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Budget Brief 18B

Fair Play:

Inequality Across Kenya's Counties and What It Means for Revenue Sharing

Jason Lakin and John Kinuthia[1]

Introduction

This brief is a companion to *What is Fair? Sharing Resources in Kenya* (Budget Brief 18A). In that brief, we look at fairness broadly, through the lives of four Kenyans. We then look at fairness more specifically as it relates to the matter of sharing resources between levels of government. We consider the approach taken in other countries—South Africa and India—and the approach taken so far in Kenya by the Commission on Revenue Allocation (CRA). We propose criteria and principles for resource sharing in Kenya based on common understandings of fairness.

In Brief 18A, we focus our attention on three principles of fairness: needs, capacity, and effort. We then consider two other concepts that are important for revenue sharing. First, we look at the challenges of sharing revenues in a situation where counties may be better off in some ways (for example, access to water), but worse off in other ways (e.g., access to health). Finally, we look at the transition period from an old to a new way of sharing resources, and the challenge of preventing major disruptions in services in some areas as we try to improve others (the "holding harmless" principle).

In this brief, we look at the actual state of affairs in Kenya. We try to understand what the principles in Brief 18A mean in the real world of Kenya's national and county governments. We collect and report data on the situation in Kenya today, at the outset of devolution.[2] We look at the distribution of inequalities and what it means for resource sharing. We also highlight the large and critical data gaps that exist and recommend further collection and publication of data. Finally, we consider the transition period to full devolution and what "holding harmless" could mean in the Kenyan context.

Brief 18A and 18B are meant to be read together. We try to cross-reference the two briefs wherever possible, but it may be useful to review Brief 18A before trying to read Brief 18B for greater clarity.

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2 Much of the data in this brief is in chart form for ease of reading. However, all of the underlying tables with precise figures for each chart (if publicly available) are on our website at www.internationalbudget.org/kenya.

The Principles of Fair Sharing: Need, Capacity and Effort

When we think about fairness, our ideas generally revolve around three concepts. We discuss these principles in great detail in Brief 18A, but we review them here briefly by way of introduction.

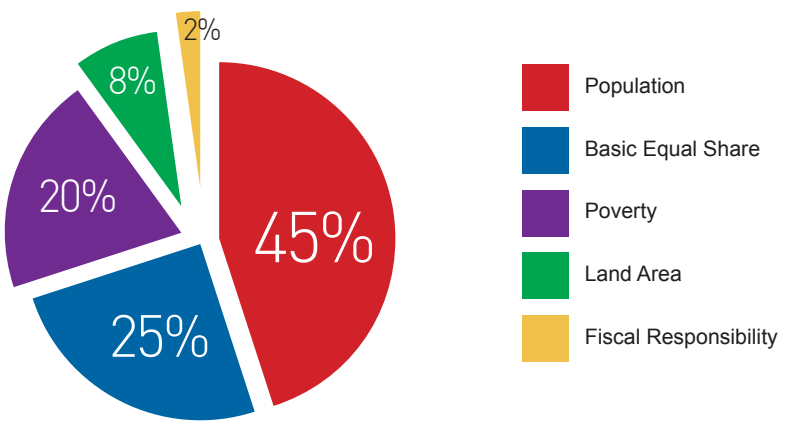
The first principle is need. “To each according to his need” is one principle of fairness. People should not all be treated equally if their needs are not equal. We should provide more for the sick and the blind than for the healthy and the visually unimpaired.

The second principle is capacity. We generally expect those who have greater capacity and ability to contribute more and/or to receive less. If we are sharing public resources, we are likely to give less to the rich than the poor, because the rich can afford to pay more from their own resources. They have a greater capacity to shoulder the cost of services.

The final principle is effort. While need and capacity are determined in part by factors outside of one’s control, effort is important because people also have and make choices. If a person does not make an effort on their own behalf, or wastes resources that are available to her, then we generally do not feel it is fair to share more resources with that person.

The Objectives

The purpose of this discussion of principles is to inform the process of sharing revenues between different levels of government in Kenya, with a focus on how revenues are shared among the 47 counties. In Kenya under the 2010 Constitution, the process of deciding how to share revenues has two main parts. The first is a medium-term process. Every five years (but every three years for the first two rounds), Parliament must agree on a set of criteria or a formula for sharing resources among the 47 counties. The first such formula was approved by Parliament in 2012 and the chart below (from the Commission on Revenue Allocation) gives the key variables used in the formula and their weights:



We discuss the CRA formula in Brief 18A. The second process for deciding the amount of money to go to counties each year is the process of approving the annual Division of Revenue and County Allocation of Revenue Bills. These two pieces of legislation determine exactly how much money will be available for counties as a whole, and how much will be distributed according to the formula. They also include a breakdown of additional conditional grants that flow to counties but that do not follow the formula.

Although the first formula has been approved by Parliament, and the first Division of Revenue Act has also been approved, these will be revised in future. The CRA formula will be revised within 3 years (and a 2/3 majority in the Senate could revise it at any time), while the Division of Revenue and County Allocation of Revenue Bills will be discussed and approved next year. It is therefore critical that Kenyans continue to think about whether the formula approved in 2012 is adequate, and whether the overall distribution of resources to counties is fair. This is especially so because even the CRA acknowledges that its formula is a first-generation formula and expects it to change over time.

For further background on the principles and objectives, please see Brief 18A. From here, we want to look at the available data on needs, capacities and efforts, and begin to identify the data gaps.

Needs

Recall that our first principle is: "to each according to need." When we think about a fair way of sharing resources, a common first approach is to look at the needs of the people who will get the resources. In this case, we are talking about counties and this means looking at the "fiscal needs" or "expenditure needs" of each county. But how do we assess the expenditure needs of a county?

Needs as Maintaining Services

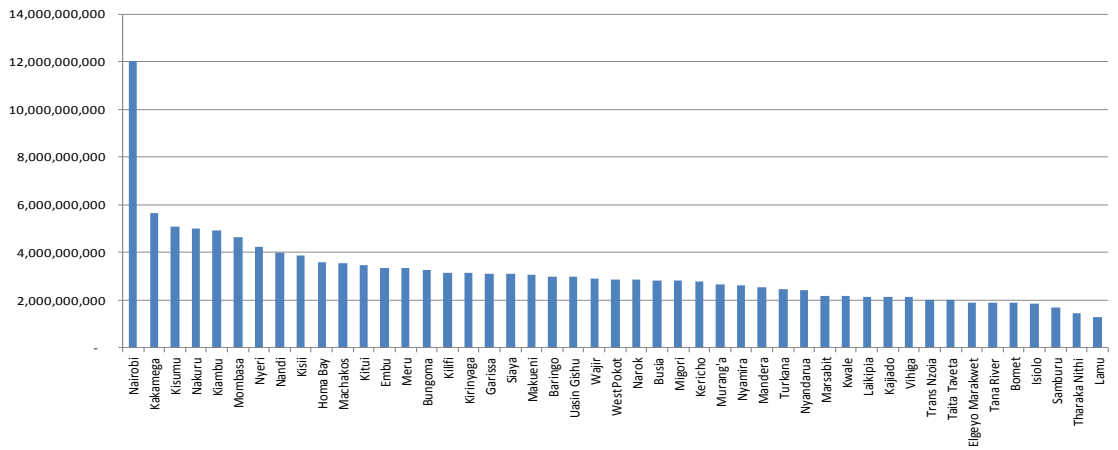
One way to think about expenditure needs is to look at how much counties spend on services. Because counties are new, historical data on spending is not available directly. However, there have been some attempts to estimate the amount spent on services in each county by guessing which services will be provided by counties (based on the Constitution) and by pooling together spending that has taken place at district level in the past. By looking at this data, we can get one estimate of county needs. This is an estimate of the cost of maintaining the current level of service delivery in each county.

