.23% (4.41%)
Bohol	372,957.138 (3.445%)	131,116.807 (4.98%)	181,139.986 (4.409%)	88,777.012 (6.347%)	35.16% (1.75%)	23.80% (6.35%)	48.57% (4.41%)
Bukidnon	555,752.761 (3.005%)	275,563.004 (3.922%)	246,919.413 (4.036%)	109,404.642 (6.122%)	49.58% (1.94%)	19.69% (6.12%)	44.43% (4.04%)

Province	Total Employment	Unskilled Jobs	Number of Secondary Grads.	Number of College Grads.	Share of Unskilled Jobs	Share of College Grads.	Share of Secondary Grads.
Bulacan	1,147,479.939 (3.162%)	434,506.617 (4.527%)	641,136.363 (3.859%)	288,415.741 (5.576%)	37.87% (1.71%)	25.13% (5.58%)	55.87% (3.86%)
Cagayan	454,225.869 (2.953%)	216,619.569 (3.967%)	218,303.191 (3.775%)	109,606.794 (5.314%)	47.69% (1.89%)	24.13% (5.31%)	48.06% (3.77%)
Camarines Norte	167,611.777 (3.37%)	69,978.623 (4.723%)	89,065.307 (4.239%)	30,671.746 (7.124%)	41.75% (1.97%)	18.30% (7.12%)	53.14% (4.24%)
Camarines Sur	502,399.736 (3.335%)	187,843.547 (4.917%)	248,871.694 (4.374%)	108,125.569 (6.498%)	37.39% (1.84%)	21.52% (6.50%)	49.54% (4.37%)
Camiguin	26,259.902 (5.003%)	9,322.732 (6.825%)	14,571.260 (6.05%)	7,135.161 (8.041%)	35.50% (2.42%)	27.17% (8.04%)	55.49% (6.05%)
Capiz	274,115.656 (3.156%)	106,827.219 (4.563%)	149,392.421 (3.948%)	57,309.349 (6.15%)	38.97% (1.78%)	20.91% (6.15%)	54.50% (3.95%)
Catanduanes	76,892.819 (3.69%)	27,623.615 (5.499%)	41,953.567 (4.561%)	18,981.789 (6.552%)	35.92% (1.98%)	24.69% (6.55%)	54.56% (4.56%)
Cavite	1,297,613.306 (3.225%)	418,507.848 (4.715%)	764,046.360 (3.96%)	410,795.735 (5.078%)	32.25% (1.52%)	31.66% (5.08%)	58.88% (3.96%)
Cebu	1,633,184.933 (2.005%)	566,610.062 (3.087%)	781,961.065 (2.726%)	466,191.791 (3.361%)	34.69% (1.07%)	28.54% (3.36%)	47.88% (2.73%)
Compostela Valley	216,211.132 (3.182%)	94,666.346 (4.46%)	104,379.470 (4.316%)	29,278.054 (7.909%)	43.78% (1.95%)	13.54% (7.91%)	48.28% (4.32%)
Davao del Norte	348,367.730 (2.857%)	154,945.935 (3.922%)	188,892.033 (3.613%)	79,228.654 (5.391%)	44.48% (1.74%)	22.74% (5.39%)	54.22% (3.61%)
Davao del Sur	905,834.977 (2.14%)	360,309.321 (2.894%)	475,645.057 (2.833%)	251,683.936 (3.882%)	39.78% (1.15%)	27.78% (3.88%)	52.51% (2.83%)
Davao Occidental	108,988.642 (3.116%)	40,689.471 (4.557%)	35,099.810 (4.822%)	6,893.010 (10.414%)	37.33% (1.70%)	6.32% (10.41%)	32.21% (4.82%)

