

School Funding Formulae: Designed to Create a Learning Society?

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The right to education depends upon a willingness to finance education fairly. Addressing the difference in educational achievement between learners of different backgrounds is a key aspect of fairness. Framed by contemporary neoliberal policies around marketisation and competitiveness, this paper examines fairness in the education finance policy (EFP) of three jurisdictions in England, Israel and Oklahoma. Using a comparative analysis of school funding formulae and an international survey on the perceptions of local policy actors, the *de-jure* and the *de-facto* EFPs are examined. Our findings reveal *de-jure* policies attempting to address fairness through integrating different student background characteristics. However, variability is evident in the extent to which the *de-facto* policies align with an aspiration for fairness. This is linked to the marketisation of education in each jurisdiction. We conclude that weightings of students' background characteristics can only be one feature in policy interventions orientated towards bringing about social equity.

Keywords: Education Finance Policy, Funding Formula, Fairness, Equity.

1. Introduction

Education is acknowledged as a right. An equitable education finance policy (EFP) and the willingness to finance education fairly is a key aspect of advancing this right. Over the last three decades, neoliberal policy assumptions with the status of orthodoxy (Davies 2014, Peck 2010) have had a powerful influence on economic policy internationally and, as an aspect of that, on education finance policy (EFP). Rizvi and Lingard (2010) characterise this influence in the following terms:

(N)eoliberalism has steered education policy priorities towards.... an emphasis on the skills and dispositions needed for participation in the global knowledge economy, modes of governance that have highlighted the principles of privatisation and choice, and an audit culture that stresses performance contracts and various... regimes of testing and accountability (2010, 197)

From a neoliberal perspective, the market is viewed as beneficial in improving standards and widening choice (Jessop 2001, 18). However, there is evidence from the US, European and also Latin American contexts that markets in education entrench socio-economic division (Gewirtz et al 1995; Demeuse and Baye 2008, 135; CREATE 2011) and are thus in tension with social equity and fairness.

In Brazil, a global level of finance for schooling through income redistribution policies such as *Bolsa Escola* (1995) and *Bolsa familia* (2006) have incentivised poor parents to ensure their children attend and continue to attend school. Leubolt (2014, 15), sees this as a ‘universalist focus’ in education policy which has ‘been increasingly geared towards the poor’. However, in other developing countries, such as India, policy has also been shaped around neoliberal notions of fiscal restraint and the reduction of public expenditure (CGBA 2016, Tilak 2005). According to Klees (2008), the neoliberal consensus has negatively influenced EFP in many (developing and developed) countries, often informed by World Bank policy.

Stiglitz and Greenwald's *Creating a Learning Society* (2014) highlights the importance of governments 'promoting growth through the creation or strengthening of the learning society' (22). This economic perspective eschews a simplistic 'human capital' view that education should be focused on employers' labour market interests. Instead, it attempts to connect learning to economic development, social progress and a country's overall well-being. This perspective can be seen as emerging from a crisis in thinking on the relationship between education and economy. Stiglitz and Greenwald take a position that the role of education is to contribute to a narrowing of economic inequality *within* nations and that fairness (Rawls 2001, 42-3) is a precursor to economic performance internationally. This echoes recent publications by the Organisation for Economic Co-operation and Development (OECD) that see social and economic inequality within nations as detrimental to their economic development:

A main transmission mechanism between inequality and growth is Human Capital Investment. While there is always a gap in education outcomes across individuals with different socioeconomic backgrounds, the gap widens in high inequality countries.... This implies large amounts of wasted potential and lower social mobility. (OECD 2015a, 15)

A comparison of EFPs in different jurisdictions provides an insight into governmental perceptions about the educational achievement distribution (EAD) of children from different backgrounds. Since the millennium, needs-based approaches to formula funding have become more prevalent (Ross and Levacic 1999). These approaches aspire to achieve fairness based on equity i.e. through the allocation of larger resources to students with low starting points, rather than on simple equality i.e. uniform funding – regardless of students' starting points (Owings and Kaplan 2013, 172). In addition, by setting explicit criteria for allocation (elements and their assigned weights), such funding formulae seek allocative transparency (Levačić & Vignoles, 2002; Berne & Stiefel, 1999).

