

Using international comparisons to inform debates on salaries for publicly paid educators in South Africa

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Abstract

UNESCO's Global Monitoring Report shows countries' progress towards the global education goals. In the 2013/4 report that highlights a four-part strategy for providing good teachers, the fourth strategy deals with incentivising teachers to stay in the profession and identifies salaries as a key consideration in attracting the best candidates (UNESCO, 2014). Discussions about the adequacy of teacher pay in South Africa often mention the need to attract good teachers. Comparison across both developed and developing countries in the UNESCO report of teacher wages in public primary institutions indicated that South African teachers were among the best paid. At USD128 per day, South Africa was ranked among the top four countries, after Switzerland, Germany and Luxembourg, with Denmark ranked fifth at USD120. Considering the level of development of these countries, this seems counterintuitive. This brief replicates UNESCO's calculations, to determine whether South African teachers' wages are comparable with those in Denmark. The level of teacher wages so determined was only USD71, which is similar to Japan and Italy, but even this seems unrealistically high. UNESCO uses purchasing power parity (PPP) exchange rates for converting teacher pay across countries to dollars – this is where the problem might be. As an alternative strategy to assess the adequacy of teacher pay in international comparison, we use teacher household assets instead of compensation as a proxy for teacher living standards. This results in findings which are considered to be plausible, as South Africa is then comparable with developing countries such as Botswana, Malaysia and Philippines.



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This asset index approach also makes it possible to compare teacher salaries with pay in other professions. This is useful, because teaching competes with other professions to attract the best candidates and to keep them in the profession.

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Introduction

In the 2020 Budget Speech, the Minister of Finance made a commitment to undertake spending reviews to reduce the public wage bill. Government has indicated that it will not be able to honour the multi-year public service wage agreement signed in 2018, reflected in Public Service Coordinating Bargaining Council (PSCBC) Resolution 1 of 2018.

A UNESCO Report provides a comparison of publicly paid teachers across a number of countries. However, the conclusion that can be drawn from that report, that South African teachers are among the best paid in the world, appears counter-intuitive.

In recent years, public sector trade unions have often negotiated wage increases which are above the Consumer Price Index (CPI), in spite of a sluggish economy. Despite this, there is a persistent perception that educators in South Africa are underpaid. Whereas this perception is common, it is not clear to what extent this is supported by evidence. A UNESCO Report provides a comparison of publicly paid teachers across a number of countries. However, the conclusion that can be drawn from that report, that South African teachers are among the best paid in the world, appears counter-intuitive. To address the possible confusion arising out of this approach, this Policy Brief uses alternative methods to arrive at what we believe may be a more realistic assessment of the adequacy of teacher pay.

This brief will present international pay comparisons of publicly paid teachers. First, approaches to estimate teacher pay will be discussed. This is followed by a consideration of the existing methodology used in international comparisons of teacher pay, highlighting the flaws in this approach. Alternative measures using household assets as a proxy for teacher living standards will then be presented. In conclusion, we say how relatively well-paid South African teachers are.

Details relating to the analysis described here are contained in an earlier working paper (Gustafsson and Maponya, 2020).

Approaches to estimating teacher pay

Figure 1 was constructed using November 2019 payroll data for public school teachers in South Africa. It depicts the average monthly pay of teachers. In this analysis, the word 'teacher' is meant to cover everyone who is regarded as an educator, including school principals.