The first chart below gives an estimate of the total cost of providing all devolved services in each county in 2012/13 according to the Commission on Revenue Allocation. Not surprisingly, these costs are driven largely by population size. The most populous counties, and major metropolitan areas (e.g., Nairobi, Mombasa, Kisumu) have the highest overall spending, and the relationship between spending and population size as measured by the correlation coefficient (which ranks how much the differences in county spending are related to differences in population) is 0.87. A correlation of 1 would mean that there was a perfect relationship: for every change in population, there was a similar change in spending. A correlation of 0 would mean there was no relationship. A correlation of 0.87 is very high and suggests that population is a key factor that explains historical spending.[3]

This is not surprising, since the cost of providing services is and should be directly related to the number of people accessing the service. Population is also a key variable in the CRA formula for this reason (as we saw above), and it is a key variable in formulas around the world that try to share resources. Indeed, the fact that the relationship is so high should make us wonder whether CRA has even put enough weight on population in the formula (weight=45%).

3 Nairobi's very high population and spending are partially responsible for the correlation, but even if Nairobi is removed, it remains quite high at 0.75

Figure 1: Estimated Expenditures on Devolved Services 2012 (Ksh)



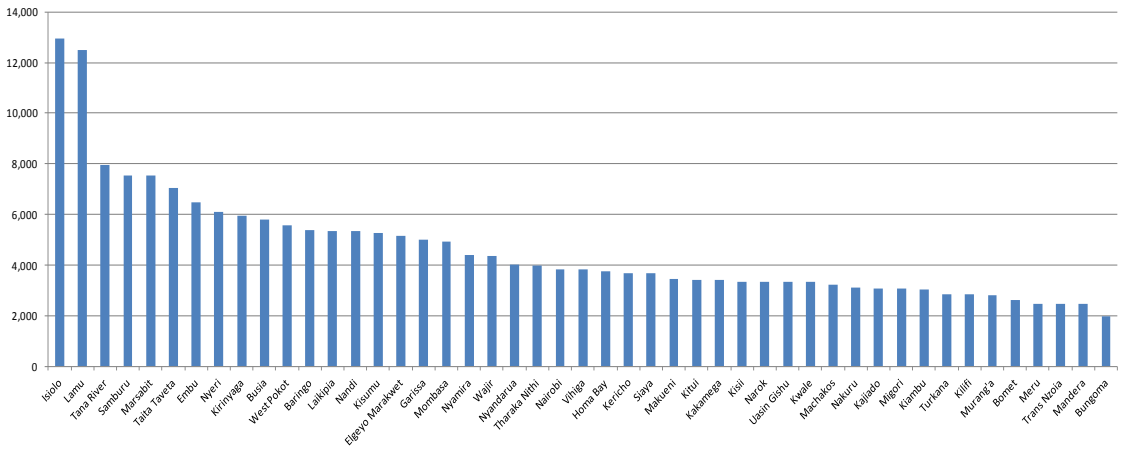
Source: *CRA (2012)*[4]

In light of this, if we want to understand differences in costs, and fiscal need, across counties for reasons other than population, we probably need to look at per capita costs. Therefore, the second chart below gives an estimate of the per capita cost of providing all devolved services in each county according to the Commission on Revenue Allocation. Note several things. First, the counties with highest per capita spending are those with lowest population density. Isiolo (4 people per km^2), Marsabit (6), Tana River (6) and Samburu (11) have the lowest population densities in Kenya. Lamu is ranked 8th lowest of the 47 counties (16 people per km^2). These densities are quite small compared to counties such as Nairobi, which has 4515 people living in every square kilometer.

There are probably two reasons why low population density leads to higher per capita costs. For larger geographic areas with low density (Marsabit, Samburu, etc.), the costs may be higher due to the higher administrative and transport costs of delivering services in larger areas with less infrastructure. In the case of a small area and small population, like Lamu, the reason is probably because it costs a certain amount to deliver services anywhere and to any number of people. In general, as the population rises, the costs go up (as we saw above). Nevertheless, below a certain population level, you still need to pay for a minimum amount of infrastructure, administrative and personnel costs. For example, even if my population is small, I need at least one hospital to provide hospital services, and hospitals are expensive to build and maintain. The implication is that there is a certain minimum cost of services and as population falls below that level while cost is fixed at that minimum, per capita costs will rise.

4 Commission on Revenue Allocation, *Recommendations on the Sharing of Revenue Raised Nationally between the National and County Governments from the Fiscal Year 2012/2013,* August 2012, Appendix VI.

Figure 2: Estimated Per Capita Expenditures on Devolved Services 2012 (Ksh)



Source: *CRA (2012)*

A second point emerging from this data is that there is a wide range of per capita costs, from Isiolo with costs about 6 times those of Bungoma. If we remove Isiolo and Lamu with particularly high per capita costs, the range falls to about 4 times between Tana River and Bungoma. Note also that historical spending per capita does not systematically favor or disfavor areas we might think of as marginalized: Samburu and Marsabit have higher per capita spending, Turkana and Mandera have much lower spending per capita (and this is so even though Turkana and Mandera have low population density).

These figures are useful, but they also suffer from several problems. First, these estimates differ from similar estimates produced by the Parliamentary Budget Office, and it is not clear why this should be. In comparing CRA and PBO estimates from the same year (released in 2012), the total (aggregate) costs are quite similar: CRA estimated Ksh 148 billion, while PBO estimated Ksh 149 billion. However, there are quite substantial differences at the level of individual counties.[5] The chart below compares the CRA and PBO estimated costs, and shows that for counties like Nyeri, Nandi, and Murang'a, the differences are quite substantial.

5 Interestingly, however, even the PBO estimates have a very high correlation with population: 0.84.

Table 1: Differences Between CRA and PBO Estimates of Total Expenditure on County Functions, 2012

	Counties where PBO estimates are higher than CRA	PBO costing higher by KSh		Counties where PBO estimates are lower than CRA	PBO costing lower by KSh
1	Nyeri	2,663,000,000	1	Nandi	-1,913,000,000
2	Murang'a	1,629,000,000	2	Narok	-882,000,000
3	Homa Bay	1,038,000,000	3	Nyamira	-858,000,000
4	Meru	823,000,000	4	Kisumu	-797,000,000
5	Kiambu	820,000,000	5	Kakamega	-715,000,000
6	Nairobi	780,000,000	6	Turkana	-428,000,000
7	Nakuru	713,000,000	7	Samburu	-358,000,000
8	Bungoma	440,000,000	8	Uasin Gishu	-352,000,000
9	Migori	423,000,000	9	Vihiga	-339,000,000
10	Garissa	333,000,000	10	Baringo	-334,000,000
11	Wajir	331,000,000	11	Siaya	-322,000,000
12	Machakos	224,000,000	12	West Pokot	-317,000,000
13	Elgeyo Marakwet	202,000,000	13	Mandera	-255,000,000
14	Nyandarua	142,000,000	14	Embu	-190,000,000
15	Mombasa	103,000,000	15	Kisii	-185,000,000
16	Bomet	75,000,000	16	Tharaka Nithi	-157,000,000
17	Makueni	70,000,000	17	Tana River	-155,000,000
18	Kajiado	26,000,000	18	Laikipia	-129,000,000
19	Kilifi	8,000,000	19	Isiolo	-126,000,000
			20	Kwale	-121,000,000
			21	Lamu	-111,000,000
			22	Taita Taveta	-107,000,000
			23	Kitui	-84,000,000
			24	Kirinyaga	-76,000,000
			25	Trans Nzoia	-69,000,000
			26	Busia	-45,000,000
			27	Kericho	-27,000,000
			28	Marsabit	-4,000,000