Province	Total Employment	Unskilled Jobs	Number of Secondary Grads.	Number of College Grads.	Share of Unskilled Jobs	Share of College Grads.	Share of Secondary Grads.
Davao Oriental	158,469.335 (3.146%)	66,060.635 (4.565%)	70,181.168 (4.359%)	21,050.465 (7.645%)	41.69% (1.90%)	13.28% (7.65%)	44.29% (4.36%)
Dinagat Islands	30,091.860 (5.259%)	9,217.583 (8.011%)	15,570.170 (6.503%)	3,775.250 (12.836%)	30.63% (2.45%)	12.55% (12.84%)	51.74% (6.50%)
Eastern Samar	133,225.094 (3.602%)	37,209.509 (5.679%)	66,675.721 (4.554%)	31,187.662 (6.99%)	27.93% (1.59%)	23.41% (6.99%)	50.05% (4.55%)
Guimaras	53,648.185 (4.944%)	18,722.284 (8.267%)	32,664.524 (5.762%)	10,074.143 (11.322%)	34.90% (2.89%)	18.78% (11.32%)	60.89% (5.76%)
Ifugao	68,111.851 (3.18%)	19,908.767 (5.327%)	29,611.365 (4.173%)	15,983.000 (5.682%)	29.23% (1.56%)	23.47% (5.68%)	43.47% (4.17%)
Ilocos Norte	267,369.470 (2.853%)	91,459.684 (4.339%)	152,052.805 (3.474%)	74,878.078 (4.58%)	34.21% (1.48%)	28.01% (4.58%)	56.87% (3.47%)
Ilocos Sur	226,735.931 (3.001%)	82,878.240 (4.516%)	126,064.460 (3.679%)	60,009.889 (5.162%)	36.55% (1.65%)	26.47% (5.16%)	55.60% (3.68%)
Iloilo	877,776.520 (2.606%)	343,088.953 (3.761%)	481,602.633 (3.141%)	257,853.916 (4.191%)	39.09% (1.47%)	29.38% (4.19%)	54.87% (3.14%)
Isabela	541,524.996 (2.928%)	289,182.504 (3.793%)	245,645.867 (3.872%)	128,058.075 (5.474%)	53.40% (2.03%)	23.65% (5.47%)	45.36% (3.87%)
Kalinga	69,753.358 (3.324%)	30,881.787 (4.867%)	30,785.621 (4.248%)	19,013.639 (5.394%)	44.27% (2.15%)	27.26% (5.39%)	44.13% (4.25%)
La Union	246,974.915 (3.134%)	90,679.769 (4.686%)	142,353.198 (3.869%)	67,087.804 (5.502%)	36.72% (1.72%)	27.16% (5.50%)	57.64% (3.87%)
Laguna	1,170,127.059 (3.062%)	409,160.394 (4.198%)	726,688.530 (3.609%)	98,885.400 (5.073%)	34.97% (1.47%)	25.54% (5.07%)	62.10% (3.61%)
Lanao del Norte	298,264.322 (2.269%)	113,916.043 (3.663%)	139,011.365 (3.063%)	54,953.114 (4.723%)	38.19% (1.40%)	18.42% (4.72%)	46.61% (3.06%)

