Targeting and Income Distrubutive Effects of Public Expanditure on Education in Malawi

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Abstract

The objective of the study was to assess how public expenditure on education is targeted to different segments of the population and examine its effects on income distribution in Malawi. This is in response to high levels of income inequality and proportions of people living below the poverty line. The study used Benefit Incidence Analysis (BIA) to assess how public expenditure on education is targeted and how it affects income distribution. Results show that public expenditure on education improved income distribution in 1998 and 2001 while in 2005 it increased income inequality between poor and rich households. Furthermore, public expenditure was favorably targeted to poor households at the primary education sub-sector whereas at secondary and tertiary education levels, it favored the rich, increasing income inequality. Hence, public expenditure on education improved income distribution at primary education level whereas at secondary and tertiary education levels, it worsened the poverty in Malawi.

Keywords: Public expenditure effects, income distribution, education.

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การบรรลุเป้าหมาย และผลกระทบของการกระจายรายได้จากรายจ่ายสาธารณะด้านการศึกษาในประเทศมาลาวี

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บทคัดย่อ

วัตถุประสงค์ของการวิจัยเพื่อประเมินว่ารายจ่ายสาธารณะด้านการศึกษาจะสามารถบรรลุเป้าหมายต่อประชากรในกลุ่มต่างๆ อย่างไร และทดสอบผลกระทบของรายจ่ายดังกล่าวต่อการกระจายรายได้ของประชาชนในประเทศมาลาวี เพื่อจะเป็นประโยชน์ในการตอบสนองต่อความไม่เท่าเทียมของรายได้ที่อยู่ในระดับสูง และสัดส่วนของประชากรที่อยู่ในเส้นต่ำกว่าเส้นความยากจน การวิเคราะห์ข้อมูลใช้การวิเคราะห์ผลประโยชน์ที่ประชาชนได้รับ (Benefit Incidence Analysis) ในการประเมินว่ารายจ่ายด้านการศึกษาสามารถบรรลุเป้าหมายและมีผลกระทบต่อการกระจายรายได้อย่างไร ผลการศึกษาแสดงให้เห็นว่ารายจ่ายสาธารณะด้านการศึกษาช่วยปรับปรุงการกระจายรายได้ในปี 1998 และ 2011 ขณะที่ในปี 2005 มีการเพิ่มขึ้นของความไม่เท่าเทียมระหว่างครัวเรือนที่ยากจนกับครัวเรือนที่มีรายได้สูง นอกจากนี้ รายจ่ายสาธารณะมีเป้าหมายไปยังครัวเรือนที่ยากจนเพียงในภาคส่วนย่อยของระดับประถมศึกษา ในขณะที่ระดับมัธยมศึกษาและอุดมศึกษานั้นเป็นการสนับสนุนคนที่มีฐานะซึ่งเป็นการเพิ่มขึ้นของความไม่เท่าเทียม ด้วยเหตุนี้ รายจ่ายสาธารณะด้านการศึกษาช่วยปรับปรุงการกระจายรายได้ในระดับประถมศึกษา ขณะที่ระดับมัธยมศึกษาและระดับอุดมศึกษา รายจ่ายสาธารณะทำให้ความยากจนในมาลาวีแย่ลง

คำสำคัญ: ผลกระทบ รายจ่ายสาธารณะ การกระจายรายได้ การศึกษา

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Introduction

"Education is the key for attaining prosperity. It is a catalyst for socio-economic development, industrial growth and an instrument for empowering the poor, the weak and the voiceless," (Government of Malawi, 2006:62).

In May 1994, Malawi adopted a Free Primary Education Policy (FPEP) to increase literacy levels and improve the production base of the economy. This was partly influenced by a number of factors, one of which was to make education accessible to all children and that illiteracy should be eradicated by the end of the decade. Besides, donors supporting the government of Malawi at the time changed their priorities towards funding primary education. There was also a political change starting from 1992 which led to the transition of government from a one-party system of government to a multiparty democracy in 1994. During this period, political promises were made prior to general elections in May, 1994 to abolish school fees at primary education level in order to increase access to education (Kadzamira and Ross, 2001). This was a very popular political pledge in Malawi.

It is also an understanding that education yields social and economic benefits and that it is positively associated with high agricultural productivity, high incomes, and improved nutrition and health. Besides, it is argued that well educated citizens are more productive and fuel economic growth (Rosenstone, 2004). Education is also vital in improving income distribution in countries by enabling educated children from poor families to get well paying jobs and realise a high income in the long run. Krongkaew (1979) asserts that members of families with a full primary education in the agricultural sector are likely to have high agricultural productivity levels. In view of this, education translates into increased income levels for the people involved.

