

# Factors of Teachers' Engagement in Private Tutoring: The Case of Secondary Schools in Cambodia

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## Article History

Received: 23 August 2025  
Received in revised: 05 September 2025  
Accepted: 11 October 2025  
Available online: 4 February 2026

## Keywords:

private tutoring, teacher, secondary education, Cambodia.

## ABSTRACT

Shadow education, or private tutoring, is a growing global phenomenon, especially in developing countries like Cambodia. It refers to informal academic support that complements school lessons. Since the 1990s, private tutoring has become increasingly prevalent, with many regular teachers engaging in it to supplement their income. However, the underlying factors behind teachers' participation and regional differences remain unclear. This study adopted a mixed-methods approach to analyze these factors. Quantitative data from the 2018 PISA-D and qualitative data from questionnaires and in-depth interviews were analyzed. Quantitative analysis revealed that having a side job, dissatisfaction with wages, and participation in training are factors that increase the likelihood of providing private tutoring. Qualitative analysis showed that teachers provide tutoring not only for income but also to support students and improve their teaching skills. Regional differences also emerged, with teachers in rural areas primarily tutoring students from their own classes, while teachers in urban areas also tutored students from other schools, suggesting the commercialization of education. These results provide valuable insights for the formulation of education policies and contribute to the international discussion on the role of private tutors in public education systems.

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## 1. Introduction

Shadow education, also known as private tutoring, is growing globally and has become a crucial topic. Bray (2010) defines shadow education as informal activities that complement school lessons and focus on academic subjects. It can take many forms, including one-on-one, small group, lecture-style, and online, and is provided by regular teachers, university students, and large profit-oriented companies. In many developing countries such as Georgia, Cambodia, Uzbekistan, Myanmar, and Bangladesh, regular teachers tutor students to supplement their official salaries (Alam & Zhu, 2023). The phenomenon of shadow education has been the subject of debate. On the positive side, it can encourage individuals to improve their academic performance, contribute to the enhancement of human capital, and potentially serve as a new source of income for teachers engaged in tutoring. On the negative side, it may exacerbate social inequality, cause stress for individuals and families, and potentially lower the quality of public school teachers. This could lead to disparities in perceptions of educational quality

among individuals within the same educational system (Barker & LeTendre, 2005; Bray, 2013).

Shadow education is already very widespread in some parts of Asia and is expanding rapidly in other regions. This phenomenon has already reached a scale that cannot be ignored, and research into it will clarify its impact on the reality of education systems and academic performance. It will also contribute to improving the quality of public education. This exists in many countries, but the significance of research in Cambodia lies in the fact that it is part of the education system and that public school teachers are the ones providing it. In Cambodia, the prevalence of such shadow education, in the form of private tutoring, has grown significantly since the early 1990s. This phenomenon of private tutoring has emerged as a prominent aspect of the Cambodian educational environment, in line with the increase in students seeking academic support outside of formal school education. As an extension of Cambodian public schools, the private tutoring system is influenced by many socioeconomic and

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cultural factors, including the national examination system, the poor performance of public school students, parental expectations and demands, social norms, and pressures (Bray, 2010; Silva, 2009; Ireson & Rushforth, 2005; Chea & Ogawa, 2020).

There is currently a debate about why teachers are engaged in private tutoring and how private tutoring affects the efficiency and quality of public school teachers. Several studies indicate that some school teachers encourage private tutoring through unethical practices, such as deliberately withholding regular lessons to create a demand for paid tutoring (Bray, 2013; Brehm & Silova, 2014; Dawson, 2010). In contrast, Soeung (2021a) indicated more problems with teaching methods during class time than with unprofessional conduct by teachers. Additionally, research on regional differences within Cambodia has primarily focused on variations in the prevalence of private tutoring without examining other contributing factors, such as differences between teachers or target students (Bray & Lykins, 2012; Marshall & Fukao, 2019). Therefore, a thorough analysis is essential to understand the factors that drive teachers in different regions to engage in private tutoring.

