

Sri Lankan Graduate Labour Market: A Status Mismatch

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Abstract—The status mismatch in the labour market occurs when an individual is unable to find a suitable job for his or her level of education attained. Generally, this is known as Job-Education Mismatch and it's mainly occurs due to demand side deficiencies of the economy. That is lack of job creation in the economy to absorb the educated youth to the job market. If the economy is unable to produce enough job opportunities to absorb newly passed out graduates, they find difficulty to secure suitable jobs.

Senarath and Patabendige 2014, have found that there exists a considerable extent of education mismatch among the graduates who are employed in the Sri Lankan graduate labour market. Although this problem continuously exists, no proper attention has been still given. Accordingly, the main objectives of the research are to analyze the status of employment of Sri Lanka to identify the job generation of the economy and identify whether the graduates are doing jobs suited for their level of education using the secondary data analysis.

The study used a deductive methodology and developed a declarative hypothesis to identify whether there exist a status mismatch in the graduate labour market. The study used the content analysis to analyze the secondary data available in the Central Bank Annual Reports, the Consumer Finances and Socio Economic Survey Reports, and the other relevant research already published. Finally, all the evidences support the hypothesis confirming that education mismatch is a more visible in the graduate labour market in Sri Lanka.

Index Terms—Graduate labour market, job-education mismatch, status of employment, content analysis.

I. INTRODUCTION

The status mismatch in the labour market occurs when an individual is unable to find a suitable job for his or her level of education attained. Generally, this is known as Job- Education Mismatch or Educational mismatch, and it is a major problem currently faced by many newly passed out graduates. This sort of underemployment of human capital will create a severe skill mismatch issue. As such, when a graduate is educationally mismatched he or she is not be able to properly utilize the skills acquired from the university [1], [2].

When job aspirants of the country are unable to find suitable jobs to be matched with their educational qualifications their employment problem becomes a very serious issue from different angles. [2], [3]. Economists and sociologists have recognized the education mismatch phenomenon as a serious efficiency concerned problem with

its pertinent socio-economic costs at individual, firm and national level. At individual level, it would let down the individual's marginal product, though the estimated wage differential differs across the countries' status [4], [5], [6]. At the firm level, education mismatch is leading to lower productivity and lower level of job involvement; and high turnover rates. Accordingly, firms may have to bear extra costs on screening, recruiting and training of new employees repeatedly [7].

Education mismatch mainly occurs due to demand side deficiencies of the economy. That is lack of job creation in the economy to absorb the educated youth to the job market. If the economy is unable to produce enough job opportunities to absorb newly passed out graduates, they find difficulty to secure suitable jobs. As a result, the educated youths have to either wait until they could find a suitable job for their qualifications or accept any available job without considering the qualifications or field of study [8]. When a person is educationally mismatched, he or she will be unable to utilize the skills that acquired through learning and also unable to gain real output from the investment made for the education [9].

With respect to the education mismatch in the Sri Lankan graduate labour market, Senarath and Patabendige [10] found that there exists a considerable extent of education mismatch among the graduates who are employed, and further noticed that the education mismatch, education characteristics, employment characteristics and gender characteristics have a significant association with education mismatch. Although this problem continuously exists, no proper attention has been still given. Accordingly, the main objectives of the research are to analyze the status of employment of Sri Lanka to identify the job generation of the economy and identify whether the graduates are doing jobs suited for their level of education using the secondary data analysis.

II. LITERATURE REVIEW

A. Education Mismatch

Education mismatch is defined as the lack of coherence between the required and offered educational level for a given job [11]. The issue of education mismatch has a long history, and accordingly, it had been, first, identified in 1870's by Gladwell [12]. In a report written under the title of "Relation of Education to Insanity" by US commissioner of education, Jarvis invented this concept. Through this report he claims that out of the 1,741 cases of insanity he studied, "over-study" was responsible for 205 of them [13]. Since then, the issue of education mismatch has become popular although attention paid to this issue over time was inadequate. However, from the 1970s onwards, a renewed attention was given to this issue

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when supply of the educated seemed to outpace demand [14] and this led to appear a trend of a substantial reduction in the returns to schooling in America as highlighted by his book, "The Overeducated Americans", published in 1976.