Significance of the Problem

Malawi has over time had a skewed income distribution favouring the richest households at national level. For example, in 2005, households in the poorest household income group contributed 7.00 percent to the national income while those in the richest household income group had a share of 46.70 percent, leaving 39.70 percent for the middle household income groups. Regrettably, the situation has not improved to date in that the households in the lowest household income group accounted for about 5.60 percent of the national income while the richest households contributed over half of the national income in 2011.

Looking at the percentage of the population living below the poverty line, the picture is even more worrisome. In 1998, 65.30 percent lived below the poverty line, of which 58.60 percent were in a rural setting, whereas only 6.70 percent of the population living in poverty were in urban areas (Tsoka et al, 2002). However, this percentage has slightly improved, such that those living below the poverty line accounted for 52.00 percent, 40.00 percent and 39.00 percent of the national population in 2004, 2007 and 2009, respectively (National Statistical Office, 2009 and Ministry of Development Planning and Co-operation, 2009 & 2010).

Therefore, it is evident that income inequality is a big concern in Malawi, as shown by the gap between rich and poor households based on their respective household income shares to national income. In addition, the prevalence of poverty is also a bone of contention, considering that 39.00 percent of the population in poverty is a high proportion. Hence, there is need for a thorough understanding and government to come up with, and intensify implementation of, redistributive policies to uplift those who are trapped in poverty. It is worth noting that public expenditure has positive effects in reducing poverty if it is well targeted (Cubero and Holler, 2010).

Research Objectives

The hypotheses of the research are that public expenditure on primary education in Malawi is progressive, improving income distribution for the poorest households; public spending on secondary education is not pro-poor and it hardly improves income distribution; outlays on tertiary education mostly benefits the richest households; and government expenditure on general education is pro-rich and does not improve income equality among household income groups. Hence, the underlying objective of this research was to assess how public expenditure on education assists government to improve income equality. In this vein, specific objectives of this research were to assess how public education expenditure is targeted to the various segments of the population, and examine and assess its effects on income distribution in Malawi.

Scope of Study

The assessment of how public expenditure on education is targeted and its effects on income distribution was done at primary, secondary, tertiary and general education levels in the public sector. Hence, the targeting and the effects of expenditure on education in the private sector are not analysed in this paper. It is the understanding that private spending on education does not directly feed into public policy in this case. Besides, the paper has used data from the Integrated Household Surveys conducted by the National Statistical Office in 1998, 2005 and 2011; and other sources from government agencies, which do not have access to the private sector data sets; hence the focus on the public sector only.

Review of the Liteberature and Conceptual Framework

A number of researchers have conducted studies and reported extensively on the effects of public expenditure and how it is targeted across the globe following theories advanced in this area. For example, Asghar and Zahra (2012) assert that the provision of public education creates opportunities for the general public to take part in economic activities in the economy. Public expenditure on social sectors including education can assist governments to increase

income equality and reduce poverty if it is well targeted. In this respect, public expenditure is said to be pro-poor when households in the lowest household income group get more than 20 percent of the benefits. On the other hand, if they get less than 20 percent of benefits relative to national income but more than their initial contribution, the expenditure is progressive (Davoodi et al, 2003). This assists to improve income equality between the rich and poor households. On the other hand, poor targeting can lead to a worsening of the income inequality between the poor and rich households in that the latter benefit more from public expenditure. This may be reflected by allocating more public expenditure to the tertiary education such that the poorest 20 percent get benefits which are less than their initial income while the richest 20 percent of the households capture most of the benefits (Davoodi et al, 2003, Krongkaew, 1979 and Selowsky, 1979). In this case, public expenditure is pro-rich in nature.

The theory proclaims that the poorest households benefit most at the primary education level and secondary education sub-sector to some extent, although the latter is captured by households in the middle household income group too. Spending on tertiary education benefits the rich, mostly because children from poor households rarely attain university education (Buracom, 2011 and Krongkaew, 1979). International Food Policy Research Institute (IFPRI) (2003) adds to this by stating that children from poor households drop out from school and they also hardly pass the university entrance examinations.

