



December 2017

Human Resources Development Series No. 07

Are there Good Quality Teachers for All Classrooms in Sri Lanka ?

NISHA ARUNATILAKE AND ASHANI ABAYASEKARA



INSTITUTE OF POLICY STUDIES OF SRI LANKA





Nisha Arunatilake is a Research Fellow at IPS and an Economist with over 16 years of research experience. Her research and publications have covered especially the areas of education, labour, employment, health, public finance and social protection.

She has been a consultant to the World Bank; United Nations Development Programme (UNDP); Asian Development Bank (ADB); Asian Development Bank Institute (ADB I); International Labour Organization (ILO), in numerous research studies. She was the lead author of the second National Human Development Report (2012) for Sri Lanka.

She holds a BSc in Computer Science and Mathematics with summa cum laude from the University of the South, USA and an MA and PhD in Economics from Duke University, USA.
nisha@ips.lk



Ashani Abayasekara is a Research Officer at IPS and an Economist with research interests in labour economics, economics of education, development economics, and micro econometrics. She holds a BA in Economics with First Class Honours from the University of Peradeniya and a Masters in International and Development Economics from the Australian National University (ANU).
ashani@ips.lk

Please address orders to:
Institute of Policy Studies of Sri Lanka
100/20, Independence Avenue, Colombo 7, Sri Lanka
Tel: +94 11 2143100 Fax: +94 11 2665065
Email: ips@ips.lk
Website: www.ips.lk
Blog 'Talking Economics': www.ips.lk/talkingeconomics
Twitter: @TalkEconomicsSL
Facebook: www.facebook.com/instituteofpolicystudies



INSTITUTE OF POLICY STUDIES OF SRI LANKA

Human Resources Development Series

No.
07

Are there Good Quality Teachers for All Classrooms in Sri Lanka ?

NISHA ARUNATILAKE AND ASHANI ABAYASEKARA

Table of Contents

LIST OF TABLES & LIST OF FIGURES	II
ABBREVIATIONS	III
ACKNOWLEDGEMENTS	IV
ABSTRACT	V
<hr/>	
1 Introduction	1
2 School System, Teacher Training and Teacher Recruitment	2
2.1 Categorization of Schools	2
2.1.1 National and Provincial Schools	2
2.1.2 School Types	2
2.1.3 School Status	2
2.2 Teacher Training	3
2.3 Teacher Recruitment	4
3 Data and Methodology	5
3.1 Data	5
3.2 Methodology	5
3.2.1 Determining Teacher Availability for Different Subjects	5
3.2.2 Are Recruitments of Teachers to the Public Service Carried out Systematically?	7
3.2.3 Distribution of Public Expenditure on Teacher Salaries Across Schools	7
4 Results	7
4.1 Descriptive Statistics of Data	7
4.2 Is there a Deficit of Teachers in Sri Lanka?	8
4.2.1 Are there Adequate Teachers at the National Level?	8
4.2.2 Are there Adequate Teachers in All Provinces?	9
4.2.3 Are there Adequate Teachers in All School Types?	10
4.2.4 Are there Adequate Teachers in Schools with Different Congeniality Levels?	12
4.3 Trends in Teacher Recruitments	13
4.3.1 General Trends in Teacher Recruitments	13
4.3.2 What Proportion of Recruited Teachers is In-field?	14
4.4 Distribution of Public Expenditure on Teacher Salaries	15
5 Conclusion and Policy Implications	16
5.1 Conclusions	16
5.2 Policy Implications	17
Bibliography	18

List of Tables

Table 1: Teacher Career Paths	4
Table 2: Distribution of Secondary Schools, by Province, School Type and School Status in 2016	8

List of Figures

Figure 1: Share of Science, Mathematics and English Teachers, by Subject Competency (i.e., in-field) and Experience	9
Figure 2: Difference between the Existing and Recommended Number of Teachers	9
Figure 3: Difference between the Mostly-taught and Recommended Number of Teachers, by Province	10
Figure 4: Difference between the In-field and Recommended Number of Teachers, by Province	10
Figure 5: Difference between the In-field and Experienced and 80% of Recommended Number of Teachers, by Province	11
Figure 6: Difference between the Available and Recommended Number of Teachers, by School Type	11
Figure 7: Difference between the Available and Recommended Number of Teachers, by School Status	12
Figure 8: Distribution of Teachers by Years of Experience	13
Figure 9: Distribution of Teachers by Age	13
Figure 10: Distribution of Teachers by Experience and Grade	14
Figure 11: Distribution of Teachers by Experience and Subject Knowledge	14
Figure 12: Distribution of Teacher Salaries across Students Attending Schools with Different Congeniality Statuses	15

Abbreviations

BEd - Bachelor of Education

NDT - National Diploma in Teaching

NIE - National Institute of Education

MOE - Ministry of Education of Sri Lanka

NCEs - National Colleges of Education

PDOEs - Provincial Departments of Education

G.C.E. O-levels - (General Certificate in Education, Ordinary Level)

Acknowledgements

We thank the Ministry of Education of Sri Lanka for providing School Census data for this study. The contribution of Nayomi Jayakody in formatting the paper, and Gayendri Karunaratne in providing editorial support, is gratefully acknowledged. Funding was received from the International Development Research Centre (IDRC) through its Think Tank Initiative (TTI).

Abstract

Highly qualified teachers in all classrooms are necessary for implementing education reforms aimed at modernising and improving education in the country. Using School Census data for 2016, this study examines the adequacy of teachers for teaching mathematics, English, and science at the secondary level in Sri Lanka, across provinces, and across different school categories. The study also analyses the distribution of government expenditure on teacher salaries across different types of schools. The study finds that although the available number of teachers for different subjects is sufficient at the national level, the available in-field and experienced teachers are inadequate to meet the current demand for such teachers. The study further finds that the deployment of teachers and the distribution of public expenditure on qualified teacher salaries are not equal across different categories of schools.

1. Introduction

One main objective of the "no child left behind" policy of the United States of America at the turn of the century was to ensure "highly qualified teachers in all classrooms" (Darling-Hammond and Sykes, 2003). This policy focus stems from the recognition that teachers are a critical factor in improving education outcomes of children. Teacher shortages for subjects such as English, science and mathematics have also been a policy concern in Sri Lanka in the recent past. This concern is more critical today for several reasons.

First, with the ongoing globalisation and technological change, the skill demands of the market is continually changing. The education sector of the country has been hard-pressed to supply skilled workers who can cater to this changing demand. In particular, the lack of skills including English language, science and technology, and other soft skills such as team work, critical thinking and creativity has been identified as key skills gaps preventing the employability of recent school leavers and graduates (Hettige et al., 2014; Dundar et al., 2014). The education sector has brought changes from time to time with the hope of modernising the curriculum to match the demands of the market. However, to implement these changes successfully an adequate supply of good quality teachers is essential.

Second, a large part of the government expenditure on education is allocated to pay teacher salaries. For example, the Western, North Western and Sabaragamuwa provinces spent more than 94 per cent of their annual recurrent expenditure on education, on salaries since 2000 (Arunatilake and Jayawardena, 2013). The funds spent on teacher salaries are routed through schools to reach its teaching staff. As better qualified and more experienced teachers are paid more, schools with a higher proportion of better qualified and experienced teachers get a higher share of the education budget. When teachers are unequally allocated, the equity in public expenditure on education reduces. Further, evidence from other countries shows that disparities in education outcomes can be attributed to disparities in the access to qualified teachers (Darling-Hammond, 2000). Proper allocation of qualified teachers will improve the equity in public finance in education as well as equity in education outcomes.

Third, under the graduate recruitment programs, successive governments have recruited large numbers of graduates to the education ministry as teachers. Although these graduates are recruited to fill available vacancies, their subject knowledge is not always matched to the requirements of the vacancy. This often results in teachers having to teach out-of-

field subjects (i.e., teachers teaching subjects for which they are not properly trained). Research finds education outcomes are best when teachers are qualified in both the subject they are assigned to teach and in pedagogy, especially for teachers in secondary level education (Akiba et al., 2007).

Lastly, the efficient allocation of teachers ensures the equity of education outcomes. Efficient allocation of teachers is a fundamental problem faced by most countries. Schools attended by more affluent students and in wealthier neighborhoods tend to attract better qualified teachers, while schools attended by poorer children are left with inexperienced, less qualified teachers (Peske and Haycock, 2006). This is a key contributory factor in the observed inequality in the education outcomes of children from rich and poor neighborhoods.

In this context, this study examines adequacy of teachers for teaching mathematics, English, and science at the secondary level in Sri Lanka, and across provinces and different school categories. The study also analyses the composition of available teachers - while the overall number of teachers may be sufficient, there could be deficiencies in the number of qualified and experienced teachers for a given subject. Another objective is to analyse

the distribution of government expenditure on teacher salaries across different types of schools.

The rest of the paper proceeds as

follows. Section 2 provides an overview of Sri Lanka's school education system, focusing on teacher training and recruitment procedures and school

categorizations. Section 3 presents our data and methods. The results are presented and discussed in Section 4. Section 5 concludes.

2. School System, Teacher Training and Teacher Recruitment

Schools in the country are categorised in different ways according to different criteria as explained below. We will examine the adequacy of teachers across these different categories.

2.1 Categorization of Schools

2.1.1 National and Provincial Schools

After the 13th amendment to the constitution education became a devolved subject in 1987. Since then the responsibility of administering most schools were given over to the provinces. Schools that are administered by provinces are referred to as *provincial schools*. However, the Central Ministry of Education of Sri Lanka (MOE) in Battaramulla retained the administration of some schools. These schools are referred to as national schools. In 2016, 9,809 of the schools were *provincial schools* and the rest (353) were *national schools* (MOE, 2016).

Provincial schools are managed by the Provincial Departments of Education (PDOEs) which come under the Provincial Director of

Education. There are nine PDOEs: one PDOE per each province. Each PDOE comes under the purview of the Central MOE. National schools are directly managed by the Central MOE. Among other things, managing the teacher cadre in provincial schools and conducting in-service teacher education programmes are the responsibility of the PDOEs. As such the PDOEs are largely responsible to ensure that there are adequate numbers of teachers in each school (MOE, 2016). Given this, the analysis is carried out for provincial schools for each province separately and for national schools.

