HOW GOVERNMENT SHOULD INVEST & PROVINCES SHOULD IMPLEMENT ON ACCESSIBLE EDUCATION: AN EVAMIX FOCUS ON BENCHMARKING & TRANSPORT

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ABSTRACT

In a post-dispensation South Africa, inherited and perpetuated income, spatial and human capital inequalities have fed into the accessibility of education services. Policy responses involve coordinating remedial measures placing access to education at the heart of a nation. Literature intimates that quantitative and qualitative trade-offs are evident in access and mobility to education—especially for public intervention and policy implementation. This paper uses secondary data conceptualise quantitative assessment criteria for evaluating access to education. The novelty of what is reported here is the application of the EVAMIX, a Multi-Criteria Decision technique, to experimentally evaluate, firstly education expenditures of selected countries. Secondly, education expenditures of households at provincial level with a focus on transport realities of provinces in terms of one measure of accessibility. From the experiment it is found that Great Britain's economic commitment to education far outweigh those of selected countries, South Africa only outperforms India, and is succeeded by Brazil. It is also found that provinces perform in conflicting ways in terms of education expenditure and access to first mode of transport by learners. This places emphasis on implementing education economic policies that balance public sector trade-offs at national level, focusing on higher per-capita investment and at the same time being sensitive to unique needs of each province.

1 BACKGROUND: SETTING THE SCENE

1.1 Post-Apartheid Disparities in Education and Access

1.1.1 Redressing Inherited Disparities through Reactive Policy Making

Public policy formulation relies on an overarching context that informs the basis of the agenda set, and guides the manner in which the policy is formulated. The policy agenda in South Africa has largely been informed by responding to inherited disparities between race and income over time and space.

1.1.2 Prominent Disparities in South Africa

Two major disparities are prominent in the post-apartheid South Africa (a) financial disparities and (b) spatial inequalities. South Africa's Gini Coefficient rose from 0.56 in 1995, with urban areas (0.527) more unequal at the time than rural areas (0.493)

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(Hoogeveen & Olzer, 2005) by 2016 it is 0.63 – ranking fourth most unequal society in the world (Chitiga, Sekyere, & Tsoanamatsie, 2014). The inequality trap and education lies in findings that much of inequality is intergenerational in addition to being related to child and parent education (Lam, 1999).

1.1.3 The Perpetual Nature of the Disparities after 1994

Responses to the post-1994 dispensation induced the need to expound public and private financial streams to enable access to quality basic education in order to dismantle the disparity between former Model C schools' and public schools accessed by lower income households (Fiske & Ladd, 2003). Meanwhile, South Africa's formally planned spatial environments were guided by (a) modernism and (b) apartheid as a socio-political policy (Dewar & Todeschini, 2004). The bi-product of which are long travel distances to access central business districts, and low densities (Vanderschuren & Jobanputra, 2005) and is reinforced by the cost of transport in relation to income and expenditure for all income groups exceeding 10% (Venter, 2011). Beyond inheriting spatial inefficiencies between residence and activity (i.e. work, education or leisure), land-use practices in South Africa seem to have perpetuated spatial inequality (Christopher, 1987; Corrado, 2013; StepSA, 2013).

1.1.4 Scholar Mobility as a Sub-Set of Household Mobility

It is evident from the above households tend to located far from desired activities and places of work. Transportation costs are high. Both of which making transportation a burden for the average household's day to day living. Scholar mobility, a subset of the household's mobility, should not endure inherited disparities. Access to education is a recognised human right, emphasising the importance of public intervention in this regard.

1.2 Responses to Access and Mobility Disparities in Education

1.2.1 National Policies & Strategic Responses for Access to Education

Ranging from the South African Constitution (Republic Of South Africa, 1996) to child specific policies, various legislative outputs have been presented in relation to access to education (see (Mashiri, Zukulu, & Buiten, 2005)).

1.2.2 Department of Basic Education

The Department of Basic Education envisions a South Africa "in which all our people will have access to lifelong learning, education and training opportunities, which will, in turn, contribute towards improving the quality of life and building a peaceful, prosperous and democratic South Africa." (Department of Basic Education, 2014).