According to the European Centre for the Development of Vocational Training [8] education mismatch has been identified in two ways such as Vertical mismatch and Horizontal mismatch. The vertical mismatch is where the level of education that an individual is having is not suitable for the job. This can be in two ways, over education or under education. Over education exists when an individual is hired for a job which requires lower level of education than the individual possesses while under education exists where the individual is having lower level of education than the job requires. The logical end result of vertical mismatch is the presence of overeducated workers when the skills they bring to their jobs exceed the skills required for that job, while undereducated workers' skills are inferior compared to those required for the job. According to both these situations can have negative consequences for the labour market. However, in recent decades, there was a tendency towards a large increase of overeducated workers rather than the under educated in jobs. [15], [16]

Horizontal mismatch occurs when the type of education or skills that an individual is having is inappropriate for the job. In accordance with horizontal mismatch person does a job unrelated to his or her field of study [5]. It is also worthy to study to what extent horizontal mismatch prevails in the case of graduate employment. Very often it has been found that particular fields of study provide occupationally specific skills for the job market in contrast to the study programmes of general degrees in Arts, Humanities, and Social Sciences etc. [5]. As such, graduates in narrower fields of study (such as law or medicine) are likely to have a better defined set of job skills than those in more broadly defined ones (such as arts and humanities). Kucel and Byrne [17] suggest that those from broader educational backgrounds are likely to be less well informed about labour-market opportunities.

The above two types of Education mismatches been identified can take place in several ways. That is certain jobs may specify a minimum educational requirements and if this is below degree level a graduate selected represents a situation of over education. A further possibility is that educational requirements for particular jobs may be rising over time, although a degree may not be required when a graduate is recruited to the job [18]. Another problem is that an individual may be overqualified with the lower ability required for a particular job. This may well be consistent with the efficient functioning of the labour market rather than indicating a form of market failure. An alternative interpretation is that certain graduates may have chosen employment not meant for graduates (non-graduate jobs) because they offer compensating advantages such as a preferred location or less stressful work etc.

B. Education Mismatch: Empirical Literature

According to McGuinness [15] empirical studies on education mismatch it has been identified that most researchers had researched education mismatch on the premise of over education as the more prominent education

mismatch issue amongst graduates, and that most of the research on education mismatch has been done in Europe based on both subjective and objective methods. From this data, it is evident that the percentages of over education have increased substantially when the analysis is done in the same country for over some years. In particular, in the UK and in the United States educational mismatch seems to involve a number of workers that ranges between the 17% and the 42% of the whole employed graduate labor force, while in Italy the share of overeducated workers is around 39%. The below mentioned summarized results indicate that education mismatch is the major mismatch clearly seen, particularly in the western world. Further, the present economic recession faced by these countries has led to increase their level of unemployment to an unprecedented extent. This shows that the graduates everywhere will find it difficult to obtain a proper job to be matched with their educational attainments and they might have to settle down with whatever job that they can find in the job market ignoring their level of qualifications.

Allen & Weert [19] have also done a cross country analysis regarding the education mismatch and have identified that there are great differences between the types of education mismatches across the countries. Over education is most common in Japan and Spain and under education, again in Spain and the UK. Japanese and British graduates were more likely to work in a different field whereas German and Dutch graduates were most likely to select work with a 'perfect match' in terms of level and field of education. The above empirical evidences prove that education mismatch is a common phenomenon in European countries and the other developed countries in the rest of the world.

C. Sri Lankan Evidences of Education Mismatch

When Sri Lanka is considered Education mismatch is a new concept for which no much attention has been so far paid. Mostly in the Sri Lankan labour market what can be seen is the underemployment, and which is somewhat similar to education mismatch. According to the definition given by the Department of Census and Statistics (DCS) a person as underemployed if he or she has worked less than 35 hours per week in the main occupation and is prepared and available to do more work, if offered. Based on this definition, ALFS Report [20] indicates that the overall underemployment rate was 2.7% percent of the total employed and amongst the 'highly educated' (equal or higher than G.C.E. A/L) the underemployment rate was 1.5 percent. When the gender disparity is considered 1.9 percent of the educated females were underemployed while for males the rate was only 1.2 percent. But this just measure only the "visible underemployment" that reflects an insufficiency in the volume of employment. But what is more critical is the "invisible underemployment" that shows underutilization of persons' skills and indicates low productivity.