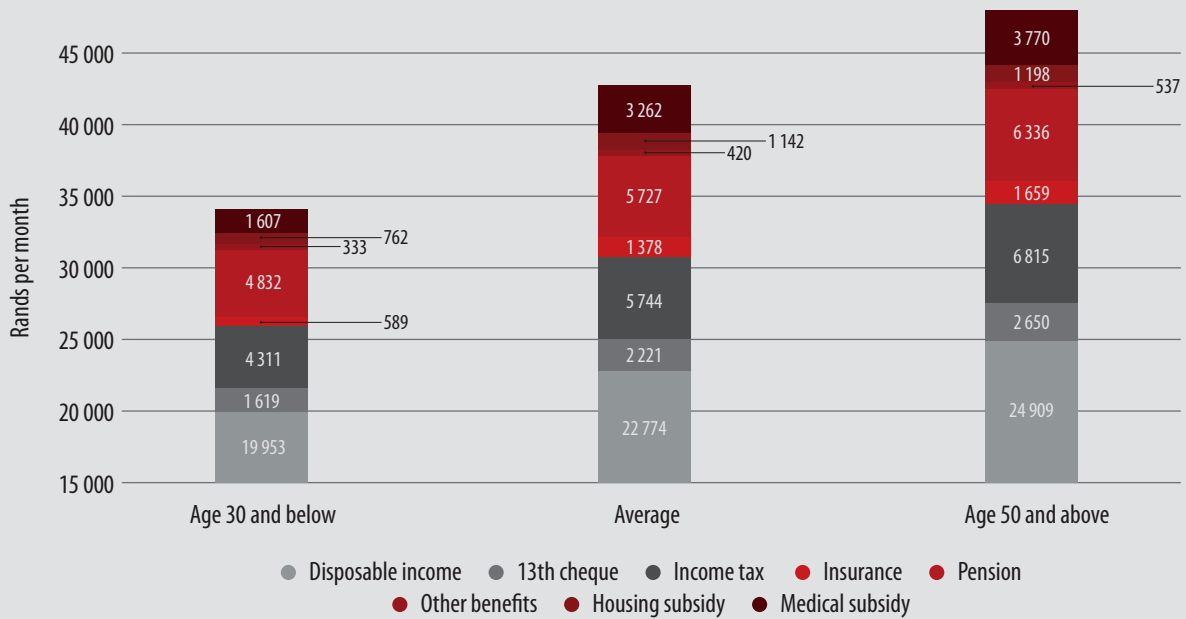


FIGURE 1: Breakdown of teacher pay in South Africa 2019

Each of the three bars in the chart represents cost to the employer before deductions, with the bottom segment depicting average monthly disposable income, excluding the 13th check. The 13th cheque amounts to approximately 1/12th of basic salary.

Were there no deductions, the average monthly income would range from R34 006 for younger teachers to R47 876 for more experienced teachers. However, after the various deductions, the range drops to between R21 572 and R27 559. Pension contribution is mandatory for all government employees. It is categorised into an employer and employee contribution.

Even though medical subsidy accounts for a large proportion of the deductions of many teachers, it is discretionary. Not every teacher has medical aid cover. In instances where teachers have medical aid, the types of plans enrolled in, and thus the monthly contributions, differ.

Over and above this, individuals tend to opt to make additional provision for their retirement through contributing towards retirement annuities. This is meant to augment what they would receive as state pension. Furthermore, there are other forms of discretionary insurance that teachers purchase, including cover for medical shortfalls, funeral and life cover, in order to strengthen their social security net.

The figures presented above illustrate part of the complexity of defining teacher pay. There are a number of items that could be included as deductions, and this would make it hard to derive an across-country comparison of teacher pay. There is no one way of defining teacher pay. The factors that may lead to individuals privately contributing towards social security may differ across countries. In the South African socio-economic context, many teachers feel compelled to take measures to enlarge their social security net by contributing towards different forms of short- and long-term insurance. One other thing that may also be prudent to consider is how the 13th cheque is handled in different countries. In South Africa, teachers do not receive a performance bonus. However, because this happens in other countries, this may add to the complexities of comparisons.

Critique of UNESCO's international teacher pay comparison

UNESCO's 2013/4 Global Monitoring Report (p. 255) compared teachers' daily wages¹ in public primary schools across different countries. According to this report South African teachers earned USD128 per day in 2011, which is a little above Denmark at USD120. These amounts have been converted to dollar using purchasing power parity (PPP) exchange rates. The PPP exchange rates are intended to reflect differences in domestic purchasing power of different countries better, considering that cost differences in terms of living standards often favour developing countries, and that the market exchange rate is considered an inadequate reflection of differences in living costs. UNESCO also appears to have used officially published *gross entry level salaries* for public primary school teachers in its calculations before converting them into daily wages.