1.2.3 National Development Plan

The National Development Plan places education as *"the single most important investment any country can make is in its people"* (National Planning Commission, 2012). Animating these policy statements, from a transport perspective is the National Learner Transport Policy, which aims to: *"provide uniform approach norms*

and standards, promote co-ordination and co-operation amongst stakeholders, and provide a framework for monitoring and evaluation of learner transport services." (Government Gazette, 2014)*.*

1.2.4 National Learner Transport Policy

Learner mobility is described as an interrelated effort between various public sector and private sector actors. The policy is fundamentally aimed at improving *"access to education and to ensure that learners reach their schools in healthy and safe conditions in order to enable effective learning"* (DoT, National Learner Trasnport Policy, 2015, p. 10). Simplistically placed, the policy aims to achieve an integrated system of affordable and accessible mobility solutions that are subsidised based on learner needs and are complementary to existing transit and mobility services.

On a national level policies exist that prioritise learner mobility in terms of access to education through mobility solutions. Literature, above, intimates that quantitative and qualitative trade-offs are evident in measuring access and mobility to education—especially for public intervention and policy implementation. However, the monitoring and comparative evaluation of access to education in a quantitative (empirical) fashion is a research gap that this paper grapples with in part.

1.3 Purpose

The broad purpose of this paper is to contribute to the assessment of learner transport policies at provincial and local levels of state, with a focus on basic education. The assumption is that the provision of access to education is a function of government commitment, affordability and physical accessibility in spatial and temporal terms. This paper explores secondary data sources, and presents the key facets of these data sources as inputs to a multi-criteria evaluation at two spheres of government to:

a) compare South Africa's commitment to education with BRICS countries with consistent data at the time of collecting, and two developed countries;
b) reflect the patterns of expenditure on various education and transport costs; and
c) represent physical accessibility to first mode of transport to education in terms of travel time (converted to distance).

1.4 Structure

Section 2 reviews relevant literature on education in South Africa, government intervention and transport. Section 3 presents the research methodology. Section 4 reviews all the secondary data used to estimate results presented in Section 5. Section 6 concludes.

2 LITERATURE REVIEW

2.1 Scholar Mobility Status Quo

Various studies in South Africa have shown that scholar mobility has received very little attention. 14 million scholars were in school in 2014, 22% of which were in Kwa-Zulu Natal and 18% in Gauteng (StatsSA, 2014). Urban scholar mobility has been observed to be inadequately accounted for and exists without the integration of initiatives that improve such mobility and access to education as seen in other countries (Behrens, 2003).

2.2 Learner Preferences and Views on Education

In the *Gender Series Volume 2 on Education 2004-2014* urban learners do not attend schools closest to them because the closest ones are not as good as the current one (Lehohla, 2014, p. 51). Whilst their rural counterparts observed that they do not attend the closes school because of the mismanagement of the school, lack of discipline and safety (ibid). Revealing salient nuances between the two groups: urban learners choose based on a perception of quality, whilst rural learners are arguably prompted to choose based on determinants of quality.

2.3 Scholar Mobility Dynamics in Rural Areas

In rural and peri-urban areas scholar's and household's battles between service delivery, healthcare, child labour rattle against the policies outlined to enable intervention (Mashiri, Zukulu, & Buiten, 2005). An average scholar's mobility map begins with various activities intertwined with the morning routine 'subsisting' a household (Motatsa & Mokwena, 2014). Process of load 'porterage' in rural areas of Ghana, Malawi and South Africa are shown to influence arrival time, attendance, dropping out, and exhaustion (Porter, et al., 2012). The above mentioned factors contribute in part to the uniqueness of the rural mobility trip.

2.4 Spatial & Temporal Aspects of Scholar Mobility

Access to education seems to transcend factors of distance, qualitatively, but empirical evidence suggests that distances from 2km to 6km are suitable for non-motorised travel by scholars (Nelson, Foley, O'Gorman, Monya, & Woods, 2008; Parkin, Ryley, & Jones, 2007). The reality however, is that some scholars still travel more than 15km per day (Motatsa K. , 2013), which is more than four hours assuming a 3.5km/h average walking speed. Various guidelines exist for accessibility of government services and other public amenities outlining suitable household proximities to public service (DPSA, 2011; CSIR, 2012).

