The Working Conditions of Teachers in Low- and Middle-Income Countries

David K. Evans Fei Yuan

World Bank[1]

March 2018

Abstract: Student learning levels in low- and middle-income countries are low, and analysis of the proximate causes often points to failures among teachers, whether a lack of content knowledge, high absenteeism, or other poor performance. This review puts teacher performance in the context of different education systems which affect teachers' job satisfaction and commitment. Drawing on an extensive quantitative and qualitative literature, we provide an overview of teacher conditions across countries with a focus on the challenges that teachers face which may inform weakness in motivation using Maslow's Hierarchy of Needs Theory. We find that many systems fail to provide basic working conditions for teachers to perform. Literature on employee motivation in other fields suggests that atomistic interventions that fail to address basic working conditions are unlikely to have transformative positive effects on the education system. We conclude that a systems approach might be well suited to improve both teacher motivation and performance in developing countries.

Keywords: Teachers, motivation, education system, developing countries
JEL Codes: O15, I24, I25

[1] This study was prepared as a background paper for the World Bank's 2018 World Development Report, "Realizing the Promise of Education for Development. The authors may be contacted at Evans (devans2@worldbank.org) and Yuan (fyuan@worldbank.org).

1. Introduction

Teachers are arguably the single most important input to the learning production function. Global evidence has shown that teachers can make a substantial difference to students' test scores and long-term outcomes including college attendance and wage incomes (SIMCE 2009, Hanushek and Rivkin 2010, Chetty, Friedman et al. 2014, Araujo, Carneiro et al. 2016). Better teachers deliver more effective learning. Moving from a 10^{th} percentile teacher to a 90^{th} percentile teacher would increase learning by from 0.2 standard deviation in Ecuador to 0.9 standard deviation in India (Bau and Das 2017, Buhl-Wiggers, Kerwin et al. 2017), the equivalent of between 4.7 and 6.8 years of business-as usual schooling (Evans and Yuan 2017). Although little is known about the specific attributes of effective teachers, student learning performance has been proved to be correlated with teachers' subject and pedagogical content knowledge (Hill, Rowan et al. 2005, Baumert, Kunter et al. 2010). Students also directly benefits from high-quality classroom practices that cannot be substituted by advanced technology (Berlinski; and Busso 2015, Araujo, Carneiro et al. 2016). Furthermore, systematic reviews have consistently demonstrated that the most effective interventions to improve learning are directly related to teachers or delivered via teachers, such as pedagogical interventions, teacher training and improve accountability (Kremer, Brannen et al. 2013, Snilstveit, Stevenson et al. 2015, Evans and Popova 2016).

Potentially because of the central role they play, when learning fails to materialize, teachers are often pointed to as the problem. A large share of children in low and middle-income countries still lack basic reading and numeracy skills when they complete primary schools (UNESCO 2014). On the one hand, improving teacher quality has been identified as the key to tackle this global learning crisis (UNESCO; 2013); on the other hand, high absenteeism, little instructional time and the insufficient mastery of curricula that characterize a big share of the teaching force in developing countries have been considered as contributing factors to the learning crisis (Bold, Filmer et al. 2017). For example, nationally representative surveys from 7 Sub-Saharan African countries showed that students only received half scheduled teaching time per day (Bold, Filmer et al. 2017), which implied inadequate teaching. In addition, teacher salaries constitute more than 80% of public education expenditure in developing countries (UIS 2017). When student performance is poor, teachers are perceived to be wasting limited resources. For instance, in India, more than 23% of teachers were absent during unannounced school visits which is associated with an cost of $1.5 billion per year (Muralidharan 2016). In the first decade of this century, real expenditure on education rose by 6% annually across sub-Saharan Africa while the quality of education remained low (Zinsou, Gettu et al. 2011).

As a result, there are many calls for increased accountability for teachers. The job nature of teachers, usually hired as civil workers, make it very difficult for its service recipients – students, parents and even school principals—to hold teachers accountable (Mbiti 2016). To address the unresponsive learning performance to increased educational investment, developing countries have increased the quantity and variety of policy innovations to improve teacher accountability (Bruns, Filmer et al. 2011). The majority of these reforms involve contract tenure and

performance pay, but ignores difficult working conditions and the professional incentives – implicit and explicit – built in the teaching profession.

What motivates teachers? First, teachers are humans that are motivated by a set of basic needs. Maslow (1943) states that human needs are arranged as a pre-potency hierarchy, which means that each need rests on the satisfaction of the prior, more pre-potent need, i.e. from physiological, safety needs, to belongingness, esteem and self-actualization needs. In addition, no need is isolated but related to the state of satisfaction or dissatisfaction of other needs. Second, teachers are employees. According to the Herzberg's two-factory theory of job satisfaction, teachers' performance is positively affected by the motivators associated with their job, for example, challenging work, recognition, sense of importance; and negatively affected by those hygiene factors such as job security, salary, working conditions and benefits (Herzberg 1959). Recent employee motivation literature states that each drive that motivates employees is independent and cannot be ordered hierarchically or substituted one for another (Chung 2011). Therefore, focusing on improving a single motivator might not be able to enhance the overall working performance.

Furthermore, evidence from both developing and developed countries shows that teacher motivation and job satisfaction may not fit perfectly in the traditional employee motivation theories. For example, pay is not a motivator while belongingness is more valued by teachers regarding job satisfaction (Gawel 1997, Evans and Olumide-Aluko 2010, Skaalvik and Skaalvik 2011).Teacher working conditions matter and directly affect the effectiveness of teaching (Berry, Smylie et al. 2008, Ladd 2011). This can be explained by the fact that unlike other professions, teachers spend most of their professional time with students, isolated from other adults and face qualitative and subjective judgements of effectiveness (Barnabé and Burns 1994). In Mauritius, "Ability to communicate with pupils and impart knowledge" and "Sense of accomplishment and pride you get form successful student performance" were found to be the biggest motivators for teachers, based on responses from 201 public primary teachers (Keshwar Seebaluck and Devi Seegum 2013). A sample of 178 high school teachers in Ghana ranked "working conditions" as the second most important factor of motivation following salary, among other factors including future pension, incentives, opportunities for growth and recognition of work performance (Seniwoliba 2013).

However, a high rate of new teacher attrition is seen and worsened worldwide (Hong 2010, Skaalvik and Skaalvik 2011, World Bank 2014). In Zambia, the teacher attrition rate is hovering around 11 percent, despite two major increases in teacher salaries, and the reason for this attrition is unknown according to the government (Saeki, Hong et al. 2015). 40.4% of teachers in Jilin, China "probably or certainly would leave the teaching profession for another occupation if the opportunity arose" (Liu and Onwuegbuzie 2012). Teachers also report low job satisfaction. Only half of teachers were somehow or very satisfied with their job in Uganda (Ministry of Education and Sports 2013), which is not uncommon in Sub-Saharan Africa.

While policy discussion focuses on the deficiencies of teachers, very little takes into account of teachers' living and working conditions in developing countries (Fry 2002, Sumra 2004).

Teachers, as part of the education system are expected to deliver learning, but on the other hand, they also deserve appropriate treatment from the system. Over the past few decades, the status of the teaching profession has declined across the world, in terms of pay, respect and working conditions (Hammett 2008, Dolton and Marcenaro-Gutierrez 2011, Keuren, Silova et al. 2015). Many teachers struggle with difficult living and working conditions that undermine their commitment to effective teaching. Policy makers need to understand that no amount of inputs can substitute for teacher effort in classroom. Even teachers are in school, they may not teach or teach well. Understanding teachers' needs and providing professional working conditions are equally important as keeping teachers accountable in order to achieve quality education.

The objective of this paper is to characterize the working conditions so as to provide context to the failures of teacher performance. Currently there is very limited large-scale quantitative data on this topic. In this paper, we bring into one place evidence from a wide array of smaller scale quantitative and qualitative sources. Working conditions are categorized based on Maslow's hierarchy of needs to better organize the results rather than make a causal claim. The list of categories is not exhaustive but serve as a starting point to fill another dimension of policy debates regarding teachers.

Our results indicate that teachers in many developing countries are not provided with the basic working conditions to conduct effective teaching and ultimately deliver the learning expected by the system, parents and the society. These conditions vary from basic teaching supplies to living conditions, from school belongingness to social status, from professional development to career advancement. Depending on the context, they might be different challenges, but they all demotivate teachers to some extent as employee motivation theories point out. While increasing the accountability of teachers is crucial for quality education in developing countries, education systems should also consider the multidimensions of teacher motivation and provide professional support to keep teachers motivated.

The paper proceeds as follows. Section 2 describes our methodological strategy. Section 3 presents our findings and section 4 concludes.

2. Methodological Strategy

2.1 Search strategy and data collection

There are limited large-scale quantitative data on teacher working conditions in developing countries. The OECD Teaching and Learning International Survey (TALIS) (see OECD 2017) is conceivably the largest cross-country database that provides information on the learning environment and the working conditions of teachers. However, the participants are mostly teachers in developed countries or a few middle-income countries, which are not the primary objects of study of this paper. The Systems Approach for Better Education Results (SABER) of the World Bank have a module focusing on teachers (see World Bank 2017) in developing

countries, but primarily from the perspective of policy assessment rather than accounting the reality on the ground.

Since the literature on teacher working conditions is very small, we searched the existing literature on teacher motivation and job satisfaction to identify a sample of working conditions that had been recorded. The results first serve to reveal the real working lives of teachers in developing countries and secondly inform the kinds of working conditions that matter most for teaching and learning. Small-scale surveys conducted by researchers, NGOs and government and national policy are accepted as direct evidence. Anecdotes and individual interviews are used to enrich the understanding of the reality that teachers face. To be systematic as much as possible, for the kind of issues commonly identified, for example high pupil-teacher ratio, we re-searched large-scale data and employed them to provide global or regional contexts wherever available.

For academic journals, we started with *International Journal of Educational Development* and *International Journal of Education Research* searching with the keyword "teacher" and went through the first (i.e. the most recently published) 200 results from each search. We then looked for articles with the terms *("teacher motivation + developing countries")* through google scholar and examined the first 250 results. In the review process, we followed up references from the papers as needed. In addition, we reviewed 133 Public Expenditure Reviews (PER) and Public Expenditure Tracking Surveys (PETS) (both multi-sectorial and education-specific) published between 2007 and 2017 by the World Bank.

2.2 Teachers working conditions in Maslow's hierarchy of needs

Notwithstanding, it is difficult to synthesize the findings available for the following reasons. First, the evidence is thin and many times based on a stand-alone survey without substantial related literature. We got sporadic data points in different districts, countries and regions which might not be sufficiently representative. Second, working conditions is a broad term that does not have a clear definition. Many issues in our findings that are cared by teachers and directly affect their performance may not necessarily fit in the theoretical discussion of employee motivation. We chose to present the results using the framework of Maslow's hierarch of needs, not aiming to test the applicability of the theory in the teaching profession but rather employ it to organize our findings in a sensible way (Figure 1).