Research at the Stellenbosch University, we applied a number of approaches to replicate South Africa's UNESCO results. In the first replication, using what appears to be UNESCO's methodology, the daily wages only came to USD86, much lower than the USD128 that UNESCO reported.

In earlier work presented with Martin Gustafsson at the 2019 Conference on Quantitative Education Research at the Stellenbosch University, we applied a number of approaches to replicate South Africa's UNESCO results. In the first replication, using what appears to be UNESCO's methodology, the daily wages only came to USD86, much lower than the USD128 that UNESCO reported. This amount is similar to England's and Finland's level of teacher wages, which still seems very high. The amount used in this case excludes the employer's contribution to benefits. If one also subtracts employee own contributions to benefits, as in constructing Figure 1, daily wages came to USD71, which is in the range of Japan and Italy, and is represented by the bottom four segments in the first bar of the chart. UNESCO highlights that there are large differences in teacher wages among developed countries.

Even though we used the method that UNESCO had used for their comparison, it was not possible to replicate the figure of USD128 reported for South Africa, and UNESCO offered no explanation that would explain their very high estimates for South Africa. The finding that South African entry level teacher wages are higher than those for developed countries such as Denmark and the United States does not seem to be intuitively right. Moreover, Kenya is ranked above Slovenia, which is also not intuitive. The calculation that places South Africa in the region of Japan and Italy, at USD71, even though lower than UNESCO's, is also not readily believable. As someone who has worked as a public school teacher in both South Africa and Japan, the writer of this brief thinks that it is counterintuitive to suggest that the salaries of teachers in both countries are comparable.

The two attempts at replicating what is reported in the 2013/4 Global Monitoring Report as South Africa's daily teachers' wages produced significantly different outcomes to what is in that report. This points to the difficulty associated with calculating credible across-country comparisons of teacher pay.

¹ As is conventional in economics, we will not distinguish between the terms pay, wages and salaries in this brief.

An alternative proxy for teacher living standards

The approaches to measuring teacher pay discussed thus far rely on the traditional method of converting monetary earnings to dollars, the common metric, using some exchange rate. The extent to which one is well remunerated can determine the physical household assets that one can afford, and this is true across all societies. The use of data on household items offers an alternative approach to comparing teacher pay, by considering different items present in different households. The University of Minnesota collects household data using different national surveys. This is called the Integrated Public Use Microdata Series (IPUMS).

The analysis uses data from IPUMS, on household possessions of teachers in eighteen developing countries. Countries were selected on the basis of a reasonable availability of data on physical household assets. In addition, Switzerland and Greece were chosen to allow comparability with developed countries. The IPUMS data for South Africa was taken from the 2007 Community Survey and 2001 census. Statistics relating to the presence of seventeen household assets were considered.

The first task was to get a ranking of countries using these household assets. Surveys for which comparability was limited to a small number of household assets were discarded. Through this process, fifteen surveys remained, including South Africa's. An algorithm was then applied to compare household assets of teachers in pairs of countries; details are provided in Gustafsson and Maponya (2020). Based on the 2007 Community Survey data, South African teachers were placed fourth from the top, behind Costa Rica, Thailand and Malaysia. This can be seen in Table 1 below. Using 2001 census data, South Africa was tied in fifth position with Botswana, Egypt and Philippines. These outcomes are more intuitive as South Africa, Malaysia and Botswana are at a similar economic development level.

TABLE 1: Ranking of teacher SES using household assets

Survey	Ranking of teacher SES	Number of comparisons possible
Costa Rica 2000	1	14
Thailand 2000	2	13
Malaysia 2000	3	13
South Africa 2007	4	14
Botswana 2011	5	14
Egypt 2006	5	14
Philippines 2010	5	14
South Africa 2001	5	14
Zambia 2010	6	14
Nicaragua 2005	7	14
Senegal 2002	7	14
Nigeria 2010	8	12
Mozambique 2007	9	14
Rwanda 2002	10	14
Uganda 2002	11	14

Teacher socio-economic status (SES) seems to offer a plausible proxy for teacher pay, as this reflects the living standards of the population but is free from the need to choose an exchange rate for making comparisons. It produces a more intuitive *absolute* ranking, which provides an indication of which countries pay their teachers better than others, assuming that teacher pay is converted into living standards as reflected in household assets. Teacher assets also allow for an international comparison of *relative* teacher pay within countries. This compares the pay of teachers and other professionals in the same country.