With regards to the education mismatch in Sri Lanka, Senarath and Patabengige [10] has done a research on education mismatch of management graduates. For this study, the graduates who passed out between in the period 2005-2010 from Colombo, Sri Jayawardenapura and Kelaniya Universities have been considered. In conclusion, it

shows that among the graduates who have graduated in the study period, 24% are overeducated and 22% are undereducated. Only 54% of the graduates are doing jobs which are consistent with their level of education. When the overeducated and undereducated percentages put together 46% of the graduates are vertically mismatched. It was also noted that 12% of the graduates have responded to the questionnaire telling that they are working on a different fields of study and 4% has mentioned that they are doing jobs not relevant for a specific field. This shows that 16% of the graduates are doing jobs in alienated fields compared with their field of education. Further education characteristics, employment characteristics and gender characteristics show a significant association with education mismatch.

This evidence shows that there exist a severe problem educational mismatch among the graduates in the Sri Lankan job market. However, these evidences are provided by subjective research and studies based on the perception of the graduates. It is essential to conduct a more objective analysis to further confirm the gravity of this issue. Therefore, this study is conducted to bridge this research gap through carrying out a more objective analysis on graduate job market, paying a special attention to education mismatch from a macro perspective.

III. RESEARCH METHODOLOGY

This study is mainly based on the inductive methodology of research. Accordingly, the study observed evolution of the issue of graduate unemployment to understand how this issue has developed to the present level along with assessing the rigor of causes which have been so far identified. As such, the researcher adopts an inductive method of reasoning by formulating research hypothesis, and it is given in a declarative form, with a view to determine whether there is a status mismatch among the graduates in consequence of the mismatch between level of education and the nature of the job occupied. Thus, the formulated hypothesis is given by the following form:

‘There is a status mismatch in the graduate labour market of Sri Lanka.’

Reliable information with regard to mismatches arisen from labour supply side is sparse. This research, therefore, has to largely depend on indirect methods to identify the nature of the issue of the structural mismatch based on various sources of secondary data. Accordingly, the study tries to collect evidence which may support / not support the hypothesis, mainly based on the secondary data available in the Central Bank Annual Reports, the Consumer Finances and Socio Economic Survey Reports, and the other relevant research already published. Thus, evidence is collected to determine whether ‘There is a status mismatch in the graduate labour market of Sri Lanka’ making the following comparisons and examinations.

- 1) Evaluation of expected occupation desires with level of education.
- 2) A comparison of changes in the employed percentages in different occupational groups.
- 3) Identifying the structural changes in the national economy

- 4) Looking at the changes taken place in the structure of status of employment and export structure of the economy to identify whether the private sector’s role is substantial or not to create formal sector jobs and higher skilled jobs to be matched to the demand of such job aspirants in the job market over the years.
- 5) A comparison of contribution of formal and Informal sector employment by main occupation groups.

IV. FINDINGS

Firstly, the study will check the occupations expected according to the level of education to identify which type of jobs are mostly preferred by the graduates and then examine the trend of how and where graduates are employed. This analysis is expected to provide evidence of whether graduates are employed in their preferred jobs which are matched to their degree qualification or not. Also, attempts are made to see how graduates’ preferences have changed over time in finding jobs in different occupational categories.

According to the ILO guideline (International Standard Classification of Occupations / ISCO) [21] the study firstly classify jobs based on the type of skills or the education level needed to perform different type of jobs (see Table I).