2.5 Access to Education

This study adopts the definition of accessibility as: "the extent to which the land-use transport system enables (groups of) individuals or goods to reach activities or destinations by means of a (combination of) transport mode(s)." (van Eck & Geurs, 2001). The notion of accessibility attempts to capture the effect of where learners reside (home), where the school is located, and the manner in which they traverse

between home and school over geography (space) and at some cost (time, fare and distance). Transport demand is derived from the need to leave one location in order to be in another so that some predetermined desire can be fulfilled. Access to this location is simplified by transport services with high levels of service—very frequent, enough capacity and good coverage. However, access to transportation is subject to factors of impedance: (a) physical accessibility (i.e. distance, universal access); (b) behavioural (i.e. attitude and norms); and (c) pecuniary action (i.e. affordability). Some of these factors are qualitative, others quantitative making it necessary for multi-dimensional observations.

2.6 Factors which Influence the Choice of Education Centre

At basic education level, parents select schools on the grounds of (inter alia) (Fiske & Ladd, 2004):

1. **Physical Accessibility:** the proximity of the school to their residence, walking distance, available transport and universal accessibility (i.e. wheel chair access).
2. **Educational Accessibility:** the provision for learning disabilities and special needs (i.e. brail, specialised computing etc.).
3. **Affordability:** their ability and willingness to pay certain school fees, and other programmes related to the school.

Transportation links learners to education facilities through motorised and non-motorised transport. When learners use motorised transport, the services are seldom free. If a household is willing and able to pay for motorised learner transport, then the cost of such services become part of the cost of education. The time and energy learners spend travelling to school can also be considered as a cost because of how it affects their learning, concentration and timeliness at school, this is outlined in 2.1.3.

2.7 Government Intervention

Government intervention is important for correcting market imperfections (Black, Calitz, & Steenkamp, 2008). Intervention in the form of spending takes portions of incomes the citizenry earn and revenue made by firms to fund education. Poterba (1996) reveals that the most common market imperfections that government intervention in education aim to redress include (1) positive and negative externalities from schooling (i.e. crime reduction); (2) correcting the market for parents willingness and ability to invest in education; (3) household capital market constraints (i.e. access to money, loans etc.); and (4) the fixed cost of education production up to a certain number of students per class. With the above in mind, correcting for market inefficiencies seems intuitively correct. However, Basu & Bhattarai (2011) find that in most of the 166 countries they cross analysed with the Uzwana-Lucas model government intervention in education without sufficient infrastructure is not automatically a benefit to society. Within some econometric constraints, public expenditure on education improves growth for in rich countries (high per capita income) (Blankenau, Simpson, & Tomljanovich, 2007). In developing economies, direct investments in education may exclude academically able learners from the system, meanwhile financing basic education below the social optimum (Psacharopoulos, 1986). Furthermore, increases in government expenditure in

education do not necessarily translate in increases in learning incentives—thus various other policy alternatives are possible with significant effects (Hanushek, 2003). Government intervention, in the form of spending is therefore an unclear indicator of growth or development. However, it is reasonable to argue that it serves as an indicator for the extent to which government is 'willing' to invest in education to redress the negative externalities.

2.8 Interventions to Improve Access to Education

The Shova Kalula Programme was aimed to improve school access through providing bicycles to capable scholars, up to grade 10, who walk 3km – 6km to school daily in urban and rural areas (Department of Transport, 2007). The project was aimed at improving the entire bicycle mobility value chain from local manufacturing to community based organisations coordinating the maintenance of the bicycles. The implementation of this project is limited by *"the lack of co-ordinated planning between the Provincial Departments of Education and transport and local authorities"* (DoT, National Transport Master Plan 2050, 2015, pp. 8-19). The advent of Non-Motorised Transport Guidelines that articulate various participatory design processes, and operational issues for implementation may improve the manner in which the project was implemented (Department of Transport, NMT Facility Guidelines: Policy and Legislation, Planning, Design and Operations, 2014).

Urban and rural areas are unique in terms of scholar mobility and access. Qualitative and quantitative aspects of thinking about scholar mobility puts impetus on the need for a decision support techniques for monitoring and evaluating areas with or without government interventions.