Source: *Authors' Calculations based on PBO (Budget Watch 2012/13) and CRA (2012)*

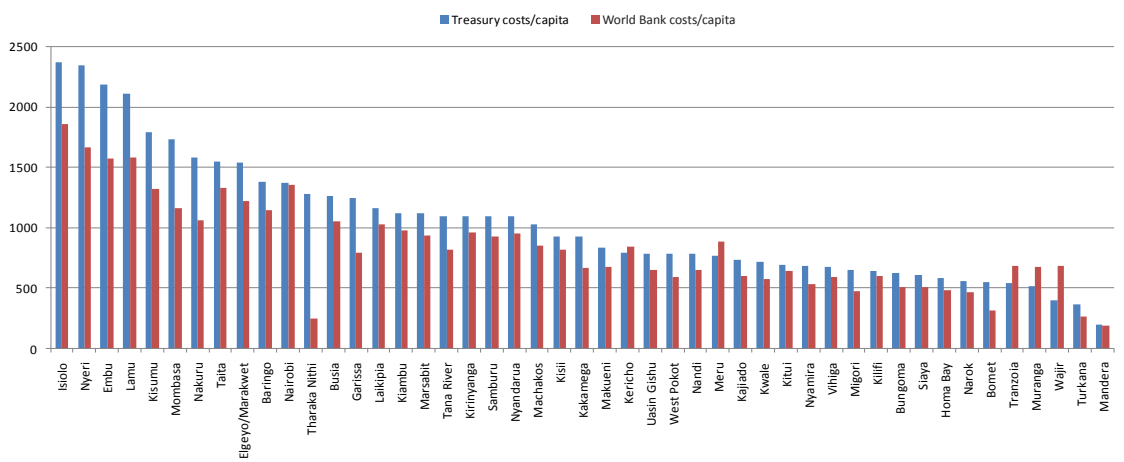
A second problem with these figures is that they are aggregated across all services, so we do not know what exactly they include, or what differences exist across specific areas like health or agriculture spending. They also bundle recurrent and development expenditure together, which is not helpful (and development spending may vary from year to year in different ways from recurrent). Unfortunately, neither the CRA nor the Parliamentary Budget Office has made any sector specific data widely available.

In late June 2013, as this report was being finalized, the Treasury did make sector specific data by county available. However, the overall county figures for 2012/13 do not match up with either the CRA or PBO figures we have cited above. While the PBO and CRA figures showed total spending for county functions of just under Ksh 150 billion, the new Treasury figures show a total cost of about Ksh 170 billion. No explanation has been provided for these differences.

While there are a number of differences between these Treasury figures and other estimates, we can look at one sector where the differences are not substantial, which is health. Since health is one of the key social sectors that has been devolved and is a relatively expensive sector, this can give us a sense of fiscal need in at least one important area. Again, this measure of fiscal need is the amount of money needed to maintain current services.

We compared this data to estimates provided by the World Bank. Last year, analysts at the World Bank estimated recurrent health costs for 2012 based on payroll data and other information about spending on medical supplies (including drugs). They did so because Treasury had not made any sector-specific data available by county.[6] In the chart below, we show the two sources. The ranking of counties using the two data sources is fairly similar, though there are differences and Treasury estimates are almost always higher. But there are also some rather surprising differences in a few cases. Tharaka Nithi figures are very low in the World Bank data compared to Treasury; Bank estimates for Wajir, Murang'a and Trans Nzoia are actually higher than Treasury.

Figure 3: Comparison of Estimated Per Capita Recurrent Expenditure on Health 2012 (Ksh)



Source: *World Bank (2012) and Treasury unpublished (2013)*

6 This is unpublished data provided courtesy of the World Bank. We are grateful for their assistance.

Health spending is also largely driven by population (Correlation=.86 in Bank data; .82 in Treasury data). Again, Isiolo and Lamu, places with low population density and low population, have relatively high per capita costs. Nevertheless, there are some important differences compared to the overall spending estimates. Samburu and Tana River are no longer near the top in per capita spending, and larger cities, like Nairobi and Mombasa, are closer to the top. One reason for this is likely to be that in the health sector, most recurrent spending (roughly 89%) goes for personnel. Large cities tend to have many more specialist personnel (surgeons, etc.) per capita, and these in turn earn higher incomes and lead to higher costs.

Looking at historical spending figures is one way to think about fiscal "need," but it is also problematic. First, while historical spending does partially reflect actual needs (thus the high correlation with population), it is also a reflection of historical factors that may have privileged some areas and marginalized others. It is precisely the perception that historical spending has been unfair that led to the creation of a new process for sharing resources. And as the health data suggests, if larger cities have more specialists we may want to encourage a redistribution so that Kenyans in other parts of the country have better access to these specialists and facilities, rather than simply keeping them as they are. Historical spending data is therefore not by itself a satisfactory estimate of fiscal needs.

Needs as Actual Demand for Services

How else might we establish need? In Brief A, we saw that South Africa does so by using figures on the demand for services. Among other factors, they look specifically at the number of children enrolled in school, the number of visits to health facilities and the poverty rate. CRA has also used the poverty rate as one of the variables in its formula, as we have seen. The main problem with this data is that it is old: the last household survey in Kenya was carried out in 2005. Another problem is that poverty is not a precise measure of demand for services. One can be poor but healthy, or wealthy but sick. The poor are more likely to face certain diseases and to struggle to pay the costs of treatment, but poverty is only a rough approximation of demand for public health services.

CRA does not have any real indicators of demand for services like the South African formula. Again, the problem is partially the lack of available data. However, there is some information available, and the CRA has collected it and included it in their publications.

For example, information about the number of health visits, or even the patterns of illness by county, give a sense of the inequalities in demand and the real fiscal needs of different counties for health. Table 2 below gives an indication of need for treatment of specific diseases. While not comprehensive, one can see several things from the table. First, there are places with a high burden of disease across several categories, like Migori. However, as Table 3 below it demonstrates, a place like Meru has very high malaria rates but modest HIV+ rates, while a county like Uasin Gishu has moderate to low malaria incidence and very high HIV+. For these three indicators, most counties do not cluster as those with high disease or low disease burdens.

Finally, note the very different distribution of disease compared to health spending: Nyeri has the lowest rates of malaria and ranks modestly (26th of 47) on TB cases and HIV+ antenatal cases (28th of 47) among the counties. Yet it has the second highest per capita health spending costs. Looking only at a few diseases cannot provide an accurate estimate of fiscal needs by county, but a more comprehensive assessment of risk of illness and use of services might be a better way to estimate fiscal needs, at least for health. It is important to keep in mind that counties may

have different needs for different services. Some counties have more communicable disease while others have higher burdens of non-communicable disease. A similar problem might arise for transport. All counties need roads, but more urban counties might need more extensive transport systems because of their particularly concentrated populations and geography.