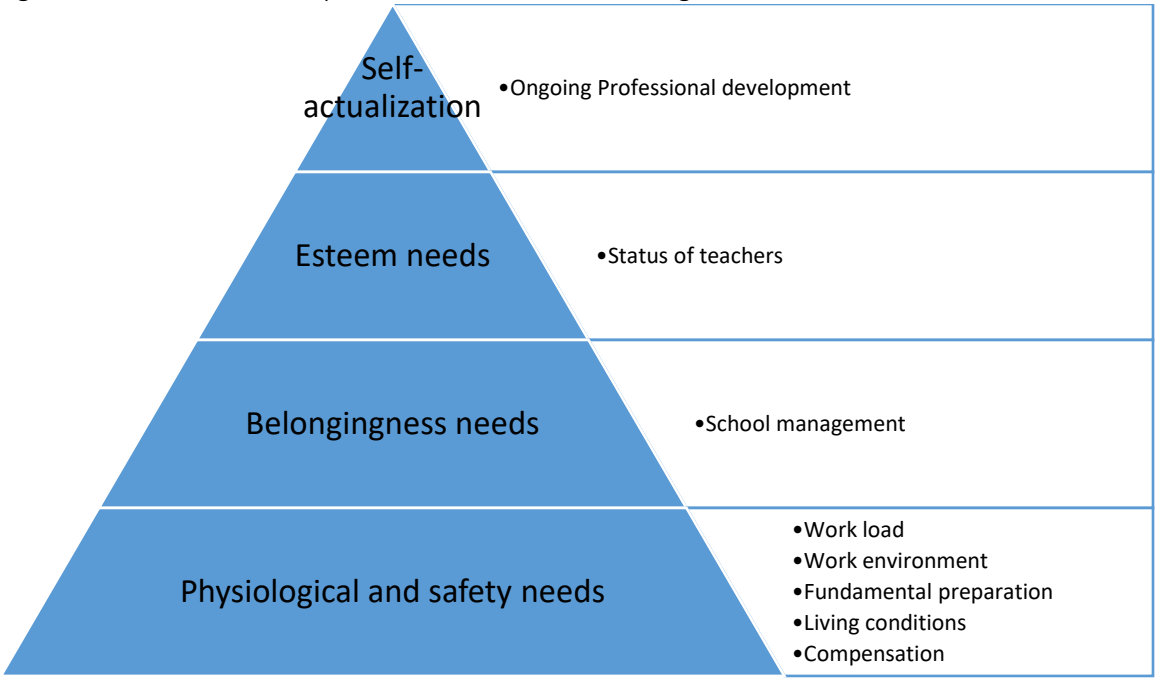
Maslow's hierarchy of needs consists of five levels: physiological needs, safety needs, social belonging, esteem and self-actualization (Maslow 1943). Physiological needs are the basic physical requirements for survival. As employees, teachers need the income from their job to cover living costs, from food, housing to healthcare and family support. When applying to workplaces, we first describe the work load of teachers and the fundamental preparation that teachers have received, seeking to characterize the challenges uniquely associated with the teaching job. We assess the basic conditions for teaching, for example, classroom, teaching facilities, office, restrooms. Safety needs cover personal safety, material welfare and well-being. In the professional world, these can be materialized as job security and other benefits

associated with the job, including healthcare, insurance and pension. We combine these two levels of needs into the first category of teacher working conditions: the essentials for teachers to make teaching happen.

We also assess other conditions that are important for teachers to achiever quality education. The next level of needs involves feelings of belongingness. A friendly and engaging working environment often increases employees' sense of belongingness to their workplaces. For teachers, they interact the most with their students but school management is still important for their commitment to the job. Teachers also needs recognition of their job from peers, supervisors, student parents and the society. And finally, self-actualization is associated with reaching the full professional potential. When teachers want to be great teachers, they need to be self-motivated but at the same time receive support from the system that hires them.

For each category, we gather as much information as we can (giving priority to quantitative data) to depict the challenges that teachers face in successfully delivering learning in many developing countries.

Figure 1: Maslow's hierarchy of needs and teacher working conditions.



3. Results

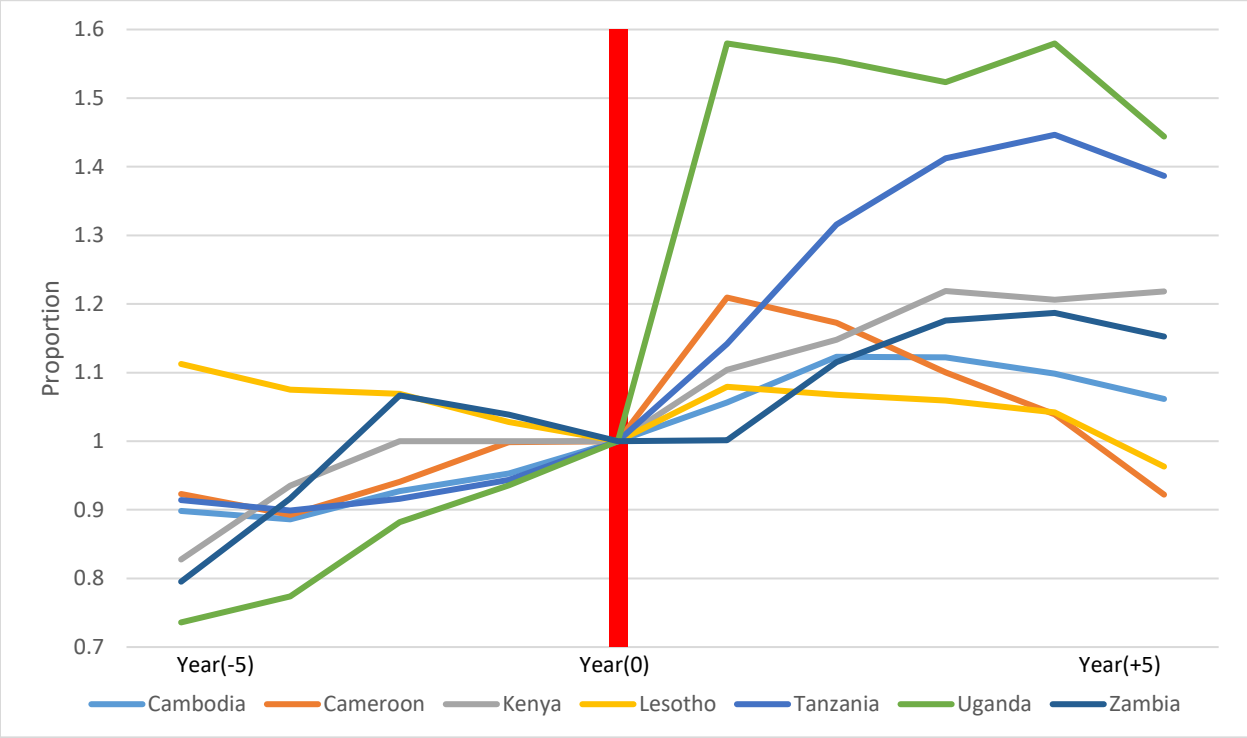
3.1 Physiological and safety needs

3.1.1 Workload

The successful expansion of access to education over the past decade has brought millions of children in low and middle-income countries to school. However, many education systems are

not well prepared to accommodate the enormous influx of children. The Pupil to Teacher Ratio (PTR) has increased dramatically as a direct consequence of the Universal Primary Education policy. Figure 2 shows the changes in PTR before and after school fees were eliminated in seven developing countries. Almost all countries experienced a surge in PTR with an increase by 60% in Uganda. Teachers in the system had to deal with over-crowded classrooms, more teaching periods, and more non-teaching activities among other emerging requirements, associated with the expansion.

Figure 2: Pupil to Teacher Ratio (PTR) in the years after the implementation of Free Primary Education compared to that in the last year with fees



Source: WDI (2017).

Large class sizes

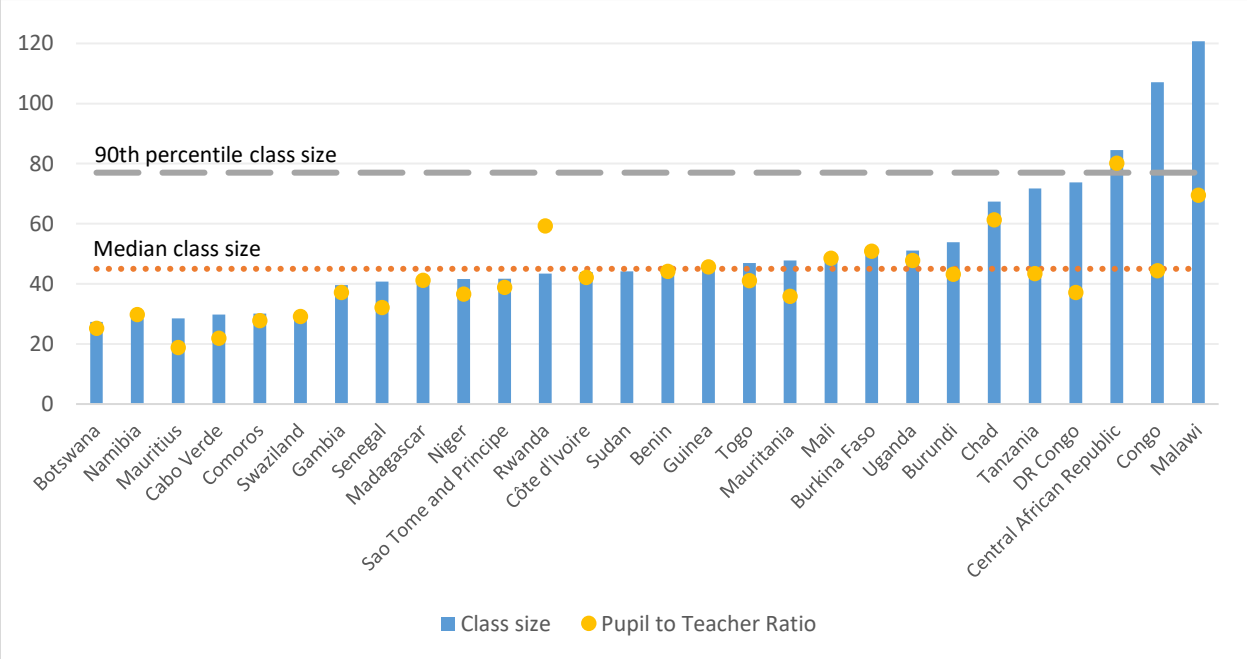
PTR is one of the most important indicators of educational resources. The statistics for PTR have shown a downward trend recently but remain high in Sub-Saharan Africa and South Asia (Table 1). In fact, the actual class sizes in those countries are usually larger than the PTRs indicate. While PTR is the ratio of enrolled students to the number of full-time equivalent teachers assigned to a school, class size measures the number of students taught by a teacher, excluding those teachers who work in multiple classrooms or do administrative work (Lewit and Baker 1997, UNESCO 2017). When resources are limited and misallocated, the discrepancy between the two numbers can be very large. As figure 3 indicates, although the PTRs in Tanzania, the Republic of Congo and the Democratic Republic of Congo are close to the regional median, their class sizes are almost the double of their PTRs. For instance, the reported PTR in the Democratic Republic of Congo is 37, which is not a small number, but few would tell that teachers have to manage classes of 74 pupils on average.