3 RESEARCH METHODOLOGY

3.1 Developing Criteria for Multi-Criteria Evaluation Methods

Multi-Criteria Evaluation Methods have been used in transportation to assess different projects based on quantitative and qualitative criteria (Shang, Tjader, & Ding, 2004). The process can be divided into three parts:

Firstly, it involves the selection of different criteria (i.e. travel time, walk time, happiness and cost) for two or more alternatives. Secondly, each criterion is weighted in terms of its importance. Stakeholders such as policy makers, learners, parents and educators can be included in the weighting process through rating/ranking type surveys (see for example Shang, Tjader, & Ding (2004)). This avoids surveyor biases (Graham & van Niekerk, 2014).

Thirdly, each criterion is associated with a positive or a negative impact on the ranking (i.e. long travel time is bad, more happiness is good). The resulting weights inform the dominance of one criterion over another, whilst the actual measure of these criteria animate this dominance.

3.2 EVAMIX Procedure

Various multi-criteria evaluation methods are available and tend to be applied to project evaluation, and decision evaluation. The basis of multi-criteria evaluation can be found in Voogd (1983) and a review of recent models in de Montis et al. (2005). Multi-criteria evaluation is based on using specific criteria to compare different alternatives. This paper applies the EVAMIX method for two interlinked evaluations because of the ease of application, and the ability to add weights of importance to the different criteria per alternative.

Evaluation 1 shows the nature of government intervention between various countries. Where selected countries are “alternatives” and basic education indicators are used as criteria. This is used to determine the best relative performance between countries to identify areas wherein South Africa may need to comparatively improve. Per-capita investment in scholar education is a priority here—it carries more weight.

Evaluation 2 compares provinces in South Africa in terms of education costs, and physical accessibility of education services across provinces. Where provinces are “alternatives”:

a. School related expenditure are the criteria. This is used to assess the relative performance of each province where transport costs are a priority.
b. Travel times to school are used as criteria. This is used to assess the relative performance of each province in terms of travel time wherein the further the distance the greater the negative weight.

4 REVIEW OF USEFUL SECONDARY DATA

4.1 Government Commitment to Education: Expenditure

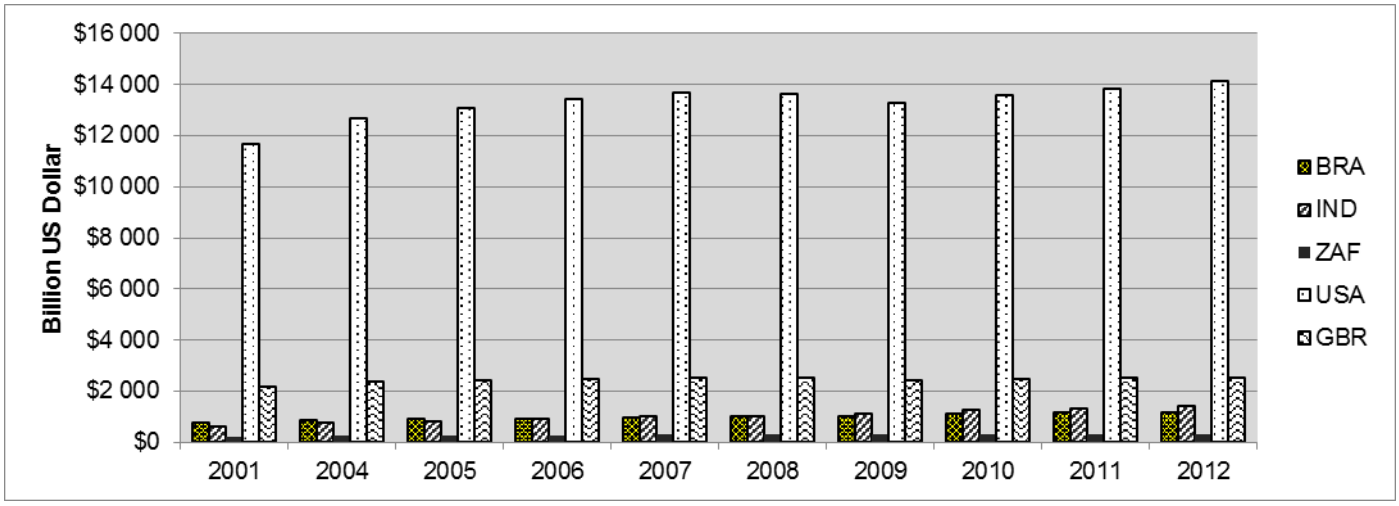


Figure 1: GDP at Market Prices between 2001 and 2012 in 2005 US Dollar (World Bank, 2015)