Empirically, a number of studies agree with the theory. Chu et al. (2000) found that public expenditure on education in Asia and America is targeted well while in Sub-Saharan Africa, Middle East and Transitional Economies it is poorly done. Sahn and Younger (2000) also found that social services in Africa are poorly targeted, mostly benefiting the rich households more than the poor households. Buracom (2011) and Krongkaew (1979) found that public spending on primary education benefited the poorest households comprising 20 percent of the population in Thailand. This was also observed in other countries in South East Asia. For example, Harmer et el. (1995) and Meerman (1979) found

that public expenditure on primary education in Malaysia was progressive and pro-poor. Manasan et al. (2007) found that public spending at primary and secondary education levels was progressive in the Philippines. However, they found that public spending favoured the rich households at technical and vocational college levels. In South Asia, the findings are virtually the same. Asghar and Zahra (2012) and Hakro and Akram (2007) found that at primary education level, public spending on education is progressive, benefiting the poor household families whereas spending on secondary and tertiary education levels was pro-rich in nature in Pakistan. In Bangladesh, Glanskaya (2005) found that government spending in total was not pro-poor; but it was pro-poor at primary education level.

In Africa, the findings also support the declaration that public spending on primary education benefits the poorest households. For example, IFPRI (2003) found that public spending on primary education in Mozambique was progressive for poor households while public spending on secondary and tertiary education was regressive. Sahn and Younger (2000) found that public spending on primary education was "absolutely progressive" in South Africa. However, expenditure on secondary and tertiary education sub-sectors was regressive. In Ghana, Adamtey (2009) found the same results. Amakom and Ogujiuba (2010) distinctly found that public spending on primary education was progressive, particularly for both males and females, while public spending on secondary education favoured females and that on tertiary education was regressive in Nigeria.

Therefore, targeting of public expenditure to poor households and shuffling of the budget are necessary tenets to ensure that the right amount of benefits goes to the right beneficiaries in order to improve income distribution in the economy. IFPRI (2003) states that this can be achieved by expanding school opportunities for children from poor households.

Research Methods

Data collection was conducted from August to October, 2012. Data on actual public expenditure on education were gathered from the Department of Accountant General in the Ministry of Finance, Malawi. In this vein, the Consolidated Annual Appropriation Accounts and Other Public Accounts for Financial Years 1999 to 2010, and the Appropriation Accounts Revenue Statements and Other Public Accounts for Financial Years 1979 to 1988 published by the Ministry of Finance, Malawi were the main sources of the data. The economic and demographic data were provided by the National Statistical Office, Malawi based on Integrated Household Surveys which were conducted in 1998, 2005 and 2011.

In addition, some interviews were conducted in the Ministry of Finance and the Ministry of Education, Science and Technology of Malawi in order to understand how financial resources are allocated to the education sector. Group interviews were undertaken in the Ministry of Finance where the Budget Director and the Deputy Budget Director as well as the Assistant Budget Director and the Desk Officer on Education were in attendance. However, individual interviews were conducted in the Ministry of Education, Science and Technology. In this particular case, officials were interviewed in their respective offices. Interviewees included the Director of Basic Education, Chief Education Officer (Secondary Education), Head of Budget Section in the Ministry and officials in three education division offices, namely, the Northern Education Division, the Central West Education Division and the South West Education Division.

The Benefit Incidence Analysis (BIA) method was used in analysing the distributive effects of public expenditure on education based on its advantages, which are in line with the requirements of this paper. Among others, the method gives an approximation of the share of benefits that the households get (Yaqub, 1999); assists in targeting budget allocations; plays a pivotal role in evaluating budget expenditures; and helps authorities relocate the budget to underprivileged households in order to improve income distribution (Selden and Wesylenko, 1995).

Based on five household income groups established by the Integrated Household Surveys of Malawi in 1998, 2005 and 2011, the income (Y) per year for each household income group and region was calculated by multiplying the average per capita expenditure per year (PCE) by the number of households (HH) and average number of persons per household (PPH) in each household income group and region before considering the distributive effects of public expenditure on income distribution.

$$Y = PCE \times HH \times PPH \qquad (1)$$

On the other hand, the proportions of students in each household income group and region, that is, ratios of students in each household group (s) to the total number of students (S) in Malawi, were used to allocate public expenditure on education and its subsidiaries to the respective household income groups and regions.

The targeting of public expenditure on education was assessed by computing the proportions of the benefits for each household income group and region to total expenditure on education. The proportions assisted in the assessment of how much each household income group or region got relative to total expenditure on education, in order to see if the targeting of public expenditure on education was done in support of the poor or not. In this respect, household income groups or regions which got high proportions of the total budget were favourably targeted.