TABLE I: INTERNATIONAL STANDARD CLASSIFICATIONS OF OCCUPATIONS
MAJOR GROUPS

Occupational classification	ISCO skill level (see Key below)
ISCO Major groups	
1 Legislators, senior officials and managers	-
2 Professionals	4
3 Technicians and associate professionals	3
4 Clerks	2
5 Service workes and shop and market sales workers	2
6 Skilled agricultural and fishery workers	2
7 Craft and related trade workers	2
8 Plant and machine operators and assemblers	2
9 Elementry occupations	1
0 Armed forces occupations	-

Key: ISCO skill levels

First ISCO skill level had been defined with reference to ISCED primary education which generally begins at the age 5, 6 or 7 and lasts above five years.

The second ISCO skill level was defined with reference to ISCED categories 2 and 3, comprising first and second stages of secondary education. The first stage begins at the age of 11 or 12 and lasts about three years, while the second stage begins at the age of 14 or 15 and also lasts about three years .A period of on-the-job training and experience may be necessary, sometimes formalised in apprenticeships or traineeships. This period may supplement the formal training or replace it partly or, in some cases, wholly.

The third ISCO skill level was defined with reference to ISCED category 5, comprising education which begins at the age of 17 or 18, lasts about four years and leads to an award not equivalent to the first university degree.

The four the ISCO skill level was defined reference to ISCED categories 6 and 7, comprising education which also begins at the age of 17 or 18, lasts about three, four or more years, and leads to a university or postgraduate university degree, or the equivalent.

Source: Author compiled based on International Standard Classification of Occupations: ISCO-08

As for the ISCO classification, the two main occupational categories relevant to graduates are the Professionals catogory (No. 02) and Technicians and associate

professionals category (No. 03). In providing evidence, first, data on the actual and expected employment can be compared based on the data presented by Table II.

TABLE II: EMPLOYMENT (PERCENTAGE OF ACTUAL & EXPECTED) BY MAIN OCCUPATION 1996/97 AND 2003/04

Occupation	1996/1997 Employed	2003/2004 Employed	2003/2004 Expected
Legislators, senior officials and managers	8.8	9.7	1.7
Professionals	4.9	5.2	11.7
Technicians and associate professionals	4.2	5.6	10.3
Clerks	4.0	4.1	21.7
Service workers, shop and market sales worker	5.1	6.6	8.2
Skilled agricultural and fishery workers	35.1	24.7	1.4
Craft and related workers	18.9	15.9	9.9
Plant and machine operators and assemblers	7.0 7.3	7.7	12.0
Elementary occupations	11.4 22.6	20.1	10.9
Armed forces	0.3	0.4	1.0
Unidentified	0.4 1	0.1	11.2
Total	100.0	100.0	100.0

Source: Consumer finance surveys 1986/87 and 2003/04 [22]

Accordingly, the demand among the employed for the job category of Legislators, senior officials and managers, is lesser than the actual level of employed in this category

implying there is a scarcity of qualified persons to be Legislators, senior officials and managers. Next, although a high percentage of the employed ($11.7+10.3 = 22.0$ %) desire employment in professional and technical occupations respectively in the current employment profile, these two categories comprise only a lesser percentage ($5.2+5.6 = 10.8\%$) of all the employed respectively. This comparison shows that the demand for these types of reputed and white collar jobs exceeds the job supply of those categories of employment in the economy.

Further, when analyzed the employed percentage at different occupation levels (Table III) from 2005-2012 the employed percentage increase in these two categories is been marginal. Under the category of professionals (column no 2) there had been only 1.58% increase when compared 2005 with 2012. In the category 3 there is a 5.55% increase during this period and when these two job categories added together the total increase of the employed people are 7.13%. These statistics indicates that the occupation categories suited and preferred by the graduates are not showing a very much positive increase when compared with the demand for it. Another notable feature in this is that other job categories which require the lower skilled persons (category 4 to 8) are showing an increasing trend. When 2005 and 2012 being compared there is a 40.1% ($10\% + 0.7\% + 3.4\% + 4.9\% + 21.1\%$) total increase in these occupations. This indicates that though graduates expect jobs in category 2 and 3 only very minimum percentage will get the opportunity to be employed. This might have led them to accept jobs in the lower skill levels that does not suite for the education that they have obtained.