Province	Total Employment	Unskilled Jobs	Number of Secondary Grads.	Number of College Grads.	Share of Unskilled Jobs	Share of College Grads.	Share of Secondary Grads.
Lanao del Sur	313,808.194 (2.637%)	57,477.040 (5.702%)	115,958.081 (4.1%)	38,405.743 (6.41%)	18.32% (1.04%)	12.24% (6.41%)	36.95% (4.10%)
Leyte	608,924.811 (2.774%)	241,505.808 (4.001%)	269,276.677 (3.917%)	130,341.631 (5.369%)	39.66% (1.59%)	21.41% (5.37%)	44.22% (3.92%)
Maguindanao	405,239.146 (3.017%)	76,570.318 (5.836%)	127,983.025 (4.493%)	34,088.757 (8.599%)	18.90% (1.10%)	8.41% (8.60%)	31.58% (4.49%)
Maguindanao del Norte	102,665.566 (3.64%)	31,773.670 (5.64%)	47,477.140 (4.927%)	25,641.366 (6.697%)	30.95% (1.75%)	24.98% (6.70%)	46.24% (4.93%)
Marinduque	64,902.280 (3.486%)	21,174.748 (5.367%)	35,414.359 (4.126%)	11,565.191 (8.595%)	32.63% (1.75%)	17.82% (8.59%)	54.57% (4.13%)
Masbate	312,479.063 (3.155%)	80,240.036 (5.378%)	140,900.209 (4.184%)	40,004.135 (7.452%)	25.68% (1.38%)	12.80% (7.45%)	45.09% (4.18%)
Misamis Occidental	206,540.603 (3.317%)	85,906.102 (4.538%)	106,690.864 (4.061%)	48,417.969 (5.847%)	41.59% (1.89%)	23.44% (5.85%)	51.66% (4.06%)
Misamis Oriental	594,015.871 (2.015%)	205,449.147 (3.12%)	309,860.644 (2.667%)	173,496.876 (3.401%)	34.59% (1.08%)	29.21% (3.40%)	52.16% (2.67%)
Mountain Province	64,019.892 (3.303%)	17,336.676 (5.554%)	32,162.760 (4.182%)	18,038.474 (4.946%)	27.08% (1.50%)	28.18% (4.95%)	50.24% (4.18%)
NCR	5,717,401.822 (0.884%)	2,012,196.664 (1.413%)	2,740,236.635 (1.245%)	2,568,905.293 (1.376%)	35.19% (0.50%)	44.93% (1.38%)	47.93% (1.25%)
Negros Occidental	1,079,278.117 (2.484%)	534,768.012 (3.423%)	576,025.900 (3.199%)	206,151.780 (4.615%)	49.55% (1.70%)	19.10% (4.61%)	53.37% (3.20%)
Negros Oriental	456,616.531 (3.275%)	159,478.188 (4.677%)	175,133.287 (4.54%)	83,974.906 (7.282%)	34.93% (1.63%)	18.39% (7.28%)	38.35% (4.54%)
North Cotabato	542,641.467 (2.99%)	201,079.094 (4.449%)	269,081.035 (3.749%)	90,944.654 (6.077%)	37.06% (1.65%)	16.76% (6.08%)	49.59% (3.75%)