It is argued that it is difficult to get actual benefits that individuals or households get from government services. In view of this, BIA assumes that the cost of providing these services (public expenditure) is equal to the benefits accruing to the beneficiaries (Davoodi et al, 2003). In this respect, the benefit (B) per household is the product of proportion of students per household and public expenditure on education (GE) at each education level.

$$B = s/S(GE) \qquad (2)$$

Hence, in assessing the distributive effects of public expenditure policy, public expenditure per household income group was added to a group's own income in order to come up with total income (TY) after the implementation of public expenditure programmes on education.

$$TY = Y + B \quad (3)$$

The new national income was computed by summing up the total household income in all five household income groups. Subsequently, a new set of income proportions per household income group was also computed by taking ratios of the cumulative income levels per household income group to the new national income.

Comparisons of proportions of income of households to the national income before and after public expenditure on education in each household income group, in order to assess whether income distribution among households improved or not. It should be acknowledged here that original (pre-expenditure) income proportions were provided by the National Statistical Office of Malawi. In this view, if the proportions after public expenditures were higher than those before public spending, this means expenditure improved income equality, and vice versa. In addition, Gini coefficients were calculated at each level of education to confirm the results generated from comparisons of the household income shares to the national income before and after expenditure. Naturally, when the proportions of income of the poor households to national income increase, the corresponding Gini coefficients decrease, implying that there is an improvement in income distribution and vice versa. In this respect, the Gini coefficients were computed using the following model:

$$\text{Gini coefficient} = 1 + 1/N\text{-}2(Nx1+ (N-1)\, x2+\ldots+2n\text{-}1+xn)/NX \quad (4)$$

Where N = number of household income groups;
X = proportion of income of all household income groups, that is, 100 percent, and 1, 2...n represent numbers of house income group; and
x = proportion of income of each household income group to the total income.

While the BIA is simple and widely used in planning and evaluating public programs (Yaqub, 1999), a number of criticisms have been levelled against it. In this paper, the concerns raised are appreciated and the BIA is used with full knowledge of its weaknesses, which are as follows:

1) The BIA has a weak conceptual framework that does not reflect the behavior of either the government or households/individuals in allocating the benefits and enjoying them;

2) It is also argued that it is difficult to compute actual benefits that individuals or households receive from government services. In view of this, the BIA assumes that the cost of providing these services (public expenditure) is equal to the benefits accruing to the beneficiaries;

3) It is also difficult to factor in all of the budgetary costs for providing government services, meaning that even the estimated benefits to the beneficiaries are understated. This may be a valid point even in this study. The education sector in Malawi has many players whose expenditure may be difficult to capture in full;

4) All computations are confined to a particular year and it is not possible to estimate benefits in a continuum from one year to the other. If that is to be done, the whole process is to be repeated for the years of reference. It is, therefore, a repetitive and tedious approach; and

5) The BIA hardly reflects the changes in the quality of the services or tastes of the beneficiaries because there is use of aggregates and averages, assuming that all beneficiaries enjoy government services equally (Davoodi et al., 2003).

Empirical Results and Discussion

Expenditure Incidence by Household Income Groups and Regions

In 1998, households in the lowest household income group received the highest proportion of benefits from government programmes, which amounted to 27.31 percent of total expenditure on education. If the first three household income groups are considered together, the households in these groups received 65.12 percent of total benefits. Households in the high and highest household income groups received only 13.23 percent and 21.11 percent, respectively. In the primary education sub-sector, households in the lowest household income group had access to 31.57 percent while those in the highest household income group received 12.37 percent. However, households in the three middle household income groups received 55.31 percent of total benefits in 1998. On the other hand, households in the lowest and high household income groups got almost the same levels of benefits from government spending on secondary education, namely, 16.34 percent and 15.28 percent, respectively, while households in the highest household income category received the lion's share, amounting to 30.95 percent. At tertiary education level, the richest households amassed over 50.00 percent of the benefits while those in the lowest household income group got 16.86 percent.

The expenditure policy favoured rich households in 2005. In this respect, households in the highest household income group got 49.41 percent of the total benefits as opposed to 10.52 percent for households in the lowest household income group. In total, households in the last two household income groups enjoyed 64.47 percent, leaving only 35.53 percent for those in the first three household income groups. The percentage of benefits going to the poorest households was 19.77 percent at primary education level, and the three household income groups in the middle captured 61.91 percent in 2005. At secondary education level, the richest households claimed 48.06 percent whereas the households in the first three household income groups together got only 28.90 percent and the poorest households received only 6.03 percent.