Table 1: Pupil-teacher ratio at the primary level

Country Name (excluding high income)	1980	1990	2000	2005	2010	Most recent
75th percentile						
East Asia & Pacific	32	32	33	34	30	26
Europe & Central Asia	28	24	22	20	18	19
Latin America & Caribbean	36	32	28	28	25	23
Middle East & North Africa	38	29	28	26	28	26
Sub-Saharan Africa	49	54	52	52	52	43
South Asia	46	47	40	39	42	38
90th percentile						
East Asia & Pacific	36	35	35	37	30	28
Europe & Central Asia	28	28	22	21	23	21
Latin America & Caribbean	39	34	33	32	28	26
Middle East & North Africa	40	37	30	26	29	28
Sub-Saharan Africa	56	62	63	63	61	46
South Asia	51	56	41	43	44	45

Source: World Bank, World Development Indicators.

Figure 3: Average number of pupils in single grade classes in primary schools in Sub-Saharan Africa



Source: UIS (2017). Data in available years.

Although research shows variation in the impacts of reducing class sizes on student performance (Pritchett and Sandefur 2013), overcrowded classrooms not only require teachers to devote more attention and increases their workloads but also reduce the effective

instructional time. Classes with more than 50 students are not uncommon in India. A teacher in Mubarakpur, India said*, "Out of the 40-45 minutes time for one class, almost 15 minutes go in taking attendance. The remaining time I am trying to maintain silence in the class so that I can teach"* (Chettri and Hindustan Times 2016). Teachers in Uganda and Malawi also reported that they had to manage classes of more than 100 pupils, especially in early grades where there were a large number of underage and/or overage students (Kadzamira 2006, The Guardian and Cummins 2011). In fact, the average primary class of single grade has more than 40 pupils in around 70% of Sub-Saharan African countries and more than 30 pupils in 90% of those countries (Figure 3). And classes are usually larger in secondary education and schools in rural areas. While there is no standard for class size, most teachers were trained to teach a class of 30 students (The Guardian and Cummins 2011). The average number of student per primary class is 21 students in OECD countries (OECD 2017).

Multi-grade classes teaching and double shifting

In addition, teachers in developing countries are required to teach multi-grade classes, although they were not trained to do so. In Lao PDR, one out of 20 teachers in urban areas and one out of four teachers in rural areas have to instruct multi-grade classes (World Bank 2008). Around 50% teachers in Punjab, Pakistan teach more than one subject to more than one grade (Waheed, Chaudhuri et al. 2015). For early grade teachers, teaching is even difficult as a result of classroom age heterogeneity from overage students and varying learning rates (World Bank 2010). Furthermore, countries like Ghana introduced double-shift schooling system with one group of teachers as a way to serve more students, which doubled teachers' duties (Bennell and Akyeampong 2007). Malawi aimed to implement double shifting in 15% of schooling by 2017 (World Bank 2013).

Indeed, the workload of teachers is much higher than it seems to be because they have other non-teaching activities, such as class preparation and grading homework. Teachers usually spend at least the same amount of time to prepare a teaching period (World Bank 2008). Often, teachers have to be responsible to additional requirements. For example, In China, to prepare students for high school entrance exams, teachers had to work extra hours and provided tutoring after class (Liu and Onwuegbuzie 2012).

Other duties

On top of teaching responsibilities, it is common that teachers assume administrative and managerial roles. Chinese teachers reported that they were expected to be engaged in extracurricular and parental association activities, and sometimes they had to prepare paper works for supervision from district education entities (Liu and Onwuegbuzie 2012). Cases were heard in rural areas in Mexico and India that teachers were operating the schools by themselves, from filling out managerial forms to cleaning the school, from maintaining student records to arranging for firewood. Sometimes they were used by the government to collect census data or even to lead construction works (Luschei and Chudgar 2017). In Ghana, 5% of schools only had one teacher (Bennell and Akyeampong 2007), it's not hard to imagine that in those schools the lone teacher had to take on multiple roles to make the school function.

"I am a chair of the chemistry department, department head of chemistry, head of science department; guardian of UKWATA members (the Christian students' group); Takukuru agent (the national corruption bureau), where I have to explain to students about corruption; coordinator of exhibitions in the cluster (six schools in a cluster that make exhibits for one another); in charge of the school shop; and class master for Form 4)." – A teacher at Uhuru Secondary School, Tanzania (Vavrus and Salema 2013).

"Another challenge I think which is the time in preparing some of those [teaching] materials. You know, sometimes, from morning, sometimes, I am occupied, and when I go home, I am tired. At what time will I go to prepare? And you find, also, during the weekend, I have to do other business." – A Tanzanian teacher (Vavrus and Salema 2013).

Despite the heavy workload, teachers often receive little help compared to other professions. In Chile, on average each doctor has 4.5 nursing staff while each teacher only has 0.3 (The International Commission on Financing Global Education Opportunity 2016). Multiple responsibilities take up teachers' energy and time and leave them very limited time to prepare lessons. Sometimes teachers also missed classroom teaching to fulfill duties associated with those roles. A teacher survey in Tanzania showed that most teachers were unwilling to take on heavy workload as they felt that they were not fairly treated (Davidson 2007). This coincides the mounting evidence that "hindrance stressors had a negative direct effect on performance, as well as negative indirect effects on performance through strains and motivation" (LePine, Podsakoff et al. 2005). That said, when teachers do not fulfill their expected roles and responsibilities due to a lack of motivation, their workload might not appear to be particularly high and without the context, they will be easily blamed for low performance often proxied by student learning outcomes. This is the chicken-and egg problem.

3.1.2 Fundamental preparation

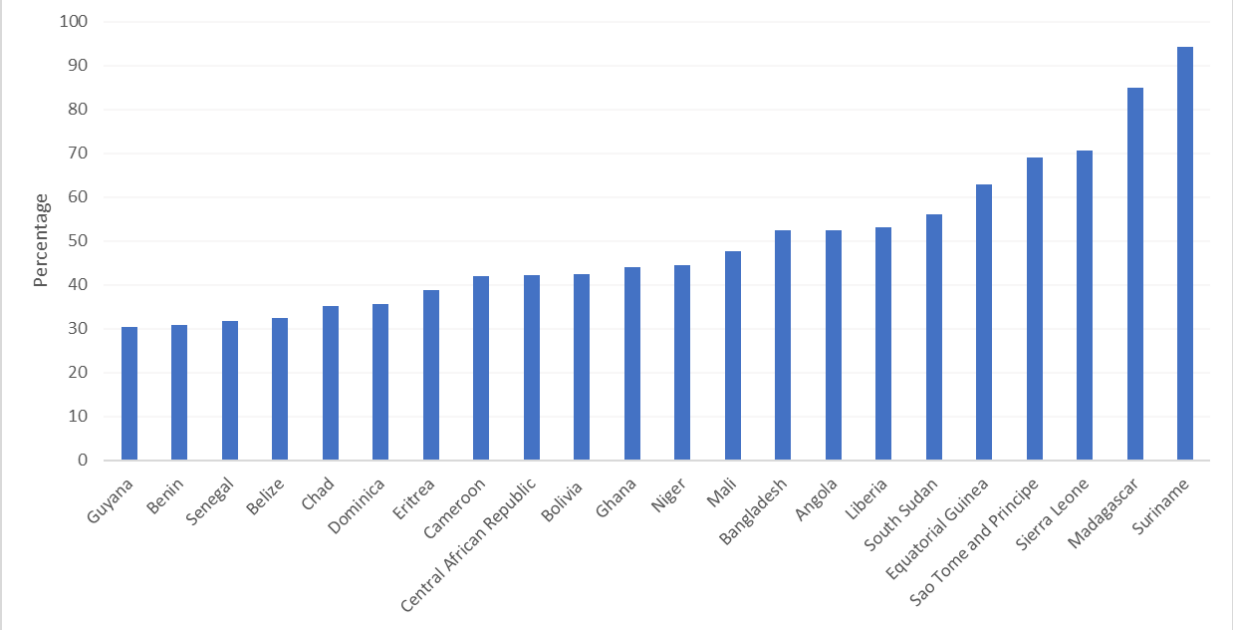
Qualifications often are not clearly linked to teacher performance, but that does not mean they are not important (Rivkin, Hanushek et al. 2005, Aaronson, Barrow et al. 2007, Goldhaber 2007, Buddin and Zamarro 2009). In fact, every high-performing education system has strong teacher preparation. All teachers in Finland are required at least a Master's degree. The weak predictive power of qualifications for future performance should not undermine the importance of teacher pre-service training.

Nevertheless, many countries have rapidly expanded their teaching forces by hiring large numbers of unqualified and untrained teachers to address the expanding enrollment, for two reasons. First, qualified teachers are in shortage because there is a gap between countries' teacher training capacity and the demand for additional teachers, especially in Sub-Saharan Africa. Nigeria need 400,000 additional primary teachers between 2012 and 2030 (UNESCO 2015). Second, the rapid expansion of teaching force has exacerbated the budgetary pressures that governments face. The majority of unqualified teachers are on a contract and paid much less than civil service teachers. In Niger, contract teachers earn only half of the salary of a civil service teacher (Pôle de dakar (UNESCO-BREDA) 2016). In Madagascar, 78% of teachers are community teachers but they absorb less than 15% of the wage bill (World Bank 2015).

Indonesian civil service teachers can earn 30 to 40 times the salary of contract teachers, which they work side by side (World Bank 2013).

Figure 4 shows the developing countries with more than 30% of untrained primary teachers, and 80% of these countries are in Sub-Saharan Africa. When teachers do not have the fundamental preparation, it is not surprising that they do not yield satisfactory outcomes. Governments may spend millions on in-service teacher training albeit not always effective (Popova, Evans et al. 2016), but that cannot make up the pre-service training that teachers should have received.

Figure 4: Percentage of untrained teachers in primary education



Source: UIS 2017. Year 2015, or the latest year available from 2011.

3.1.3 Work environments

Work environments, both physical and mental, are important to any employee. School facilities and management greatly affect teachers' motivation and job performance. For instance, 49% of 335 surveyed teachers in Indonesia strongly agreed with the statement: "I will work harder if the school conditions will be improved", compared to more classroom visits (14%) and a better chance of promotion (20%) (Verger, Kosar Altinyelken et al. 2013). However, teachers in low- and middle-income countries often work with poor facilities. Although improving school facilities has been seen in many of developing countries, but it is not proportional to the expansion of enrollment (Vavrus and Salema 2013, World Bank 2017). There is still a severe shortage of teaching facilities, ranging from classroom infrastructure to teaching materials.

Insufficient school infrastructure

Some countries do not have adequate infrastructure to make teaching happen. It is estimated that one third of Mozambique students still sit on the floor (World Bank 2017). Similarly, some

government schools in Delhi still hold classes in corridors (Chettri and Hindustan Times 2016). In South Sudan and rural areas in Angola, a lot of teaching still takes place under trees (The Guardian and Cummins 2011). Five regions of Chad regularly experience an interruption of the school year due to a severe lack of school infrastructure. Teachers with their students battle with dust and rains (World Bank 2016).

According to the Service Delivery Indicators (World Bank 2013), only 3% of schools in Tanzania and 17% in Senegal have sufficient light to read the blackboard and functioning toilets (Table 2). 60% of newly built secondary schools had inadequate infrastructure as they were constructed in a rush to enroll more students in Tanzania (Salema 2009). In Madagascar, 26% of schools don't have water and there is only one latrine for every 1900 students (Lassibille and Buron 2016). Although less common, in mountain areas of Nepal, school conditions are so difficult that even male teachers can only stay for limited periods (Bennell and Akyeampong 2007). While it is natural to be sympathetic to the poor children, less attention has been paid to the miserable working conditions of those teachers, as professionals.