Province	Total Employment	Unskilled Jobs	Number of Secondary Grads.	Number of College Grads.	Share of Unskilled Jobs	Share of College Grads.	Share of Secondary Grads.
Northern Samar	175,375.551 (3.299%)	49,308.815 (5.483%)	69,620.966 (4.779%)	32,690.450 (6.91%)	28.12% (1.54%)	18.64% (6.91%)	39.70% (4.78%)
Nueva Ecija	733,452.311 (3.286%)	379,508.919 (4.322%)	388,174.994 (4.142%)	148,753.778 (6.189%)	51.74% (2.24%)	20.28% (6.19%)	52.92% (4.14%)
Nueva Vizcaya	149,120.450 (3.163%)	48,066.131 (4.87%)	76,018.270 (4.07%)	32,890.446 (5.733%)	32.23% (1.57%)	22.06% (5.73%)	50.98% (4.07%)
Occidental Mindoro	159,499.065 (3.181%)	67,475.583 (4.544%)	73,225.554 (4.132%)	24,969.244 (6.438%)	42.30% (1.92%)	15.65% (6.44%)	45.91% (4.13%)
Oriental Mindoro	273,820.691 (3.166%)	102,674.431 (4.568%)	129,392.234 (4.112%)	56,793.968 (6.436%)	37.50% (1.71%)	20.74% (6.44%)	47.25% (4.11%)
Palawan	379,208.810 (2.38%)	116,703.149 (3.767%)	180,185.874 (3.193%)	77,993.687 (4.544%)	30.78% (1.16%)	20.57% (4.54%)	47.52% (3.19%)
Pampanga	1,010,159.455 (2.324%)	383,742.077 (3.352%)	588,664.535 (2.796%)	264,075.596 (4.038%)	37.99% (1.27%)	26.14% (4.04%)	58.27% (2.80%)
Pangasinan	894,012.036 (3.116%)	375,530.247 (4.385%)	561,086.184 (3.664%)	196,425.246 (6.05%)	42.01% (1.84%)	21.97% (6.05%)	62.76% (3.66%)
Quezon	650,759.989 (2.802%)	238,345.033 (4.289%)	360,211.118 (3.508%)	110,769.766 (6.113%)	36.63% (1.57%)	17.02% (6.11%)	55.35% (3.51%)
Quirino	59,548.639 (3.312%)	22,415.404 (5.155%)	28,008.297 (4.243%)	13,040.186 (6.381%)	37.64% (1.94%)	21.90% (6.38%)	47.03% (4.24%)
Rizal	852,710.124 (3.231%)	317,581.472 (4.524%)	489,273.000 (3.959%)	240,421.293 (5.397%)	37.24% (1.68%)	28.19% (5.40%)	57.38% (3.96%)
Romblon	89,053.066 (3.321%)	27,159.783 (5.611%)	46,176.684 (4.154%)	15,350.880 (7.282%)	30.50% (1.71%)	17.24% (7.28%)	51.85% (4.15%)
Samar (Western Samar)	231,188.866 (3.316%)	56,257.408 (5.715%)	92,716.716 (4.671%)	39,789.059 (6.897%)	24.33% (1.39%)	17.21% (6.90%)	40.10% (4.67%)

Province	Total Employment	Unskilled Jobs	Number of Secondary Grads.	Number of College Grads.	Share of Unskilled Jobs	Share of College Grads.	Share of Secondary Grads.
Saranganni	167,803.046 (3.215%)	44,863.181 (5.398%)	69,818.048 (4.487%)	13,412.286 (9.806%)	26.74% (1.44%)	7.99% (9.81%)	41.61% (4.49%)
Siquijor	32,878.009 (4.929%)	9,250.691 (7.606%)	17,047.339 (6.006%)	8,380.583 (8.264%)	28.14% (2.14%)	25.49% (8.26%)	51.85% (6.01%)
Sorsogon	243,443.283 (3.082%)	78,968.164 (4.718%)	129,798.182 (3.879%)	43,224.882 (6.832%)	32.44% (1.53%)	17.76% (6.83%)	53.32% (3.88%)
South Cotabato	573,065.603 (2.022%)	232,829.788 (2.955%)	300,262.583 (2.654%)	136,629.277 (3.782%)	40.63% (1.20%)	23.84% (3.78%)	52.40% (2.65%)
Southern Leyte	106,859.774 (3.432%)	45,632.888 (4.781%)	55,263.327 (4.444%)	21,462.490 (6.675%)	42.70% (2.04%)	20.08% (6.68%)	51.72% (4.44%)
Sultan Kudarat	279,674.996 (2.943%)	100,023.087 (4.564%)	133,407.448 (3.953%)	40,838.889 (6.688%)	35.76% (1.63%)	14.60% (6.69%)	47.70% (3.95%)
Sulu	241,544.545 (2.937%)	20,329.088 (8.927%)	48,146.774 (5.853%)	29,602.629 (7.724%)	8.42% (0.75%)	12.26% (7.72%)	19.93% (5.85%)
Surigao del Norte	150,407.522 (4.451%)	70,259.036 (5.736%)	75,734.027 (5.744%)	40,298.785 (7.925%)	46.71% (2.68%)	26.79% (7.93%)	50.35% (5.74%)
Surigao del Sur	181,490.755 (3.102%)	56,881.877 (4.785%)	87,903.888 (3.999%)	38,993.544 (5.915%)	31.34% (1.50%)	21.49% (5.91%)	48.43% (4.00%)
Tarlac	431,118.267 (3.188%)	190,805.540 (4.383%)	261,996.912 (3.799%)	88,275.891 (6.087%)	44.26% (1.94%)	20.48% (6.09%)	60.77% (3.80%)
Tawi-Tawi	86,903.378 (2.888%)	6,724.461 (9.251%)	26,212.479 (4.917%)	16,529.299 (6.124%)	7.74% (0.72%)	19.02% (6.12%)	30.16% (4.92%)
Zambales	275,413.945 (2.506%)	105,273.908 (3.717%)	167,657.572 (3.016%)	66,713.966 (4.254%)	38.22% (1.42%)	24.22% (4.25%)	60.87% (3.02%)
Zamboanga del Norte	365,331.983 (3.132%)	101,361.335 (5.196%)	161,826.818 (4.208%)	61,664.510 (6.863%)	27.74% (1.44%)	16.88% (6.86%)	44.30% (4.21%)