Table 2: Disease Incidence Per County (Highest in Category Highlighted Yellow)

County	Malaria (as % of all 1st outpatient visits)	TB in every 10,000 people (2009/10)	HIV+ ante-natal care (%,2010)
Vihiga	105.7	37	5.5
Bungoma	89.2	15	2.3
Meru	79.3	52	3.8
Migori	72.8	63	12
Wajir	64.3	8	0.5
Siaya	59.4	42	16.8
Garissa	53.2	14	0.6
Homa Bay	50.4	44	17.1
West Pokot	49.9	57	0.2
Isiolo	49.8	51	4
Kakamega	45.4	26	6.2
Embu	42.8	32	4
Tana River	39.5	29	1.3
Tharaka Nithi	39.5	22	2.7
Busia	37.3	37	8.1
Lamu	36.9	27	N/A
Kisumu	35.4	216	16.2
Trans Nzoia	33.6	5	5.4
Mombasa	31.5	59	6.6
Turkana	31.2	9	8.9
Kisii	30	22	4.6
Kajiado	24.8	15	4.7
Kwale	22.6	40	3.3
Marsabit	21.4	25	1.2
Kitui	21.3	29	4.8
Kericho	21	59	3.6
Narok	19.9	18	4
Kiambu	19	46	4.8
Samburu	18.9	42	1.5

County	Malaria (as % of all 1st outpatient visits)	TB in every 10,000 people (2009/10)	HIV+ ante-natal care (%,2010)
Uasin Gishu	18.3	124	3.4
Mandera	17.9	9	0.2
Nakuru	16.3	62	3.9
Kilifi	16.1	30	3
Machakos	14.6	24	4.2
Nandi	14.3	70	2.7
Taita Taveta	13.7	12	6.6
Nyandarua	13	17	3.2
Nairobi	12.4	47	7.5
Makueni	11.9	18	2.9
Baringo	11.8	6	3
Nyamira	11.3	16	5.9
Kirinyaga	11.2	33	3.8
Murang'a	8.8	20	7.2
Bomet	8.2	17	2.3
Laikipia	4.3	36	2.8
Elgeyo Marakwet	3.4	9	1.3
Nyeri	3.2	32	4.4

Source: *CRA (2011)*[7]

Table 3: County Differences on Incidence of Different Diseases

	Rank among the 47 counties (1 is highest; 47 lowest)		
County	**Malaria (as % of all 1st outpatient visits)**	**TB in every 10,000 people (2009/10)**	**HIV+ ante-natal care (%,2010)**
Meru	3	9	26
Uasin-Gishu	30	2	28
Nakuru	32	5	24
Turkana	20	42	5
Marsabit	24	28	42

Source: *CRA (2011)*

7 CRA, *Kenya County Facts Sheets*, December 2011. It is not clear why the figure for Vihiga is higher than 100 percent. CRA released a second edition of *Kenya County Fact Sheets* in June 2013. However, the figures are not consistent with the figures from the first edition, so we do not use them here.

Needs as Access to Services

Another way to think about needs is to set some reasonable standards for access to services and see whether counties meet them. Those that meet the standard have lower need for spending than those that do not meet it. One could also look at the average level of access across counties and then examine whether a county falls above or below that average. Those below the average would have more "need" for spending on that service than those above.

Let us take another example from health. We have data at county level on health personnel. If we compare the number of health workers per capita across counties, we can see quite substantial inequalities, ranging from 1 doctor per 4000 people in Uasin-Gishu to 1 doctor per 378,000 people in Kisii. The average doctor to population ratio across counties is 1:25,000.

The target set by government is 36 doctors for every 100,000 people (1 doctor per 2778 people).[8] We can see that 32 counties fall below the average; all the 47 fall below the set target.

One important conclusion from this data is that, while there is considerable inequality in access to doctors, no county is actually meeting country targets for doctor: population ratio. This is important for our later discussion of maintaining current levels of service delivery and whether to avoid pushing "advantaged counties" further down to help disadvantaged counties.

Table 4: County Population to Doctor and Nurse Ratio*

County	Population to Doctor ratio	County	Population to Nurse ratio
Uasin Gishu	4,000	Nyeri	654
Nyeri	5,000	Uasin Gishu	706
Mombasa	7,000	Samburu	1,037
Embu	13,000	Embu	1,060
Kisumu	15,000	Kirinyaga	1,100
Kiambu	15,000	Nyandarua	1,117
Kericho	15,000	Busia	1,148
Murang'a	17,000	Mombasa	1,381
Tharaka Nithi	21,000	Kisumu	1,433
Laikipia	21,000	Laikipia	1,446
Nyandarua	22,000	Kiambu	1,466
Nairobi	23,000	Migori	1,478
Migori	24,000	Meru	1,609
Samburu	25,000	Murang'a	1,609
Kitui	26,000	Machakos	1,688

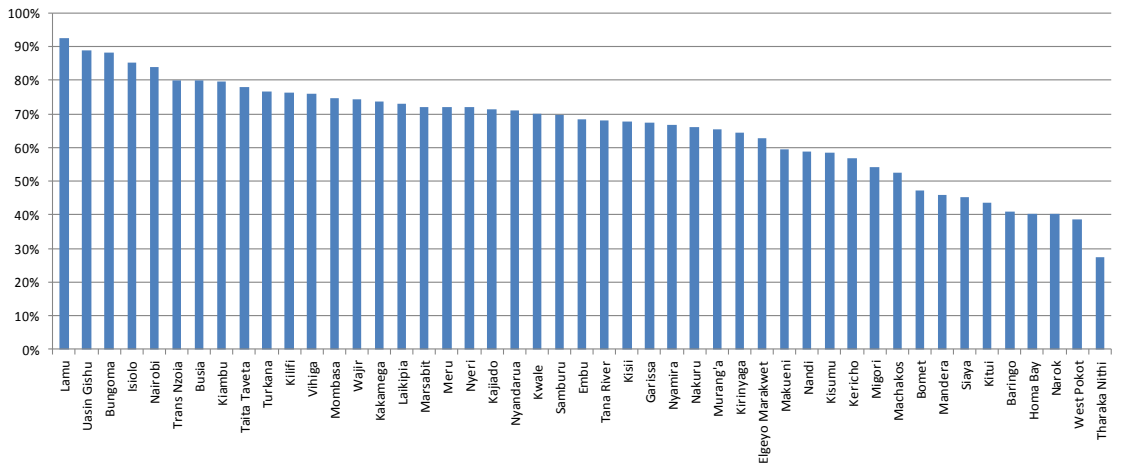
8 Republic of Kenya, "Health Sector Working Group Report: Medium Term Expenditure Framework for the period 2013/14-2015/16," October 2012, p. 11. The figure of 36 per 100,000 is a "WHO recommended minimum staffing level," according to the report.

County	Population to Doctor ratio	County	Population to Nurse ratio
Machakos	27,000	Kitui	1,770
Kirinyaga	29,000	Tharaka Nithi	1,773
Busia	31,000	Siaya	1,815
Nakuru	32,000	Kericho	1,832
Marsabit	32,000	Homa Bay	1,949
Makueni	37,000	Marsabit	1,967
Meru	38,000	Makueni	1,970
Narok	41,000	West Pokot	1,979
Siaya	44,000	Nakuru	2,146
Homa Bay	44,000	Garissa	2,316
Bungoma	45,000	Elgeyo Marakwet	2,434
Kwale	46,000	Nyamira	2,493
Tana River	48,000	Taita Taveta	2,612
Kilifi	48,000	Kilifi	2,655
Garissa	52,000	Nairobi	2,797
Elgeyo Marakwet	62,000	Kwale	3,080
Kakamega	69,000	Isiolo	3,115
Taita Taveta	71,000	Kakamega	3,122
West Pokot	73,000	Narok	3,128
Kajiado	76,000	Nandi	3,137
Nandi	94,000	Bungoma	3,315
Nyamira	100,000	Vihiga	3,990
Bomet	103,000	Baringo	4,115
Wajir	132,000	Wajir	4,163
Isiolo	143,000	Bomet	4,210
Vihiga	185,000	Tana River	5,108
Mandera	256,000	Kisii	5,703
Trans Nzoia	273,000	Trans Nzoia	6,110
Baringo	278,000	Kajiado	7,723
Turkana	285,000	Mandera	14,051
Kisii	378,000	Turkana	14,748

Source: *CRA (2011) *Note: Data from Lamu County is not available*

Another area for consideration is water, which is also a county responsibility. The following data gives an indication of inequality in access to improved water sources by county. Again, this suggests a need for greater spending in some areas on infrastructure.