Given the existing research gap regarding the factors that drive teachers in different regions to engage in private tutoring, this study explores the key factors influencing secondary school teachers in Cambodia to offer private tutoring and identify regional differences. Simultaneously, as mentioned earlier, only a few studies have explored the current state of private tutoring, its dynamics, and its broader implications, with the global debate on this issue (Bray & Lykins, 2012). Therefore, this study contributes to existing research by examining the factors that influence teachers' engagement in private tutoring and highlighting the differences in the factors between urban and rural areas, using Cambodia as a case.

## 2. Literature Review

### 2.1 Private Tutoring and the Deficiencies in the Teaching System

In response to the expansion of private tutoring in Cambodia, Brehm and Silova (2014) found a significant shortage of qualified teachers compared to the rapid increase in the number of schools. This shortage is one of the main challenges that undermine the quality of education. Furthermore, they point out that the quality of education in public schools is likely to be unachievable without the support of private tutoring. This current state

of education is also referred to as the public-private blurred education system (Wang & Ogawa, 2022). Private tutoring is usually held in the same classroom or the teacher's home after school. While regular classes primarily focus on theoretical knowledge, tutoring offers an opportunity to teach theory in a more practical and applied manner, allowing students to grasp the content better and achieve the intended learning outcomes. Another advantage of private tutoring is the smaller class size, typically comprising around 15 to 20 students, which allows for more personalized attention and easier access to questions, unlike in typical formal public school classes.

Previous studies have identified a lack of instructional time, teaching methods, low salaries, teacher tricks, and geographical location of the school as factors that promote private tutoring (Bray, 2013; Bray et al., 2016, 2018; Brehm & Silova, 2014; Dawson, 2009; Soeung, 2021a). Teachers complain that they cannot follow the curriculum as planned because they have to take responsibility for multiple grades and classes (Brehm, 2021). Additionally, teachers drive demand for private tutoring by developing innovative teaching methods. While official lessons focus on theory, private tutors tailor their instruction to individual student needs, providing detailed explanations and hands-on practice using diverse teaching materials (Bray et al., 2018; Song, 2015). Furthermore, Marshall and Fukao (2019) found that teachers who live near public schools and do not have a side job are more enthusiastic about private tutoring than other teachers. There were also differences in the gender of the teachers working as tutors. An interview survey by Bray et al. (2018) found that 9 out of 12 male teachers worked as tutors, compared to only 4 out of 12 female teachers. The reasons for this could be that they wanted to focus on their role at home or that they could rely on their husbands. In any case, it has become clear that women are generally less likely than men to engage in private tutoring due to traditional social roles or personal reasons.

### 2.2 Fixed Salaries Regardless of Performance

The Ministry of Education, Youth and Sport (MoEYS) has introduced a teacher policy action plan to enhance the quality of education, strengthened inspections to maintain educational standards, and increased teacher salaries. However, there remains a lack of clear policies to regulate private tutoring. According to Tandon and Fukao (2015), teachers' salaries are insufficient to cover the living expenses of a typical married teacher with two children.

As a result, teachers feel that they need additional income and are justified in not putting their full effort into their public duties. Although it varies from school to school, the income of mathematics tutors is between USD 10 and USD 24 per week, making tutoring an important source of income. Furthermore, the professional standards for teachers include evaluations based on school administrator observations, student feedback, self-assessments, and portfolio management. Teachers who achieve excellent results are given incentives such as promotion and training opportunities, but there are no bonuses related to salary (MoEYS, 2019). This, in turn, drives teachers to seek additional sources of income, such as private tutoring.