Province	Total Employment	Unskilled Jobs	Number of Secondary Grads.	Number of College Grads.	Share of Unskilled Jobs	Share of College Grads.	Share of Secondary Grads.
Zamboanga del Sur	558,230.877 (1.9%)	184,344.649 (3.245%)	237,887.918 (2.888%)	130,446.368 (3.923%)	33.02% (1.07%)	23.37% (3.92%)	42.61% (2.89%)
Zamboanga Sibugay	205,283.538 (3.129%)	53,835.169 (5.263%)	93,277.730 (4.246%)	35,639.320 (6.748%)	26.22% (1.38%)	17.36% (6.75%)	45.44% (4.25%)

The standard errors for total employment and number of unskilled jobs and secondary and college graduates are reported in parentheses as estimated by the aggregation strategy. The standard errors for the shares of unskilled jobs and secondary and college graduates were equal to the standard error of the total value divided by the total employment.

Source: Author's Computation; Family Income and Expenditure Survey - Labor Force Survey 2021

Table VII. Total Employment among Overeducated Graduates at the National Level

	Total	Secondary Graduates	College Graduates
Total Employment	35,538,186 (0.299%)	18,094,775 (0.443%)	9,401,251 (0.676%)
Total Overeducated	9,617,050 (0.597%)	7,715,182 (0.674%)	1,901,868 (1.323%)
Share of Overeducated relative to Total Employment		21.71% (0.15%)	5.35% (0.07%)
Share of Overeducated relative to Total Graduates		42.64% (0.29%)	20.23% (0.27%)

The standard errors for total employment and number of secondary and college graduates are reported in parentheses as estimated by the aggregation strategy. The standard error for the shares of overeducated relative to total employment were equal to the standard error of the total value divided by the total employment. The standard error for the shares of overeducated relative to total graduates was equal to the standard error of the total value divided by the total graduates.

Source: Author's Computation; Family Income and Expenditure Survey - Labor Force Survey 2021

Table VIII. Top 10 Unskilled Jobs where Overeducated Secondary Graduates were employed in 2021

Total *Overeducated among Secondary Graduates is 7715182*

Unskilled Job	Total Employment	Share
Building construction laborers	1497425	19.40881%
Crop farm laborers	1109348	14.37877%
Domestic cleaners and helpers	543986.8	7.050861%
Car, taxi, and van drivers	382434.6	4.95691%
Security guards	325889.5	4.224003%
Messengers, package deliverers and luggage porters	314715	4.079165%
Carpenters and joiners	222335.1	2.881787%
Motorcycle drivers	221606.7	2.872346%
Heavy truck and lorry drivers	215236.8	2.789783%
Hand launderers and pressers	192885.8	2.500081%

Source: Author's Computation; Family Income and Expenditure Survey - Labor Force Survey 2021

Table IX. Top 10 Unskilled Jobs where Overeducated College Graduates were employed in 2021