Sourced from: http://data.worldbank.org/ ; BRA = Brazil; IND = India; ZAF = South Africa; USA = United States; GBR= Great Britain

Figure 1 presents the gross domestic product (GDP) at constant 2005 US Dollar market prices between 2001 and 2012 sourced from the World Bank data portal (World Bank, 2015). Peaking at $14 trillion and $2.5 trillion in 2012 USA and GBR overshadow 3 BRICS member countries' GDP. In order of peak GDP in 2012, Brazil ($1.17 trillion), India ($1.39 trillion) and South Africa ($317 billion) were selected because of reasonable consistency in education indicators the selected period. It is clear however, that there is a vast difference between developed and developing economies in terms of economic size measured in GDP.

Table 1 presents selected education indicators that were reasonably consistent within BRICS member countries and two developed countries. Pupil-teacher ratios are used as quality of education indicators because with more pupils in class per teacher it is assumed that the attention devoted to each student is lowered.

Table 1: Selected Education Indicators Averaged For the 2001-2012 Period (World Bank, 2015)

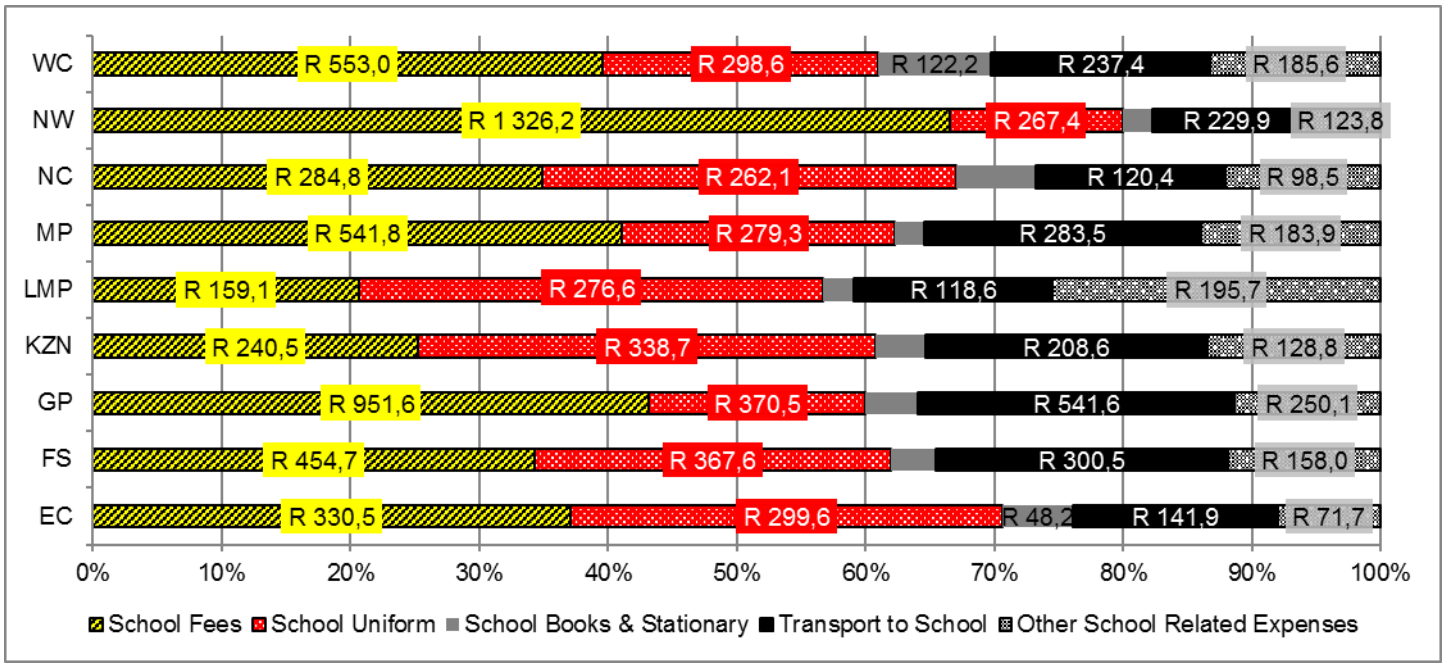
Education Indicator	Country				
	Brazil	India	South Africa	United States	United Kingdom
Pupil-teacher ratio in primary education (headcount basis)	22.00	39.32	33.79	14.24	17.73
Government expenditure per secondary student as % of GDP per capita (%)	17.99%	16.75%	17.82%	23.52%	26.95%
Government expenditure per primary student as % of GDP per capita (%)	16.94%	9.47%	14.64%	20.86%	19.95%
Government expenditure on education as % of GDP (%)	5.04%	3.42%	5.34%	5.33%	5.21%
Expenditure on education as % of total government expenditure (%)	12.89%	12.34%	19.31%	14.55%	13.01%