Table 2: Conditions of school infrastructure in selected countries

	Schools with functioning electricity and sanitation	**Schools with functioning blackboard, chalk, pencils and notebooks (%)**
Kenya (2012)	58.8	95.0
Madagascar (2016)	20.2	65.0
Nigeria (2013)	16.8	49.2
Tanzania (2014)	40.4	61.4
Togo (2013)	22.8	28.3
Uganda (2013)	54.9	94.3

Source: World Bank, Service Delivery Indicators.

Lack of teaching materials

Teachers are hampered by limited and inadequate instructional materials and facilities to deliver effective classroom teaching in developing countries. The Universal Basic Education Commission (UBEC) 2013 survey showed that "about 28% of teachers complain about lack of appropriate textbooks or other materials" (World Bank 2015). In fact, in Madagascar, 40% of students don't have textbooks. The median school in Zambia had five or six pupils sharing each textbook and in Uganda the number was 13 or 14 (Table 3). The shortage of textbooks dramatically decreases the efficiency of teaching. As teachers in Tanzania recounted, they spent a chunk of class time writing everything on the board and asked the students to copy. Neither the teacher could cover the syllabus, nor the students learned effectively (Vavrus and Salema 2013).

Table 3: Average number of pupils per textbook in classroom

	Reading	Math	Overall
Kenya (2012)	3.5	2.6	
Nigeria (2013)	3.3	3.5	
Senegal (2012)	2.6		

Tanzania (2014)	0.3	0.3	
Togo (2013)	1.6	3.1	
Uganda (2013)	13.4	14.1	
Zambia (2012)			5.5
Lao PDR (2008)			2
Equatorial Guinea (2010)			2
Central African Republic (2012)		6	

Source: Data for Kenya, Nigeria, Senegal, Tanzania, Togo and Uganda are from SDI database; data for the rest countries are from Public Expenditure Review in corresponding years.

Sometimes, government's efforts to increase inputs do not reach the classroom. In a program implemented in Sierra Leone, schools did not use the textbooks on purpose as they were not sure when the next batch would arrive (Sabarwal, Evans et al. 2014). Furthermore, without appropriate resources, teaching in certain subjects cannot take place. For example, a high school teacher in Uganda recounted*: "The government says it can pay teachers, but there are too few resources in government schools – so the work can be almost impossible. Vital resources such as lab equipment are lacking, even though science is seen as one of the most important subjects*"(The Guardian and Cummins 2011). In Ghana, ICT has been incorporated in curriculum, but the student computer ratio is 44. Most schools have at least one IT teacher but over 30% of them have not received special training. More than half of schools receive no IT support services (World Bank 2011).

3.1.4 Living conditions

Decent living conditions are important for any professional to fully dedicate to work and perform effectively. However, teachers in many developing countries – often a substantial share of the small formal sector– live in difficult conditions. Cases studies across 12 countries in Sub-Saharan Africa and South Asia found that fining decent housing in rural areas and travelling to work in urban areas are the primary challenges for most teachers (Bennell and Akyeampong 2007).

Commute is often reported to be difficult and expensive for teachers, especially for those who work in rural schools. *"Teacher often have to travel a long way to their schools and the cost of transport is high. The vehicles are crowded and the journey uncomfortable"*, response from a teacher in Cote d'Ivoire when he was asked about his personal teaching challenge. Similarly, a teacher in South Sudan stated: "*It is a daily challenge to get work as I live more than 4km away from the school and there is no transport*" (The Guardian and Cummins 2011). Even in cases where there are transportation subsidies, long commuting time is still destructive for daily work and health. Sometimes, teachers stop showing up at school due to high transportation costs (World Bank 2011), which is consistent with the results from empirical research that long commute has a positive effect on worker's absenteeism (Van Ommeren and Gutiérrez-i-Puigarnau 2011).

On the other hand, the lack of housing and basic amenities for teachers working in rural areas is a major concern. In Mexico and some other countries, teachers have to accept any job location

assigned to them in the first years of career. Many teachers can only cope with difficult conditions for a short period of time and look for any opportunity to get reposted in urban areas (Luschei and Chudgar 2017), which presumably reduces their commitment made to their work.

A few governments like Myanmar, Mali and the Gambia have designed policies to recruit teachers to rural areas and many of them provided hardship allowance, usually 20-40% of starting salary (Pugatch and Schroeder 2014). While hardship allowance encouraged teachers to take up posts in rural areas but did not increase student learning (International Labour Office and Centre for International Teacher Education 2016). Even if teachers are assigned to these areas, they may not be fully dedicated to teaching as a consequence of poor living conditions. Government data of Tanzania showed an 80% of shortfall in the availability of teacher housing (Mulkeen 2010). The average teacher to every usable teachers' house ratio is 8 in rural areas of Zambia. Lack of amenable teacher housing likely contributes to high teacher retention rates and a poor distribution of female teachers in rural areas (Dennis, Guloba et al. 2012).

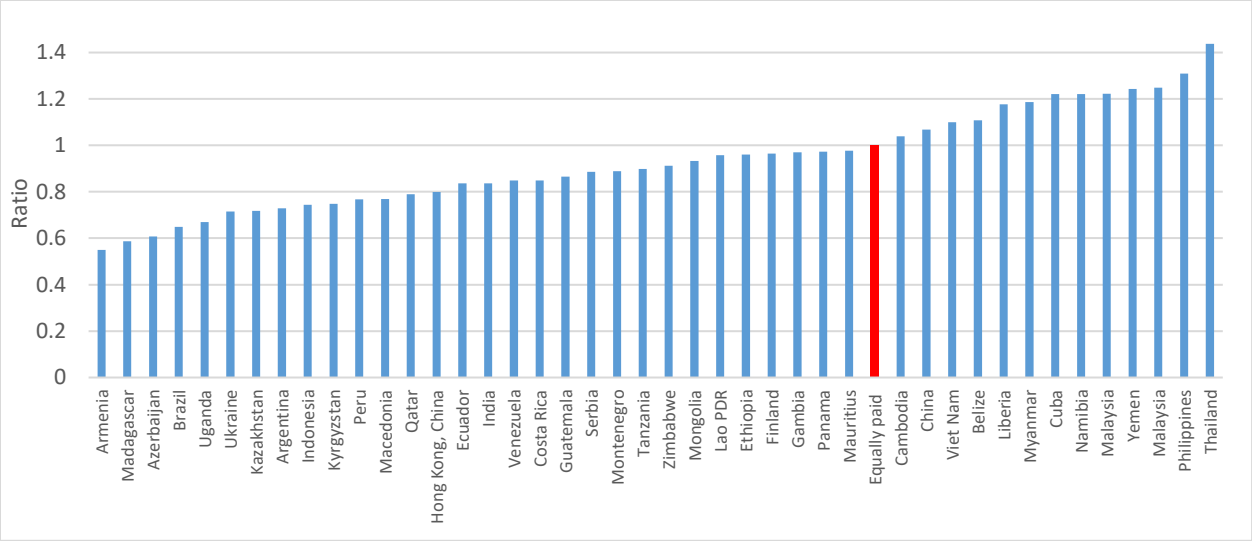
3.1.5 Compensation

Teacher salary is the largest component of public education expenditure in low and middle-income countries. There is an extensive literature on teacher salary and its sensitivity to teaching quality and student performance (Vegas 2007, Woessmann 2011, Akiba, Chiu et al. 2012, Mizala and Ñopo 2016). This section will not go into detail reviewing the existing evidence, but provide political economy contexts of challenges associated with teacher compensation.

Teacher pay structure

Teaching jobs by its nature require multidimensional skills and the quality of those skills is often difficult to be measured by a set of indexes, in contrast to those in non-teacher jobs. This complexity is usually not well addressed in the traditional teacher salary scheme which usually only rewards teacher academic qualifications and working experience (Hanushek 2007). More importantly, the pay scale for public teachers is determined centrally, often by the Ministry of Education or district education offices, depending on the budget allocated. Usually, teachers' salaries are comparable to those of other public administrative staff (Figure 5).

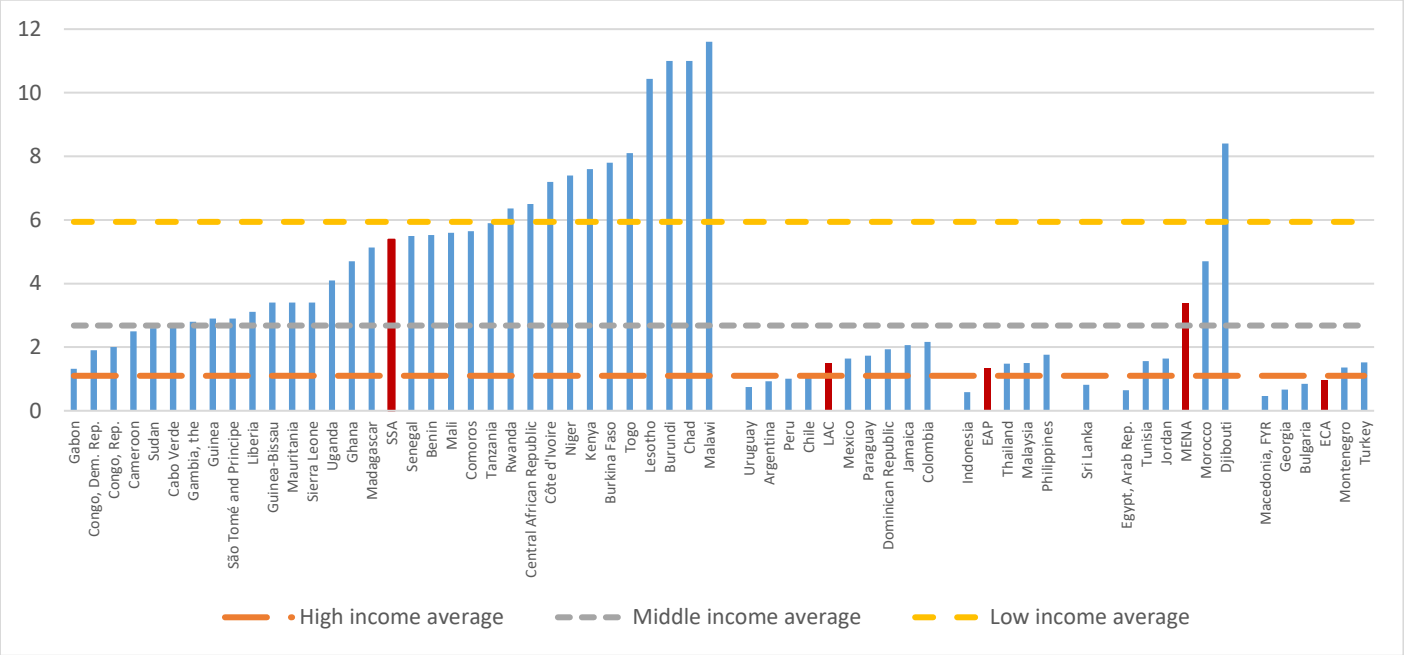
Figure 5: Teachers' salaries relative to earnings for public administrative staff



Source: ILO database (2017)

The ratio of teacher salary to GDP per capita is a commonly used indicator to measure teacher salary. This ratio varies great across countries, often higher in low-income countries and lower in high-income countries (Figure 6). However, because of the difference in income level and economic structure, teachers in countries with higher ratio do not necessarily have a better living. Individual research has shown that teaching is a fairly paid job compared to other professions that require similar academic qualifications, such as in Bangladesh and Pakistan; and sometimes, a better-paid job such as in India and Morocco (African Development Bank 2013, Rawal, Rose et al. 2017). Teaching has also become a financially attractive profession after implementing a teacher salary reform in Indonesia (Chang, Shaeffer et al. 2014).