This paper develops a comparative analysis of the use of needs-based funding formulae as used in the three authors' very different and geographically distant jurisdictions. A needs-based funding formula was introduced in Israeli in 2001 (Shoshani, 2001). This formula was not related to family income directly, but did take account of parental education as a proxy. In the UK, a needs-based funding formula was initiated in 2006/7 after the establishment of the National Pupil Database provided information on students' eligibility for free school meals (FSM) based on household incomes. The needs-based component of school funding in Oklahoma, in place since the 1980s, consists of two factors: Foundation Aid and Incentive Aid. In 1981, weightings were added to account for differences in the costs of educating children with different characteristics (McKean, 2013).

Needs-based funding formulae acknowledge both that students are differently situated and that they are unique persons and should therefore receive funding according to their varying needs. That said, while these needs-based formula appear to demonstrate a common commitment to improving the EAD, there is a range of perceptions in existing literature as to the extent of the effectiveness in each of the three educational contexts in our sample (see Lupton and Thomson, 2015 - England; BenDavid-Hadar, 2014a – Israel; Augenblick and McGuire 1983, and Augenblick, Myers and Anderson, 1997 - Oklahoma).

The structure of this paper is as follows: Section 2 introduces the international reader to the background of each context; Section 3 outlines the method of analysis; Section 4 and Section 5 report on data from an international comparative survey developed for this study to analyse the perceptions of local policy actors on the extent of fairness of the formulae in their implementation. Section 6 develops a comparative analysis of the education funding formulae, and Section 7 discusses the policy implications of this work.

2. Background

2.1 West Midlands Region, England

The West Midlands is an industrial region comprising a mix of county, unitary authorities and metropolitan districts. With an overall population of almost 5.5 million (Medland 2011, 4), it includes the local authorities (LAs) of Birmingham, Worcester, North Warwickshire, Wolverhampton and Dudley. The West Midlands has a population from a wide spectrum of socioeconomic and ethnic backgrounds. 23% of children are seen as living in poverty (Hirsch and Valadez 2014, 22). Against a national benchmark of educational achievement at 16, in 2007/08 the West Midlands was ranked the fourth lowest of the English regions at 64.1% (Medland 2011, 17). The schools in the region are overseen by LAs: a tier of local government.

The education system in England is experiencing ongoing policy interventions orientated towards increased marketisation. At primary and secondary levels, this has involved a programme of ‘academisation’ by which schools have been offered financial incentives to become centrally-funded ‘academies’ (akin to Charter School status in the US). In addition, the policy of establishing free schools, which are also outside the purview of LAs, further adds to the centralisation of school funding policy.

EAD stands out as an important focus in English educational policy (Wilson 2014) with successive governments targeting the so-called ‘achievement gap’ (Pickett and Vanderbloemen 2015). Despite this, government figures for 2013 show that 37.9% of pupils who qualified for free school meals (FSM) got 5 GCSEs, including English and mathematics at A* to C, compared with 64.6% of non FSM pupils.

2.2 Israel

Israel’s population is highly diverse. About six of its eight million residents are Jews, most of them immigrants from Western and Central Europe, North Africa and other Middle Eastern countries. The rest of the population is comprised of ethnic minorities. The state of Israel is comprised of some 250 LAs. Yet, education and education finance is mostly centralised.

The Israeli school system is primarily public and comprises primary, lower secondary (middle) and upper secondary (high) schools. Pluralism is a central feature of the system (Azulay *at el* 2013; Iram and Schmida, 1998). The public education system, comprises schools using Hebrew or Arabic as the medium of instruction. In addition, there are independent Ultra-Orthodox Jewish religious schools, which receive financial support from the State.

The EAD of Israeli students is characterized by an average level of achievement and a wide achievement gap compared with the OECD average. Moreover, the achievement gap between the high and low achievers in Israel is large when compared with other countries in the OECD, as evidenced in the 2006, 2009, and 2012 PISA tests. One way to measure the achievement gap is by using the 95:5 ratio – that is the ratio between the achievement of the top performing students and the lowest performing students. In Israel this ratio is 2.3 compared with 1.9, and 1.7, in the UK, and the US, respectively.