At tertiary level, the richest households received virtually all the benefits from public expenditures on education.

Table 1. Proportion of Public Expenditure on Education per Household Income Group to Total Public Expenditure for all Income Groups (MK'000)*

	Lowest Household Income Group	Low Household Income Group	Middle Household Income Group	High Household Income Group	Highest Household Income Group
Integrated Household Survey 1998					
Primary					
Education	527,542.84	408,686.68	309,145.89	206,529.16	206,731.49
Percentage	31.57	24.45	18.50	12.36	12.37
Secondary					
Education	43,827.44	51,853.53	48,521.87	40,993.85	83,026.41
Percentage	16.34	19.33	18.09	15.28	30.95
Tertiary					
Education	67,458.98	18,625.75	47,804.33	61,997.89	204,144.55
Percentage	16.86	4.66	11.95	15.50	51.03
Total					
Education	638,829.26	479,165.96	405,473.00	309,520.90	493,902.45
Total					
Percentage	27.31	20.48	17.33	13.23	21.11
Integrated Household Survey 2005					
Primary					
Education	1,216,472.87	1,276,859.24	1,280,339.32	1,252,473.00	1,127,690.41
Percentage	19.77	20.75	20.81	20.35	18.33
Secondary					
Education	108,789.52	165,223.66	247,282.85	415,326.75	866,804.74
Percentage	6.03	9.16	13.71	23.03	48.06
Tertiary					
Education	-	26,007.58	153,545.90	229,366.62	4,227,808.93
Percentage	-	0.56	3.31	4.95	91.18
Total					
Education	1,325,262.39	1,468,090.48	1,681,168.07	1,897,166.38	6,222,304.08
Total					
Percentage	10.52	11.66	13.35	15.06	49.41

Integrated Household Survey 2011					
Primary					
Education	5,199,456.09	5,042,081.68	5,145,049.89	4,719,059.23	4,038,549.89
Percentage	21.54	20.88	21.31	19.55	16.73
Secondary					
Education	470,768.01	824,637.64	1,268,571.93	1,704,200.55	3,316,200.12
Percentage	6.21	10.87	16.73	22.47	43.72
Tertiary					
Education	166,925.32	-	568,032.28	384,495.46	10,269,958.71
Percentage	1.47	-	4.99	3.38	90.17
Total					
Education	5,837,149.41	5,866,719.23	6,981,654.10	6,807,755.23	17,624,708.72
Total					
Percentage	13.54	13.61	16.19	15.79	40.88

Note: * Means in thousands Malawi Kwacha, the local currency.
- Means no allocation made because there were no students recorded in this group

The allocation of benefits to households in 2011 virtually took the same pattern as in 2005. The richest households got 40.88 percent, a bit less than what their share was in 2005. On the other hand, households in the lowest household income group received 13.54 percent, which was slightly more than what they got in 2005. Households in the first three household income groups had 43.34 percent of total expenditure on education. At primary education level, households in the lowest household income groups accessed 21.54 percent and the richest households claimed 16.73 percent of the benefits. However, those in the three middle household income groups captured benefits amounting to 61.74 percent. The targeting of benefits at both secondary and tertiary education levels was also poor in 2011. Households in the lowest household income group received 6.21 percent of benefits while households in the high and highest household income groups together got 66.19 percent of the benefits at secondary education level. Disappointingly, the richest households got 90.17 percent of the benefits at tertiary education level, leaving very little for those in other household income groups.

Table 2. Proportion of the Public Expenditure on Education per Region to Total Public Expenditure (MK'000)