Figure 6: Teachers' salaries as a percentage of GDP per capita, lower secondary education



Source: OECD (2016), Pole de Dakar (2016) and UNESCO (2013).

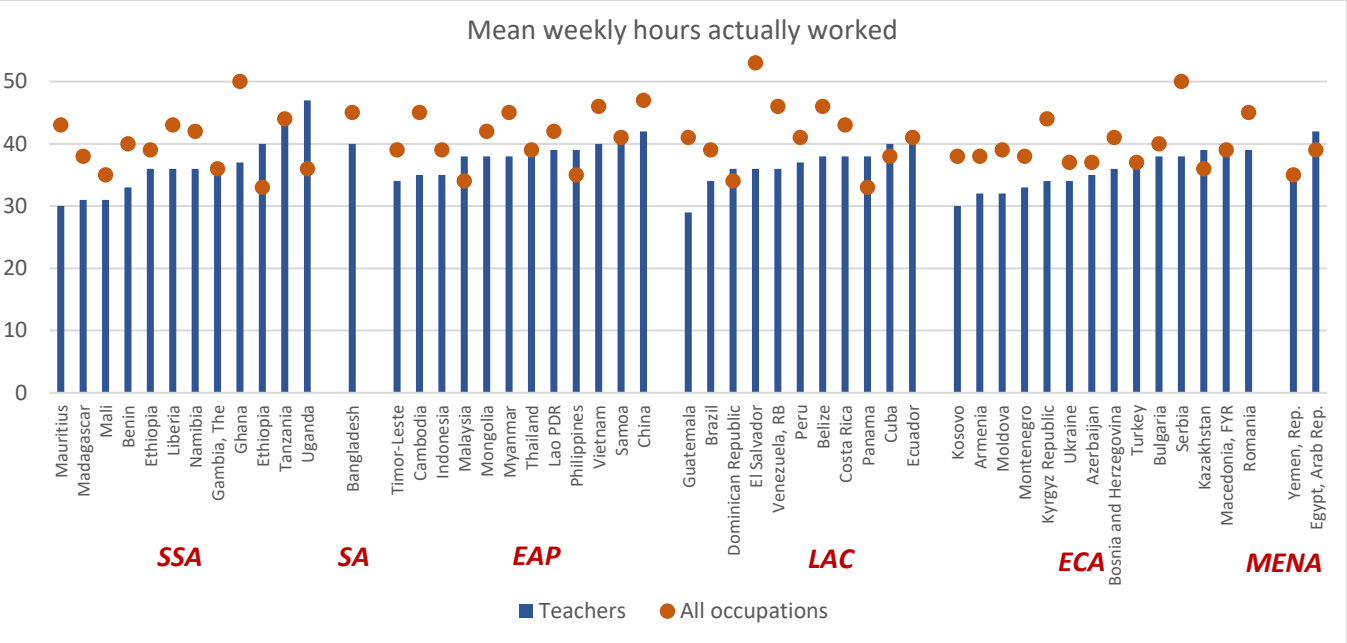
On the other hand, when the system is less attentive and responsive to the issue of teacher compensation, teachers barely make a living with their salaries. More than half of teacher in Lesotho, Zambia and Sierra Leone admitted that they went to work hungry; and teachers in Malawi were absent from schools in order to search for food or loans for living (Bennell and Akyeampong 2007). About 20% of teachers in the Philippines and 68% of primary teachers in Cambodia reported that they had to take other jobs or sources of income to supplement their earnings from teaching (World Bank 2011, World Bank 2016). In fact, it is quite common in Africa that teachers have to take on several jobs to make ends meets (Osei 2006, The Guardian and Cummins 2011). For instance, 94.3% of teachers in Ilala said they needed to make extra money to meet their desired living standard. 30.9% failed to prepare failed to prepare their lessons due to demands from other jobs, which directly affected their quality of instruction and the performance of students (Timothy and Nkwama 2017).

> *"... in most schools, low pay has forced teachers to find additional sources of income in form of petty trading, part timing in other schools and coaching. These secondary income activities have created divided attention and loyalty to teaching and thus impacting negatively on the quality of teacher performance." – A municipal education officer of Masaka, Uganda (Aacha 2010).*

Another issue surrounding teacher compensation is that teachers work fewer hours. True. As shown in figure 7, teachers are required for less work time than other occupations. Nevertheless, fewer hours are not associated with better life when pay is lower as well. 75% of principals in Tajikistan reported that teachers wanted to work more in order to increase their salary (World Bank 2008). In fact, teachers do not have many options to earn a better payment

on the job. Traditionally, teacher pay is delinked to performance and even not adjusted by inflation but merely determined by qualifications and experience (SABER 2018).

Figure 7: Mean weekly working hours of teachers and other occupation



Source: ILO 2017

Economic development and increased inflation reduce the real wages of teachers as well. Teaching was regarded as one of the well-paid jobs in developing countries when there were very few skilled workers. As a country develops, the number of skilled workers increase and skills are rewarded through the mechanism of a functioning labor market. However, such dynamics has not been effectively incorporated into the teacher compensation scheme and on the contrary, many education systems have prioritized other areas for budget allocation in order to cope with the rapid education expansion in their countries. Therefore, the issue of low payment has become increasingly prominent in some low and middle-incomed countries. For example, Chinese teachers complained that the increase of their salaries was not proportional to the rise of living expenses (Liu and Onwuegbuzie 2012). OECD data showed that actual salaries of Chilean teachers was less than 60% of earnings of similarly educated workers (OECD 2016). In South Sudan, "*despite the rising costs of living, teacher salaries are still low. The lowest-paid teacher receives 296 South Sudanese pounds (SSP) ($100) a month, making life very difficult*" (The Guardian and Cummins 2011).

Payment delivery

In addition, the delivery of payment is problematic in some developing countries. Many teachers experience delays in receiving their payment which discourage teachers and sometime leads to strikes, for example, in Kenya (Bennell and Akyeampong 2007, Aacha 2010, Nbina 2011, Keuren, Silova et al. 2015). Community teachers in Chad had payment arrears of 10

months; 40 to 50 percent of newly hired kindergarten and elementary school teachers in the Philippines received their salaries late (Table 4). There are various reasons that caused delays, such as insufficient funding, lengthy payroll preparation and even fund leaks, but in each case, teachers are victims of an inefficient system.

Table 4: Delays in teacher salary payment

Country	**Reason**	**Affected teacher population**	**Source**
Afghanistan	Inefficiency of the provincial offices and insufficiency travel budgets to collect payments	20 percent did not receive salaries on time over the past 3 months	Public Expenditure Review (PER) 2011
Chad	Insufficient budget	Delays in the payment of community teachers led to payment arrears of 10 months	PER 2011
Democratic Republic of Congo	Lengthy payroll preparation and payment cycle	Payment is almost never made by the stated deadline and delays more than 60 days were observed.	PER 2008
Democratic Republic of Congo	Salary misappropriation/leaks	76% of teachers received less than 60% of what they were owed	PER 2008
Lao PDR	Insufficient funds	"70 percent teachers had experienced salary payment delays in the past year and a half"	PER 2008
Madagascar	Not stated	Substantial delays in payment combined with long periodicity in payments	PER 2015
Mali	Inefficiency of the payment delivery chain	Wages could be delayed, if the collector is busy, or if the municipality makes mistakes in its request for payments.	PER 2016
The Philippines	Not stated	40 to 50 percent of newly hired kindergarten and elementary school teachers received their salaries late.	PETS 2016
Yemen	Salary leaks	Teachers never received the same amount of salaries in two consecutive months	PER 2010

Furthermore, teachers have to travel long distance to pick up their payment. Usually teachers are asked to be present in a district office to receive payment and they need to skip classes for the travel. The travel times ranges from a few hours to several days, which means that schools are interrupted during teachers' monthly travel. In an extreme case in Zambia, it took a head teacher six days to talk to a district office one way, leading to absence from schools for two weeks each month. And the travel is also expensive which can cost up to a quarter or half of a teacher's salary in Liberia and Zambia correspondingly (Mulkeen 2010).

Most countries have introduced the option of electronic transfer (Table 5). For urban teachers, this has reduced the travel time and interruption of school. However, for teachers working in rural and remote areas where there are no available banks, they still need to travel considerable distances to cash their paychecks or withdraw cash. When teachers choose to pay in cash, district officers withdraw the money and distribute it to head teachers. However, in practice, cases of theft of the cash were reported (Mulkeen 2010).

Table 5: Teacher payment delivery method in selected countries

Country	Payment delivery method	Source
Cape Verde	Direct deposit	PER 2009
The Gambia	Bank transfer to qualified employees.	PER 2017
Eritrea	Teachers are paid in cash through a cashier.	Mulkeen 2010
Lesotho	Electronic transfer. Some travel for teachers in rural areas.	
Liberia	Teachers are paid by check. Normally there is one pay point in each county.	
Malawi	Teachers can choose to be paid by check, in cash, or through electronic transfer.	
Uganda	Teachers are mostly paid through electronic transfer.	
Zambia	Teacher payroll is managed at the district level. Usually, bank transfer for urban teachers and cash for rural teachers.	