Meanwhile, teachers with more students reduce the fixed costs of education. India and South Africa have high ratios compared to the remaining three. Developed countries seem to spend more per secondary and primary schools student than almost equal average investments for selected BRICS countries. On average, India seems to be below the trend of government expenditure on education as a percentage of GDP. South Africa seems to be spending more public funds on education than all the countries outlined above. This resonates with South African treasury reporting that education has received the highest share of public spend between 2010 and 2015 (National Treasury, Estimates of National Expenditure, 2010-2015). This paper assumes that this may have negative effects in relation to other trade-offs related to public life outlined in section 2.1.7, and noting the difference between "the financing of and the direct provision of" education discussed in Psacharopoulos' (1986) seminal work. The EVAMIX method is used to draw a clearer relative comparison between the selected countries in terms of the indicators above.

4.2 Expenditure on Education and Transport

A comprehensive discussion on household expenditure and education reveals that transportation costs vary in terms of (a) income groups (quintiles), (b) the type of school (i.e. transport costs can be higher when learners are allocated to no-fee schools that are far), (c) whether the learner is a grant recipient or not, and (d) the education level (i.e. later grades involve higher transport costs). (Branson, Kekana, & Lam, 2013).
Figure 2 summarises basic education costs for scholars in pre-primary to Grade 10 from the National Income Dynamics Study (N.i.D.S) Wave 3 data collected in 2012 which was generally an improvement from Wave 1 and 2 (de Villiers, Brown, Woolard, Daniels, & Leibbrandt, 2013). Grades 0 to 10 were chosen for the purposes of aligning with the Shova Kalula Project. According to this data, average school fees were highest in the North West Province (R 1326) and lowest in Limpopo Province (R 159). School Uniform costs range between R260 (NC) and R370 (GP) but account for between 20% and nearly 35% of the total expenses. Transportation costs range from R 521 (GP) and R 118 (LP).

In five of the nine Provinces transport costs are nearly double the cost of other school related expenses. However the relative performance of each province is unclear in view of transportation costs. School books and stationary are the lowest expense. The EVAMIX method is applied to this end.



+WC = Western Cape; NW = North West; NC = Northern Cape; MP = Mpumalanga; LMP = Limpopo; KZN = Kwa-Zulu Natal; GP = Gauteng; FS = Free State; EC = Eastern Cape.

Figure 2: Education Related Cost Averages for Grade 0 to Grade 10 in 30 days During 2012 (SALDRU, 2013)+