### 2.3 Differences in Private Tutoring Between Urban and Rural Areas

There is a significant difference in the prevalence of private tutoring between urban and rural areas. In urban areas, it is often easier to access high-quality educational resources, such as qualified teachers and schools with appropriate facilities. Soeung (2021b) indicates that students in urban areas often seek private tutoring from teachers outside of school because of the wide range of options available. In contrast, in rural areas, the lack of these educational resources leads to a decline in educational standards, and the demand for tutors increases. The use of private tutoring is also related to the student's socioeconomic status and place of origin (Dang, 2013; Kwok, 2010). In general, average incomes in urban areas are higher than in rural areas. Urban families have more disposable income to spend on private tutoring for their children, while rural families prioritize other basic needs over education. Besides, urban and rural families may have different attitudes towards education. Urban families tend to place a strong emphasis on academic performance and are also more willing to invest in private tutoring to help their children succeed.

Based on the literature review, previous studies have primarily explored the growing prevalence of private tutoring, attributing it to deficiencies in the teaching system, its benefits, fixed salaries, and differences in private tuition characteristics in urban and rural areas. However, there remains a gap in conducting a comprehensive analysis of the factors that drive teachers to engage in private tutoring and the variations in these factors between urban and rural areas.

## 3. Methodology

This study employs an explanatory sequential design within a mixed-method approach (Creswell & Creswell, 2018). For the quantitative component, secondary data is used to examine the factors that motivate teachers to engage in private tutoring. For the qualitative component, a self-completion standardized semi-structured questionnaire was developed based on the literature review and administered to participants. Additionally, in-depth interviews (IDIs) were conducted to explore why teachers engage in private tutoring, particularly those involved in side jobs and workshops—factors that quantitative analysis alone cannot explain. The survey and IDIs also addressed topics previously unexplored in the literature, such as non-monetary motivations for private tutoring and key background information about the teachers to enhance analytical inferences. By integrating both quantitative and qualitative methods, this study provides a comprehensive understanding of the motivations behind private tutoring and the differences between urban and rural areas.

### 3.1 Model and Data for Quantitative Analysis

This study applied an ordered logistic regression model to analyze the determinants of teachers' private tutoring. As the main focus of this paper is on teachers, the aim is to understand the individual impact of teachers by focusing on teacher-level data. This econometric model is based on the studies of Marshall & Fukao (2019), Brehm (2021), and Dang (2007). The variables were selected based on these previous studies.

$$Pr(Y = j|X_k) = F(\pi_j - X\beta) - F(\pi_{j-1} - X\beta), j = 1, 2, 3, 4, \text{ and } 5,$$

$$\text{Where: } X\beta = \beta_T T_{TC} + \beta_I I_{IC} + \beta_S S_{SC}$$

For the response,  $j = 1$  if the teacher is not engaged in private tutoring,  $j = 2$  if the teacher is engaged in tutoring up to 10 hours per week,  $j = 3$  if the teacher is engaged in tutoring from 10 to 19 hours per week,  $j = 4$  if the teacher is engaged in tutoring from 20 to 30 hours per week,  $j = 5$  if the teacher is engaged in tutoring for 30 hours or more per week.  $T_{TC}$  is a set of teacher characteristics;  $I_{IC}$  is a set of teacher's individual characteristics;  $S_{SC}$  is set of school characteristics.

**Table 1: Summary Statistics**

Variable	Definition	Mean	Std. dev.	Min	Max
<b>Private Tutoring</b>	Level 1 None	0.38	0.48	0	1
	Level 2 Up to 10 hours per week	0.47	0.50	0	1
	Level 3 Between 10 and 19 hours per week	0.11	0.31	0	1
	Level 4 Between 20 and 30 hours per week	0.03	0.18	0	1
	Level 5 More than 30 hours per week	0.01	0.11	0	1
<b>Teacher Characteristics</b>					
<b>Side Job</b>	If teacher have a side job (yes=1)	0.34	0.47	0	1
<b>Salary Satisfaction</b>	If teacher think their salaries are good (yes=1)	0.36	0.48	0	1
<b>Grades Taught</b>	If teacher teach at upper secondary (yes=1)	0.52	0.50	0	1
<b>Workshop</b>	If teacher attended workshops on improving instruction (yes=1)	0.69	0.46	0	1
<b>Teacher's Individual Characteristics</b>					
<b>Gender</b>	Teacher's gender (female=1)	0.39	0.49	0	1
<b>Age</b>	Teacher's age	37.33	7.93	20	63
<b>Education Level</b>	Level 0 Lower secondary education	0.08	0.27	0	1
	Level 1 Upper secondary education	0.20	0.40	0	1
	Level 2 Post-secondary education	0.07	0.25	0	1
	Level 3 Vocational education	0.01	0.10	0	1
	Level 4 University level	0.56	0.50	0	1
	Level 5 Master level	0.08	0.28	0	1
<b>School Characteristics</b>					
<b>Electricity</b>	If the school has electricity (yes=1)	0.73	0.44	0	1
<b>Math test score</b>	Average score for math tests by school	334.59	36.59	191.15	408.06
<b>Reading test score</b>	Average score for reading tests by school	328.59	29.55	235.89	392.77
<b>Location</b>	School location (urban=1)	0.49	0.50	0	1