3.2 Belongingness needs

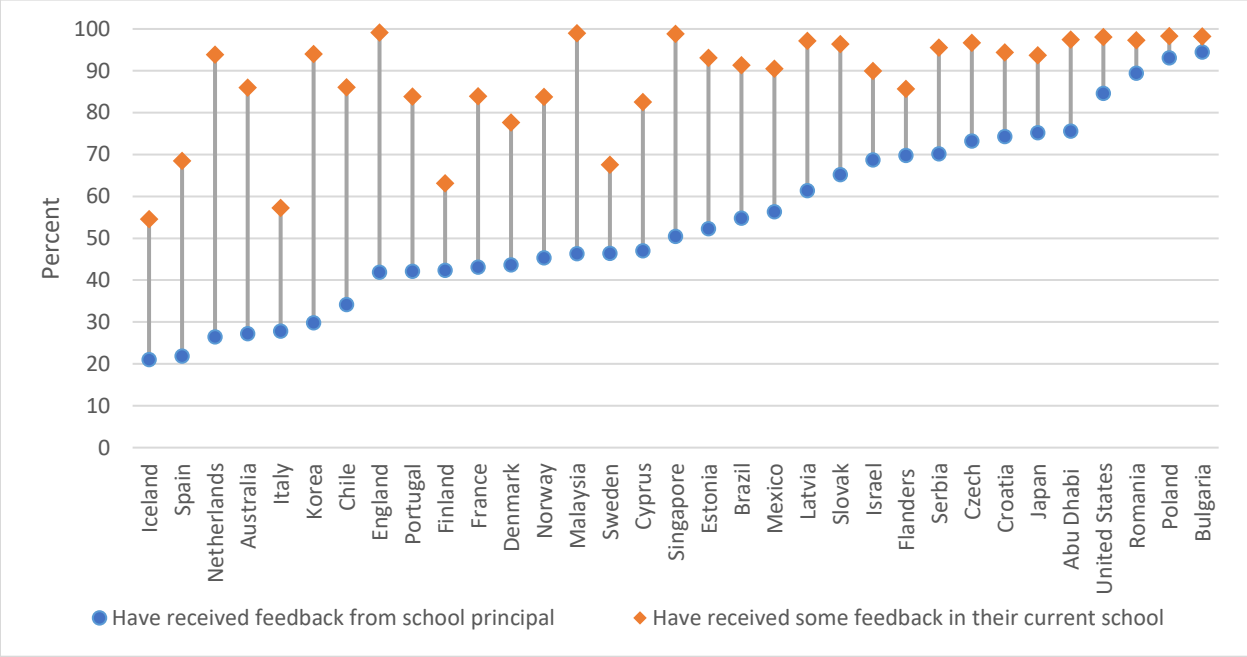
School management

Unlike other professional workplaces, schools are student-oriented. Therefore, teachers' needs for professional engagement is often not well addressed. A teacher survey across 5 Sub-Saharan African countries[2] and India showed that less than half teachers felt they were well managed by school principals. Complaints included that head teachers were incompetent of managing the schooling system and were not concerned about teacher behavior and student performance (Bennell and Akyeampong 2007). School leadership is also correlated with teachers' accountability. Empirical data have shown when a school principal was absent from school, there was a higher likelihood that teachers were also absent (World Bank 2017).

Furthermore, despite the fact that recognition is one of the fundamental factors affecting job satisfaction and motivation (Maslow 1943, Herzberg 1966), teachers as employees usually receive little appreciation and support of their work from either head teachers or higher education officers. In OECD countries, 90% of teachers receives some feedback in their school (figure 8). However, in Madagascar, less than 20% of school principals checked whether teachers met curricular objectives and only a quarter discussed pedagogical or student learning issues with their teachers (Lassibille and Buron 2016).

[2] Five Sub-Saharan Africa countries: Ghana, Lesotho, Sierra Leone, Tanzania and Zambia.

Figure 8: Teachers receive feedback in their schools, TALIS



Source: OECD, TALIS 2013 Database.

Infrequent and lack-of-focus supervisory visits are widely reported in many countries for different reasons. Lacking transportation budget, long distance and delink to career development are the major contributing factors, even when teacher evaluation is required by the regulation (World Bank 2011, Dennis, Guloba et al. 2012, World Bank 2014, Acosta, Almeida et al. 2016, World Bank 2017). On the other hand, "Efforts of teachers are not appreciated, supported or even abused by officials" was among one of the worst moments in their career, reported by Indian teachers. They would welcome more serious inspections rather than a formality check without providing any feedback (Mooij 2008). Similarly, among 335 teachers surveyed in Indonesia, 89% indicated that regular teacher evaluation will motivate them to perform better (Verger, Kosar Altinyelken et al. 2013).

> *"The management of primary schools is very weak. Head teachers are not appointed because of their competence as managers but because of the number of years they have spent teaching. Most of them have not been given any management training since assuming office. The disciplinary authority granted to them is ineffective. Consequently, vices such as lateness, absenteeism, drunkenness etc abound. Circuit supervisors do relatively little – just check staff numbers and enrolments rather than offer professional advice and support to teachers." – A Ghanaian teacher (Akyeampong and Asante 2006)*

> *"Most head teachers appear more concerned about administrative and infrastructure issues than about teacher behavior and how it impacts on the achievement levels of students." – An Indian teacher (Bennell and Akyeampong 2007)*

In addition, education reforms might directly affect the fundamental interests of teachers. For example, some countries such as Pakistan tried to implement national teacher qualification upgrading program in order to improve the quality of education. A lot of less qualified teachers could not get jobs in their own localities and felt it unfair, as they believe that they were more dedicated but undervalued.

3.3 Esteem needs

Social status of teachers

"Teaching as a profession no long enjoys the high social prestige as it did 30 years ago" is a perception widely shared among teachers worldwide (Bennell and Akyeampong 2007, Davidson 2007, Fyfe 2007, Mooij 2008). Two thirds of respondents from a global survey across 21 countries (mostly developed and middle-income countries) judged that social status of teachers to be most similar to social workers or librarians; only in China, people compared teachers to doctors. On average, only 27% of respondents believed that students respected teachers (Figure 9) (Dolton and Marcenaro-Gutierrez 2011). This is echoed in surveys undertaken in some African countries. For example, 73% of teachers in rural schools in Ghana did not feel that they were respected in the community (Bennell and Akyeampong 2007).

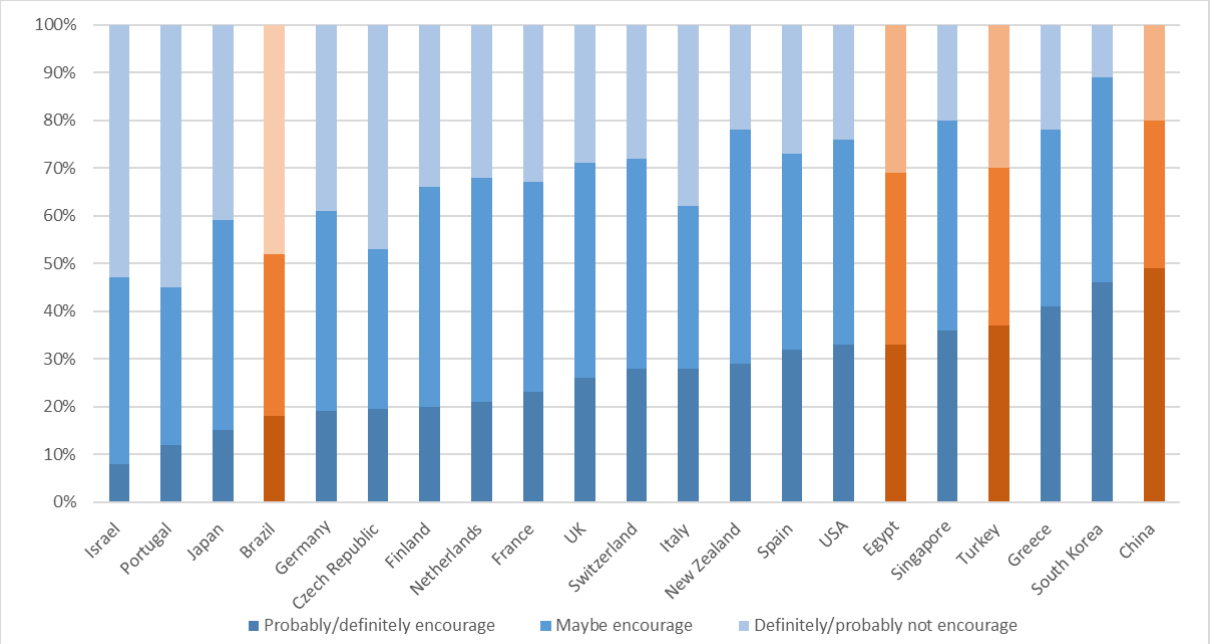
There are various political and cultural factors that contributed to the perceived decline in teachers' social status. From the teachers' perspective, low pay and poor living conditions resulted in the lack of respect (Davidson 2007). However, very interestingly, in the case of India, the increase in salary generated a negative impact on teachers' command of respect in the villages. A lot of teachers reduced their presence in the villages with the increased wages and started to see themselves as middle class workers, which led to the discontent of village residents (Mooij 2008).

The rapid expansion of the teaching force, especially lowering the entry requirements might have contributed to the deterioration of teacher social status (Fyfe 2007). To recruit more teachers into the system, many African countries had shortened the pre-service training to just one year in college plus another year on the job training. Teaching jobs have become more accessible or "last resort" for new graduates (Bennell and Akyeampong 2007). In fact, less than one third of people would encourage their children become a teacher (figure 9).

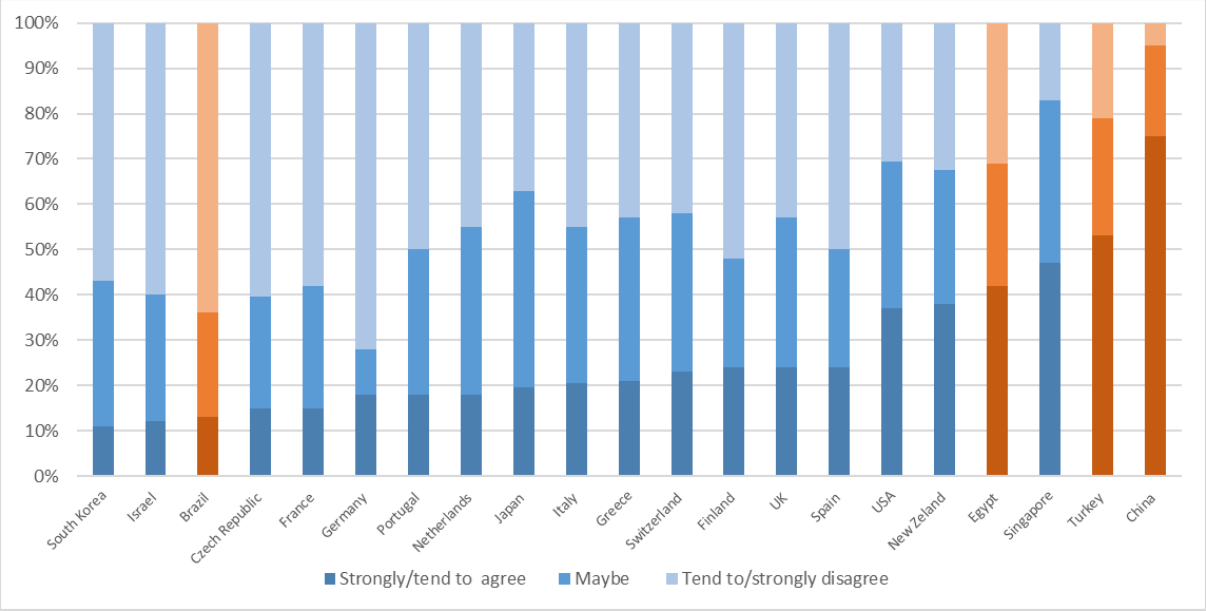
> "*During the war – and since – the government has been able to draw on only a very limited pool of qualified teachers. It has recruited thousands of people who only have a grade 8 or, at best, grade 10 education." --Maria Emelia, primary teacher in Angola* (The Guardian and Cummins 2011)

Figure 9: Teacher social status index

Would you encourage your child to become a teacher?



Do pupils respect teacher?



Source: Dolton and Marcenaro-Gutierrez (2013).
Note: Orange colors represent developing countries.