4.3 Provincial and Local Area Thresholds

4.3.1 Walking to First Mode of Transport in Provinces

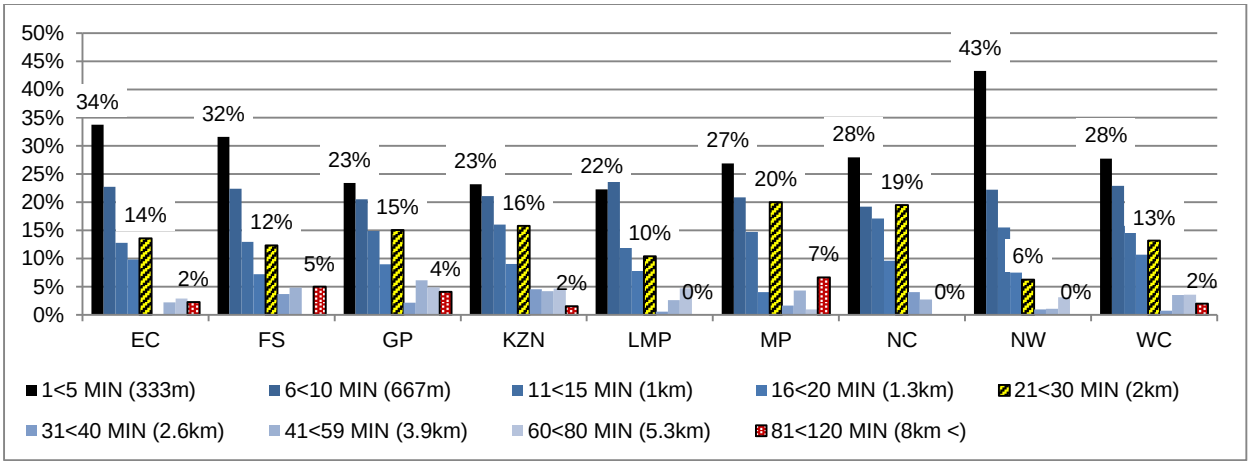
Walking has been the most dominant first mode for an education trip purpose between both 2003 and 2013 National Household Travel Surveys (Statistics South Africa, 2014). In line with this *The NMT Facility Guidelines, 2014* (Vanderschuren, et al., 2014) and *National Learner Transport Policy of 2015* (DoT, 2015) place emphasis on prioritising NMT over private car and complementing public transportation.

Figure 3 shows the how long the NHTS respondents take to walk to their first mode of transport—not to arrive in school per se—by Province between ages 6 and 16. Most learners report that they walk at most 5 min to their first mode to school, peaking at 43% in NW, lowest in LMP at 22%. 20% of scholars in MP and NC say they walk at most 2km in other provinces such distances are only for less than 16% of the population. Furthermore, between 3% (NW) and 9% (GP) of learners reportedly walk beyond 5km to their first mode of transport.

4.3.2 Guidelines of Access to First Mode of Transport by Learners

The White Paper on National Transport policy contends that walking distances of less than 1km are acceptable in urban areas (Department of Transport, White Paper on National Transport Policy, 1996). In accordance with the Neighbourhood Development Programme (NDP) access to transport interchange/stop should at most be within an 800m radius of a user and each mode should be 100m from the other (National Treasury, 2013).

The recommended distance to education facilities in South Africa is 2 < 5km for Grade R (0) learners (CSIR, 2012). For learners in primary and secondary schools in metropolitans and large towns (100 000 to more than 1m people), and for remote villages it is at most 5km and 10km is recommended, respectively (CSIR, 2012). In addition, a synthesis of N.i.D.S Wave 3 data for access to education by grade reveals that across all grades, 74% walk—only Grades 9 and 10 have a walking mode share of 67% and 65% respectively (SALDRU, 2013). More than 75% of all grades in the figure travel at most 2km to an education facility.



+WC = Western Cape; NW = North West; NC = Northern Cape; MP = Mpumalanga; LMP = Limpopo; KZN = Kwa-Zulu Natal; GP = Gauteng; FS = Free State; EC = Eastern Cape.

Figure 3: Walking Time and Distance by Province (assuming walking speed of 4km/h) (Statistics South Africa, 2014)+

Therefore this paper assumes that walking to the first mode is best below 800m and does not exceed 1km. Walking distances beyond 1km are weighted negatively in the EVAMIX method, to reflect the relative lack of performance of provinces with such education access inefficiencies.

5 EVAMIX RESULTS

5.1 Evaluation 1: Country Comparisons

Weights total to 1 and are allocated based on the discussions above. Criteria that are non-beneficial are teacher-pupil ratios and education expenditure as a percentage of government expenditure. Dominating the weight was education expenditure per learner, accounting for 60% of the weighting.