2.1.2 School Types

General education in Sri Lanka is organized into four cycles namely, primary (years 1 to 5), junior secondary (years 6 to 9), senior secondary (years 10 to 11) and collegiate (years 12 and 13). Students face national level exams at the end of primary, senior secondary and collegiate levels of education. According to the terminal year of education provided by a school, schools are categorised into different types named 1AB, 1C, Type 2 and Type 3. Schools categorised as 1AB

and 1C offer classes up to the collegiate level. While 1AB schools offer classes in all subject streams (science, commerce and arts), 1C schools offer classes only in arts and commerce streams. Type 2 schools offer classes up to O-levels, while Type 3 schools offer classes mainly to primary level schools.¹ Since our analysis is at the secondary level we consider teacher availability in 1AB, 1C and Type 2 schools in our study.

2.1.3 School Status

The MOE's circular 1 of 2005 segregates schools into five categories according to congeniality; namely highly privileged, privileged, not privileged, under privileged and highly under privileged (MOE, 2005). Factors that are taken into account when categorising schools include basic facilities at school (i.e., access to electricity, water, telephones and library facilities); availability of usable type writers, televisions, photocopy machines; availability of usable computers, available toilets as a share of toilets needed, temporary buildings in

¹ Some Type 3 schools offer classes beyond the primary level, but not up to the senior secondary level.

use as a share of total building spaces, whether school has the minimum physical facilities, availability of teachers, distance to the nearest road with public transport, and distance to the nearest divisional and zonal education office.

2.2 Teacher Training

There are two main types of teacher training in Sri Lanka, namely pre-service and in-service. Pre-service refers to teacher training conducted prior to recruitment as teachers. In-service training is given to individuals who are already teachers, to improve their knowledge (Sethunga et al., 2014).

Sri Lanka has a long history of teacher training (Department of Education, 2007). Initially teacher training was conducted in schools themselves. In 1950, a pre-service degree level education program commenced. This pre-service teacher training was further expanded with the starting of a pre-service diploma in the National Colleges of Education (NCEs) in 1985.

According to Sethunga et al. (2014) individuals can enter the teacher service in several ways in Sri Lanka. Unlike in many developed countries, a professional qualification is not necessary to enter the teacher service. However, some obtain professional qualifications before entering the teacher service. There are two main professional qualifications an individual can obtain prior to entering the teacher service a) a Bachelor of Education (BEd) degree; or, b) a National Diploma in Teaching (NDT) at one of the National Colleges of Teacher Training in the

country. In addition to these, graduates who are not professionally trained to become teachers enter the teacher service, and subsequently train to be teachers while in service. Further, less frequently, in areas with severe teacher shortages individuals with only A-level qualifications are recruited as teachers.

The opportunities for degree level training prior to becoming a teacher are limited in Sri Lanka, according to Sethunga et al., (2014). There are 17 universities in the country, but only two have Faculties of Education and a further three with Departments of Educations. Only around 135 BEd graduates are produced a year by the different universities in the country. In addition the 18 NCEs produce about 3,350 graduates a year, for both primary and secondary education cycles. Pre-service teacher training in Sri Lanka is inadequate to meet the demand for qualified teachers in the country. As a result, the ministry is compelled to recruit candidates with no pre-service training to the teacher service.

Several other problems also exist with the current pre-service teacher training system in Sri Lanka. The available graduate level teacher training facilities do not produce sufficient teachers in mathematics, science and English (Sethunga et al., 2014). Two of the three faculties of education offering BEd degrees are confined to students in the Faculties of Arts. As such the scope of subject knowledge offered by these programmes is not sufficient to teach mathematics, science, English, ICT, and aesthetic subjects. Only the Open University of Sri Lanka has a BEd course which is aimed

Only 2 out of 17
universities offer
pre-service teacher training



at training teachers in natural sciences. However, only a limited number of students are enrolled in this course. For example, in 2014 there were only 10 graduates from the BEd course for natural sciences.

Studies reveal that the present teacher curricula are outdated (Sethunga et al., 2014). These concentrate on theoretical foundations of education (philosophical, psychological and sociological), educational context and problems (educational administration, comparative education, context related optional subjects etc.), pedagogy, practicum and research (Sethunga et al. 2014). There is very little practical component to the teaching. Further, the limited number of subjects offered by the programmes do not match the requirements of the school curricula. Issues with lack of coordination between the National Education Institute (NIE), the Ministry of Education (MOE), and the Universities are one reason for the delays in changing the BEd curricular to match to those of the schools. Lack of staff limits the monitoring of practical components of the BEd

programmes, making them less effective.

Unlike the BEd programmes, the National Diploma in Teacher (NDT) offered by the training have several strengths (Sethunga et al. 2014). The curriculum is more aligned with the school curriculum. There are specialised programmes for different subjects. There is a good balance of pedagogical and subject knowledge. The practical component is well executed. Residential programmes improve the effectiveness in teacher training. One drawback of the NDT is that the holders of this diploma have to follow a separate programme to obtain a degree. The training at the NCEs are affected by a multitude of factors including, shortage of staff, shortage of other resources, issues with designing the curriculum and student dropouts. Further, poor coordination between the NIE, MOE and the NCEs has lowered the effectiveness of the NCEs.

Due to the recruitment of a large

number of untrained graduates to the teacher service there is a large demand for the Post Graduate Diploma in Education conducted by the universities. In 2013, around 3,700 graduates completed post graduate programmes in education (Sethunga, et al. 2014).

2.3 Teacher Recruitment

The MOE (2014) details the criteria under which teachers are recruited to the teacher service. Teachers are recruited to different grades according to their qualifications, as shown in Table 1. For example, those with a BEd are directly recruited to Grade II - Class 2 of the teacher service, while those with any other type of a degree are recruited to Class 3 - Grade 1 (a).

Many developed countries require a degree plus a pedagogical qualification prior to recruiting of individuals to the teacher service. In some countries, teachers need to acquire a special certification exhibiting competencies to teach

specific subjects. However, in Sri Lanka only those entering the teacher service with a BEd have both a degree and pedagogical training when entering the teacher service. All others either have a degree other than a BEd, but no pedagogical training or they have a diploma in teaching (i.e., NDT) but no degree. Some are even recruited with just the A-level qualification. Most who enter the teaching service need to get in-service training to move up the teaching service. Although this ensures that teachers eventually become trained and qualified teachers, undergoing long duration study programmes while in service can adversely affect teaching quality.

As detailed by the MOE (2014), individuals for teacher service need to be recruited through an open call for applications published through a government gazette, by a newspaper notification or via the website. All candidates applying to be a teacher need to possess the following basic qualifications: a) a pass for first language (either

**Table 1
Teacher Career Paths**

Qualification at Recruitment	Grade of Recruitment	Criteria Needed for Promoting to Higher Grades
G.C.E. (A/L) qualified	Class 3 - Grade II	Class 3 - 1(a) - Degree certificate Class 3 - 1(b) Teachers' training is completed
Diploma Holders	Class 3 - Grade I (c)	Class 3 - 1(a) - Degree qualification Class 3 - 1(b) - Teachers' training is completed
Three year- Pedagogic Diploma holder from Government Colleges of Education	Class 3 - Grade I (b)	
Graduates	Class 3 -Grade I (a)	
Degree in Education	Grade II-Class 2	

Source: (Ministry of Education, 2014).

Sinhala or Tamil) at the G.C.E. O-levels (General Certificate in Education Ordinary Level); b) an age less than 35 years old and more than 18 years; and, c) be a Sri Lankan citizen of excellent character willing to serve in any part of the country. Those fulfilling the above criteria are required to sit for an aptitude test as well as a general knowledge test. Candidates who obtain more than 40 marks for those two exams are subjected to face an interview.

Generally, candidates apply for the teacher service according to the vacancies in a school. Five times the number of candidates as the teachers needed for a school is selected to face an interview. Those who successfully face the interview are called for a practical examination where they will have to make a presentation of at least five minutes duration,

for which they receive marks out of 25. Three times the number of candidates as the teachers needed for a school is selected from the interview for the practical examination. Only candidates entering the teacher service after completing the three-year diploma in education from a Government College of Education are exempted from this requirement. When there are no qualified candidates to fill a vacancy after this process, candidates who passed the written examination but were not called for subsequent selection procedures are reconsidered for recruitment. The second round of selection is conducted in the same manner as the first round of selections. If a particular school does not have suitable applicants to fill a vacancy, with the applicant's consent, candidates who have applied for other schools will be

considered to fill the vacancy.

Despite the above measures taken to recruit teachers at the school-level based on need, there are still issues with the deployment of teachers. This is because many teachers get transferred out of 'difficult to teach schools' located in rural areas to 'easy to teach schools' located in convenient locations, before completing the allocated period of time (Sethunga, et al. 2014). This results in teacher shortages in some schools, especially those located in remote areas.

It is also interesting to note that although the MOE (2014) details the process involved in recruiting teachers to schools, nowhere does it explain how teachers are matched to existing vacancies by subject.

3. Data and Methodology

3.1 Data

School Census data for the year 2016 collected by the MOE is used for this analysis. School Census data provides detailed data on teachers as well as schools. Teacher information ranges from demographic information of teachers to their academic qualifications and experiences. School information reports all physical and human resources of each school.

There were 10,162 of schools in the country in 2016. Of these, secondary schools which offer classes up to at least grade 11

are included in the analysis.² This resulted in a sample of 5,688 schools. Of this, 5,342 were provincial schools and 346 were national schools. In 2016, based on the subject most taught in our sample, there were 12,993 science teachers, 12,216 mathematics teachers and 14,033 English teachers.

3.2 Methodology

Adequacy of teachers cannot only be measured by the number of teachers available in a school. Schools need different quantities of different types of teachers, given the type of school, student

numbers and the subjects taught at the school (Ingersoll, 2002, 2004). Education outcomes are best, when there are qualified teachers for these different requirements of the school.

3.2.1 Determining Teacher Availability for Different Subjects

The teacher cadres for each school in Sri Lanka are determined according to the guidelines detailed by the education ministry (MOE, 2016). These guidelines take into account the number of classes in

² Type 3 schools, which terminate either at grade 5 or at grade 8 were excluded from the analysis.

the school,³ the number of subjects taught in the school, and the medium (i.e., Sinhala, Tamil or English) through which these subjects are taught. The principal in each school first determines the number of teachers needed for each grade, for each subject and for each medium of instruction. The principal then obtains approval for this estimated teaching cadre. For provincial schools approval is given by the Zonal Director of Education relevant to the school. For national schools, approval is obtained by the Secretary to the MOE under the guidance of the director in charge of national schools, from the administrative branch of the treasury. After the approval, the estimated cadre of teachers becomes the approved cadre of teachers for the school.