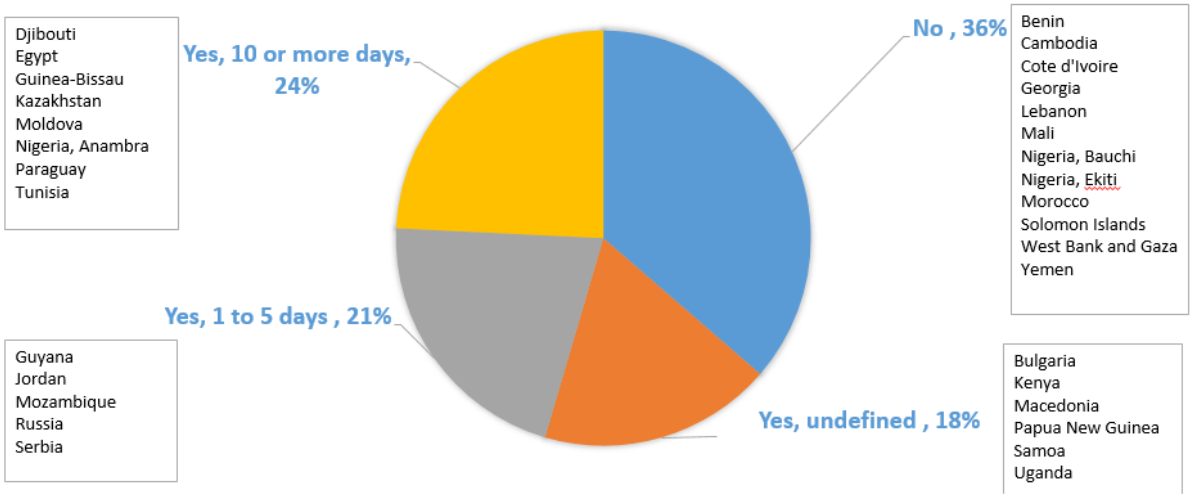
3.4 Self-actualization needs

Ongoing professional development

Good employers provide employees necessary support to help fully achieve their potential at work. High-performing education systems usually offer in-service training to teachers, although quality varies (World Bank 2017). Many developing countries also have started to invest

millions in in-service training. 64% of developing countries survey by SABER require their teachers to participate in professional development annually (Figure 10).

Figure 10: Are teachers required to participate in professional development?



Source: SABER teachers (2017).

In reality, access to teacher professional opportunities is still limited and unevenly distributed, despite the high demand from teachers. In most cases, teachers concerned about their limited knowledge and outdated pedagogical skills, and would welcome training on the job (Nbina 2011, Keuren, Silova et al. 2015). In Lao PDR, 19 out of 20 teachers expressed their need for more training (World Bank 2008). However, budgetary constraints make these opportunities scarce. For example, countries like Myanmar and Lesotho have no or limited budget for in-service teacher training (World Bank 2014, Addison, Rab et al. 2015). Teachers work in rural and remote areas are often at a disadvantage accessing these resources, as they live far from training centers.

Not a lot of teacher training programs have been appropriately evaluated (Popova, Evans et al. 2016). Teachers also reported that teacher training programs were used by the government as a way to train unqualified teachers rather than upgrading the skills of the qualified teachers. In addition, when new curriculum was implemented, they did not receive sufficient and relevant training support (World Bank 2014).

Career advancement

An important incentive for teachers to participate in professional training is to upgrade their qualifications which are directly linked to teacher promotion. First, teachers have very limited career progression opportunities. Almost no teachers doubled their salaries over a 25 to 30-year career in a lot of African countries. Only 5-10% of teachers in Bangladesh were able to get promoted to a higher position during their career. Even compared to other public servants with similar qualifications, the promotion prospects were worse, as teachers in Malawi complained. For those working in rural areas, they were hardly visited by any supervisory officers, which exacerbated the glooming promotion prospects (Bennell and Akyeampong 2007). Second, qualifications are crucial for promotion opportunities. Traditionally, promotion criteria are

based largely on qualifications and years of service, and upgrading of professional qualifications is the primary way of get promoted (International Labour Office and Centre for International Teacher Education 2016). Teachers seek opportunities to attend those training programs, even using their own resources. However, the reality is that they have very limited access to such kinds of training and receive very little support from their schools (Nbina 2011, Lassibille and Buron 2016). In other cases, such as in Tanzania, teachers cannot afford continuous education with their salaries (Vavrus and Salema 2013).

Teacher performance is often neglected in promotions. The actual practice is that well-performing and poorly-performing teachers get promoted together, if there is any promotion (International Labour Office and Centre for International Teacher Education 2016). In very few cases, merit-based promotions have been introduced, for example, in Malawi, the Gambia and Liberia, aiming to take teacher performance into account. Nevertheless, there is quite a few setbacks in the implementation. For instance, in the Gambia, positions were nationally advertised and teachers were supposed to be short-listed based on qualifications, experience, positing and performance. However, the alleged performance appraisal system was not in function. Similarly, in Malawi, the selection panel did not have access to reports on performance of teachers, which made it impossible to give weight to teacher performance in the decision-making process. In Liberia and India, teacher promotions have been decentralized to the district/state level (Mulkeen 2010), while there might be a concern about the lack of transparency. Ghana introduced an evidence-based system of career advancement and promotion in 2012, which requires teachers to include evidence of their teaching practices and behavior to support their applications for promotion. And participation in in-service training is also linked to career progression. Nevertheless, this can be a big challenge for teachers in rural areas who live far from training centers or do not have access to those resources (UNESCO 2015).

4. Conclusion

Analyses of the proximate causes of the learning crisis in developing countries often point to teachers. Evidence suggests that in many countries, teachers are absent from an astonishing number of school days and know little about the subject content. For this reason, students and other stakeholder may want and deserve more from teachers, but teachers also deserve more from the systems that employ them. Our paper shows that many systems fail to provide basic facilities for teachers to perform and perform well. From work assignment to professional preparation, from teaching materials to living conditions, many teachers are asked much more than the systems provide. It is true that as part of the systems, teachers should be accountable for their job. Nevertheless, without decent professional working conditions, teachers are unlikely to be motivated and deliver quality education.

A systems approach is extremely helpful in keeping teachers motivated. Although data are limited, our analyses indicate that variation in teacher working conditions and motivation is huge within each country and across countries. A systems approach is well suited to work with the complexity of teacher motivation. Rather than a single intervention, a systems approach

allows identifying the underlying a series of factors that demotivate teachers so that policy design can improve teacher motivation and performance.

References

Aacha, M. (2010). Motivation and the performance of primary school teachers in Uganda: a case of Kimaanya-Kyabakuza Division, Masaka District, Makerere University.

Aaronson, D., L. Barrow and W. Sander (2007). "Teachers and Student Achievement in the Chicago Public High Schools " Journal of Labor Economics **25**(1): 95-135.

Acosta, P. A., R. K. Almeida and C. L. Pena (2016). Central America - Social expenditures and institutional review : Guatemala (English). . Washington, D.C. : World Bank Group. .

Addison, D. M., H. N. Rab, R. Boothe, L. M. Sondergaard, M. Chawla and K. L. Nthara (2015). Realigning the union budget to Myanmar's development priorities : public expenditure review (English). . Washington, D.C. : World Bank Group.

African Development Bank (2013). Project Report: Analysis of the Education and Training Sector.

Akiba, M., Y.-L. Chiu, K. Shimizu and G. Liang (2012). "Teacher salary and national achievement: A cross-national analysis of 30 countries." International Journal of Educational Research **53**: 171-181.

Akyeampong, A. and K. Asante (2006). Teacher Motivation and Incentives–a profile of Ghana, London: DFID.

Araujo, M. C., P. Carneiro, Y. Cruz-Aguayo and N. Schady (2016). "Teacher quality and learning outcomes in kindergarten." The Quarterly Journal of Economics **131**(3): 1415-1453.

Barnabé, C. and M. Burns (1994). "Teachers' job characteristics and motivation." Educational Research **36**(2): 171-185.

Bau, N. and J. Das (2017). "The misallocation of pay and productivity in the public sector: Evidence from the labor market for teachers."

Baumert, J., M. Kunter, W. Blum, M. Brunner, T. Voss, A. Jordan, U. Klusmann, S. Krauss, M. Neubrand and Y.-M. Tsai (2010). "Teachers' mathematical knowledge, cognitive activation in the classroom, and student progress." American educational research journal **47**(1): 133-180.

Bennell, P. and K. Akyeampong (2007). "Teacher Motivation in Sub-Saharan Africa and South Asia " Department for International Development: Educational Papers.

Berlinski;, S. and M. Busso (2015). "Challenges in Educational Reform: An Experiment on Active Learning in Mathematics." Working paper.

Berry, B., M. Smylie and E. Fuller (2008). "Understanding teacher working conditions: A review and look to the future." Report prepared for the Spencer Foundation. Hillsborough, NC: Center for Teaching Quality.

Bold, T., D. Filmer, G. Martin, E. Molina, C. Rockmore, B. Stacy, J. Svensson and W. Wane (2017). "What Do Teachers Know and Do? Does It Matter? Evidence from Primary Schools in Africa." WDR 2018 Background Paper, The World Bank.

Bruns, B., D. Filmer and H. A. Patrinos (2011). Making schools work: New evidence on accountability reforms, World Bank Publications.

Buddin, R. and G. Zamarro (2009). "Teacher qualifications and student achievement in urban elementary schools." Journal of Urban Economics **66**(2): 103-115.

Buhl-Wiggers, J., J. T. Kerwin, J. A. Smith and R. Thornton (2017). The impact of teacher effectiveness on student learning in Africa. RISE Annual Conference 2017.

Chang, M. C., S. Shaeffer, S. Al-Sammarrai, A. Ragatz, J. de Ree and R. Stevenson (2014). Teacher reform in Indonesia, Washington DC: World Bank. Available at: https://openknowledge. worldbank. org/bitstream/handle/10986/16355/9780821398.

Chettri, S. and Hindustan Times (2016) "1 teacher for 80 students: Delhi govt schools slip on numbers."

Chetty, R., J. N. Friedman and J. E. Rockoff (2014). "Measuring the impacts of teachers II: Teacher value-added and student outcomes in adulthood." American Economic Review **104**(9): 2633-2679.

Chung, J. (2011). "Employee Motivation A Powerful New Model."