Figure 4: Share of County Population With Access To Improved Water Source



Source: *KNBS Census (2009)* [9]

We can also look at access to roads as a measure of need. This is not straightforward. CRA looks at paved roads as a percent of all roads, but as a measure of access, this may be skewed by the fact that a county could have very few roads that are all paved. We look only at urban paved roads, and compare the population per km of paved roads in urban areas. This shows considerable inequality, with Homa Bay having an urban population of over 66,000 per km of road, compared to Nairobi with about 2500 people per km of paved road. Some urban areas, like those in Migori, do not even appear to have a full kilometer of paved road.

9 https://opendata.go.ke/Population/2009-Census-Volume-II-Table-8-Households-by-main-s/z9pq-8cin

Table 5: Ratio of Urban Population to Kilometers of Paved Urban Roads Per County

County	Paved urban roads	Urban population	Urban population per Km of paved urban road
Kirinyaga	0.7	83,404	Paved roads less than 1km
Migori	0.5	311,512	Paved roads less than 1km
Busia	0.4	122,190	Paved roads less than 1km
Nandi	0.1	102,281	Paved roads less than 1km
Nyandarua	0	110,518	Paved roads less than 1km
Tharaka Nithi	0	8,535	Paved roads less than 1km
Homa Bay	2.1	138,051	66,510
Garissa	2.9	146,668	50,123
Kitui	3.5	139,909	40,339
Bomet	3.3	132,255	39,892
Kisii	8.5	271,719	31,794
Siaya	3.0	90,627	30,403
Meru	8.6	190,497	22,260
Bungoma	14.6	298,696	20,418
Kakamega	13.0	252,611	19,435
Machakos	32.1	571,355	17,782
Kericho	16.4	228,318	13,886
Vihiga	14.2	174,105	12,250
Murang'a	13.1	145,202	11,050
Kiambu	93.5	1,017,476	10,885
Kilifi	26.6	285,482	10,727
Trans Nzoia	17.5	167,420	9,577
Uasin Gishu	36.3	345,559	9,513
West Pokot	4.9	42,696	8,643
Taita Taveta	9.7	64,289	6,646
Embu	12.8	82,921	6,493
Turkana	20.6	121,719	5,914
Nyeri	29.2	169,617	5,811
Kisumu	90.2	507,720	5,629
Mombasa	226.0	939,370	4,157
Nakuru	180.8	735,025	4,065
Laikipia	33.2	99,117	2,983
Baringo	22.4	61,551	2,748
Nairobi	1,277.4	3,138,369	2,457

Source: *World Bank*[10]

10 This is unpublished data collected and shared with us by the World Bank. We are grateful for their assistance.

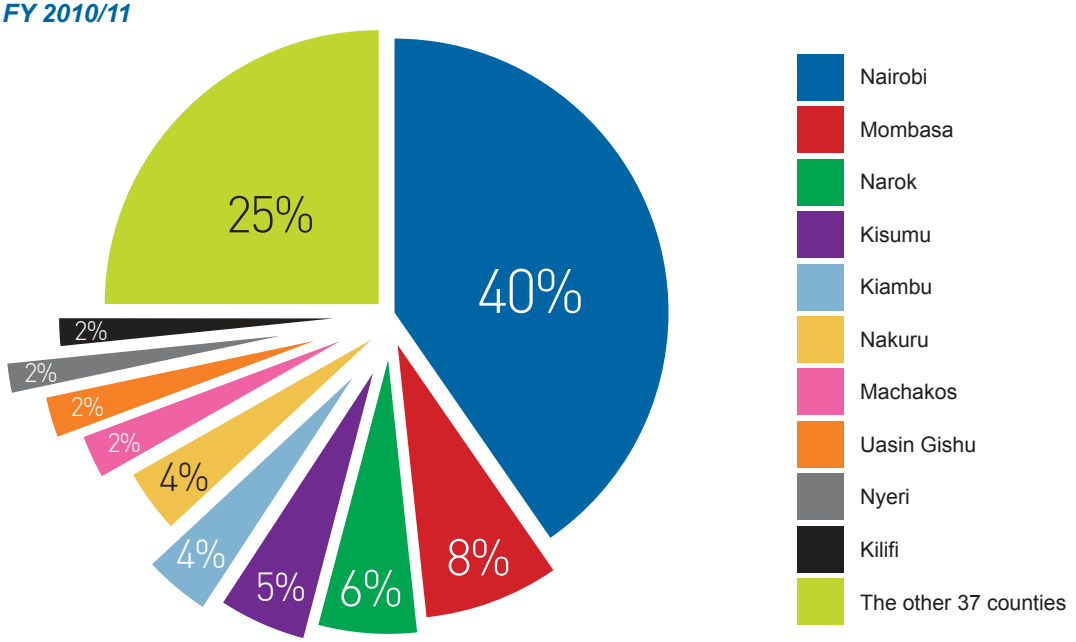
Capacities

The second way to think about how we share resources fairly is based on county capacity or ability. In this approach, we focus on what counties are able to do and how much they are able to contribute on their own to providing services. We thus shift from fiscal need to fiscal capacity as the key focus of our efforts to reduce inequality.

One way to look at this is to estimate county fiscal capacity based on the revenues that local authorities were able to collect. In other words, because the taxes and fees that local authorities collected are similar to what counties will collect, we can sum up the revenue collection in past years for the local authorities that comprise each county to get an estimate of fiscal capacity of counties.

The PBO did this and the data show severe inequalities. In 2010/11, the top ten counties collected virtually three quarters of all resources collected within the 47 counties. The remaining 37 counties collected just one quarter.

Figure 5: Individual County Share of Total Own Revenues Collected By Local Authorities FY 2010/11



Source: *PBO (2012)*[11]

The county that raised the highest revenue in per capita terms was Nairobi at Ksh 2,186, which was around 57 times what Mandera and Turkana Counties collected, at Ksh 38 and Ksh 39 respectively, within the same period.

As with spending data, historical revenue data should be viewed with caution. While they do tell us how much counties have been able to raise in the past, this reflects a combination of their fiscal capacity (the resources available) and their performance. In other words, some counties will have raised more because they have more, but some may have raised more because

11 Parliamentary Budget Office, *MP's Budget Watch,* 2012/13.

they made more of an effort to raise funds (they were more efficient or systematic in revenue collection). The World Bank argues that Kenya has generally been under-collecting property taxes. In the year 2009/10, property taxes accounted for 12% of all local authority resources, which was lower than comparable developing countries that collect property rates yielding up to 40% of local government funds. [12]

Again, we can assume that historical trends are a good measure of what is possible immediately. Even if a county has lower revenue because of poor collection rather than capacity, that will not change overnight. However, local authority revenue figures are also somewhat volatile from year to year, so they are not entirely predictable. For example, comparing estimates from 2009/10 and 2010/11, some counties show a more than doubling in revenues (e.g., Kisumu) and others show less than half as much from one year to the next (e.g., Kericho). This volatility raises concerns about the use of these figures as a reliable estimate of revenue capacity.