2.3 Oklahoma

In the United States, each state is separately responsible for its own education system. In Oklahoma, districts receive an average of 30% of their funding from the federal government through Title money (federal grants). In addition, each district provides funding from sources within the state in the form of foundation aid. Oklahoma has 525 school districts, and each district collects and reports data, calculates weights for student enrolment and makes reports to both the state and the federal government to secure funding.

Oklahoma's population is diverse. Of the 688,000 students, 51.70% are white, 9.2% are black, 15% are Hispanic, 15% are Native American, and 7% are Asian, or of other backgrounds. The rate of poverty is 15.6%, higher than the 12.6% US average. The school system is mostly public. Pre-Kindergarten to 5th grade is elementary school; 6th – 8th grade is middle school, and 9th – 12th grade is high school. Since 1957, all US schools are integrated

and have English Language Learner (ELL) programs. They receive federal and state funds based on the qualifying amount of ‘free and reduced lunch’ participants.

Data on EAD are gathered. The Office of Educational Quality and Accountability (CEQA 2015) identifies achievement gaps by ‘race’¹, but not by income levels. The achievement gap is as wide as 35% with students in the Asian category achieving at the highest levels and African Americans achieving the lowest.

3. Method

3.1 Research Questions

The foci of this paper are (a) an international comparison of school funding; (b) policy actors’ perceptions on equity issues related to funding; and (c) conceptualising a comparative analysis of funding formulae (across jurisdictions). Therefore the research questions are: (a) To what extent are the de-jure school funding formulae designed to advance fairness? (within each jurisdiction); (b) To what extent, if at all, are education funding formulae perceived as advancing fairness de-facto?; and (c) What are the (dis)similarities in funding formulae from a comparative analytical view (between jurisdictions)?

3.2 Method of Analysis

The data drawn on for the study comprised chiefly of official publications on school funding; in the case of Israel, legal rulings (i.e. Supreme Court decisions related to school finance) and OECD statistical comparisons. In addition, replies from the questionnaires were analysed to reveal the perceptions of policy actors regarding the extent of equity in allocation, and regarding the extent of equality of educational opportunity in the EAD.

Our method of analysis utilised the hermeneutic approach introduced by Dryzek (1982) and employed by Schmidt (2006) for policy analysis, with adjustments to the domain of SFP.

¹ We use the term ‘race’ while recognising its limitations as an explanatory tool in some circumstances. Oklahoma’s data as a case in point, only identifies and accounts for six racial categories: White, Black, American Indian, Asian, ‘Two or more races’ (sic) and Hispanic.

In line with this, we analysed equity in funding formulae by listening to the ‘voices’ of actors involved in the process of crafting (Wildavsky, 1979) and implementing (Walker, 2000) funding policy.

3.3 The International Questionnaire

The questionnaire covered a range of themes including: i) respondents’ own experience; ii) demographic and socio-economic information about their jurisdiction; iii) the achievement gap between students in their jurisdiction iv) their views on the political and equitable qualities of local school funding; and v) their views on the potential impact on fairness of EFP in the longer term.

Using a convenience sampling method, the questionnaire was distributed by email to several hundred local authority funding officers, education officers and relevant administrators at median and senior levels. These officers were selected in the light of their relevant responsibilities, experience and knowledge. They were either local officers in charge of the financing of education or were responsible for education policy in their jurisdiction, and therefore able to address equity in the EAD. Reliability was further enhanced using interviews and relevant documents. A total of 31 responses were received (15, 13, and 3, Israel, Oklahoma, and England, respectively); England’s small sample was complemented by in depth interviews with three experienced local authority officers.

4. Analysing School Funding at the Central Level (de-jure policy)

Before comparing differences in educational funding across the three jurisdictions, a comparison of income inequality helps to frame the data. Income inequality in all three jurisdictions is high and increasing. The Gini coefficient of income inequality in the US is highest (0.401) as against Israel (0.377 in 2013) and the UK (0.350) compared with the OECD’s average (0.318) (OECD, 2016). The incremental trend in inequality is evident as the

Gini coefficient has increased from 1985 (0.326) and currently, Israel is located fourth, in term of inequality, after the US, Turkey, and Mexico.