	Total Expenditure	Northern Region	Central Region	Southern Region
Integrated Household Survey 1998				
Primary				
Education	1,685,445.91	199,959.07	690,065.43	795,421.41
Percentage	100.00	11.86	40.94	47.19
Secondary				
Education	254,279.41	35,180.81	94,367.48	124,731.12
Percentage	100.00	13.84	37.11	49.05
Tertiary				
Education	399,792.71	7,962.11	74,849.08	316,981.52
Percentage	100.00	1.99	18.72	79.29
Total				
Education	2,339,518.04	243,101.99	859,281.10	1,237,134.05
Total				
percentage	100.00	10.39	36.73	52.88
Integrated Household Survey 2005				
Primary Education	6,153,834.84	804,027.78	2,706,112.50	2,643,694.57
Percentage	100.00	13.07	43.97	42.96
Secondary Education	1,803,427.52	250,654.10	725,466.71	827,308.34
Percentage	100.00	13.90	40.23	45.87
Tertiary Education	4,636,729.03	279,358.31	2,404,481.15	1,952,830.06
Percentage	100.00	6.02	51.86	42.12
Total Education	12,593,991.40	1,334,040.19	5,836,060.36	5,423,832.97
Total Percentage	100.00	10.59	46.34	43.07
Integrated Household Survey 2011				
Primary Education	24,144,196.78	3,550,702.72	10,364,319.50	10,229,174.56
Percentage	100.00	14.71	42.93	42.37
Secondary Education	7,584,398.21	1,533,375.19	3,022,566.56	3,028,456.43
Percentage	100.00	20.22	39.85	39.93
Tertiary Education	11,389,411.76	1,461,812.02	4,363,557.49	5,564,042.25
Percentage	100.00	12.83	38.31	48.85
Total Education	43,118,006.75	6,545,889.93	17,750,443.58	18,821,673.24
Total Percentage	100.00	15.18	41.17	43.65

Looking at the targeting of educational funds to the three administrative regions is also interesting. The Southern Region got 52.88 percent while the Central Region received 36.73 percent of total benefits in 1998. On the other hand, the Northern Region got the least shares. At primary education level, the same pattern emerged because the Northern Region got 11.86 percent of the benefits whereas the Central Region had access to 40.94 percent. At secondary education level, the Southern Region maintained its hold on the lion's share followed by the Central Region. However, the targeting of benefits to the regions was poorly done at tertiary education level because the Southern Region claimed 79.29 percent while the Central Region got only 18.72 percent, leaving only a very small proportion for the Northern Region.

In 2005, the two regions swapped position, with the Central Region receiving the highest share of benefits at the general education level. The Central Region also received a relatively higher share of public funds at the primary education level than did the Southern Region. This pushed the Central Region's share of education benefits to 46.34 percent, while the Southern Region received 43.07 percent of the total benefits. At all levels of education, the Northern Region in 2005 received the least proportions of benefits relative to total public expenditure on education. The position in 2011 mirrored that of 1998 as seen in the table above. The Northern Region continued to receive the least shares while the Southern Region received the largest proportion at the education sector level. This same pattern appeared at secondary and tertiary education levels. However, the Central Region got the highest share at the primary education sub-sector, while the Northern Region and Southern Region got 14.71 percent and 42.37 percent, respectively.

Post-Benefit Income Distributive Effects

The contributions of household income to the national income varied across the household income groups at all levels of education in 1998. At general education level, income proportions for households in the lowest and low income groups increased from 4.50 percent and 10.10 percent to 10.19 percent and 13.80

percent, respectively. On the other hand, the income contributions for households in the middle, high and highest income groups decreased. In support of this, Gini coefficients reduced from 0.4040 before public expenditure on education to 0.3089 after implementation of public education programmes. Similarly, the proportions of income of households in the lowest and low household income groups to national income improved a lot at primary, secondary and tertiary education levels. On the other hand, the contributions of household income in the middle, high and highest income groups went down. The Gini coefficients also declined from 0.4040 before expenditure policy to 0.3096, 0.3206 and 0.3213 at primary, secondary and tertiary education levels, respectively, making 1998 a special year in improving income distribution in Malawi as compared to the following years.

However, policy reversal took precedence in 2005 because the percentages of income of the richest households to national income increased while those of poor households nose-dived at the education sector level, except for the shares of households in the lowest household income group, which marginally increased from 7.00 percent to 7.03 percent. The situation was worse for households in the low, middle and high income groups because their shares decreased after the implementation of public education programmes. However, the richest households benefited a lot because their share increased from 46.70 percent to 47.82 percent. At each education level, a similar picture is portrayed. The contributions of households in the highest household income group improved at primary, secondary and tertiary education levels. Proportions for households in the low, middle and high household income groups declined at all education levels while shares of households in the lowest household income group improved from 7.00 percent to 7.16 percent at primary education level. Gini coefficients also increased at all levels, signifying that the policy in this year was pro-rich.

Lastly, in 2011 expenditure policy took another turn towards supporting poor households. In general, the shares of income of households in the first

three household income groups increased noticeably from 5.60 percent, 9.40 percent and 13.50 percent to 6.00 percent, 9.55 percent and 13.67 percent, respectively. The proportions for households in the high and highest income groups went down after the disbursement of public funds on education. However, shares at primary, secondary and tertiary education levels moved in different directions, with households in the lowest, low and middle income groups gaining at primary education level. The share of the middle household income group also improved at secondary education level while those of the first two household groups declined. At tertiary education level, the proportions of income of households in the first four household income groups decreased while shares for households in the highest household income group rose from 51.50 percent to 52.08 percent.