The teacher surpluses and shortages are determined by comparing the available cadre with the approved cadre. In our paper, we term this approved cadre as the recommended number of teachers (RT). School Census data provides information on the number of teachers who usually teach a subject. We take this as the number of teachers available (AT) to teach a subject in a school. The difference between the available and the recommended numbers of teachers (i.e., AT - RT) indicates whether a school has a teacher surplus (i.e., AT-RT > 0) or a teacher deficit (AT-RT <0) for each subject. Summing these differences across different groups of schools provides the teacher shortage or the teacher surplus for the group as a whole.

Even if teachers are distributed across schools equitably based on numbers, they may not be distributed fairly across schools based on their experience and qualification. According to the literature, the quality of the teaching staff can be assessed using two main criteria. First, teacher qualifications are measured based on their knowledge and the mastery of content (Peske and Haycock, 2006; Ingersoll, 2002). It is also measured based on their ability to teach (i.e., pedagogical skill) (Peske and Haycock, 2006). Teachers who are qualified in the subjects they teach are more effective teachers. For example, a teacher with a fine arts degree may be highly educated, but if he is allocated to teach mathematics he may be not as effective as if he were to be assigned to teach fine arts. Based on a literature review of different means of categorising teachers, we first devise a means of categorising teachers according to their qualifications, both pedagogical as well as subject oriented, and experience. Then, we assess the equity in the distribution of teachers according to quality, where quality is measured by experience, and both pedagogical and content knowledge.

Categorising Teachers According to their Subject Knowledge

According to the School Census, teachers are recruited to the teacher service under the following criteria: a) graduate teachers; b) trained teachers; c) untrained teachers with two to three year diplomas; and d) novice teachers who are not yet recruited to the teacher services.

Each of these different types of teacher recruits are also categorised according to their subject knowledge. For example, graduate teacher - with a degree in bio science, English trained teacher, etc. We assume teachers who have either a degree in a particular subject, or have been specially trained to teach a particular subject to be an in-field teacher (i.e., a teacher with the subject knowledge to teach a subject)

Categorising Teachers According to their Experience

Many studies have shown that more experienced teachers are better teachers, although there are a few exceptions. The recruitments into the teacher service in Sri Lanka are made at different levels referred to as classes (MOE, 2014) (see Table 1). Unless a person has a BEd, they are recruited to class 3 of the teacher service. Depending on their education qualifications, class 3 teacher recruits are again categorised into, Class 3 - Grade II (those with just A-levels), Class 3 - Grade 1 (c) (Those with diplomas), Class 3 - Grade 1 (b) (pedagogy trained teachers) and lastly Class 3 - Grade 1 (a) (those with a degree). Those with a BEd are directly recruited to Class 2 - Grade II. Those who have been recruited to Class 3, depending on their initial recruitment, need to obtain three to five years of experience in teaching and pass the efficiency bar exam to be promoted into to Class 2 - Grade II. All teachers in Grade 2-II need to have a BEd or a degree and a certificate in education or a degree plus a post graduate degree in education or be trained

³ The number of classes each school should have is decided based on the number of students in a grade according to guidelines given by the MOE.

teachers with relevant experience and qualifications. This suggests that all Class 2 teachers have subject and pedagogical knowledge as well as at least three years of experience. Hence, in our analysis we consider teachers with a grade higher than Class 2-Grade II to be experienced teachers.

3.2.2 Are Recruitments of Teachers to the Public Service Carried out Systematically?

As explained in Table 1, all new recruits to the teacher service are recruited into Class 3, except for those with a BEd. School Census data provides information on the experience of teachers in the country. An analysis of teacher numbers for Class 3 teachers can give an indication of the teacher recruitment practices of the country.⁴ This is because teachers with the similar years of experience would have been recruited at the same time. These trends in teacher experiences are examined to assess whether

recruitment of teachers is carried out systematically.

3.2.3 Distribution of Public Expenditure on Teacher Salaries Across Schools

We use modified concentration curves to examine the distribution of teacher salaries across students. In the poverty literature, concentration curves are drawn using two key variables. One variable is needed for ranking the individuals according to their living standards, and the other variable is the variable of interest (e.g., access to health, access to education, etc.) that can be aggregated across individuals. We use the school congeniality variable to proxy living standards to rank students. Students attending highly underprivileged schools are assumed to be the poorest (in terms of access to school resources), while students attending highly privileged schools are assumed to be the richest (in terms of access to school resources). The

concentration curves plot the cumulative percentage of per-student public expenditure of teacher salaries for each category of teacher (i.e., science, mathematics, experienced, etc.) against the cumulative percentage of students, ranked according to school congeniality. In other words, the concentration curve plots the shares of public expenditure on teacher salaries received by students attending schools with different congeniality levels.

When the concentration curve for teacher salaries lies above the 45 degree line, public expenditure on teacher salaries is pro-poor. This means that students attending least facilitated (most underprivileged) schools receive a higher share of the teacher salaries than students attending the most privileged schools. Likewise, when the concentration curves lie below the 45 degree line, this means that the students attending least facilitated schools receive a lower share of public expenditure on teacher salaries.

4. Results

4.1 Descriptive Statistics of Data

As mentioned earlier, our sample consists of all schools offering classes up to grade 11. Of the 5,688 such schools, close to half are 1AB or 1C schools (see Table 2), while all others are Type 2 schools. A little over half of the

schools are either highly privileged or privileged). As can be seen, a large share of national schools is 1AB (91 per cent) and highly privileged (58 per cent). The provincial distribution of provincial schools is more equitable in terms of school type, although larger disparities exist in terms of school status.

As seen in Figure 1, a large portion of teachers are qualified or specially trained across all three subjects. However, the shares of teachers who are both in-field and experienced are much lower, particularly for mathematics teachers. There also appear to be variations in the composition of high quality

⁴ This is especially the case for novice teachers. This is because with experience teachers can move to better teacher grades.

teachers. For example, while 82 per cent of the English teachers are *in-field* teachers, only 60 per cent of mathematics teachers are *in-field*. A similar pattern is observed for both in-field and experienced teachers, whereas the shares of experienced teachers are more uniform for the three subjects.

4.2 Is there a Deficit of Teachers in Sri Lanka?

4.2.1 Are there Adequate Teachers at the National Level?

The first question we posed in this study was to ask whether Sri Lanka has a shortage of teachers for teaching mathematics, English and science subjects.

Our analysis shows that **Sri Lanka has a surplus of teachers for mathematics, science and English subjects.** For the whole of Sri Lanka, the number of teachers who mostly teach English, mathematics and science are more than the number recommended by the MOE in the first circular of 2016 on determining staff numbers in a school (MOE, 2016). The largest surplus, with 3,055 more existing teachers than recommended, is seen for English teachers.

However, **if we consider in-field teachers, there are large teacher shortages for mathematics and science subjects.** The number of in-field English teachers, on the other hand, are adequate to fulfill the requirement of recommended english teachers in the country (see Figure 2). This indicates that a large number of available

science and mathematics teachers have not been specially trained to teach these subjects.

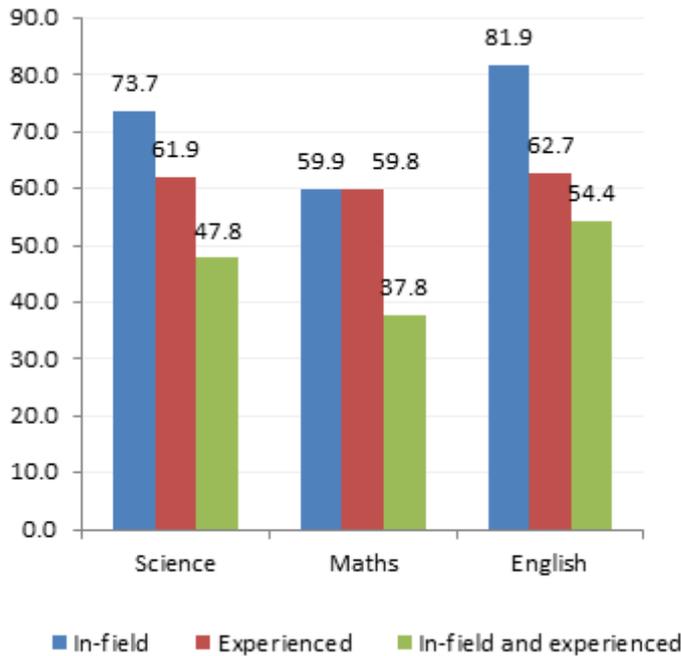
Lastly we look at the availability of experienced in-field teachers. According to Figure 2, there is a deficit of experienced teachers compared to the recommended number of teachers. However, as teachers retire and new teachers enter the teaching cadre, these new recruits take time to become experienced teachers. As such, it is unavoidable that some proportion of teachers in the service is inexperienced. Assuming a uniform number of teachers are recruited every year, and given the fact that most teachers join the teaching profession when they are around 25 years old, we expect about 20 per cent of the teachers to be inexperienced. In this case, about 80 per cent of the recommended

Table 2
Distribution of Secondary Schools, by Province, School Type and School Status in 2016

Province	Number of Schools (No.)	School Type (% of Total for Province)			School Status (% of Total for Province)				
		1AB	1C	Type 2	Highly Privileged	Privileged	Not Privileged	Under Privileged	Highly Under Privileged
Western	832	15.3	29.3	55.4	19.4	54.2	22.5	3.8	0.1
Central	773	9.1	38.3	52.7	11.1	33.5	37.5	14.9	3.0
Southern	635	14.0	32.0	54.0	7.7	47.6	24.6	15.7	4.4
Northern	424	19.6	25.5	55.0	4.7	32.5	24.3	15.1	23.3
Eastern	479	13.2	37.2	49.7	5.0	29.9	15.4	23.2	26.5
N/Western	719	10.3	34.4	55.4	9.0	30.7	26.6	24.6	9.0
N/Central	368	13.9	34.8	51.4	4.9	34.2	22.8	20.9	17.1
Uva	491	10.8	34.0	55.2	3.7	44.0	33.6	13.6	5.1
Sabaragamuwa	621	11.8	28.3	59.9	15.5	39.1	25.8	18.4	1.3
National schools	346	91.3	8.4	0.3	57.5	38.4	2.9	0.6	0.6
Sri Lanka	5688	17.6	31.2	51.2	12.9	39.2	25.0	15.1	7.8

Source: Own calculations based on School Census 2016 data.