4.1 Overall and Per Student Investment in Education (How Much is Spent?)

The per student annual allocation can be used to compare different schooling systems better than the total investment in education, because some countries have a larger population of young people. In Israel, the per student annual allocation in dollars adjusted for Purchasing Power Parity (PPP) at the OECD average increases along with the level of schooling while the UK and US annual allocations are much more uniform (see Figure 1 and Figure 2 below). Israel allocates lower per student funds (\$4058) than the UK (\$9173) and US (\$9351). At the pre-primary school level, the gap amongst the three contexts was large, at some 58% (Israel), 131% (UK), and 134% (US) of the OECD average (Education at a Glance OECD 2014 Table B1.1b).

FIGURE ONE HERE

Figure 1: Annual Ex on Primary Ed. in \$, ppp 2012

Source: *Education at a Glance OECD 2015b Table B1.1b. & England disaggregated from UK from Chowdry & Sibieta 2011*

Figure 1 presents the comparative allocation per primary aged student. The OECD average is \$8,247. At the primary school level, the gap amongst the three central governments of Israel, England, and Oklahoma in terms of per student expenditure was not as large as the gap among Israel, the UK, and the US in terms of expenditure per student at the pre-primary education level (above). However, there is a similar pattern of expenditure in percentages of the OECD average being invested: 80% of the OECD average in England, 84% in Israel and 93% in Oklahoma.

FIGURE 2 HERE

Figure 2: Annual Ex on Secondary Ed. in \$, ppp 2012

Source: Education at a Glance OECD 2015b Table B1.1b & Chowdry and Sibieta 2011

Figure 2 shows that at the level of secondary education there is a similar pattern. The three jurisdictions allocate lower per student expenditure compared with the OECD average of \$9,518 (60%, 80 %, and 91%, respectively).

4.2 Method of Allocation (How Do we Spend?)

4.2.1 England: Method of Allocation

The key aspects of funding that relate to EAD in the English context are centralised. Schools carry out an annual census on their students and central government then provides the overall funding via LA (4-16) and Education Funding Agency (16-19).

TABLE 1 HERE

Table 1. Formula factors in England (EFA 2015)

Table 1 shows a large range of factors. The first two only are compulsory providing a basic rate for all children and compensating for socio-economic background. The remaining factors are optional. Within the overall allocation for an individual school, LAs have to decide amounts for other factors such as providing for English as an Additional Language students and prior attainment. Rather than there being a prescribed national weighting, the exact amounts are decided by local *fora*. Funding for ethnicity has recently changed. In April 2011, the Ethnic Minority Achievement Grant was abolished. Specialist provision for minority ethnic children is now at local authority discretion.

In terms of disadvantage related to Special Educational Needs (SEN), schools are provided with Additional Support Funding. This forms part of a school's 'notional SEN budget' that is used to fund up to £6,000 worth of special educational provision per pupil.

Outside the core funding presented in Table 1, the main method by which government addresses the relationship between economic background and educational achievement is called the Pupil Premium. This is a per capita amount based on children's eligibility for Free School Meals (FSM). Schools in the West Midlands receive Pupil Premium money according

to how many of their pupils are identified as coming from households that are in receipt of income-based support or with a gross income of £16,190 or less (DWP 2013).

TABLE 2 HERE

Table 2. Categories of disadvantage and Pupil Premium amounts (BCC 2015)

The purpose of the Pupil Premium is identified as ‘raising the attainment of disadvantaged pupils and closing the gap with their peers’ (EFA 2016 np).

4.2.2 Israel: Method of Allocation

In Israel, the central government allocates funding resources to each LA but additional resources are allocated to schools at the local level. There is a strong positive relationship between the extent of local resources allocated and the wealth characteristics of the LA that impacts on the achievement of equity in funding.