In order to have a better sense of county revenue capacity, we would want to know more about the size of the county economy and the structure of the county economy, to help us determine the tax base in the county. However, this data is not publicly available. Counties may also benefit from donor funds, and this may enhance county revenues in some counties much more than in others. This is also an area that should be tracked going forward.

Effort

A final consideration in assessing fairness, and one that is related very closely to the end of the last section, is effort. In Brief 18A, we discuss effort in relation to the degree to which people take advantage of the opportunities available to them, and the degree to which they use the resources they have properly. We consider the case of India, which rewards states for the degree to which they grow their own resource base and reduce their dependence on central transfers over time. The CRA has included in the first formula a measure of fiscal responsibility with a small weight of 2% that seems intended to measure effort on the part of counties. It is not yet clear what will be considered in this measure, and in the first year, it is being distributed equally to all counties while they establish a track record.

There is no real data to look at on this matter yet, but one might consider some of the potential measures of effort that CRA could use. In addition to the Indian approach, one could look at whether systems for proper financial management are in place, the results of audits of county public finances (clean audits would lead to additional funding), the degree to which the budget is actually implemented as planned (based on reports from the Controller of Budget), and perhaps the degree to which the budget reflects public priorities established through participatory mechanisms, such as the County Budget and Economic Forums required by the Public Finance Management Act 2012.

It is an open question whether 2% is an adequate weight for effort. The Indian formula described in Brief 18A gives a weight of 17.5% to fiscal discipline. The South African formula gives essentially no weight to fiscal effort, but that is because provinces cannot raise much revenue on their own. However, South Africa does attach numerous performance requirements to the conditional grants that it provides to provinces.

12 World Bank, *Devolution Without Disruption*, December 2012, p. 102.

Inequalities Across and Within

If we look at all of the data we have presented so far, it suggests that inequalities across counties do not cluster in a single set of "marginalized" counties only. We saw this within our health indicators, but we can see it across sectors as well. Some counties do better in some ways, while they perform worse in others.

Table 6: County Needs Across Different Sectors (Rank 1 is Best and 47 is Worst)

County	Access to an improved source of water by rank	Malaria (as % of all 1st outpatient visits) by rank	Population to doctor ratio by rank*
Bungoma	3	46	26
Isiolo	4	38	40
Trans-Nzoia	6	30	43
Busia	7	33	18
Taita-Taveta	9	12	33
Turkana	10	28	45

Source: *Census (2009) and CRA (2011)*
**Data on doctors from Lamu County was not available*

Table 6 above shows a spread of county performance across three fields, which demonstrates that there is no consistency in terms of best or worst performance from one field to another. For example, Bungoma County performs well on water access but ranks very poorly on malaria (i.e., has high rates of malaria). Taita Taveta performs poorly on access to doctors, but moderately on malaria, and is among the top ten counties when it comes to water access.

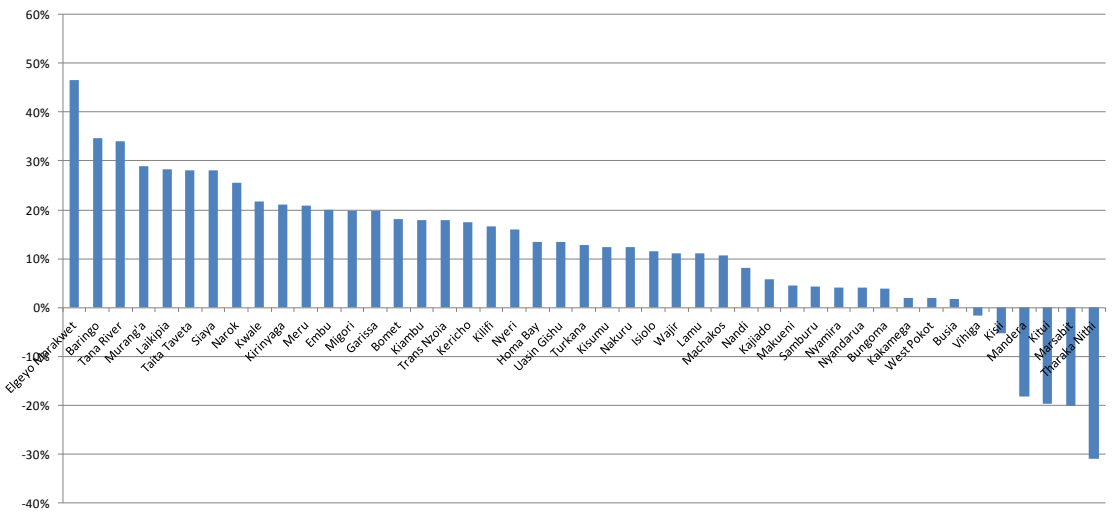
Another way to look at whether poor access is clustered in certain counties is to look at all the counties that are above the median (average) on one indicator and see how many of them are below the median on another. If we look at access to improved sources of water and the population: doctor ratio, there are 11 counties that are above the median counties in access to water but lie below the median when it comes to the population per doctor ratio. Likewise, there are 10 counties that are below the median counties on access to water, but above the median on population: doctor ratio.[13] This means that nearly half of the counties perform well on access to water or access to doctors, but perform poorly on the other variable. This is suggestive of the fact that not all disadvantages are clustered in a single set of counties, and no one approach to addressing inequality will work.

Moreover, looking only at inequalities across counties can be problematic when counties are as big and diverse as those in Kenya (average area per county= 12,400km^2). Inequalities within counties can also be severe, and this is another area where data is unfortunately limited.[14] To take an example from available data, we can look at the rural-urban divide in access to clean water within counties. The chart below provides the urban-rural gap (% urban with access minus % rural with access) in access to water among households within counties, and the inequalities are quite stark.

13 Lamu was excluded from the analysis because we lacked data for it on doctors. This resulted in 46 counties and two median counties.

14 Data from KNBS down to at least the ward level should be made available this year.

Figure 6: % Urban Access to Water Minus % Rural Access in Each County (Households)



Source: *KNBS (2009)*

As more data becomes available from the census and other sources, we will be able to look at inequalities across wards and constituencies within counties to get a better sense of the differences in needs and capacities.

The fact that inequalities are diverse across counties and severe within counties means that we cannot only consider a single formula for dealing with all of them. It is likely that we will need other forms of financing mechanisms, including specific conditional grants, to ensure equity. Of course, some of these inequalities also must be dealt with by counties themselves using their own resources. Conditional grants from national level should not be a substitute for county initiatives to address their own inequalities.

Data Gaps

This section highlights all of the data gaps we have encountered, many of which have already been mentioned. The purpose of the section is to summarize these in one place.

Costings. There are no true costings of services in Kenya. What is generally used instead is simply an estimate of current/historical expenditure. This is available in aggregate form on a per county basis, but figures from the National Treasury, CRA and the PBO do not agree and there is no information available on how these costs were derived to understand the reasons for the differences between different sources. Moreover, until very recently no by county, by sector (or by ministry) information has been available from public sources to allow the public to understand the historical expenditure on health, agriculture and other areas, by county. This was so even though the data used to generate the publicly available aggregate figures was almost certainly in by sector/by ministry format and could have been made available by the National Treasury, CRA and PBO. The National Treasury finally released this disaggregated data to governors in late June 2013, but the figures are not consistent with previous releases from CRA and PBO for 2012/13. No explanation for these differences is available.

Revenue Estimates. The Parliamentary Budget Office is the only agency that has made county revenue estimates available. However, the publicly available estimates do not explain the methodology used to generate the results. In order to get a sense of revenue generation capacity, it is also important to have measures of the size of the economy. There are no publicly available estimates of county GDPs that would allow us to assess the size of county economies. This is an area where Kenya National Bureau of Statistics should take leadership.