Table 2: EVAMIX Scores for 5 Selected Countries

Rank	Country Code	Score
1ST	GBR	1.3
2ND	US	0.62
3RD	BRA	-0.26
4TH	ZAF	-0.77
5TH	IND	-0.89

Results for the EVAMIX experiment are shown in Table 2. GBR outperforms all countries, with more than double the US score. Developing country scores are well behind developed countries. South Africa outperforms India, and follows far behind Brazil. A good policy mix to learn from, based on this experimental assessment, is from Great Britain—wherein low teacher-pupil ratios and higher per-capita investments are evident. In this case, even when weights are equal, country rankings remained unchanged.

5.2 Evaluation 2: Provincial Comparisons

Three different weighting options are considered: (1) all equal; (2) expenditure and distance criteria weighted to 1; and (3) expenditure and distance criteria weighed separately—each summed to one. For the purposes of: evaluating both affordability and access criteria; aligning with literature above; ease of analysis; and working within space limitations, options (1) and (2) are presented in Table 3.

Considering the evaluation of both expenditure and one measure of access, the results reveal that the Northern Cape is a high performer and Gauteng a relative poor performer both skewed mainly by the low average cost of education in the Province. When weights are equal, the effects of total costs diminish and NW succeeds EC rankings.

Table 3: EVAMIX Scores for 9 Provinces

		Criteria Group		
Rank based on both Expenditure & Access	Provincial Code	Education Expenditure and Access	Education Expenditure (75% weight)	Travel Time to 1st Mode (25% weight)
1st	NC	1.32	1.26	0.05
2nd	EC (*3rd)	1.20	1.01	0.18
3rd	LMP (*4th)	0.95	0.85	0.10
4th	NW (*2nd)	0.84	0.62	0.23
5th	MP	0.21	0.18	0.01
6th	KZN (*7th)	-0.16	0.18	-0.40
7th	FS (*6th)	-0.60	-0.71	0.10
8th	WC	-0.70	-0.77	0.05
9th	GP	-2.88	-2.61	-0.33

* Is for the ranking when weights are equal for all criteria.

From an expenditure point of view, Mpumalanga appears to offer the least access to first mode to education, followed by GP. The greatest access to first mode offering is NW, followed by EC, largely influenced by the large share of the first 600m group presented in
Figure 3.

6 CONCLUSION

This paper presents an experimental application of the EVAMIX method to assess South Africa's position on education relative to other countries, and evaluate domestic provinces' relative performance in terms of education expenditure and one measure of accessibility. The novelty of what is reported here is the application of the EVAMIX to experimentally evaluate economic commitment to education; and education and transport realities of provinces in terms of education expenditure and one measure of accessibility.

From the experiment it is found that Great Britain's economic policies far outweigh those of the United States. Between developing countries South Africa may learn much from Brazil—especially in terms of per capita investment in education. In the international landscape more critical evaluations of economic policies surrounding education provision and government participation in that regard are required—especially those that transcend policy borrowing (OECD, 2008, p. 175).

It is also found that provinces perform in conflicting ways in terms of education expenditure and access to first mode of transport by learners. Viewed holistically, very affordable provinces (Eastern Cape, Limpopo and North West) are also hosts of ease of access to education partly due to lower transport costs. However, the Northern Cape as the relatively most affordable province is ranked as low as the Western Cape in terms of access to first mode of transport. This places emphasis on implementing education economic policies that balance public sector trade-offs at national level, at the same time being sensitive to unique needs of each province.

6.1 Limitations

The limitations of this study are numerous. For instance, the use of percentage indicators can be misleading; however absolute numbers would skew the EVAMIX process toward the highest number and not account for the relative nature of each indicator for countries and provinces. Longitudinal data was not observed for education expenditure due to data processing limitations for Wave 1 and 2. National Household Travel Survey (NHTS) is only suitable for national inferences (Statstics South Africa, 2014). Using it for provincial analysis is appropriate, but more detailed (and local) evaluations of accessibility are possible, however not explored here. This study also does not account for parents' propensity to select schools outside of their neighbourhood: beyond 5km. A comparative evaluation by grade per province was not performed. This would have yielded even more robust provincial comparisons. It must be noted that the results are based on what scholars reported in the NHTS, and these scores only emphasise the need for more detailed multi-dimensional analyses.

6.2 Acknowledgements

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