In 2010, after litigation in the Supreme Court, a new funding formula was introduced. The new formula is comprised of four elements (instead of the previous seven) and each of the elements was assigned a new weighting. A major deficiency is that the new formula is implemented solely on a minor share (6%) of the budget.

TABLE 3 HERE

Table 3. Israel’s current needs-based funding formula

Table 3 presents the elements and weighting of the current needs-based funding formula. There are possible shortcomings in the formula as it stands. For example, income and education are strongly correlated ($r=0.84$) and therefore should not both be included in the

same formula. Furthermore, the parental education component is assigned a larger weighting than justified by its contribution to the achievement gap (BenDavid-Hadar, 2016). Ideally, this weighting should be split into two variables, the father's and mother's education, since the impact of the mother's education is significantly larger than that of the father (BenDavid-Hadar, 2014b).

Students from developing countries should also be assigned a greater weighting as their needs are much greater than those of newcomers from developed countries. Finally, the definition of periphery (students residing in cities geographically distant from the centre) needs to be revised, as it fails to account for social periphery.

4.2.3 Oklahoma: Method of Allocation

The State of Oklahoma Department of Education oversees funding allocation based on reports submitted each year. Figure 3 below is a template that each district completes to claim its allocation for the year. To increase equitable funding of local schools, the previous state funding formula was replaced by two formulae – one for Foundation Aid and the other for Incentive Aid. In 1981, weights were added to the school funding formula.

FIGURE 3 HERE

Figure 3: Oklahoma: Funding formula return template

The weights were to account for differences in the costs of educating children with different characteristics (Oklahoma Policy Institute, 2013). Distance travelled by pupils is an additional feature. In 1990, specific revenues were earmarked for education reform (McKean 2013). House Bill 1017 established a minimum salary for teachers and tweaked the student weightings in the formula. Since 1991, other formula adjustments have also occurred.

Each school district in Oklahoma uses the formula in Figure 3 to calculate the State Aid to be received. The Foundation Aid Factor changes each year, based on allocations from the state legislature. Eight chargeables (revenues from local taxes e.g. school land revenue and motor vehicle tax) are deducted from the initial calculation and then the additional factors of Transportation Supplement and Salary Incentive Aid are calculated to the final figure a district will receive.

5. Analysing school funding at the local level (de-facto policy)

5.1 England – West Midlands: Findings and Analysis

The West Midlands sample was small, having six participants in all. Three questionnaires were completed and a further three participants were interviewed by telephone. Five of the participants were senior LA funding officers (some having worked in more than one authority in their career); the sixth participant was a headteacher from a local school.

There were different perceptions about the extent of fairness in the different authorities.

Respondents from Worcestershire, North Warwickshire and Herefordshire (three of the rural authorities in the region) regarded their schools as being historically under-funded compared to Birmingham. However, Birmingham participants saw their funding levels as necessary in a city that is high in a table of authorities on an index of multiple deprivation (DCLG 2015, 14).

In general, participants were positive about the extent to which the funding formula was successfully addressing the achievement gap:

Pupil Premium (is successful)... everywhere children - regardless of where they are - getting the same rate of money. (Caroline)

A major amount of the funding is dedicated to equity issues. (Matt)

Ofsted take a very keen interest in Pupil Premium. Schools have to publish... how they deploy it.. the difference it makes to outcomes... As a governor myself, when I met with an inspector last year, at least half an hour of the meeting was about... the difference it's making. (Eddie)

The final comment above illustrates how the model is reliant on the market regulator to ensure that ‘impact’ can be demonstrated. The consistency of school-level implementation of policy as an area of concern also came through strongly from the participants. One commented:

Our biggest problem... is that this funding formula is designed to support those children but when it gets to the schools, it's then *how are they using it?*.... We've got some schools if they had used that money to support the children within that year group they would have got better outcomes for those children. (Matt)

In addition, participants had strong views about the structural equity of funding. Core funding was viewed as more significant than the Pupil Premium element:

Overall Pupil Premium is only £2.5 billion nationally out of a much bigger grant settlement (Caroline).