Figure 1
Share of Science, Mathematics and English Teachers, by Subject Competency (i.e., in-field) and Experience



Source: Own calculations based on School Census 2016 data.

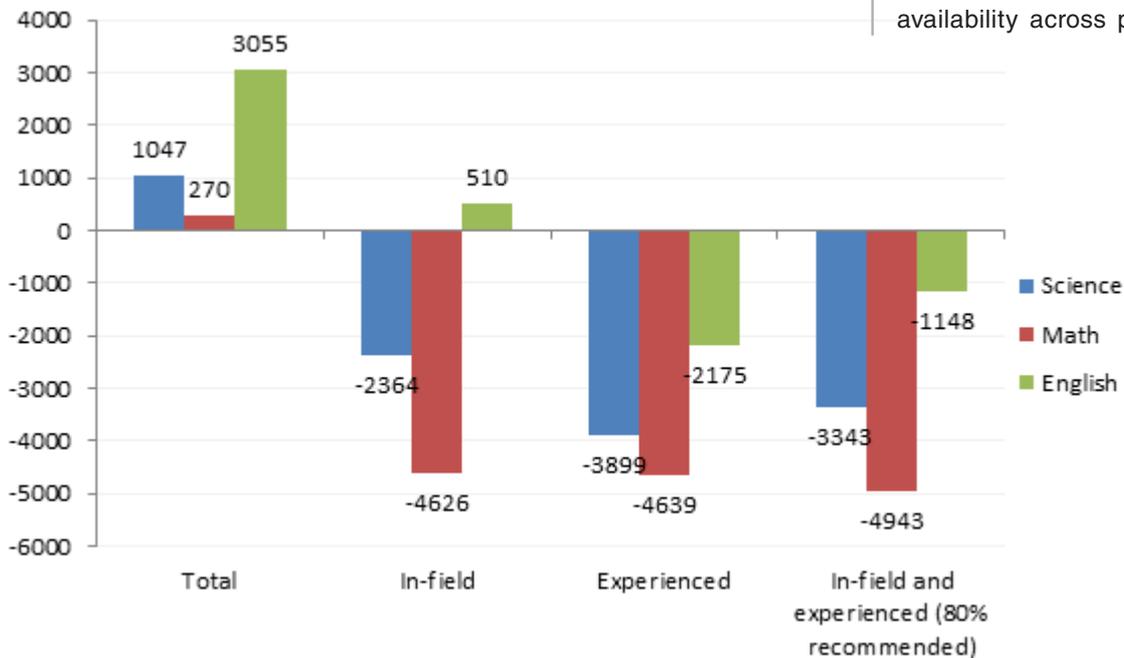
teachers should be experienced teachers. In Figure 2 we observe that, **deficiencies in the number of experienced in-field teachers persist if we compare the available in-field experienced teachers to 80 per cent of the recommended teachers.**

In summary, we see that although overall there is no teacher deficiency in the country for science, mathematics and English teachers, there is a deficiency of in-field teachers (except for English), experienced teachers, and as a consequence for experienced in-field teachers.

4.2.2 Are there Adequate Teachers in All Provinces?

As discussed earlier, deployment of teachers across schools is the responsibility of PDOEs. The deployment of teachers for national schools is done by the central MOE. As such, it is interesting to examine teacher availability across provinces. As

Figure 2
Difference between the Existing and Recommended Number of Teachers



Source: Own calculations based on Census 2016 data.

Note: Data is for all schools.

seen in Figure 3, the available number of teachers is higher than the recommended number of teachers for all provinces for all subjects, except in the Northern, Eastern and North Western provinces. National schools have a large surplus of teachers for all subjects.

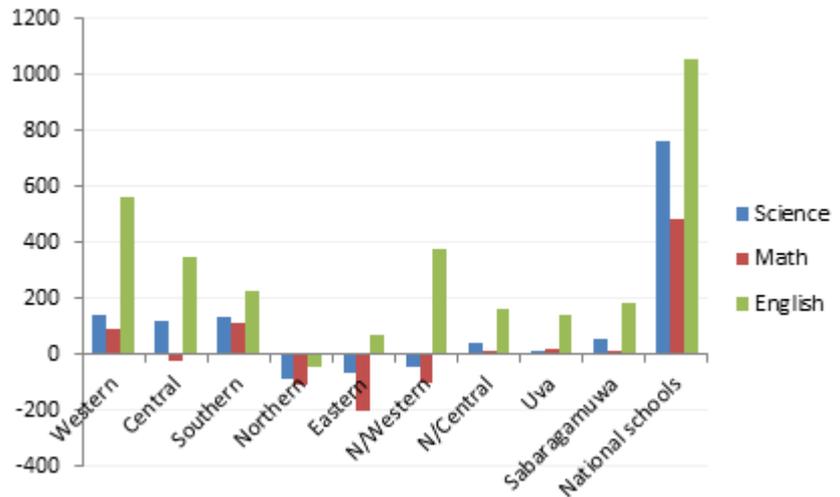
As explained in the methodology section, to be effective, teachers also need to be in-field (i.e., have qualifications in the subjects that they teach). As seen in Figure 4, there are large deficiencies in in-field mathematics and science teachers in all provinces. National schools have in-field science and English teachers exceeding recommended numbers. But, even these schools have a deficit of in-field mathematics teachers.

We finally look at the availability of in-field and experienced teachers across provinces and in national schools. As shown in Figure 5, other than for English teachers in the Western and Southern provinces, in all other provinces and in national schools, less than 80 per cent of the recommended cadre of teachers are in-field and experienced.

4.2.3 Are there Adequate Teachers in All School Types?

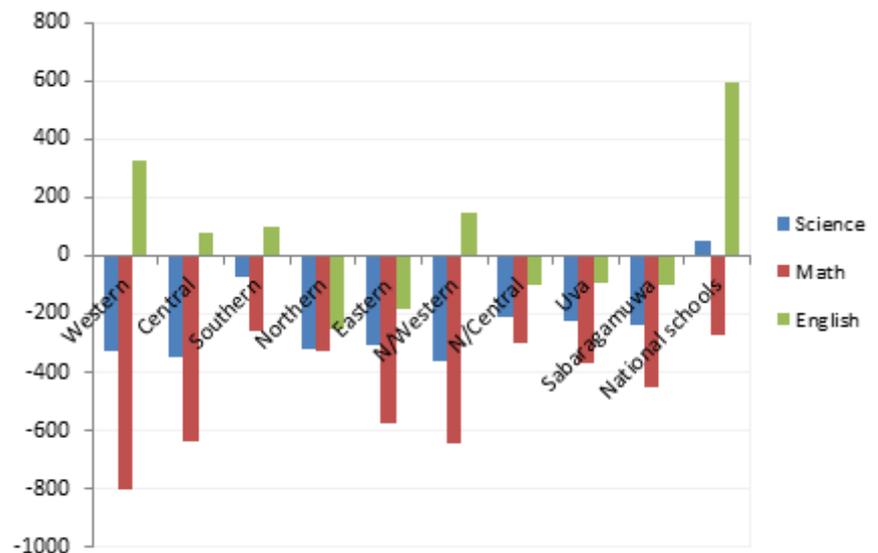
As described in the methodology section, Sri Lankan schools are categorized according to the type of classes they offer. As shown in Figure 6 panel (a), when available teachers are considered, all types of schools have an adequate number of teachers for all subjects in general with the exception of mathematics teachers for Type 2 schools. However when in-field teachers

Figure 3
Difference between the Mostly-taught and Recommended Number of Teachers, by Province



Source: Own calculations based on Census 2016 data.

Figure 4
Difference between the In-field and Recommended Number of Teachers, by Province

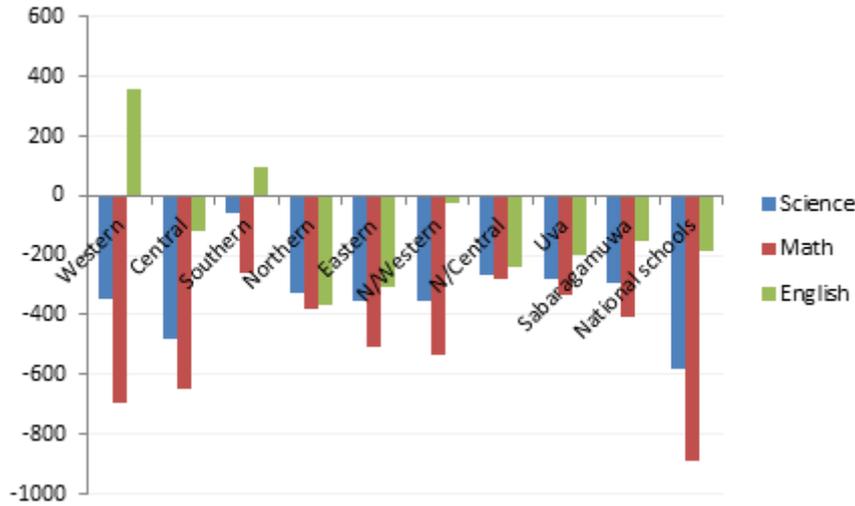


Source: Own calculations based on Census 2016.

are considered Figure 6 (panel (b)), there is a deficit of mathematics and science teachers for all types of schools. Although there is a surplus of in-field English teachers in 1AB and 1C schools, there is a deficit of