Source: Created by the authors based on PISA-D (2018)

Note: 3,112 observations

The data for this study comes from the Programme for International Student Assessment for Development (PISA-D) 2018, which the OECD collected. PISA-D survey randomly selects students (aged 15), teachers, and principals to measure the contextual processes of everyday classroom practices quantitatively. This dataset contains data on teachers and schools from 170 public and private schools in Cambodia. However, as this study focuses on private tutoring by teachers at public schools, private schools are excluded. As a result, the data covers 3,287 teachers from 153 schools. After dropping observations with missing or non-applicable values, only 3,112 teachers from public schools are used. Table 1 shows the definitions and statistical summary of the variables used in this study.

### 3.2 Qualitative Approach

This study utilized a self-completion survey questionnaire and IDIs to examine the relevance of teacher-led private tutoring in both rural and urban areas. Participants for the survey and interviews were selected through purposive sampling to ensure representation of public schools from both urban and rural settings, as well as teachers of varying academic levels responsible for national examination subjects.

The sampling process was conducted with assistance from the MoEYS to enhance representativeness. With MoEYS' approval, the survey was distributed to all selected Provincial Offices of Education and schools. To ensure ethical compliance, participants provided informed consent, acknowledging their right to withdraw without penalty. Qualitative data were transcribed, coded, and analyzed descriptively.

The study was conducted in two of the 25 provinces: Province A, with a poverty rate of 9%, and Province B, with a poverty rate of 17%. The data used was based on households identified as poor by the Ministry of Planning (2022). Six secondary schools were purposively selected—three in urban areas and three in rural areas. As a result, 51 teachers responded to the questionnaire, and 35 of them also participated in in-depth interviews.

## 4. Results

### 4.1 Determinants of Tutoring by Teachers Based on Model Results

Table 2 shows the determinants of teachers' engagement in private tutoring by region. The overall results showed that female teachers were less likely to be involved in private tutoring. It was found that teachers who have received higher education and teach older students are significantly more likely to work as private tutors. Teachers who had a side job or attended workshops

to improve their teaching were also statistically significantly more likely to engage in private tutoring. There was a negative correlation between teachers' salaries and their engagement in private tutoring, indicating that they were less likely to be satisfied with their salaries. Furthermore, it was found that the average

school math scores were positively and statistically significantly correlated with tutoring. This indicates a tendency for school math scores to improve when teachers engage in private tutoring, but no such tendency was seen for average reading scores.

**Table 2: Factors that Led Teachers to Engage in Private Tutoring**

Variable	Rural	Urban	Whole
Teacher Characteristics			
Side Job	0.299*** -0.104	0.350*** -0.104	0.310*** -0.073
Salary Satisfaction	-0.074 -0.107	-0.222** -0.110	-0.152** -0.076
Grades Taught	0.475*** -0.118	0.224** -0.105	0.331*** -0.078
Workshop	0.339** -0.167	0.273** -0.137	0.293*** -0.106
Teachers' Individual Characteristics			
Gender (female=1)	-0.531*** -0.181	-0.797*** -0.154	-0.677*** -0.119
Age	-0.180** -0.078	0.010 -0.082	-0.099* -0.055
Education Level	0.163*** -0.034	0.142*** -0.034	0.158*** -0.024
School Characteristics			
Electricity	0.109 -0.187	0.321** -0.161	0.159 -0.119
Math test score	0.015*** -0.01	0.014** -0.01	0.012*** 0.00
Reading test score	0.019** -0.01	-0.009 -0.01	0.005 -0.01
Location			0.371** -0.152
Observations	1597	1515	3112