There were doubts about the ability of Pupil Premium to deliver fairness while the bigger methodology was perceived to be inequitable. At the moment this bigger settlement is historically determined and this has led to the absence of a ‘level playing field’:

The better off authorities (get) proportionately more than authorities like ours. The gap has widened... What a Birmingham child would get under this (existing) scheme is significantly higher than what a child from Worcester would get. (Caroline)

Participants acknowledged a link between the funding formula and student achievement but also saw other ‘important issues’ at play. All participants believed that some children’s needs were not being met. Furthermore, there was an acknowledgement that specific data about some children’s achievement may be difficult to access and / or quantify:

The funding formula may not necessarily reach all intended pupils – as proxy measures are used (Amir)

We are allowed a funding driver for EAL; we are allowed a funding driver for Low Prior Attainment; but there's no distinction that says girls do much better than boys, so do we need a funding driver for boys? Or do we need a funding driver for white working class background? Because again, socio-economically they might be more deprived. (Matt)

This underlines how local contexts have equity issues that are distinctive and context-specific. In Birmingham, for example, obstacles to achieving fairness in the future were linked to demographic trends:

There has been... an increased birth rate... and net migration into the city. This has produced several factors: not enough school places available... an increase in pupils requiring support for additional educational needs... and not enough qualified quality teachers available to support provision. (Amir)

The tight control of core funding by government was a recurrent theme in the data.

Participants supported the use of Pupil Premium as an additional element but viewed it only as a 'starting point'. Lupton and Thomson (2015) have concluded there is a need to address the social and economic conditions out of which unequal educational attainment arises rather than simply focusing on the performance of schools attempting to close the attainment gap. In that context, a funding formula that addresses unequal EAD can be viewed as *post hoc*.

There was a perception amongst more than one participant that the devolution of budgetary spending power to individual schools inevitably resulted in inconsistent prioritisation of need:

You are down to individual head teachers taking the best decisions they can.... decisions about whether they support children with SEN and vulnerable children compared to children who need free school meals. (Matt)

This confirms a tension between a marketised structure that devolves budgets to schools and notions of equity.

5.2 Israel: Findings and Analysis

The questionnaires were distributed to twenty LAs. Most of the respondents held a position at the level of Education Department Head within the LA, being either ex-headteachers or having held senior posts in education for more than a decade. Most participants perceived the method of allocation as important in affecting the EAD but wanted more transparency regarding funding formula elements and weightings. Most participants saw a clear link between funding and achievement levels:

I think funding distribution is important... only through correcting the funding distribution we can improve the performance distribution. (Increasing the [level of] achievement and reducing the [achievement] gaps. (Representative of Locality A)

In addition, deficiencies were noted in the current funding mechanism:

Strong authorities and parents with high economic backgrounds can contribute to the success of their children. (Representative of Locality B)

The method [of allocation] must be changed. (Representative of Locality A)

It is important ...especially for the poor [person]... that can't add his or her own money. (Representative of Locality C)

Very important to fund groups who cannot afford to educate their children... in order to narrow the gaps. (Representative of Locality D)

In our city, 70 % of the students are taking private lessons...only relatively wealthier parents can afford it, and it increases the socioeconomic disparities in underserved populations classroom... teacher cannot fix it alone. (Representative of Locality E)

Most respondents questioned the fairness of the funding formula:

Existing formula is not fair enough. (Representative of Locality D)

Inequality is due to additional elements not related to the direct responsibility of the Ministry of Education. (Representative of Locality B)

Other elements greatly affect performance. (Representative of Locality E)

LAs should be compensated for students in poverty. (Representative of Locality C)

The exact answer is quite unfair... In my opinion (funding) should weigh the percent of parents' investment (in private lessons) and should account for the wealth of the local authority. (Representative of Locality A)

Overall, despite the weightings within the formula, there was widespread feeling that some pupils' needs were not being met and fairness was lacking.

5.3 Oklahoma: Findings and Analysis

Approximately seventy five questionnaires were sent via email. The 11 Oklahoma participants included district Chief Funding Officers, superintendents and business managers. Most participants had advanced degrees or a professional certification and a range of experience from 10 to 35 years in education.