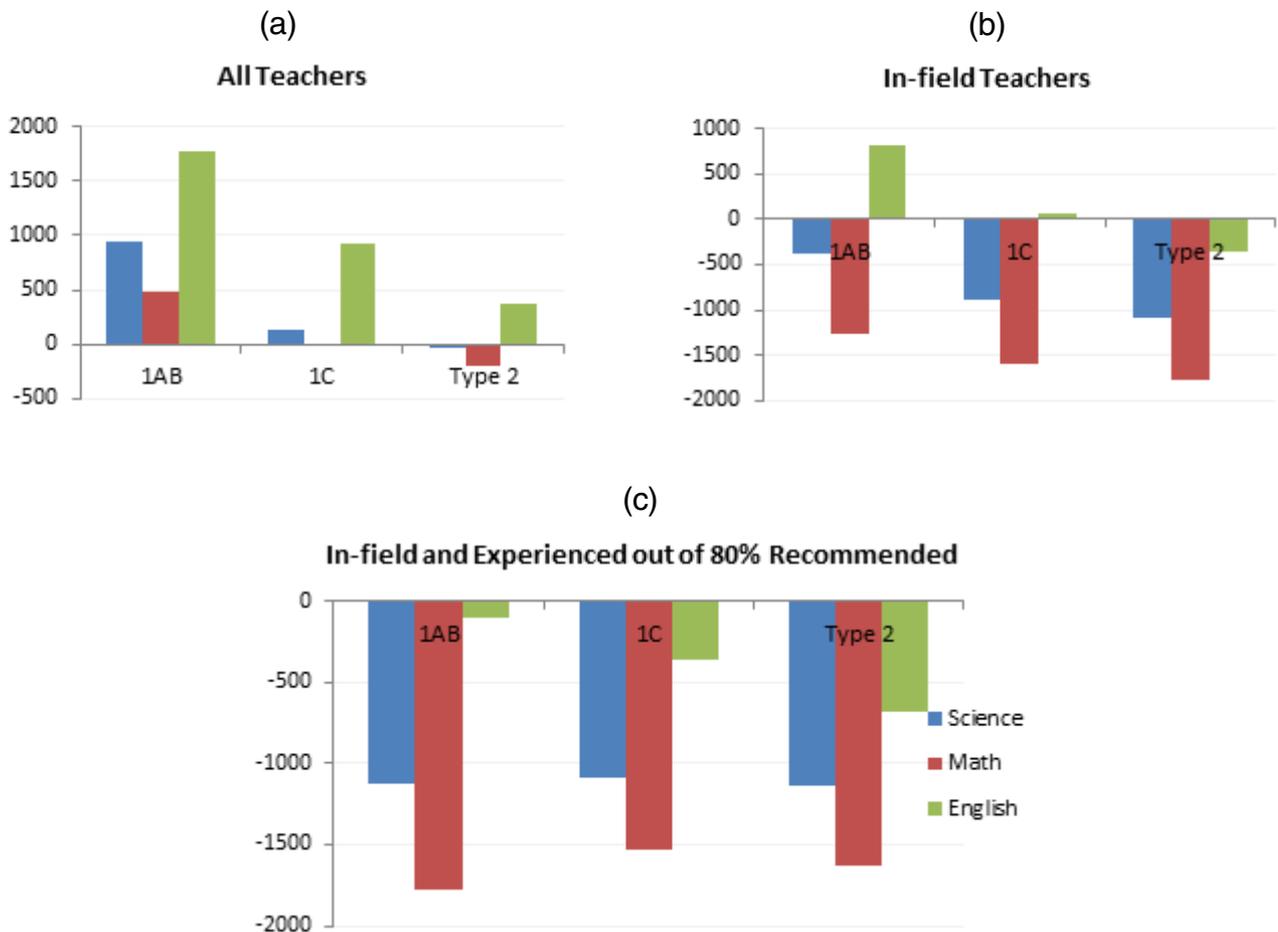
in-field English teachers in Type 2 schools. Finally, if we look at in-field experienced teachers Figure 6 (panel (c)), we note that all types of schools have deficits of teachers for all subjects.

Figure 5
Difference between the In-field and Experienced and 80% of Recommended Number of Teachers, by Province



Source: Own calculations based on Census 2016.

Figure 6
Difference between the In-field and Experienced and 80% of Recommended Number of Teachers, by School Type

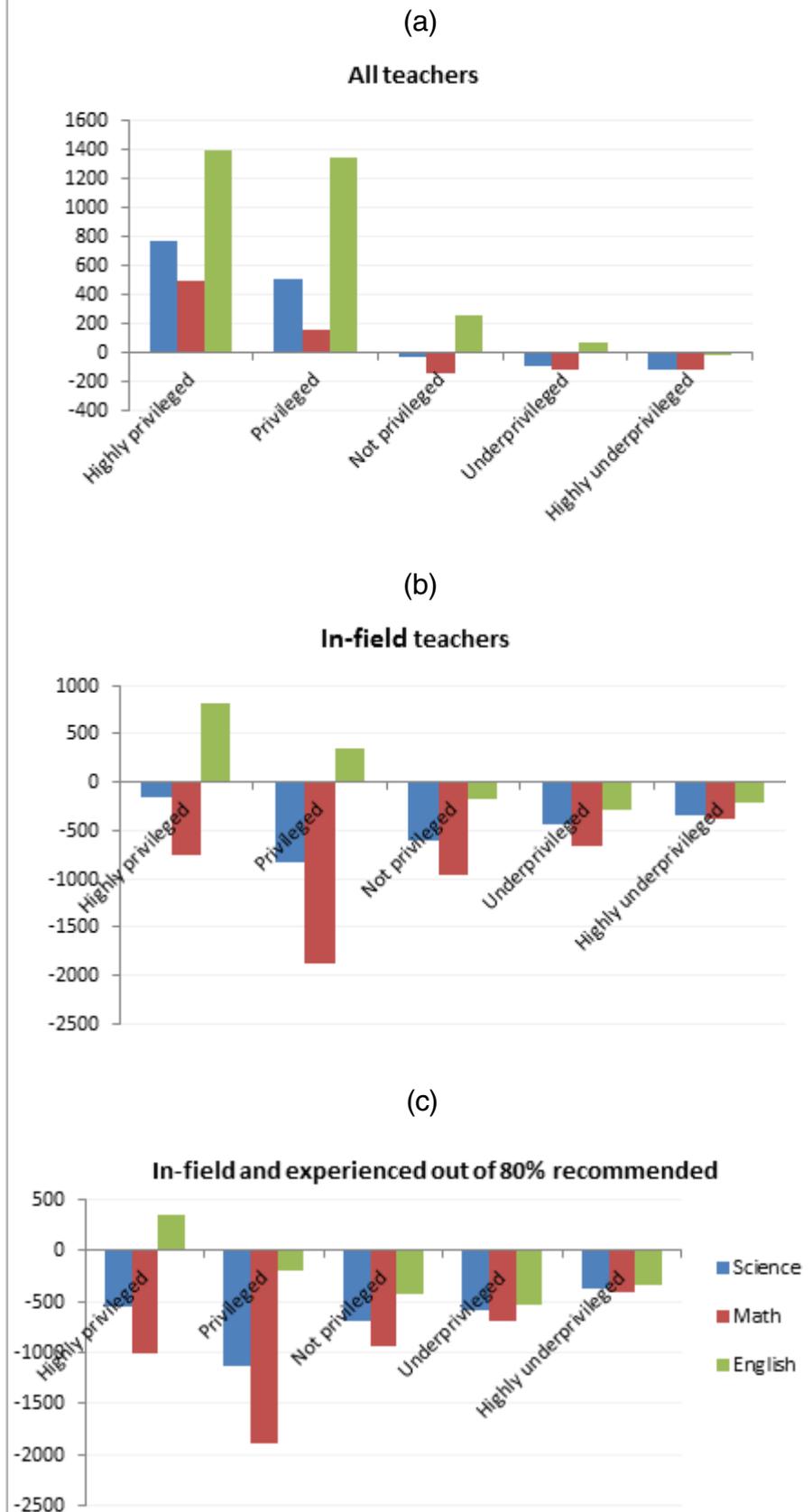


Source: Own calculations based on School Census 2016 data.

4.2.4 Are there Adequate Teachers in Schools with Different Congeniality Levels?

Figure 7 shows the distribution of teachers for science, mathematics and English across different congeniality statuses. As can be seen in panel (a), the availability of all teachers is better in highly privileged and privileged schools compared to other schools, for all three subjects considered. Further, schools in every congeniality status, with the exception of highly underprivileged schools, have a surplus of total English teachers. However, when considering in-field teachers (panel (b)), schools from all five congeniality statuses have a deficit of teachers for science and mathematics. Only highly-privileged and privileged schools have more in-field English teachers than the recommended number. Similarly, when we consider in-field experienced teachers, we see that that all schools have a deficit of science and mathematics teachers irrespective of their congeniality status. Schools also have a deficit of English in-field and experienced teachers in general, other than in highly privileged schools.

Figure 7
Difference between the Available and Recommended Number of Teachers, by School Status



Source: Own calculations based on School Census 2016 data.

4.3 Trends in Teacher Recruitments

4.3.1 General Trends in Teacher Recruitments

In Figure 8, we graph teachers by their experience to better understand the teacher recruitment process in the country. What is evident from the graph is that teacher recruitment is not carried out systematically. In some years large numbers of teachers are recruited to the system while in some years few teachers are recruited. Figure 8 also indicates that the average number of annual teacher recruits stand at around 8,000. This figure far exceeds the number of BEd graduates and NCE diploma holders produced annually.

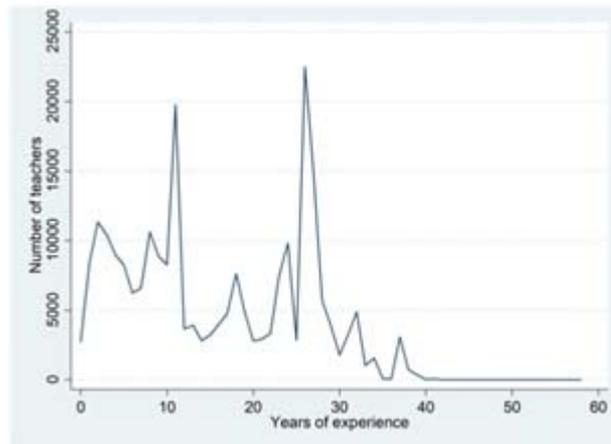
Figure 9 shows the distribution of teachers by age. As seen here, most teachers enter the teacher service in their mid-twenties and retire after 55, with a few continuing to work after reaching age 60.

Figure 10 shows the distribution of teachers according to years of experience by their grade. Those with a few years of experience are the new recruits to the system. As depicted, a majority of those recruited to the teacher service are untrained graduates (with a 3-1(a) grade), this is followed by those with a NDT (with a 3-1(b) grade). Encouragingly only a very small number of teachers are recruited with just A-levels. But, the number of teachers recruited with a BEd is also very small. As seen, with experience, the number of teachers in Grade 2-II and Grade 2-I increases, while the number of teachers in different categories of Grade 3 decreases.