Measures of Demand. To get a real sense of the expenditure needs that counties will face going forward, we need measures of the demand for services by county. In particular, we need measures of the demand for services that are to be provided by counties, such as health, agriculture, and water and sanitation. If measures of this type exist at all, they are often not at county level but at national or provincial level. It is imperative that such data be collected at county level and made available as soon as possible for use in the debate over resource sharing.

Measures of Need. It is unfortunate that the disaggregated 2009 Census data down to the sub-location/ward level remains largely unavailable and that the last household budget survey is already roughly 8 years old. It is essential to have data on the poverty levels and service needs of different counties, as well as wards within counties, in order to both tweak the overall revenue sharing formula and to properly target conditional grants for specific services. Fortunately, it is likely that some census data and potentially some service delivery data will be made available later this year, but there is an urgent need to undertake a new household budget survey. This should also include questions that may be specifically relevant for measures of fiscal need, such as access to road and transportation services.

Measures of Effort. Going forward, it will be important to collect systematic information on financial performance of counties. This means making data from audit reports and Controller reports easily accessible at county level. Of course, we will need to debate what should go into the formula, but it is likely that a number of indicators of fiscal effort will be useful for broader purposes of oversight and to potentially inform additional conditional grants.

Transitional Considerations

One area that we discuss in Brief 18A is what should happen to counties whose level of service is above others as we shift to a more equal distribution of resources. We describe three scenarios, which we now apply to more advantaged (those with historically more resources) and more disadvantaged counties.

In the first scenario, resources are taken from the advantaged county and given to the disadvantaged county, reducing the resources of the advantaged county and increasing the resources of the disadvantaged county. In the other two cases, we add funds to the disadvantaged county without reducing the funding for the advantaged county. In one case, we only add funds to the disadvantaged county, while we hold the advantaged county in place, reducing the gap between the two. In the final case, we add funds to both counties, but we add more to the disadvantaged county so that the gap is reduced between the two. For more details, please see Box 1 in Brief 18A.

The second and third options, which allow the advantaged county to maintain current levels of service delivery, are considered “holding harmless” in public finance, because they do not make the advantaged county worse off while improving the disadvantaged county’s position.

Holding harmless is a controversial concept. Since there are finite resources to be shared among counties, any funds that are given to counties that have historically been advantaged is money that could go to historically disadvantaged counties. At the same time, if we do not use some funds to maintain current levels of service delivery, there could be major disruptions to services in some counties. Moreover, counties that are disadvantaged will find it hard to massively increase services immediately, meaning resources may be wasted (e.g., how many new doctors can be hired in a single year in Turkana?).

Note as well that the disruption of services in historically advantaged areas does not necessarily mean the disruption of services for advantaged people. In the case of the health sector, for example, the people in advantaged counties that use public health facilities are not the most advantaged in the county. Those with more resources often use private facilities, so a cut in public services may not affect them, but poorer residents. Moreover, as we saw in the case of the doctor: population ratio, all counties fall short of the national target, meaning there are no counties that have "too many" doctors according to national standards from whom we can easily take away some doctors without hurting service levels.

Taking these considerations together, some analysts would argue that we should move towards equality gradually, by holding those areas that are ahead in place ("harmless"), while we improve services for others. Over time, we gradually reduce our support to areas that are ahead and increase it to those that are lagging. This allows the areas that are ahead to adjust and the areas that are behind to build capacity.

However, others would argue that areas that have lagged behind must be helped immediately, even at the cost of reducing services for others, and even if they are not entirely ready to absorb the new funds and functions. This view holds that one cannot continue to delay redistribution for the sake of areas that have been advantaged even if the process may be disruptive. Advantaged areas are not entitled to maintain their advantages.

Our purpose is not to take a view on this matter, but to clarify the actual implications in Kenya. Although not very explicit, a version of this discussion occurred during the debate over the Division of Revenue Bill 2013 in Parliament. To see how, consider the following.

Suppose that we estimated the precise current costs of delivering services at county level and the precise costs of delivering services at national level.[15] We then divided the total amount of money up between the two levels of government according to these costs. We now have a pot of money to share among counties and two options. We can take the money for counties and divide it among them based on their costs, or we can take the money and divide it among them based on the CRA formula. Recall that the CRA formula is not based on service delivery costs, so there will be considerable differences in how much counties receive depending on which approach we take.

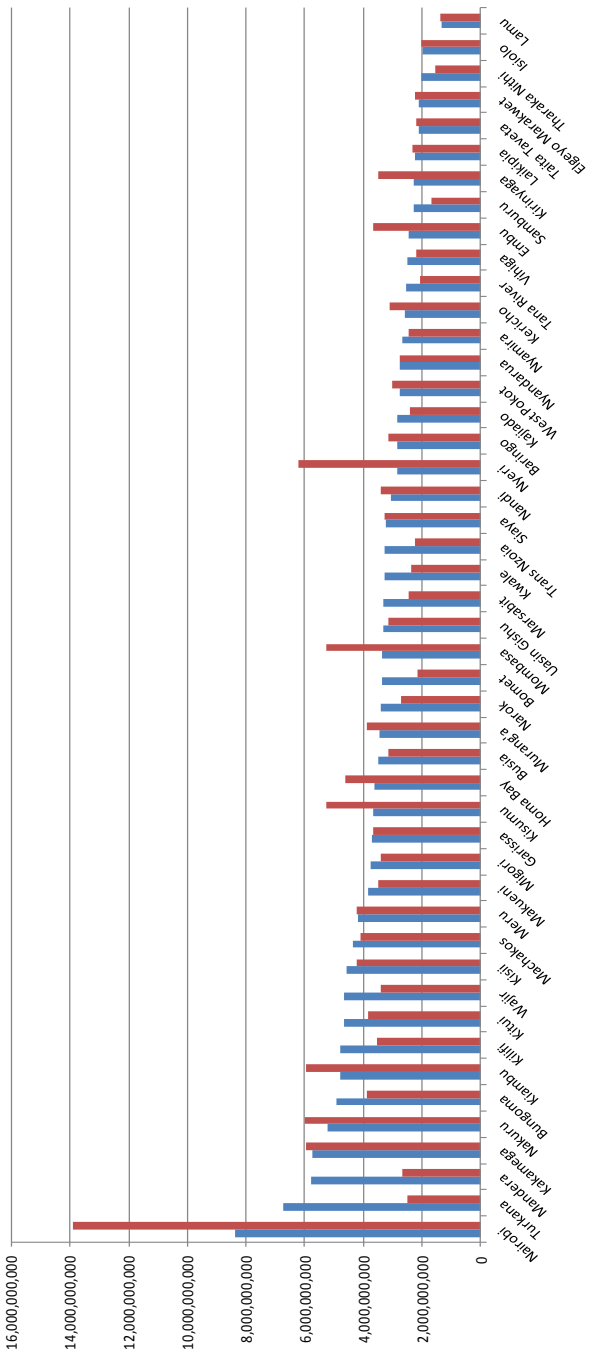
In the first case where we share resources based on costs, the issue of "holding harmless" does not arise, because every county is getting money to cover their precise costs. In the second case, though, we know that some counties may not get enough under the formula to cover their current costs.

To see this, consider first the scenario in which counties receive what Treasury initially proposed for them in the Division of Revenue Bill 2013. That proposal estimated actual total service delivery costs at roughly Ksh 167 billion.[16] If this figure was distributed to counties according to the CRA formula, how many counties would find themselves with less than they needed to maintain services?

15 Costs in this context means historical spending levels. A true costing of services would show that the cost of services at both levels was more than available funding. So we use historical costs as a measure of available funds.