If teachers are poorly paid relative to other professionals requiring similar qualifications, then teaching becomes an unattractive choice for young people considering their career options.

The United Nations has introduced a Sustainable Development Goal (SDG) indicator on teacher pay: “4.c.5: Average teacher salary relative to other professions requiring a comparable level of qualification”. Teaching competes with other professions to attract skilled individuals. If teachers are poorly paid relative to other professionals requiring similar qualifications, then teaching becomes an unattractive choice for young people considering their career options.

An application of the definition of UNESCO’s SDG teacher pay indicator was carried out using a socio-economic status variable based on the assets as a proxy for salary. The data used was for all eighteen developing and two developed countries. An SES index value was calculated within each country for teachers and other professionals, using the available household assets data. This provided a within-country SES comparison between teachers and other professionals. It was then possible to conduct an across-country comparison of the gap in SES between teachers and other professionals.

Using South Africa’s 2001 census data, the secondary teacher SES index value over that for other professionals gave a ratio of 0.61, meaning that teacher SES was 39 per cent less than that of other professionals in South Africa. For Malaysia, the ratio was 0.92, suggesting that secondary school teachers were only 8 per cent worse off than other professionals. In Botswana, the ratio was 0.80, implying a gap of twenty per cent in favour of other professionals. Figure 2 gives details of the findings.

South Africa’s 2007 Community Survey gave a ratio of 0.94 for secondary school teachers compared to other professionals. The increase in values for secondary teachers in South Africa between 2001 and 2007 is not an anomaly. Teacher pay in South Africa has been improving, and as previously stated, these improvements have been above inflation. Gustafsson and Patel (2008) observed that there was a sharp increase in the salaries of teachers around that period. So that the gap between teacher SES and those of other professionals has been narrowing is no surprise.