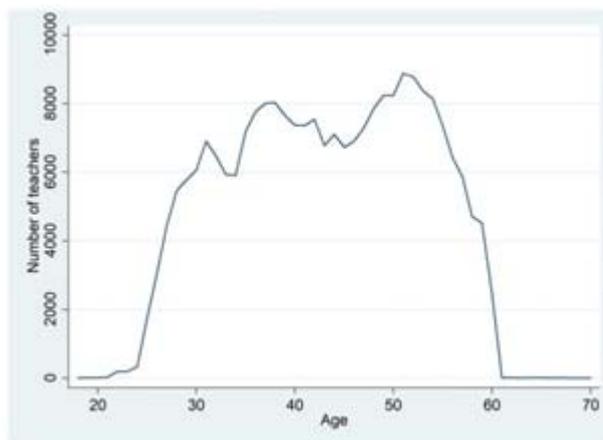
On average, less than half of annual teacher recruits are trained in education

Figure 8
Distribution of Teachers by Years of Experience



Source: Own calculations based on School Census 2016 data.

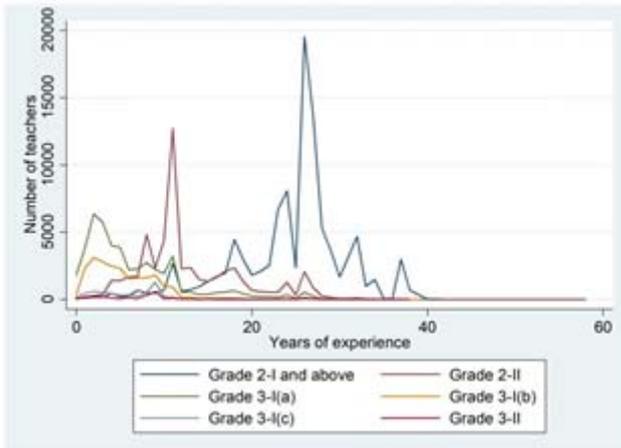
Figure 9
Distribution of Teachers by Age



Source: Own calculations based on School Census 2016 data.

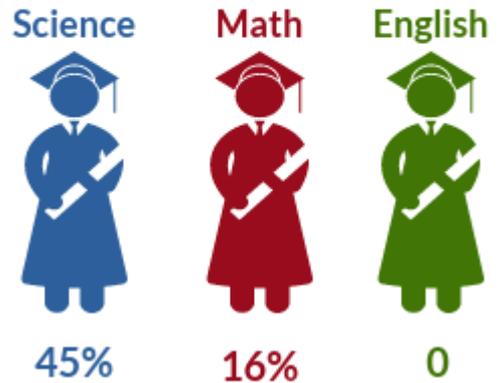
Encouragingly, this indicates that with experience, teachers move up the teacher service.

Figure 10
Distribution of Teachers by Experience and Grade



Source: Own calculations based on School Census 2016 data.

Share of subject-qualified new teacher recruits, 2016



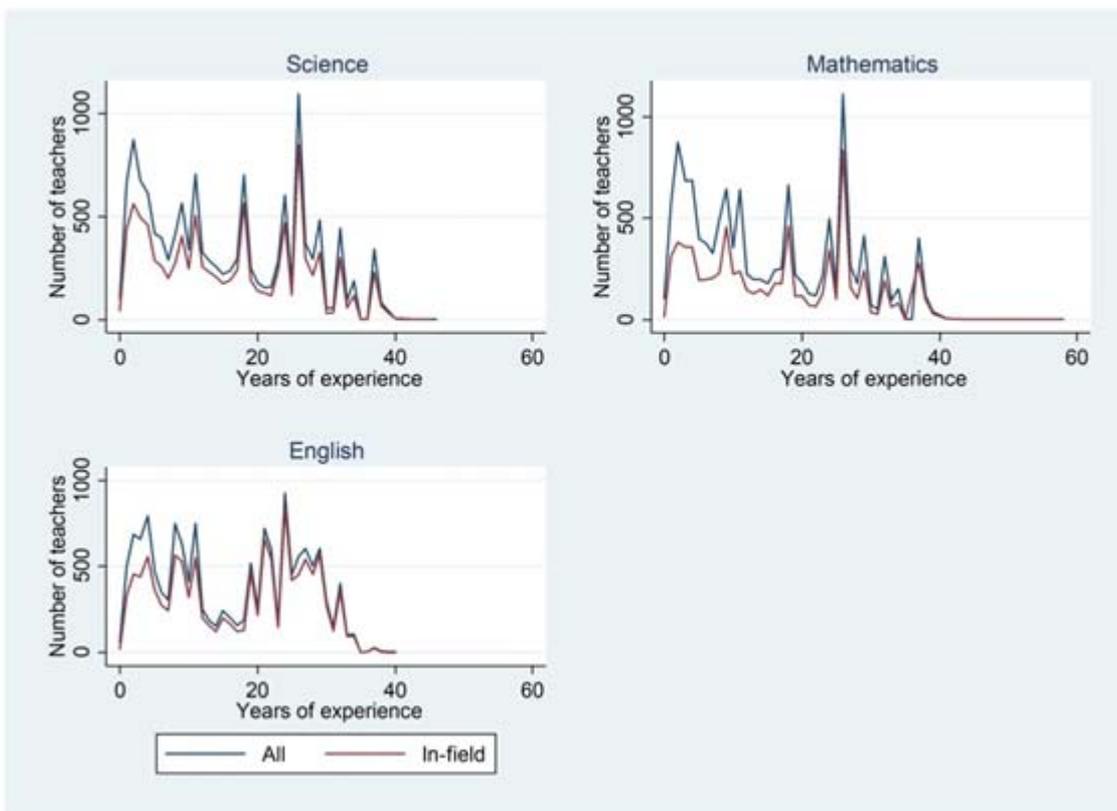
4.3.2 What Proportion of Recruited Teachers is In-field?

Examining teachers with only a few years of experience provides information on whether teachers are matched to available

vacancies according to subject when recruited. If teachers are well matched at recruitment, the number of total novice teachers (teachers with only a couple of years of experience) teaching a subject should be close to the number of novice in-field teachers

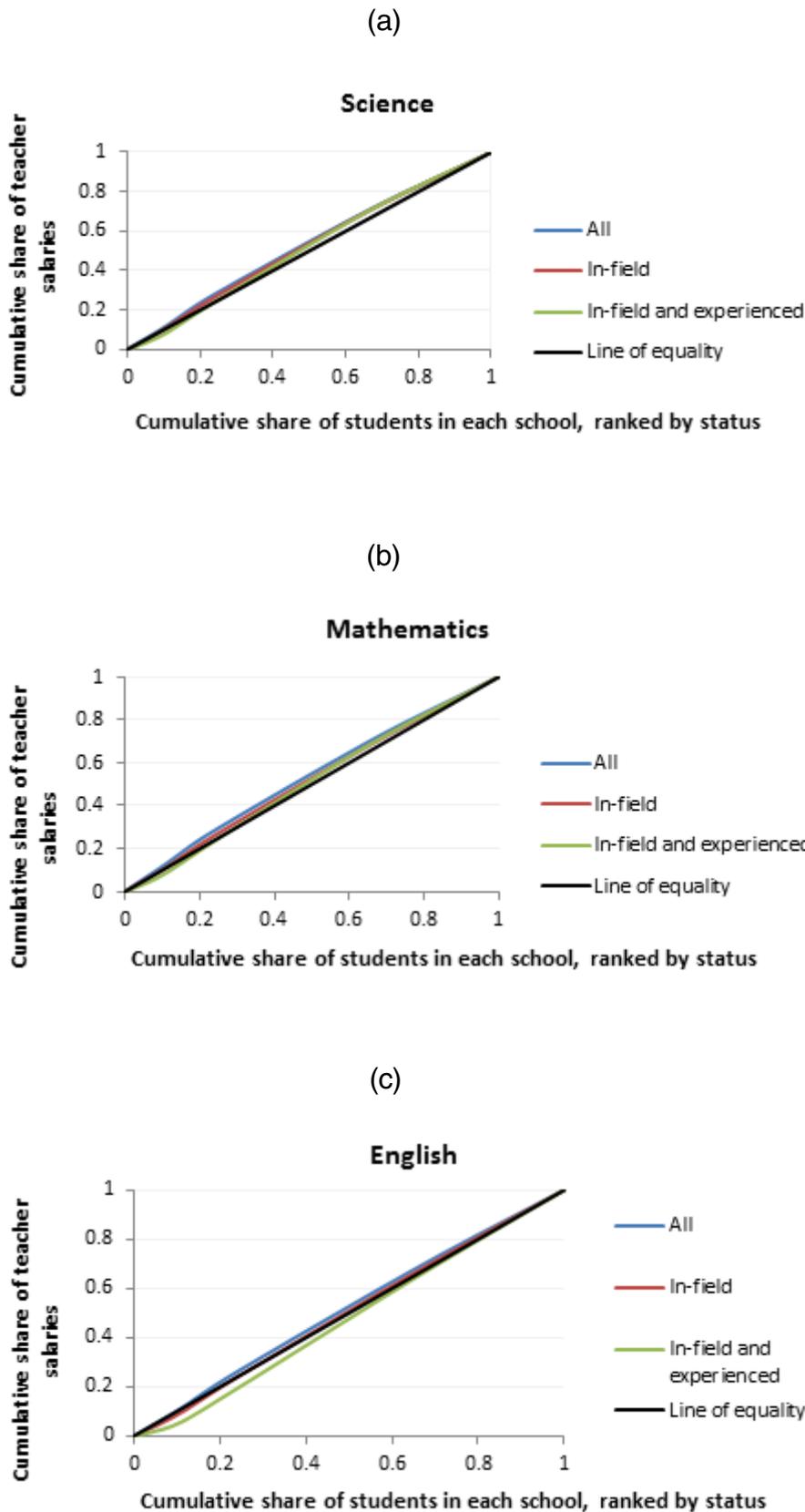
teaching that subject. As seen in Figure 11 only a fraction of the novice teachers are in-field teachers. In particular, only 45 per cent of novice science teacher recruits and 16 per cent of mathematics recruits are in-field, while none of the English novice

Figure 11
Distribution of Teachers by Experience and Subject Knowledge



Source: Own calculations based on School Census 2016 data.