16 It is not clear how the figure of Ksh 167 billion in Division of Revenue Bill 2013, Table 1 was arrived at. We assume that the figure was arrived at by inflating the 2012/13 costs as estimated by CRA/PBO from roughly 148-149 to 167. Note that PBO estimates put the most recent estimates for county costs (2013/14) at just under 180 billion. See Parliamentary Budget Office, "Setting the pace for sustainable growth," 2013.

We estimate this below. As we have seen, there are (at least) two different estimates for the cost of service delivery, one from CRA and one from PBO. It is not clear which is to be preferred and, while they are similar in the total costs for all counties taken together, there are some important differences at county level. We take the simple average of the CRA and PBO estimated costs and compare that to the unconditional transfer for each county in the chart below.[17]



Source: *CRA and PBO (2012/13), Authors' Analysis*

Figure 7: Difference Between Estimated Current Costs and Unconditional Transfer Shared According to CRA Formula

17 Following fn 3, after we averaged the 2012/13 CRA and PBO figures, we distributed the additional 18-19 billion across counties based on their costs in 2012/13 by inflating each one by a margin of 1.12 (167/149).

What can be seen from this chart is that using the average estimated costs and Ksh 167 billion distributed using the CRA formula, there are 22 counties that would no longer receive adequate finances to maintain their current level of services. The total financial gap for these counties is Kshs 20.4 billion (see Table 8).

Table 7: Size of Funding Gap Arising From CRA Formula

County	Financial gap after unconditional allocation of Ksh 167 bln
Nairobi	5,563,561,156
Nyeri	3,362,769,458
Mombasa	1,906,140,805
Kisumu	1,607,577,509
Kirinyaga	1,203,289,668
Embu	1,178,637,152
Kiambu	1,174,656,479
Homa Bay	1,001,303,168
Nakuru	794,587,378
Kericho	550,928,651
Murang'a	438,191,244
Nandi	364,017,640
Baringo	307,969,786
West Pokot	250,038,095
Kakamega	222,494,044
Elgeyo Marakwet	149,356,230
Laikipia	98,603,834
Siaya	78,958,334
Taita Taveta	55,260,534
Lamu	41,499,528
Isiolo	41,458,124
Meru	34,908,561
Total	**20,426,207,379**

Source: *Authors' Analysis*

It should be clear that without changing the amount of money available, if we simply redistribute existing resources according to the formula, nearly 1/2 of the counties would have to reduce their service delivery provisions below current levels. Treasury proposed to deal with this problem by adding a conditional transfer that would help these counties to maintain services.

We saw above that the holding harmless problem could be solved by ensuring that each county has what it currently spends, while disadvantaged counties receive more. This was the Treasury solution, which they claimed would have required a Ksh 17 billion targeted transfer to the counties receiving too little to maintain services. (Treasury has not released any information to explain the 17 billion figure so we cannot explain why it is lower than the 20 billion we calculate here, but it is fairly close to our estimate.)

However, another way to solve the problem is to simply provide all counties with more money through the formula, so much so that everyone ends up with more than enough money to maintain services. This is a much more expensive option, however, because the total figure has to rise high enough that, using the formula, every county receives enough for current service costs.

To understand why, suppose that I have Ksh 100 to share between two counties. Under the old system, county A received Ksh 60 and county B received Ksh 40. Now I design a formula that reverses this, giving 40% of the money to A and 60% to B. Then I want to ensure that county A can maintain its level of services. Since it now receives Ksh 40 instead of Ksh 60, I could just give county A Ksh 20 to maintain its level of spending. I would then be adding Ksh 20 to the Ksh 100 I put through the formula (total=Ksh 120).

If I instead put this Ksh 120 through my formula, county A gets 40% of Ksh 120, which is only Ksh 48. In order for county A to get Ksh 60 through the formula, we need to raise the total funds passing through the formula higher than Ksh 120, to Ksh 150 (40% of Ksh 150=Ksh 60, so county A receives Ksh 60 and county B receives Ksh 90).

We did a simulation to determine how much was needed to eliminate the problem of counties not receiving enough to maintain services. Using the same assumptions as above, we find that at 190 billion as approved by the National Assembly, there are 10 counties that receive too little to maintain services. The shortfall is roughly Ksh 13 billion. At 231 billion (the figure proposed by CRA), there are still 6 counties that receive too little to maintain current services: Embu, Kirinyaga, Kisumu, Mombasa, Nairobi and Nyeri. At the Senate-approved figure of Ksh 238 billion (through the formula), these same six counties still fall short by about Ksh 5 billion. According to our calculations, it would require Ksh 279 billion distributed through the formula to eliminate the gap for Nairobi and Mombasa, but Nyeri would still fall short. It would require 364 billion to eliminate the financing gap for Nyeri. Using the formula to hold harmless is quite expensive compared to a more targeted approach. Our estimates suggest that at the CRA figure of Ksh 231 billion, it would only require an additional Ksh 6 billion in targeted transfers to allow Embu, Krinyaga, Kisumu, Mombasa, Nairobi and Nyeri to maintain current service levels. Using the formula, as we saw, it requires an extra Ksh 48 billion to eliminate the gap for all but Nyeri, and an additional Ksh 133 billion to reach Nyeri as well.

One consideration here is whether we should also include an estimate of own revenues when deciding whether to hold a county harmless. Own revenues are likely to be substantial in some of the urban areas that do not receive enough from the formula to cover their costs, like Nairobi. Perhaps we should not be worried about their services falling below current levels if they have substantial own revenues to add to the transfers they will receive. To see the impact of including own revenues, we estimated the impact of an unconditional transfer of 167 billion plus own revenues as estimated by PBO. In this scenario, the number of counties with a deficit falls from 22 to 15 and the size of the deficit falls from 20 billion to Kshs 9.4 billion.

However, there are several arguments against including these revenues. First, as we saw, they are quite unstable, changing from year to year. Second, as we argued above, large metropolitan areas have higher revenue-generating capacity but may also have a higher need for certain special services, such as transport, because of their high population density. Services are also often more expensive to provide in urban areas because of higher rents. Finally, we do not want to discourage revenue collection by reducing funds for counties that make more of an effort to collect their own revenues.

Once again, we do not take a position on the issue of whether counties should be held harmless. We do think it is important to understand the issues and to recognize that there are different ways of addressing them, and these have different costs. In the debate which has occurred so far over these issues, the public was given almost no information to understand what was at stake. This is unfortunate and is likely to lead to less responsive decision-making.

Conclusion

How do we move forward toward fairer sharing of resources in Kenya? We conclude this brief with some recommendations.

1. Immediate publication of all available data on county costs and revenues, including the underlying data used to make estimates and an explanation of any assumptions used. Important socio-demographic data is also contained in District Development Plans that are not widely available, but should be. This requires action from the National Treasury, the Parliamentary Budget Office and the CRA, as well as the Kenya National Bureau of Statistics.
2. The CRA should lead a series of public forums on revenue sharing that explain how they plan to revise the formula in line with best practices internationally, the three principles of need, capacity and effort, and the available data. This discussion must also include a consideration of how conditional transfers will be used to redress issues that the formula cannot, taking into consideration the distribution of inequalities across and within counties. Finally, it should clarify precisely what data is needed to further improve the formula going forward.
3. The Senate should take a comprehensive approach to reviewing county transfers, rather than debating the formula alone as occurred in 2012 under the 10th Parliament. This requires the provision of more data on inter-county and intra-county inequalities, but also a willingness by Parliament to look at the overall impact of their decisions about fiscal transfers. Like the CRA, Parliament has a critical role to play in considering both conditional and unconditional transfers.