Source: Estimated by the authors based on PISA-D 2018<sup>1</sup>

Note: (1) Standard errors in parentheses. (2) \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Looking at the results by region, a negative correlation was found between salary satisfaction and tutoring in urban areas only, while no significant relationship was found in rural areas. This indicates that teachers in urban areas tend to be dissatisfied with the current situation, while teachers in rural areas are satisfied with their current salaries.

Across all regions, teachers who had participated in instructional training were more likely to provide private tutoring. Additionally, a positive correlation was observed between teachers with side jobs and those engaged in private tutoring. However, the reasons behind this relationship cannot be fully explained through quantitative analysis alone. Therefore, this study incorporates qualitative research to complement and enrich its quantitative findings.

## 4.2. Qualitative Analysis Based on Field Data

### 4.2.1. Urban Areas

The results in Table 3 identify four main reasons teachers engage in private tutoring: guiding students, earning additional income, improving their teaching skills, and gaining the trust of students' parents. The most common reason cited was a commitment to supporting students, which includes responses such as sharing knowledge, improving student grades, and providing additional instruction. The second most common reason was professional development, encompassing responses related to enhancing teaching quality and creating learning opportunities for teachers.

Additionally, teachers cited improving students' grades, completing the curriculum, and preparing for national exams as key reasons for engaging in private tutoring. They also noted that parents tend to trust teachers who provide tutoring. Moreover, given the low teacher salaries, many turn to tutoring to earn extra income to

support their families. Furthermore, some teachers view private tutoring as an opportunity to enhance lesson quality by refining their teaching methods. However, it is

important to recognize that these motivations are often interconnected, with teachers citing a combination of reasons rather than a single factor.

**Table 3: The Reason Why Teachers Engage in Private Tutoring in Urban Areas**

The Types of Reason	Number of Responder※
Share knowledge	14
Earn more money to support the family	10
Improve students' grades	9
Improve teaching quality	7
Learning opportunities for teachers	6
Teach students	4
Trust from parents	2

Source: Created by the authors based on field research data

※Multiple answer is allowed.

The results of the interviews also revealed that teachers were providing private tutoring for various reasons. All of the teachers viewed private tutoring as a way of supporting the public school system, and they were providing private tutoring for financial reasons, social pressures, and self-improvement. One teacher clearly stated the following.

*I deliver private tutoring for several reasons. It can also improve the quality of my teaching by training me how to teach, and their parents trust me. For me, it will also provide additional income. (A-2-3, Physic teacher)*

Furthermore, although this is limited to urban areas, it has been found that public school teachers who tutor tend to teach not only students from regular classes but also students from other grades and even other schools. In addition, even if they are not tutoring, many teachers are engaged in side jobs (40% of the total are private tutors, and 50% have side jobs). Many of these side jobs are related to education, such as temporary teaching at private schools, tutoring at students' homes or homes on holidays, and private lessons at cram schools.

*I always teach at home after school or on holidays, and in addition to students in my regular classes, students from other classes and grades and students from other schools come and take my classes. (A-1-5, Math teacher)*

#### 4.2.2. Rural Areas

Table 4 summarizes the main reasons why teachers in rural areas engage in private tutoring. These reasons can

be broadly categorized into three areas: student guidance, additional income, and improvement of teaching skills.