TABLE III: CURRENTLY EMPLOYED PERSON BY OCCUPATION GROUP PERCENTAGES (BASED ON ISCO 88)

Year	1	2	3	4	5	6	7	8	9	10
2005	1.6	6.3	5.4	4.0	14.5	20.8	16.2	7.1	23.4	0.8
2006	1.8	5.3	5.1	4.0	14.6	22.4	17.0	7.1	22.2	0.5
2007	1.8	5.2	5.4	4.0	14.2	21.4	17.1	8.0	22.4	0.6
2008	1.7	5.8	5.6	4.2	14.2	22.4	16.2	7.3	22.0	0.6
2009	1.6	6.0	5.2	4.1	14.7	22.5	15.5	7.0	22.6	1.0
2010	1.5	5.6	5.1	4.1	14.9	22.3	15.7	7.3	22.6	1.0
2011	1.7	6.2	5.0	4.1	15.4	23.1	15.9	7.2	20.6	0.9
2012	1.8	6.4	5.7	4.4	14.6	21.5	17.0	8.6	19.5	0.5

Source: author compiled using the ISCO categorization and Central Bank annual reports

TABLE IV: STRUCTURAL CHANGES OF THE NATIONAL ECONOMY

	GDP %			Employed%		
	2000	2006	2012	2000	2006	2012
Agriculture	20.5	16.8	11.1	36.2	32.2	31
Industry	27.6	27.0	30.4	23.3	26.6	26.1
Services	56.2	56.2	58.6	40.5	41.2	43
	100.0	100.0	100.0	100.0	100.0	100.0

Source: Sri Lanka Central bank annual reports [23]

Even when comparing the workforce and the country's occupational structure it is further evident that though the service sector contribution to the GDP has increased considerably there employment percentage has not increased that much between 2000 to 2012 (Table IV). The proportion of agricultural workers in the workforce was 36.2% of the employed in 2000, and it has declined to 31% percent in 2012, but this deduction is very less compared with the contribution

declined to the GDP. The percentage of persons employed in manufacturing has decreased by 1.87% 2006 to 2012 though their GDP contribution has increased by 13% within these two years. However, this sector depends mainly on low value added products (garments) abnormally for a long period, indicating that the private sector led economy has largely failed in graduation to higher skilled jobs sufficiently.

The study by Ratnayake and Nayanana [24] confirms the view that Sri Lanka's manufacturing industries have a very low level of backward linkages. Under this scenario, a continuous dependence (more than three decades) on a product with such a low level of backward linkages for more than two-third of the country's export earnings indicates that it contributes to create lesser amount of skill employment in manufacturing. On the other hand, in the service sector it has increased their GDP contribution by 4.3% from 2006 to 2012. At the same time, this sector's job generation also has increased by 4.4% over the same period.

Next, it is important to consider the job creation of the economy both in the public and the private sector (formal sectors) with the intention of identifying whether job creation in the economy is strong enough to absorb the new graduate job aspirants to the suitable jobs (Table V). Some of the features notable from this analysis are: job generation of the public sector has increased from 2005 to 2009 but shows a decline in 2010 and again increased in 2011 and 2012. However, most government jobs provided to graduates are of clerical or teaching, this phenomenon has undoubtedly increased education mismatch. Then, when considering the private sector which is considered as the 'engine of the growth' under the current policy framework, shows a negative trend proportionately in job creation, indicating that suitable employment generation for graduates has been further retarded in the economy which has forced them to undertake lower level jobs, and thereby increasing education mismatch.

Accordingly, it clearly shows that the formal economy (public sector + formal private sector) has failed in generating enough and suitable jobs to meet the job demand come from graduates forcing them to undertake jobs which are lower than their educational level.