Davidson, E. (2007). The pivotal role of teacher motivation in Tanzanian education. The Educational Forum, Taylor & Francis.
Dennis, A. C. K., A. Guloba, K. C. Kambole, P. Kumar and S. Tiwari (2012). Zambia economic brief : recent economic developments and the state of basic human opportunities for children . Zambia economic brief,Issue 1. .
Dolton, P. and O. Marcenaro-Gutierrez (2011). 2013 global teacher status index, Varkey Foundation.
Evans, D. K. and A. Popova (2016). "What really works to improve learning in developing countries? An analysis of divergent findings in systematic reviews." World Bank Research Observer **forthcoming**.
Evans, L. and F. Olumide-Aluko (2010). "Teacher Job Satisfaction in Developing Countries: A Critique of Herzberg's Two-Factor Theory Applied to the Nigerian Context." International Studies in Educational Administration (Commonwealth Council for Educational Administration & Management (CCEAM)) **38**(2).
Fry, L. (2002). What makes teachers tick?: a policy research report on teachers' motivation in developing countries, Voluntary Services Overseas London.
Fyfe, A. (2007). The use of contract teachers in developing countries: Trends and impact, ILO Geneva.
Gawel, J. E. (1997). "Herzberg's theory of motivation and Maslow's hierarchy of needs." Practical Assessment, Research & Evaluation **5**(11): 3.
Goldhaber, D. (2007). "Everyone's Doing It, but What Does Teacher Testing Tell Us about Teacher Effectiveness? ." Journal of Human Resources **42**(4): 765-794.
Hammett, D. (2008). "Disrespecting teacher: The decline in social standing of teachers in Cape Town, South Africa." International Journal of Educational Development **28**(3): 340-347.
Hanushek, E. A. (2007). "The single salary schedule and other issues of teacher pay." Peabody Journal of Education **82**(4): 574-586.
Hanushek, E. A. and S. G. Rivkin (2010). "Generalizations about using value-added measures of teacher quality." American Economic Review **100**(2): 267-271.
Herzberg, F. (1959). The motivation to work. New York: Holy Wiley & Sons, Inc.
Herzberg, F. I. (1966). "Work and the nature of man."
Hill, H. C., B. Rowan and D. L. Ball (2005). "Effects of teachers' mathematical knowledge for teaching on student achievement." American educational research journal **42**(2): 371-406.
Hong, J. Y. (2010). "Pre-service and beginning teachers' professional identity and its relation to dropping out of the profession." Teaching and teacher Education **26**(8): 1530-1543.
International Labour Office and Centre for International Teacher Education (2016). Rural teachers in Africa: a report for ILO.
Kadzamira, E. C. (2006). "Teacher motivation and incentives in Malawi." Zomba: Centre for Education Research and Training: 1-26.
Keshwar Seebaluck, A. and T. Devi Seegum (2013). "Motivation among public primary school teachers in Mauritius." International Journal of Educational Management **27**(4): 446-464.
Keuren, C. H.-V., I. Silova and S. McAllister (2015). "The Evolution of the Status of the Teaching Profession (2000-2015) and the Impact on the Quality of Education in Developing Countries: Three Case Studies." Background paper prepared for the Education for All Global Monitoring Report 2015.
Kremer, M., C. Brannen and R. Glennerster (2013). "The challenge of education and learning in the developing world." Science **340**(6130): 297-300.
Ladd, H. F. (2011). "Teachers' perceptions of their working conditions: How predictive of planned and actual teacher movement?" Educational Evaluation and Policy Analysis **33**(2): 235-261.
Lassibille, G. and C. G. Buron (2016). "Job Satisfaction among Primary School Personnel in Madagascar." The Journal of Development Studies.

LePine, J. A., N. P. Podsakoff and M. A. LePine (2005). "A meta-analytic test of the challenge stressor–hindrance stressor framework: An explanation for inconsistent relationships among stressors and performance." Academy of Management Journal **48**(5): 764-775.
Lewit, E. M. and L. S. Baker (1997). "Class size." The Future of Children: 112-121.
Liu, S. and A. J. Onwuegbuzie (2012). "Chinese teachers' work stress and their turnover intention." International Journal of Educational Research **53**: 160-170.
Luschei, T. F. and A. Chudgar (2017). Supply-side Explanations for Inequitable Teacher Distribution. Teacher Distribution in Developing Countries, Springer**:** 87-107.
Maslow, A. H. (1943). "A theory of human motivation." Psychological review **50**(4): 370.
Mbiti, I. M. (2016). "The need for accountability in education in developing countries." Journal of Economic Perspectives **30**(3): 109-132.
Ministry of Education and Sports (2013). Teacher Issues in Uganda: A Diagnosis for a Shared Vision on Issues and the Designing of a Feasible, Indigeous and Effective Teachers' Policy
Mizala, A. and H. Ñopo (2016). "Measuring the relative pay of school teachers in Latin America 1997–2007." International Journal of Educational Development **47**: 20-32.
Mooij, J. (2008). "Primary education, teachers' professionalism and social class about motivation and demotivation of government school teachers in India." International journal of educational development **28**(5): 508-523.
Mulkeen, A. (2010). Teachers in Anglophone Africa: Issues in teacher supply, training, and management, World Bank Publications.
Muralidharan, K. (2016). "A new approach to public sector hiring in india for improved service delivery." Working Paper.
Nbina, J. B. (2011). "Revisiting secondary school science teachers' motivation strategies to face the challenges of the 21st century." Journal of Emerging Trends in Educational Research and Policy Studies (JETERAPS) **2**(6): 413-417.
OECD (2016). "Table D3.2a. in Education at a Glance 2016: OECD Indicators."
OECD (2017). "D2.1. Average class size by type of institution (2015)", in The Learning Environment and Organisation of Schools,. OECD Publishing, Paris.
Osei, G. M. (2006). "Teachers in Ghana: Issues of training, remuneration and effectiveness." International Journal of Educational Development **26**(1): 38-51.
Pôle de dakar (UNESCO-BREDA) (2016). Indicator database
Popova, A., D. K. Evans and V. Arancibia (2016). "Training teachers on the job: what works and how to measure it." World Bank Policy Research Working Paper 7834.
Pritchett, L. and J. Sandefur (2013). "Context Matters for Size: Why External Validity Claims and Development Practice Don't Mix." Working Paper No. 336, Center for Global Development
Pugatch, T. and E. Schroeder (2014). "Incentives for teacher relocation: Evidence from the Gambian hardship allowance." Economics of Education Review **41**: 120-136.
Rawal, M. A. S., P. Rose, N. Asadullah and G. Kingdon (2017). "Teacher Politics: Meeting Educational Quality Challenges with Teachers." Report prepared for the Education Commission.
Rivkin, S. G., E. A. Hanushek and J. F. Kain (2005). "Teachers, Schools and Academic Achievement " Econometrica **73**(2): 417-458.
Sabarwal, S., D. K. Evans and A. Marshak (2014). "The permanent input hypothesis: the case of textbooks and (no) student learning in Sierra Leone." Policy Research Working Paper Series 7021, The World Bank.
SABER (2018). "SABER Teachers."
Saeki, H., S. Y. Hong, L. M. Gardner, S. Nomura, K. Kadiresan and S. Bashir (2015). Education public expenditure review in Zambia (English). Washington, D.C. : World Bank Group. .

Salema, V. (2009). An Evaluation of the Newly Established Government Community Secondary Schools as an Implementation of the Secondary Education Development Plan (SEDP) in Rombo District, Kilimanjaro-Tanzania.
Seniwoliba, J. (2013). "Teacher motivation and job satisfaction in senior high schools in the Tamale metropolis of Ghana."
SIMCE (2009). Resultados Nacionales SIMCE 2008, Chile.
Skaalvik, E. M. and S. Skaalvik (2011). "Teacher job satisfaction and motivation to leave the teaching profession: Relations with school context, feeling of belonging, and emotional exhaustion." Teaching and teacher education **27**(6): 1029-1038.
Snilstveit, B., J. Stevenson, D. Phillips, M. Vojtkova, E. Gallagher, T. Schmidt, H. Jobse, M. Geelen, M. G. Pastorello and et al. (2015). "Interventions for improving learning outcomes and access to education in low-and middle- income countries: A systematic review." Systematic Review 24, London: International Initiative for Impact Evaluation (3ie).
Sumra, S. A. (2004). The living and working conditions of teachers in Tanzania: A research report, HakiElimu.
The Guardian and J. Cummins. (2011). "Global development voices: Africa's teachers." from https://www.theguardian.com/global-development/poverty-matters/2011/oct/31/voices-of-african-teachers-mdg2.
The International Commission on Financing Global Education Opportunity (2016). The Learning Generation: Investing in education for a changing world New York.
Timothy, V. L. and S. Nkwama (2017). "Moonlighting among teachers in urban Tanzania: A survey of public primary schools in Ilala District." Cogent Education **4**(1): 1334434.
UNESCO (2014). "Teaching and learning: achieving quality for all."
UNESCO (2015). "The challenge of teacher shortage and quality: Have we succeeded in getting enough quality teachers into classrooms?" Education for All Global Monitoring Report Policy Paper 19.
UNESCO (2017). "UIS database on education."
UNESCO; (2013). The Global Learning Crisis: Why every child deserves a quality education
Van Ommeren, J. N. and E. Gutiérrez-i-Puigarnau (2011). "Are workers with a long commute less productive? An empirical analysis of absenteeism." Regional Science and Urban Economics **41**(1): 1-8.
Vavrus, F. and V. Salema (2013). Working Lives of Teachers. Teaching in Tension, Springer**:** 75-92.
Vegas, E. (2007). "Teacher labor markets in developing countries." The future of children: 219-232.
Verger, A., H. Kosar Altinyelken and M. De Koning (2013). "Global managerial education reforms and teachers: emerging policies, controversies and issues in developing contexts."
Waheed, M., S. Chaudhuri, J. R. Lopez Calix and V. Swaroop (2015). Islamic Republic of Pakistan : Tracing the flow of public Money - Punjab : Expenditure and Quantity of Service Delivery Survey (EQSDS) in primary school sector Washington, DC: World Bank.
Woessmann, L. (2011). "Cross-country evidence on teacher performance pay." Economics of Education Review **30**(3): 404-418.
World Bank (2008). Lao PDR - Public expenditure tracking survey in primary education and primary health : making services reach poor people (English). Public expenditure review (PER). Washington, DC: World Bank. .
World Bank (2008). Tajikistan - Second programmatic public expenditure review : Main report (English). Public expenditure review (PER). . Washington, DC: World Bank. .
World Bank (2010). Equatorial Guinea : public expenditure review (English). Public expenditure review (PER). . Washington, DC: World Bank. .
World Bank (2011). Afghanistan - Public expenditure tracking survey : education sector - synthesis report . .

World Bank (2011). Cambodia - More efficient government spending for strong and inclusive growth : integrated fiduciary assessment and public expenditure review (English). Public expenditure review (PER). . Washington, DC: World Bank. .
World Bank (2011). Ghana - Joint review of public expenditure and financial management (English). Public expenditure review (PER).
World Bank (2013). Indonesia - Spending more or spending better : improving education financing in Indonesia (English). Public Expenditure Review (PER). .
World Bank (2013). Malawi - Public expenditure review (English). Public Expenditure Review (PER). Washington DC: World Bank Group. .
World Bank (2013). Service Delivery Indicators
World Bank (2014). Albania - Public finance review (Vol. 2) : Improving the efficiency and quality of public spending (English). Public Expenditure Review (PER). Washington, DC: World Bank Group. .
World Bank (2014). Lesotho - Public expenditure review . Public Expenditure Review (PER). . Washington DC ; World Bank Group. .
World Bank (2014). Seychelles - Programmatic public expenditure review policy notes - health education and investment management (English). Public Expenditure Review (PER). . Washington, DC : World Bank Group. .
World Bank (2015). Madagascar - Public expenditure review 2015 : education (English). World Bank Group.
World Bank (2016). Assessing Basic Education Service Delivery in the Philippines. Washington, D.C.: World Bank.
World Bank. (2016). "Building Quality School Infrastructure for Chadian Students and Teachers." from http://www.worldbank.org/en/news/feature/2016/06/16/building-quality-school-infrastructure-for-chadian-students-and-teachers.
World Bank (2017). Mozambique - Education public expenditure review 2016
World Bank (2017). World Development Report 2018: Learning to Realize Education's Promise.
Zinsou, H. M. J. F. R., M. T. Gettu and M. A. Motivans (2011). "Financing education in Sub-Saharan Africa: Meeting the challenges of expansion, equity and quality."