Table 3. Comparison of Post-Expenditure Income Proportions with Preexpenditure Income Proportions Based on Household Income Groups

	Pre-expenditure Income Proportion	Primary Post-expenditure Income Proportion	Secondary Post-expenditure Income Proportion	Tertiary Post-expenditure Income Proportion	Total Post-expenditure Income Proportion
Integrated Household Survey 1998					
Lowest household income group	4.50	10.14	9.66	9.68	10.19
Low household income group	10.10	13.83	13.60	13.53	13.80
Middle household income group	14.60	11.95	11.82	11.79	11.97
High household income group	21.50	16.68	16.77	16.77	16.67
Highest household income group	49.30	47.41	48.15	48.23	47.37
Total percentage	100.00	100.00	100.00	100.00	100.00
Gini Coefficient	0.4040	0.3096	0.3206	0.3213	0.3089

Integrated Household Survey 2005					
Lowest household income group	7.00	7.16	6.86	6.74	7.03
Low household income group	10.90	10.76	10.52	10.36	10.58
Middle household income group	14.80	14.55	14.40	14.21	14.35
High household income group	20.80	20.47	20.49	20.20	20.22
Highest household income group	46.70	47.07	47.74	48.49	47.82
Total percentage	100.00	100.00	100.00	100.00	100.00
Gini Coefficient	0.3548	0.3581	0.3670	0.3734	0.3649
Integrated Household Survey 2011					
Lowest household income group	5.60	6.07	5.59	5.52	6.00
Low household income group	9.40	9.68	9.34	9.19	9.55
Middle household income group	13.50	13.77	13.56	13.41	13.67
High household income group	20.10	20.04	20.07	19.81	19.82
Highest household income group	51.50	50.45	51.44	52.08	50.95
Total percentage	100.00	100.00	100.00	100.00	100.00
Gini Coefficient	0.4088	0.3965	0.4097	0.4149	0.4006

Discussion

Targeting Public Expenditure on Education

Looking at the benefits in relation to total public expenditure on education, targeting was in favor of households in the lowest household income groups at primary education level in all years in Malawi. This is agreement with the reviewed studies in this paper. This is attributable to the fact that education is free at this level following the adoption of the free primary education policy in Malawi. This alone allows a large proportion of pupils from poor families to attend primary school. At secondary and tertiary education levels, poor households are not the

main beneficiaries. Households in the lowest household income group received the least benefits, whereas the richest households had the highest amount of benefits, partly because there are more children at these levels. This is due to the fact that students at secondary and tertiary education levels are required to pay tuition fees which discriminate against students from poor households.

In terms of targeting at household income group level, it is clear that at primary education level households at the lowest household income group level benefit most and rich households are least targeted. This is in support of the poverty reduction policy to uplift poor households economically. However, it is evident that the targeting of expenditure programmes in the education sector is poorly executed at both secondary and tertiary education levels because the rich and middle income groups benefit more than the poor households.

At regional level, the Southern Region in total got the most benefits from government expenditure programmes on education at all levels of education with the exception of 2005, when most resources were targeted to the Central Region. The Northern Region received the lowest proportion of the total budget in all years. This is due to the fact that allocation of financial resources to the regions depends largely on the number of pupils enrolled at respective levels of education. Hence, differentials in amounts of financial benefits going to different regions reflect the ratios of pupils in those regions. Selden and Welsylenko (1992) state that there is sound targeting if the benefits to households are allocated in proportions to enrolments. Therefore, the allocation of public financial resources to the regions is well targeted as it follows the number of pupils in each region.

Effects of Public Expenditure on Education on Income Distribution

Comparing the pre-expenditure and post-expenditure shares of income to national income is crucial in assessing the effects of public expenditure on education in Malawi. At overall education level, the proportions of household income to the national income for the lowest and low income groups improved in 1998.

On the other hand, the income contributions for households in the middle, high and highest income groups decreased. In this respect, there were improvements in income equality due to the transfer of funds from rich to poor households. Therefore, it is evident that at the general education level, the policy was progressive and it assisted in increasing income equality. This is confirmed by the reduction in the Gini coefficients (Table 3).