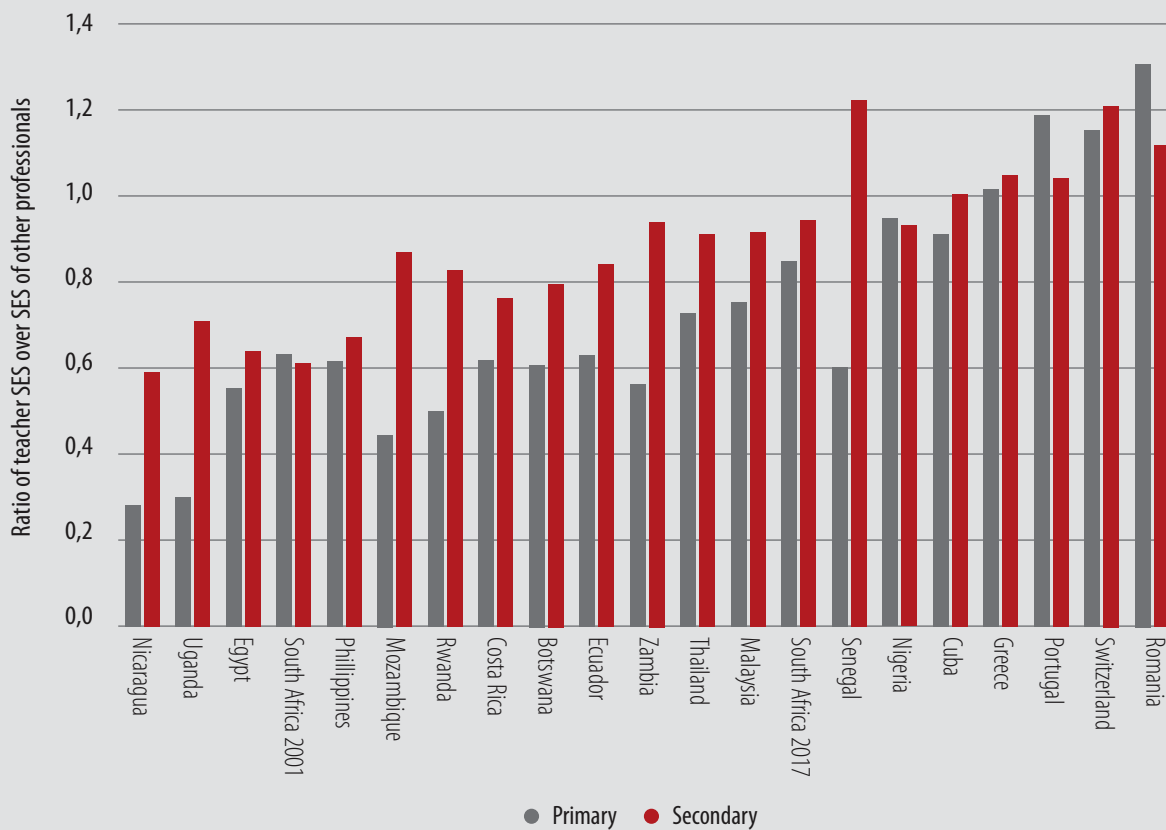


FIGURE 2: Comparison of teacher SES ratio with other professionals

In addition to providing for a within-country comparison of secondary teacher SES against other professionals, Figure 2 allows for primary-secondary across-country comparisons. The general pattern is for secondary school teachers to have a higher SES than their primary school counterparts. The primary-secondary SES gap varies across countries.

Among developing countries, South African teachers, at least in 2007, enjoyed a higher relative SES than most, similar to countries such as Malaysia and Thailand. The primary-secondary SES gap is small in South Africa, and only smaller in Philippines, Cuba and Nigeria if European countries are excluded. Thus, it would be hard in these countries to attract and keep good secondary school teachers, who have skills which would give them more options in the labour market.

Conclusion: How well paid are South African teachers in a relative sense?

Various approaches were considered to compare teacher pay across countries, as summarised in Table 2. We could not replicate the UNESCO findings that South African entry level teachers earned daily wages similar to developed countries such as Denmark, Switzerland and Germany, but using their method still placed South Africa closer to developed countries, such as England, Finland, Japan and Italy. This is considered implausible. Further work was carried out using teacher household assets as a proxy for salaries. The findings using household assets appear to be more realistic, as in 2007, South Africa was placed closer to developing countries, including Malaysia, Philippines and Nigeria. Thus, South African teachers may be regarded as having purchasing power similar to their counterparts in countries that are at the same level of development.

TABLE 2: Different approaches to estimating teacher pay

Type of comparison	Who and how	South Africa similar to
Absolute	UNESCO, using officially published gross entry level salaries for public primary school teachers.	Denmark, Switzerland and Germany
Absolute	Current report, using South African teacher payroll data, excluding the employer's contribution to benefits.	England and Finland
Absolute	Current report, using South African teacher payroll data, where employee's own contributions to benefits were subtracted from the gross monthly salary.	Japan and Italy
Absolute	Current report using teacher SES (ranking using household assets)	Malaysia and Philippines
Relative	Current report, using relative teacher SES	Malaysia and Nigeria

It is possible that difficulties in producing credible comparisons of teacher pay using monetary data are attributable to PPP conversions, i.e. the value of the exchange rate used to convert salaries. Furthermore, there are different ways of calculating teacher pay, with different ways of treating benefits. Lastly, depending on a country's social security policy, teachers might need to supplement their social security net by contributing towards a retirement annuity or life cover, as is the case in South Africa. Thus, using monetary comparisons presents various challenges that can be avoided by using an asset-based measure, such as an asset index for SES, which is free from the comparability issues that derive from the choice of exchange rate for such comparisons.

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