Oklahoma has sustained cuts of 23.4% in education funding since 2008. All participants indicated that if possible, they would allocate more funds to children in poverty. Perceptions were that the needs of the very poor were not being met. With one exception, the districts represented in this survey all claimed a small achievement gap despite the poverty levels of their districts. In Oklahoma, the poverty levels of a district are defined by the Free and Reduced Lunch percentage of a school. No district identified itself as wealthy, and according to the survey responses, the more diverse the district was, the higher was its poverty rate. One district, identified as extremely diverse, had the largest achievement gap.

Half of the participants indicated that the method of allocation and its effects on student performance was the most important issue. Other participants indicated that the method of allocation mattered, but other issues were more important. A majority of participants indicated that inadequate funding impacted on student learning through larger class sizes, elimination of quality programs and the loss of high quality educators.

The perceptions of participants were that the funding formula in Oklahoma promotes an equitable distribution of public funds, however, Oklahoma state provides significantly fewer dollars per student than surrounding states. Data collected through Oklahoma Education Quality and Accountability (OEQA) indicates that students' ethnic background correlates to performance; however, interestingly, ethnicity is not directly addressed in the formula. Instead, Free and Reduced Lunch and a weighting for bilingual students - worth .25 and .25 weights each (CEQA 2015) may be acting as proxies.

There are other factors that impact on equality. First, schools with more local funds via individual property tax and state land holdings receive less money from the state to balance the distribution of wealth. Secondly, schools receive Title and federal funding² also based on

² Title funds are federal monies provided as grants for qualified expenses in school districts across the US. Title 1 funds, for example, are grants for districts and schools that are poor. Title 6 funds provide grants for programs and services provided to Native Americans.

the Free and Reduced Lunch percentage. These funds are allowed to be used for professional development, afterschool programs and other resources. Title funds supposedly address equality issues since schools with lower Free and Reduced Lunch percentages should have more funds available through the general wealth of the district or of students' families. While the Oklahoma formula is considered fair and equitable, participants identified that the problem with funding lies in the *amount* of dollars put into the formula. As one CFO explained:

Our state funding formula is starved. Enrolment continues to grow... We are down over \$200 per student compared to 2009... If we were 'simply' back to that per student funding level we were at in 2009 ... my district would have over \$5 million MORE dollars this fiscal year 2016 than we are scheduled to receive.
(Steve)

Overall, perceptions were that student performance is driven more by poverty and the ability of schools to attract and retain effective teachers than by state funding allocations alone. The lack of a regionally competitive salary meant that Oklahoma continually loses teachers and administrators to other states.

6. Analysing School Funding: A Comparative Framework

In order to compare the (dis)similarities in the three funding formulae we address three dimensions comprising eight criteria. The first dimension, the formula's design, encompasses the following criteria: (1) compensation for local contribution of funds, (2) designed to improve the EAD, and (3) the extent of budget share allocated to the formula is in accordance with the achievement gap. The second dimension, the formula's components, encompasses the criteria of: (4) compensation for students' low (economic, social, educational) starting points and (5) the components in the formula address students' race or ethnicity. Finally, the third dimension, the formula's structure, includes: (6) attaching to individual students

(student-led), (7) the range of targeted factors / elements in the formula (the number of weighted elements), and (8) the availability of additional funding sources (e.g. additional local funds / contributions).

TABLE 4 HERE

Table 4: Comparative analysis of funding formulae

Table 4 represents (dis)similarities in all three formulae across the three dimensions.

Similarities: Regarding *design*, we can see that the three formulae can be judged as not adequately compensating for the achievement gap. The share of the budget allocated to the formulae is very small in all the systems (>6%, 4%, and 3% in England, Israel, and Oklahoma, respectively) with no adjustment according to the wideness of the gap. To exemplify, in Israel, the achievement gap measured in 95:5 ratio is very high compared with the OECD average, yet the share of the budget allocated to the formula is very low. Tensions between central (Federal in the US) government control of funding and its local distribution – whether at LA (district) level or school level are evident across all three jurisdictions.