Figure 12
Distribution of Teacher Salaries across Students Attending Schools with Different Congeniality Statuses



Source: Own calculations based on School Census 2016 data.

teachers are in-field at recruitment. The gap between all teachers and in-field teachers is especially high for mathematics and science teachers.

However, the gap between all teachers and in-field teachers decreases with experience for all three subjects considered. This is either because they receive the necessary training to become in-field teachers with experience, or because a larger proportion of in-field teachers were recruited in the past, compared to more recent recruitments.

4.4 Distribution of Public Expenditure on Teacher Salaries

This section presents the results of the distribution of teacher salaries across students attending schools with different congeniality statuses. As can be seen in Figure 12, teacher salaries are fairly equitably distributed across students. The only students who receive less than their share of public expenditure on teacher salaries are those attending highly underprivileged schools. Even these schools receive a fair share of expenditure on teacher salaries, with the exception of teacher salaries for in-field and experienced teachers. The distribution of expenditure of in-field and experienced English teachers is the most inequitable.

5. Conclusion and Policy Implications

5.1 Conclusions

The findings of the study show that at the national level the number of teachers who usually teach science, mathematics and English are more than the number recommended by the MOE. However, not all teachers who teach these subjects are specially trained to teach the subject. If we only consider in-field teachers we see that the available number of in-field teachers is below the recommended number of teachers for mathematics and science subjects. Especially, there is a deficit of experienced in-field teachers to fill at least 80 per cent of the recommended teacher cadre. This deficit is apparent for all subjects considered.

If there are issues in deploying teachers across provinces, there may be differences in the adequacy of teachers across provinces. Examination of the adequacy of teachers in different provinces and in national schools reveals that national schools have more than the recommended number of teachers for all subjects. Other than the Northern province, all other provinces have more than the recommended number of teachers to teach English. Other than Northern, Eastern and North Western provinces, all other provinces have more than an adequate number of teachers to teach science and mathematics. Teacher shortages in the Northern and Eastern provinces could be due to the large exodus of teachers in these areas during the period of conflict.

When we narrow the comparison of teacher availability to in-field

teachers, we see large deficiencies in teacher availability. There are inadequate in-field mathematics teachers to fill the recommended number of mathematics teachers in all provinces and in national schools. Only national schools have more than the recommended number of in-field science teachers. All provinces have an inadequate number of in-field science teachers for provincial schools to meet the recommended number of science teachers. The adequacy of in-field English teachers is mixed. National schools and provincial schools in the Western, Central, Southern and North Western provinces have more than the recommended number of in-field teachers. There is a deficiency of in-field English teachers in all other provinces. If we narrow the comparison further to examine the availability of in-field experienced teachers, we notice that the number of available in-field experienced teachers are more than 80 per cent of the recommended number of teachers only for English teachers in the Western and Southern provinces. All other provinces and national schools do not have sufficient numbers of in-field experienced teachers to meet 80 per cent of the recommended number of teachers for mathematics, science and English.

Across school types, the availability of teachers is best in 1AB schools and for English teachers. But, all school types have a deficiency of in-field teachers, especially in-field teachers with experience. The

situation is worst for mathematics teachers, and best for English teachers.

Across schools with different congeniality levels, as expected, teacher availability is better in more privileged schools. But, all schools have a shortage of experienced in-field teachers for all subjects, with the exception of English teachers in highly privileged schools.

The results also show that teacher recruitments do not happen in a systematic way. As many as 20,000 teachers or more have been recruited in some years, while less than 5000 teachers have been recruited in other years. The results also show that most of the teacher recruits are graduates with no special pedagogical training. Limited numbers of graduates with education degrees are recruited to the teacher service. Encouragingly only a very small number of teachers with only A-levels are recruited. This indicates that most new recruits have either a degree or some pre-service teacher training. Further, our analysis indicates that the new recruits are not well matched to the requirements of vacancies. Only a small proportion of recruited science, mathematics and English teachers are in-field teachers. This indicates that teacher training is not catering to the requirements of the market.

Finally, the analysis of the equitability of public expenditure on teacher salaries across schools with different congeniality statuses indicates that public expenditure on teacher salaries

are equitably distributed for the large part. However, most disadvantaged schools do not receive their fair share of public expenditure on in-field and experienced teacher salaries. This occurs because with experience, teachers move out of difficult schools. The distribution of public expenditure on teacher salaries is most inequitable for in-field experienced teachers in English.

Overall, the analysis of this study shows that although the country does not have a shortage of teachers to teach mathematics, science and English at the national level, most of the teachers who teach these subjects are not in-field and experienced. This could partly be due to not recruiting teachers to match the available vacancies for different subjects. Expanding teacher training, especially for science and mathematics teachers, and recruiting teachers to match available vacancies can improve the availability of qualified and experienced teachers in schools.

5.2 Policy Implications

Sri Lanka is aspiring to become a knowledge based economy. A high share of tertiary educated individuals is needed to spur economic growth through knowledge. Although Sri Lanka is reputed for having a highly educated population, the share of tertiary educated people in the country is very low. Only those with a good foundation in general education will move on to tertiary level education. At present close to half the children who sit for O-levels fail the exam (Abayasekara and Arunatilake, 2017). Although the country has introduced education reforms

from time to time to modernize and improve teaching and learning, progress has been slow. This is partly due to the availability of good quality teachers (*Ibid*).

There is an urgent need to upgrade and improve the pre-service teacher training programs in the country to meet the demand for qualified teachers both in terms of pedagogical knowledge as well as subject knowledge. The

findings of the study show that the country has a large deficit of experienced and in-field cadre of teachers to teach mathematics, science and English. The teacher training and teacher recruitment practices in the country are inadequate to meet the need for qualified teachers. As a result, a high share of novice teachers recruited to teach different subjects is not qualified to teach those subjects. Although, once recruited teachers are provided with in-service training to upgrade their skills, this process takes time to produce quality teachers. In the meantime, children are without access to a good quality teacher.

The existing facilities to provide pre-service teacher training needs to be improved, expanded and made more relevant. At present, pre-service teacher education is conducted by the universities, colleges of education and different teacher training centers. Improving and expanding the pre-service training of teachers and giving priority for recruiting teachers with proper pre-service training can help to improve the availability of qualified teachers. Such training programmes should especially cater to the demand for teachers in different subject areas.

Teachers should be certified to teach different subjects and the subject knowledge of teachers should be taken into consideration when filling vacancies.

At present the teacher recruitment does not consider subject knowledge. As is the practice in other countries, all teachers should be certified to teach different subjects. Only under very special conditions should teachers be allowed to teach subjects that they are not certified to teach.

Deployment of teachers must be improved.

The findings of the study also point to an inequitable deployment of teachers across different categories of schools. The findings show that more affluent schools attended by wealthier children have better teachers. Gaps in teacher quality across school status are particularly pronounced for English teachers, and lack of English language skills is a key factor undermining the employability of Sri Lankan graduates. Incentives must be thus given for teachers to serve in less advantaged schools. As indicated earlier, more than 90 per cent of the annual recurrent expenditure is spent on teacher salaries by some provinces. This expenditure is not optimized when teachers are not properly allocated across schools. The schools with a surplus of teachers are diverting public spending away from schools with teacher shortages. Improving the deployment of teachers can improve the equity of public spending on teacher salaries across schools. One means of achieving this is by assigning teachers to schools to fill established cadre positions. This would help to minimize teacher surpluses and deficits.

Bibliography

- Abayasekara, A., and N. Arunatilake (2017)**, *Better Schools for Better O-Level Results in Sri Lanka*, Institute of Policy Studies of Sri Lanka, Colombo.
- Akiba, M., G. K. LeTendre, and J. P. Scribner (2007)**, Teacher Quality, Opportunity Gap, and National Achievement in 46 Countries, *Educational Researcher*, 369-387.
- Arunatilake, N., and P. Jayawardena (2013)**, *School Funding Formulas in Sri Lanka*, UNESCO, Paris.
- Darling-Hammond, L. (2000)**, New Standards and Old Inequalities: School Reform and the Education of African American Students, *Journal of Negro Education*, 263-287.
- Darling-Hammond, L., and G. Sykes (2003, September 17)**, *Wanted: A National Teacher Supply Policy for Education: The Right Way to Meet The "Highly Qualified Teacher" Challenge*, Retrieved from Education Policy Analysis Archives, <http://epaa.asu.edu/epaa/v11n33/>
- Department of Education, Faculty of Arts, University of Peradeniya (2007)**, *The Study on School based Teacher Development Programmes*, Department of Education, University of Peradeniya.
- Dundar, H., B. Millot, Y. Savchenko, H. Aturupane, and T. A. Piyasiri (2014)**, *Building the Skills for Economic Growth and Competitiveness in Sri Lanka*, World Bank, Washington DC.
- Hettige, S. T., M. Mayer, and M. Salih (2014)**, *School to Work Transition of Youth in Sri Lanka, Improving Capacities for Poverty & Social Policy Research Programme of University of Colombo*.
- Ingersoll, R. (January 2002)**, *Out-of-Field Teaching, Educational Inequality, and the Organization of Schools: An Exploratory Analysis*, Retrieved from CPRE Research Reports, http://repository.upenn.edu/cpre_researchreports/22
- Ingersoll, R. M. (2002)**, The Teacher Shortage: A Case of Wrong Diagnosis and Wrong Prescription, *NASSP Bulletin*, 86(631), 16-31.
- Ingersoll, R. M. (2004)**, Why Do High-Poverty Schools Have Difficulty Staffing Their Classrooms with Philadelphia, Center for American Progress and the Institute for America's Future.
- Ingersoll, R., and H. May (September 2011)**, *Recruitment, Retention and the Minority Teacher Shortage*, Retrieved from Consortium for Policy Research in Education, http://repository.upenn.edu/gse_pubs/226
- Ministry of Education (October 23 2014)**, Service Minute of Sri Lanka Teacher Service, *The Gazette of the Democratic Socialist Republic of Sri Lanka*, Ministry of Education, Sri Lanka.
- Ministry of Education (January 18 2005)**, Teacher Service Circular 2005/1, *Categorization of Schools According to Congeniality for Allocation of Teachers*, Ministry of Education, Sri Lanka.
- Ministry of Education (2016)**, *Determining the Staff Numbers in a School*, Ministry of Education, Sri Lanka.
- Ministry of Education (2016)**, *School Census Preliminary Report 2016*, Ministry of Education, Sri Lanka.
- Peske, H. G., and K. Haycock (2006)**, *Teacher Inequality - How Poor and Minority Students Are Shortchanged on Teacher Quality*, The Education Trust, Washington D.C.
- Sethunga, P., S. Wijesundera, T. Kalamany, and S. Karunanayake (2014)**, *Study on the Professional Development of Teachers and Teacher Educators In Sri Lanka*, National Education Commission, Sri Lanka.