Total *Overeducated among College Graduates is 1901868*

Unskilled Job	Total Employment	Share
General office clerks	229681.9	12.07665%
Security guards	154676.7	8.132882%
Building construction laborers	149447.6	7.857938%
Messengers, package deliverers and luggage porters	130733.4	6.873947%
Crop farm laborers	112794.6	5.930729%
Car, taxi, and van drivers	112304.5	5.904956%
Shopkeepers	84543.71	4.445299%
Domestic cleaners and helpers	77291.66	4.063987%
Motorcycle drivers	57027.06	2.998476%

Source: Author's Computation; Family Income and Expenditure Survey - Labor Force Survey 2021

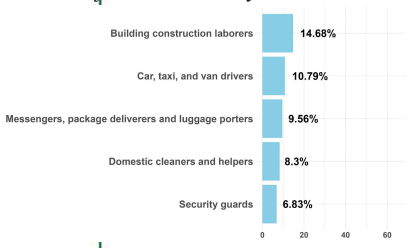
De La Salle University

Table XI. Share of Employment in Unskilled Jobs for Overeducated Secondary and College Graduates

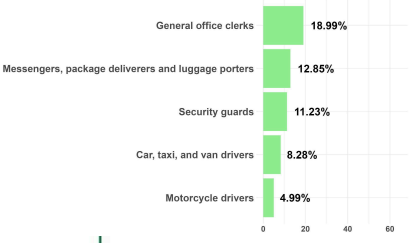
High Employment - High Overeducation

NCR

Top Unskilled jobs for Secondary Education Graduates

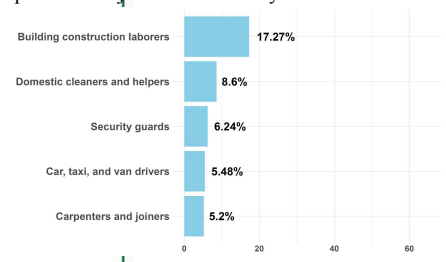


Top Unskilled jobs for College Education Graduates

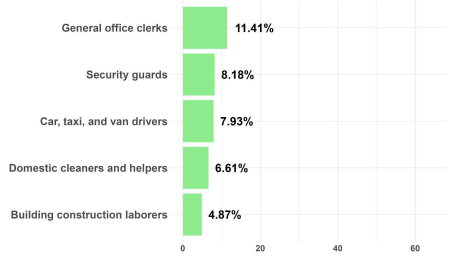


Cebu

Top Unskilled jobs for Secondary Education Graduates



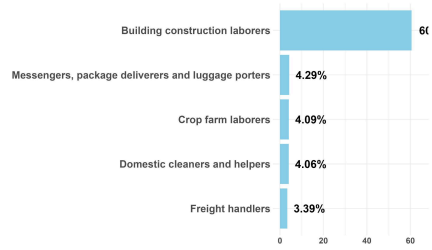
Top Unskilled jobs for College Education Graduates