TABLE V: STATUS OF EMPLOYMENT IN SRI LANKA FROM 2005-2012

Year	Public sector employees	Private sector employees	Self employed
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2005	13.2	46.2	29.8
2006	13.4	42.1	30.8
2007	13.8	42.7	30.4
2008	15.2	41.2	30.2
2009	15.5	42.1	30.4
2010	14.3	41.2	31.5
2011	14.4	40.5	31.5
2012	15.1	41.3	31.9

Source: author compiled using the ISCO categorization and Central Bank annual reports

Due to the lack of job creation in the formal sector, graduates are now taking up the jobs created in the informal sector and this trend is clearly evident from the Table VI given below. When taken with the qualifications that graduates are having they always prefer to work in the primary, formal labor market with "good" jobs, i.e. well paid jobs with substantial fringe benefits. But due to the lack of job creation in the formal sector they are forced to accept jobs in the informal market or secondary market. Informal employment as a predominantly involuntary engagement of workers in a segmented labor market

TABLE VI: CONTRIBUTION OF INFORMAL / FORMAL SECTOR EMPLOYMENT BY MAIN OCCUPATIONS FROM 2009-2013

Occupation	2009		2010		2011		2012		2013	
	F	IF	F	IF	F	IF	F	IF	F	IF
Senior Officials & Managers	95.5	4.5	97.5	2.5	97.4	2.6	83.6	16.4	83.2	16.8
Professionals	86.9	13.1	83.3	16.7	85.7	14.3	84.2	15.8	82.4	17.6
Technical & Associate Professionals	89.9	10.1	90	10	90.3	9.7	82.9	17.1	83.3	16.7
Clerks	91.1	8.9	91	9	90.8	9.2	92.3	7.7	94.4	5.6
Sales & Service workers	42.3	57.7	40.2	59.8	41.1	58.9	41.1	58.9	45.3	54.7
Skilled Agricultural & Fishery worker	3	97	3.2	96.8	3.7	96.3	6.2	93.8	3.7	96.3
Craft & Related workers	33.1	66.9	33.2	66.8	31.3	68.7	32.6	67.4	30	70
Plant /Machine operators & Assemblers	39.8	60.2	39.6	60.4	35.6	64.4	37.9	62.1	38.9	61.1
Elementary occupations	39.2	60.8	37.9	62.1	38	62	37.1	62.9	36.4	63.6

Source: author compiled using the ISCO categorization and Central Bank annual reports

V. CONCLUSION

Education-job mismatch is a severe problem faced by many graduate labour markets in the world today. If a country invest in increasing their human capital it also need to think of creating more job opportunities. Otherwise, it will leads to a waste of investment. Mainly due to the fact that when a person is unable to find a job suited for his or her level of education the country will lose the productivity that would have taken from him. For a developing nation like Sri Lanka this will be an issue that needs to be addressed carefully since it invest huge amount of money on free education.

According to the Consumer Finance Survey done in 1986/87 and 2003/04 in Sri Lanka it has revealed that there is a high demand for the occupation categories of professional and technical and associate professional, which is suited mostly for graduates. However, the employed percentage or job supply in these occupations are much lower than the demand. This has lead the graduate to shift to other occupation categories which requires lower skill level. Further, according to the Economic and Social Statistics of Sri Lanka it reveals that the percentage of people occupied in higher skill level jobs has increased marginally when compared with lower skill level jobs.

At the same time, the study found that the formal private sector as engine of economic growth has failed to generate a sufficient number of skill jobs to catch up job drop in the public sector and absorb new job seekers considerably to the formal economy. The public sector employment share of the total employed has increased from 13.2 percent in 2005 to 15.1% by 2012 whereas the formal private sector employment ratio decreased from 46.2% in 2005 to 41.3% by 2012. On the other hand total self-employed percentage has increased from 29.8% to 31.9% during the period considered. On the other hand, even under EOI economic policies the country's export structure depends mainly on low value added products (garments) abnormally for a long period compared to the newly industrial countries (NICs) indicating that the private sector led economy has largely failed in graduation to higher skilled jobs sufficiently. Finally, due to the lack of job creation in the formal sector the graduates are now shifting to informal sectors to find job opportunities. This is not a favorable situation for country. This will leads to inflate the problem of education mismatch and leads to other issues such as poverty, job insecurity and youth unrest in the country.

These trends clearly point out that the job creation of the economy is not enough to absorb the newly passing out graduates to suitable jobs, and as a result, graduates are forced to take up even jobs which are not meant for graduates (non-graduate jobs). All these evidences support the hypothesis confirming that education mismatch is a more visible in the graduate labour market in Sri Lanka.

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