When comparing *components*, we can see that the formulae all include elements to compensate for low starting points (i.e. low background characteristics). In this, the design of each formula can be seen as attempting to promote ‘fairness’ in order to improve the EAD.

Interestingly, none of the formulae compensate (overtly) for race or ethnicity issues although achievement gaps in all three educational systems can be seen to correlate with this factor.

This might be explained by a determination to neutralise the political issue of race as a factor in the EAD.

In terms of *structure*, we can see that all three jurisdictions allow for additional funding. In the US, educational funding is mostly by the school district with additional state and federal

funding (e.g. Race To The Top – RTTT) and Title programs such as Title I for schools in high poverty. Schools in England receive primary and additional (Pupil Premium) funding from government with LAs acting as distributors. In Israel, funding is mostly allocated by the central government with the additional funding by the LA.

Dissimilarities: At the *design* dimension – solely in England, the formula includes prior attainment. This opens the door to allocation based on improvement. A market-led approach that allocated funding based on improvement in student achievement would reward improvement but in doing so might simply exacerbate inequity. Through Pupil Premium, the English formula attempts to address perceived need with a flat *per capita* contribution. Contrastingly, Israel and Oklahoma recognise the importance of parental levels of education, something not taken account of in the English formula.

In relation to *components*, according to our data, the formulae are varied but all attempt to address the issue of EAD according to a local recipe of different elements and weightings. The three formulae have significant differences: one includes parental income (Israel) while the US and English formulae include free school meals to compensate for economic disadvantage. Another interesting feature in the formulae relates to factors that may be recognised while not being ‘targeted’. Of the untargeted factors, race / ethnicity stands out: in the US and England, an explicit link between race and funding is avoided.

At the third dimension – *structure*, in Israel the funding formula comprises four elements. Yet in England and Oklahoma, the formulae comprise more than ten. A broad range of elements requires extensive data collection. In addition, unlike in Israel, both England and Oklahoma have factors within the funding formulae that attach to students individually.

7. Discussion and Policy Implications

While EFP in developing nations wrestles with providing universal access, in the developed world, equity is increasingly important. Both issues relate to social justice and appear to have been ill-served by neoliberal assumptions about competition and marketisation that have dominated EFP for the last quarter century (Klees 2008). Gamoran's recent work (2015, 19) suggests that 'inequality in education substantially reflects conditions outside the education system, such as residential segregation, employment discrimination, and inequality in the justice system.' This perspective views a lack of equity in the EAD as a symptom rather than a cause of societal inequality. **This study focuses on a small number of cases which clearly limits the generalisation of our findings – however they do suggest a trend.** Our data support the idea that neoliberal assumptions create circumstances in which there is a trade-off between marketisation and social cohesion. Through this lens, market-orientated testing regimes and schools' accountability for EAD is largely irrelevant and EFP can only act as one element in a broader integrated socio-economic and educational policy strategically designed for bringing about social equity.

While this study deals with solely three jurisdictions, the comparison is relevant to other countries striving to achieve equity. Despite contextual constraints, our research reveals how in each jurisdiction there is an interplay of three factors: a national squeeze on funding, distinctive local issues relating to equity and need, and the market independence of local actors. While schools may have the best insight into local needs, central government control of the funding formulae militates against the mobilisation of local knowledge. Furthermore, due to funding pressures emanating from the centre, decisions may be taken at school level that are competitively expedient rather than responding to identifiable needs. This means the

impact of any EAD element will be reduced in any context in which education budgets are being reduced. This interplay of factors mediates EFP, thereby shaping fairness.

The establishment of a ‘learning society’ hinges on the reduction of social inequality and if education has a role in realising this aspiration, we might expect this to be underpinned by a fair funding formula. However, if viewed as a primary tool for bringing about social equity, there is clearly a risk that EFP, however complex, is at risk of becoming a centralised and anodyne technology for the (politically expedient) governmental definition of need. While the neoliberal assumptions that central budgets need to be reduced and local actors should have market independence continue to shape policy, there is a clear implication that the achievement of a ‘learning society’ as suggested by Stiglitz and Greenwald hangs in the balance.

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