**Table 4: The Reason Why Teachers Engage in Private Tutoring in Rural Areas**

The Types of Reason	Number of Responder
Share knowledge	9
Earn more money to support the family	7
Teach student	5
Improve students' grades	3
Improve teacher quality	3
Less opportunity	1

Source: Created by the authors based on field research data

※Multiple answer is allowed.

The most frequently cited reason was commitment to supporting students, which included responses such as sharing knowledge, teaching students, and improving student performance. On the other hand, some respondents cited improved teacher quality, but the number of such responses was lower than in urban areas. Furthermore, some respondents pointed out that they provide private tutoring because opportunities for a side job are limited. In rural areas, educational resources are scarce, and the number of teachers is limited, meaning students do not have the option to seek tutoring from highly qualified instructors as they might in urban areas. Instead, they are typically restricted to receiving tutoring from their regular classroom teachers.

A key distinction from urban areas is that rural teachers who provide tutoring generally lack the motivation to improve their teaching methods or view tutoring as an opportunity for professional development. There is little

emphasis on self-improvement or using tutoring to enhance instructional skills.

*I engage in private tutoring to teach students what I cannot teach in a regular class due to time constraints and to earn extra income. Many teachers choose private tutoring because there are few options for side jobs here. (B-2-5, Chemistry/Physic teacher)*

The surveys also found that many teachers are engaged in private tutoring rather than side jobs (55% are engaged in tutoring, and 36% have side jobs). This may be due to the limited options for side jobs. In addition, many side jobs are in the primary industry, and the proportion of people working in education-related professions is lower than in urban areas. This is because there is less social pressure for students to achieve better grades than their classmates, and less competition among teachers for private tutoring due to the shortage of teachers.

*I mainly teach chemistry but do not tutor because my students do not like this subject, few want to study it, and my family runs a small business. (B-1-3, Chemistry/Math teacher)*

## 5. Discussion

This study first quantitatively analyzed the factors influencing teachers' work styles, focusing on what factors lead teachers to engage in private tutoring. The results of the regression analysis are consistent with previous studies that have shown that factors such as being male, lack of sufficient teaching hours, and low salaries are related (Bray, 2013; Bray et al., 2016; Brehm & Silova, 2014; Soeung, 2021b). The results of Bray et al. (2018) and the self-completion survey revealed that the percentage of private tutoring provided by female teachers was low in households where both spouses worked. In Cambodia, which is traditionally male-dominated, these results reflect differences in perceptions of the salaries, status, and social roles of male and female teachers. In addition, the results showing a positive correlation with math grades indicate that tutors may also positively impact students' academic performance. However, similar results were not seen in reading scores, which is related to the fact that private tutoring related to math and science classes is popular (Brehm, 2021). The relationship between participation in training, side jobs, and tutoring cannot be fully explained by quantitative analysis alone. For this reason, this study also incorporates qualitative research to supplement and enrich the quantitative survey results.

Then, the qualitative analysis examined the reasons why teachers in urban and rural areas provide private tutoring and how they do so. The results revealed differences in the content of side jobs and the target students depending on the region. In urban areas, teachers provide private tutoring not only to students in their regular classes but also to students from other schools. In rural areas, on the other hand, private tutoring is limited to students in the teacher's regular classes. This aligns with the findings of Soeung's (2021b), indicating that teachers in urban areas tend to teach students outside their regular classes. This suggests that urban areas have abundant educational resources, intense competition among students, and high demand for private tutoring.

Additionally, the results of the qualitative survey revealed that teachers in urban areas are more likely to engage in side jobs than in private tutoring. This appears to contradict the findings of Brehm et al. (2012), which indicated that urban teachers were more likely to work as private tutors than those in rural areas. However, interviews revealed that side jobs of urban teachers primarily involve education-related work, such as teaching students in the private sector or on weekends, and thus constitute a different form of supplementary instruction. In contrast, rural teachers were more likely to work as private tutors because they had fewer opportunities for side jobs. This suggests that the commercialization of the education industry is advancing, leading to an increase in supplementary instruction targeting unclear groups or individuals in urban areas.