IPS Publications

- Designing Retirement - Income - Security Arrangements: Theory, Issues and Application to Sri Lanka (February 2000)
- South Asia Economic Journal (March 2000)
- Policy Impact Analysis in Contemporary Sri Lanka (March 2000)
- Review of Literature Linking Macroeconomic Policies to Household Welfare in Sri Lanka (March 2000)
- Annotated Bibliography of Macroeconomic and Adjustment Policies in Sri Lanka (May 2000)
- Review of Poverty Related Data and Data Sources in Sri Lanka (May 2000-2001)
- A literature Survey of Macro Econometric and CGE Models in Sri Lanka (June 2000)
- Sri Lanka: State of the Economy 2000 (October 2000)
- Effectiveness of Welfare Programmes in Improving Estate Performance in Sri Lanka (December 2000)
- The Problems of Measuring Cost of Living in Sri Lanka (June 2000)
- An Economic and Environmental Analysis of Shrimp Farming Industry in Sri Lanka (September 2001)
- Sri Lanka: State of the Economy 2001 (October 2001)
- Regional Economic Cooperation in South Asia: A Sri Lanka Perspective (November 2001)
- The Implications of the Changing Role of Governance in Sri Lanka (December 2001)
- Policies and their Implications for the Domestic Agricultural Sector of Sri Lanka: 1995 - 2000 (August 2002)
- Sri Lanka Electricity Industry: Long Term Thermal Generation Fuel Options (September 2002)
- Irrigation and Agriculture in Sri Lanka (October 2002)
- Forward Contracts: A Market Based Alternative to Government Intervention in Agriculture Marketing in Sri Lanka (January 2003)
- The Delivery of General Education in Sri Lanka - An Alternate Approach (March 2003)
- Assessment of the Pension and Social Security Benefit Scheme for the Self-Employed Persons in Sri Lanka (August 2003)
- Assessment of the Farmers' and Fishermen's Pension and Social Security Benefit Scheme in Sri Lanka (August 2003)
- Assessment of the Employees' Provident Fund in Sri Lanka (August 2003)
- Cross Border Competition: Implications for Sri Lanka (December 2003)
- Ready Made Garment Industry in Sri Lanka: Facing the Global Challenge (June 2004)
- Liberalization of International Air Transport in Sri Lanka: Policy Options. (July 2004)
- Economic Policy in Sri Lanka: Issues & Debates - A Festschrift in Honour of Gamani Corea (September 2004)
- Sri Lanka: State of the Economy: 2004 (October 2004)
- Governance Issues in Poverty Reduction in Sri Lanka (October 2004)
- Identification of the Poor in Sri Lanka: Development of Composite Indicator and Regional Poverty Lines (December 2004)
- Phoenix from the Ashes? Economic Policy Challenges and Opportunities for Post-Tsunami Sri Lanka (April 2005)
- Sri Lanka's National Accounts (May 2005)
- Input Output Tables for Sri Lanka - 2000 (June 2005)
- Labour Standards and International Trade: The Case of EU GSP Concessions to Sri Lanka (July 2005)
- Regulatory Impact Assessment: A Tool for Better Regulatory Governance in Sri Lanka? (August 2005)
- Impact of Trade Liberalisation on Poverty and Household Welfare in Sri Lanka (September 2005)
- South Asia After the Quota System: Impact of the Mfa Phase-Out (October 2005)
- Decentralization and Provincial Finance in Sri Lanka: 2004 - An Update (November 2005)
- Sri Lanka National Health Accounts 2000-2002 (December 2005)
- Microfinance in Sri Lanka : A Household Level Analysis of Outreach and Impact on Poverty (December 2005)
- A Framework for Social Accounting Matrices (SAMS) of Sri Lanka (January 2006)
- Devolution Revisited: Towards A More Effective Devolutionary Polity (February 2006)
- Livelihoods in Post-Tsunami Sri Lanka: "Building Back Better"? (April 2006)
- Rural Land Sector in Sri Lanka: Major Characteristics, Determinants and Implications for Land Policy (May 2006)
- Utilization of Preferential Trade Arrangements: Sri Lanka's Experience with the EU and US GSP Schemes (January 2007)
- Beyond Twenty Million: Projecting the Population of Sri Lanka 2001-2081 (March 2007)
- Disaster Management Policy and Practice in Sri Lanka: Sharing Lessons among Government, Civil Society and Private Sector (April 2007)
- Population Ageing, Policy Responses and Options to External Retirement Coverage Case Study of Sri Lanka (May 2007)
- Sri Lanka: State of the Economy 2007 (September 2007)
- South Asia in the WTO (November 2007)
- Mahinda Chinthana: A Commentary on Policy Options (October 2007)
- Sri Lanka National Health Accounts 2003-2004 (July 2008)
- Trade, Innovation and Growth: The Case of Sri Lankan Textile and Clothing Industry (July 2008)
- Sri Lanka: State of the Economy 2008 (September 2008)
- Educational Opportunities for the Poor in Sri Lanka: Assessing Spatial Disparities (November 2008)
- Gaining Competitive Advantage through the Protection of Geographical Indications: An Analysis of the Tea, Sapphire and Cinnamon Industries of Sri Lanka (May 2009)

- Impact of Information Technology (IT) in Trade Facilitation on Small and Medium Enterprises (SMEs) in Sri Lanka (July 2009)
- Sri Lanka: State of the Economy 2009 (September 2009)
- International Migration Outlook – Sri Lanka, 2008 (October 2009)
- Ecotourism for Sustainable Forest Management in Sri Lanka (November 2009)
- Mainstreaming Climate Change for Sustainable Development in Sri Lanka: Towards A National Agenda for Action (December 2009)
- Targeting and Distribution of Post-Disaster Aid-A Case of the Fishery Sector in Post-Tsunami Sri Lanka (April 2010)
- Sri Lanka: State of the Economy 2010 (October 2010)
- Conservation vs. Conversion: Examining the Case of the Diyawanna Oya Wet Land Area in Sri Lanka (December 2010)
- Microinsurance in Sri Lanka: Combating Multiple and Overlapping Vulnerabilities (October 2011)
- Sri Lanka: State of the Economy 2011 (October 2011)
- Impact of Migration and Remittances on Investment in Agriculture and Food Security in Sri Lanka (February 2012)
- Sri Lanka National Health Accounts 2005–2009 (September 2012)
- Fostering Innovation to Fast-forward Growth in Sri Lanka (December 2012)
- Sri Lanka: State of The Economy 2012 (October 2012)
- Migration Profile-Sri Lanka (2013)
- Climate Change Issues in Sri Lanka (2013)
- Hand Book on the India- Sri Lanka Free Trade Agreement (2013)
- Incentivizing Foreign Investment in Sri Lanka and the Role of Tax Incentives (2013)
- Private Hospital Health Care Delivery in Sri Lanka : *Some Issues on Equity, Fairness and Regulation* (2013)
- Sri Lanka: State of The Economy 2013 (2013)
- State of the Sri Lankan Alcohol Industry and Analysis of Governing Policies (2013)
- Female Entrepreneurship and the Role of Business Development Services in Promoting Small and Medium Women Entrepreneurs in Sri Lanka (2014)
- Labour Migration in Sri Lanka: Select Annotated Bibliography (2004-2014) (2014)
- Sri Lanka: State of The Economy 2014 (October 2014)
- Female Employment for Inclusive Growth:Trends,Issues and Concerns of Female Labour Force Participation in Sri Lanka (2014)
- Sri Lankan Female Domestic Workers in the Middle East: Does Recruitment Through an Agent Minimize Vulnerability? (2014)
- Sri Lanka National Health Accounts 2010 - 2011 (2014)
- Can People in Sri Lanka's Estate Sector Break Away from Poor Nutrition: What Causes Malnutrition, and How it Can be Tackled (2014)
- Health Statistics 2013 (2014)
- Towards a Stronger, Dynamic and Inclusive South Asia (2014)
- Returning Home: Experiences & Challenges (2014)
- Repositioning in the Global Apparel Value Chain in the Post-MFA Era: Strategic Issues and Evidence from Sri Lanka (2014)
- Banking on SME Growth: Concepts, Challenges and Policy Options to Improve Access to Finance in Sri Lanka (2014)
- An Assessment of the Implementation of Guidelines in School Canteens: A Case Study from the Western Province of Sri Lanka (2015)
- Health and Socio-economic Determinants of Malnutrition in the Plantation Sector of Sri Lanka: A Review (2015)
- Transforming Health Care Delivery in Sri Lanka (2015)
- Sri Lanka: State of The Economy 2015 (October 2015)
- Climate Change Issues in Sri Lanka-Volume 2 (2016)
- Facilitating Trade between India and Sri Lanka (2016)
- Health Statistics 2014 (2016)
- Re-Defining Urban Areas in Sri Lanka (2016)
- Challenges For Free Health Care in a Neo-Liberal Economic Environment Sri Lanka Experience (2016)
- Intellectual Property Rights in Protecting New Plant Varieties and Farmers' Traditional Knowledge: The Case of Rice in Sri Lanka (2016)
- Taxation in Sri Lanka: Current Trends and Perspectives (2016)
- Sri Lanka: State of The Economy 2016 (October 2016)
- Trade and Transportation Audit: Sri Lanka (2016)
- Public or Private: Determinants of Choice of Health Providers in Sri Lanka (2016)
- Historical Review of Disease Burden in Sri Lanka (2016)
- Manufacturing Exports from Sri Lanka: Opportunities, Achievements and Policy Options (2017)
- Why People Choose to Participate in the Non-Standard Forms of Employment in Sri Lanka (2017)



Institute of Policy Studies of Sri Lanka

100/20, Independence Avenue, Colombo 7, Sri Lanka

Tel: +94 11 2143100 Fax: +94 11 2665065

Email: ips@ips.lk; Website: www.ips.lk

Blog: 'Talking Economics' - <http://ipslk.blogspot.com>

Twitter: www.twitter.com/TalkEconomicsSL