Considering the level of income distribution at each education level, particularly at primary education level and for the poorest households in particular, may be interesting too. The proportions of income of households in the lowest and low income groups improved a lot at primary, secondary and tertiary education levels at the expense of the contributions of household income in the middle, high and highest income groups. As was the situation at general education level, public expenditure levels at primary, secondary and tertiary education levels was progressive, closing the income inequality gap between poor and rich households.

The improvement in the income distribution in 1998 is attributable to a number of factors. One of them, as already stated above, is that primary education is free. Besides, it should be noted that this was only four years after the adoption of universal primary education by the government. This led to substantial increases in gross enrolment at primary education level, which prompted the government to spend a lot on education. It is also worth noting that 1998 preceded presidential and parliamentary elections in 1999. To this effect, Mzonde (2013) found that implementation of the universal primary education and holding of general elections are some of the main factors influencing the growth of public expenditure on education in Malawi. Hence, this partly explains why public expenditure was largely progressive in 1998.

The picture in 2005 was very worrisome in a number of ways. Firstly, it is disappointing to note that only households in the lowest household income group had their share to national income improved from 7.00 percent to 7.03

percent and 7.16 percent after public expenditure on general and primary education, respectively, was executed. Otherwise, households in all household income groups had their shares to national income decrease except for contributions by households in the highest household income group, whose shares increased at all education levels. Therefore, public expenditure on education in 2005 was pro-rich, increasing income inequality. This is clearly shown by the fact that Gini coefficients increased after public expenditure was distributed to the households in all household income groups, signifying that income inequality increased too.

This could be explained by the fact that the budget allocation exercise in the 2004/05 financial year followed the general elections in 2004. It is observed that public expenditure patterns in Malawi during this time followed general electoral cycles too, that is, they declined greatly after the general elections in 2004 (Mzonde, 2013). This may be the reason why at this particular time the policy favoured the rich. This is the opposite of what happened in 1998 when expenditure was on the increase prior to general elections in 1999.

Public expenditure policy in 2011 was also equalising in nature because the shares of income of households in the lowest, low and middle income groups increased significantly (Table 3). On the other hand, the shares of income for households in the high and highest income groups decreased after public expenditure on education. Therefore, public expenditure policy was also progressive in 2011. This is also confirmed by decreases in the Gini coefficients after households had received benefits from the government, meaning that public expenditure on education improved income distribution at the general education level.

As already reported under the results section, the shares for households in the lowest, low and middle income groups increased at the primary education level in 2011. Hence, public expenditure was progressive at this education level. The same trend reappeared for households in the middle income class at secondary education level, while proportions of those in the lowest and low house-

hold income groups shrank. At tertiary education level, households in these three household income groups, including those in the high household income group, lost out because their shares declined while contributions by households in the highest household income group increased, meaning that expenditure policy on tertiary education was pro-rich.

As is the case with targeting above, the poorest households benefited a lot at the primary education level due to the fact that they had a lot of pupils in primary schools compared to their counterparts in the other household income groups. However, poor households lost out at secondary and tertiary education levels because, at this level, households are required to pay tuition fees which cut the numbers of students from poor households back leading to low levels of benefits to poor households. On the other hand, rich households benefited a lot at these education levels because of their ability to pay tuition fees and resultant increases in numbers of their children in secondary schools and tertiary institutions.

Conclusion

It is empirically sound to conclude that the targeting of public expenditure in Malawi at macro level favoured poor households based on household income groups. This is mainly true for 1998 and 2011 because public expenditure in 2005 was mostly targeted towards rich households. At primary education level, households in the lowest household income group benefited most due to implementation of the universal primary education, which has led to a substantial increase in the gross enrolment of pupils from 1994 to to-date. However, a different picture is presented at secondary and tertiary education because households in the lowest income groups got the least benefits in most cases and those in the highest household income group benefited a lot. Looking at the effects of public expenditure on education on income distribution across the household income groups, it is also confirmed that expenditure policies in 1998 and 2011 were progressive, with a focus to increase income equality, while in 2005,

it was pro-rich, making income distribution skewed towards rich households. In all years, expenditure policy at primary education level was progressive whereas at secondary and tertiary it was largely pro-rich except for public expenditure in 1998.

The findings call for urgent government policy interventions to improve targeting of resources to poor households at both secondary and tertiary education levels. Therefore, the government should consider making secondary education free in the medium to long term in order to allow as many pupils from poor households as possible to receive secondary education. At tertiary level, government should continue implementing student loan schemes and scholarship programmes for students from poor households. However, there is also a need to improve the targeting of these facilities to avoid abuses by students from rich households.

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