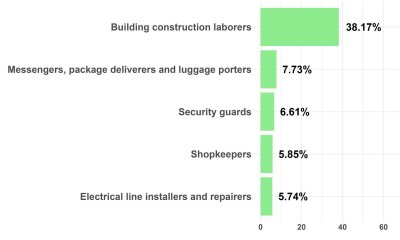
Low Employment - High Overeducation

Batanes

Top Unskilled jobs for Secondary Education Graduates

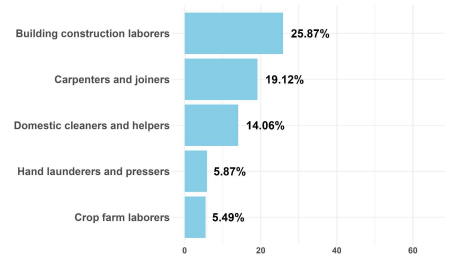


Top Unskilled jobs for College Education Graduates

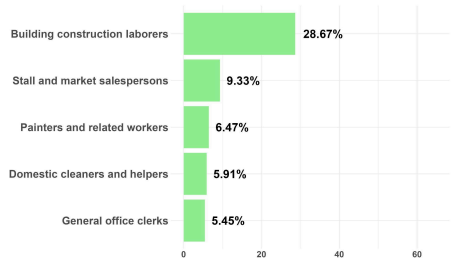


Siquijor

Top Unskilled jobs for Secondary Education Graduates



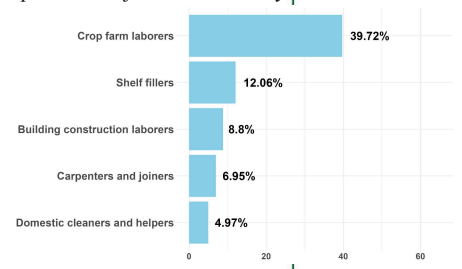
Top Unskilled jobs for College Education Graduates



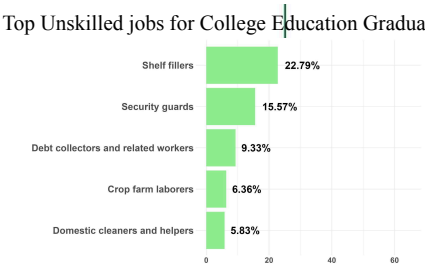
High Employment - Low Overeducation

Davao Occidental

Top Unskilled jobs for Secondary Education Graduates

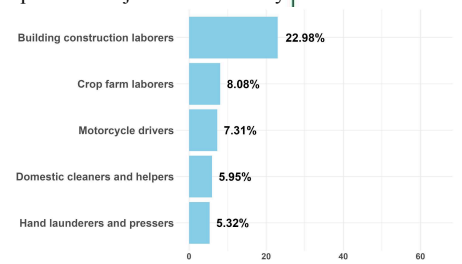


Top Unskilled jobs for College Education Graduates

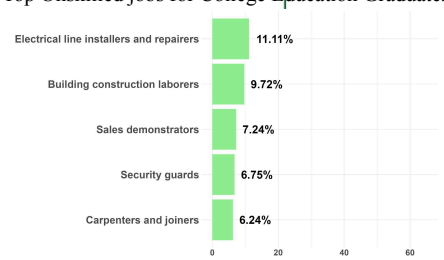


Samar (Western Samar)

Top Unskilled jobs for Secondary Education Graduates



Top Unskilled jobs for College Education Graduates



Source: Author's Computation; Family Income and Expenditure Survey - Labor Force Survey 2021

Table XII. Aggregation of 20 Sectors to 16 Sectors

20 Sectors from PSIC	16 Sectors
Professional, Scientific and Technical Activities	Professional and business services
Administrative and Support Service Activities	
Transportation and Storage	Transportation and Storage
Education	Education
Financial and Insurance Activities	Financial and Insurance Activities
Human Health and Social Work Activities	Human Health and Social Work Activities
Manufacturing	Manufacturing
Real Estate Activities	Real Estate Activities
Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles	Wholesale and Retail Trade; Repair of Motor Vehicles and Motorcycles
Electricity, Gas, Steam And Air Conditioning Supply	Electricity, steam, water and waste management
Water Supply; Sewerage, Waste Management And Remediation Activities	
Arts, Entertainment and Recreation	Other services
Other Service Activities	
Activities of Extra-Territorial Organizations and Bodies	
Accommodation and Food Service Activities	Accommodation and Food Service Activities
Construction	Construction
Information and Communication	Information and Communication
Mining And Quarrying	Mining And Quarrying
Agriculture, Forestry And Fishing	Agriculture, Forestry And Fishing
Public Administration and Defense; Compulsory Social Security	Public Administration and Defense; Compulsory Social Securit

Source: Author