In addition to the factors identified by Brehm and Silova (2014), this study reveals that private tutoring serves as a platform for teachers to refine their teaching methods and enhance their instructional quality. The qualitative analysis indicates that urban teachers, in particular, use tutoring to improve their teaching techniques. This finding is further supported by quantitative results, which show that teachers who are highly motivated to attend workshops are also more likely to engage in private tutoring. While it is often argued that teachers primarily tutor for financial benefits, this study suggests that many also do so to support students better and develop professionally. However, these findings are based on research in urban areas, where conditions differ from rural settings due to variations in student demographics and the types of side jobs available to teachers.

This study underscores the importance of reexamining shadow education, particularly private tutoring, in contemporary contexts. By offering fresh insights into its evolving dynamics, this research challenges the traditional notion that private tutoring is solely motivated by financial gain. Instead, the findings highlight a range of influencing factors—many of which align with students' academic needs. Given these insights, it is likely that similar factors shape private tutoring on a global scale, suggesting that its role extends beyond economic incentives to include professional development and enhanced student support.

Furthermore, in urban areas, tutoring by public school teachers is not limited to students enrolled in formal classes. However, it is also provided to students from other schools and unspecified groups or individuals, indicating a trend toward the industrialization of education. This suggests a shift from the traditional definition of private tutoring as tutoring for students enrolled in formal classes to a hybrid form that combines elements of tutoring with the Asian cram school system, where students gather around renowned instructors, with private tutoring. However, the fact that teachers also function as instructors is not seen in traditional cram school systems, and it is likely to increase in countries like Cambodia, where tutoring is widespread.

## 6. Limitation of the Study

This study explored in detail the factors influencing teachers' engagement in private tutoring; however, it has some limitations. First, the quantitative analysis was constrained by the availability of variables, particularly those related to teachers' families and socioeconomic backgrounds. Second, the study did not include a qualitative study involving direct observations of teachers conducting classroom teaching and private tutoring. Third, while this research focused on the supply side of education—specifically teachers—it is also important to consider the demand side, including the perspectives of parents and students. Future studies can address these limitations by building upon this research.

## 7. Conclusion

In conclusion, this study adopted a mixed-methods approach to identify the factors influencing teachers' engagement in private tutoring and regional differences. Quantitative analysis reveals that factors such as being male, having a high level of education, holding a side job, dissatisfaction with salary, teaching higher-grade levels,

and participating in teaching workshops increase the likelihood of teachers engaging in private tutoring. Since previous research did not address side jobs or workshop participation, this study explored these factors, along with regional differences, through qualitative analysis.

Qualitative results showed that, especially in urban areas, private tutoring not only serves as a means for teachers to earn additional income by tutoring students, but also as a tool for improving their teaching skills. This suggests that economic benefits are not the only motivating factor. Furthermore, many teachers are engaged in education-related side jobs and tutor students outside their schools, indicating a trend toward the industrialization of private tutoring. On the other hand, teachers in rural areas tend to engage in self-employment in jobs related to primary industries or teach students in regular classes due to limited options. The reasons teachers provide for tutoring include supporting students and providing financial support to their families, indicating that traditional forms of tutoring remain mainstream.

These results reveal that private tutoring by public teachers in Cambodia, particularly in urban areas and certain regions, is moving away from traditional concepts and is influenced by various factors, such as professional development and enhanced student support. Furthermore, it is evident that the country is gradually progressing toward the industrialization of education. Since private tutoring has positive and negative aspects, policymakers must consider these factors to develop strategies that maximize its benefits and mitigate its drawbacks. Furthermore, the phenomena observed in this study may indicate signs of evolution in other developing countries with a similar form of private tutoring, potentially laying the groundwork for future research comparing the factors influencing public school teachers' participation in private tutoring in other countries.

## [Notes]

1, There is a possibility of a correlation between the teachers' education level, age, grade in charge, and salary. To address this concern, this study tested the Variance Inflation Factor (VIF) before analysis, and the average VIF was 1.16, indicating no multicollinearity problem was observed.

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