

# GENERAL GRANT ALLOCATION FORMULA BRIEF

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## INTRODUCTION

- Lower level governments everywhere face levels of spending responsibilities much greater than the revenues they can collect.
- Central governments therefore usually provide additional financing support – “fiscal transfers” – to allow adequate levels of local spending.
- These fiscal transfers are often designed to recognize that different local areas usually have different levels of spending responsibility and also different revenue-raising possibilities. Fiscal transfers are therefore often allocated based on simple indicators or criteria to reflect these differences between localities, in order to ensure public spending equity – “fiscal equalization” – across the national territory.

## THE GENERAL ROLE OF FISCAL TRANSFERS

Subnational governments (SNGs) worldwide are generally mandated with spending responsibilities for local infrastructure and service delivery which are much greater than can be financed from their own revenue-raising powers – this creates a “fiscal gap” for SNGs. Consequently, central governments in all countries provide additional financing support from their own budgets down to lower levels of government to address this “fiscal gap”. This financing support is provided through “fiscal transfers”, which may be one or other of the following main types:

- *Revenue-sharing arrangements* – A percentage of a specific national tax or other revenue is shared with the SNG area where the revenue originates.
- *Grants* – Allocations are made to SNGs on the basis of specific criteria, from a fund pool established in the central budget. Grants can be distinguished into two broad categories:
  - *Conditional grants*, whose use by SNGs is limited to specific sectors or thematic programmes (e.g. primary health, roads, employment generation or disaster recovery).
  - *Unconditional grants*, as general budget support for which SNGs are allowed wide discretion in use within mandated responsibilities.

Unconditional grant instruments are also often designed with the aim of “equalizing” spending capacities across SNGs to avoid major disparities in the levels or quality of public infrastructure and service delivery across the country.



“Fiscal equalization is a transfer of fiscal resources across jurisdictions with the aim of offsetting differences in revenue raising capacity or public service cost.”  
OECD.



## GENERAL CHALLENGES AND APPROACHES TO EQUALIZATION

SNGs may have very different levels of spending responsibility and of local revenue capacity. This creates equalization challenges because:

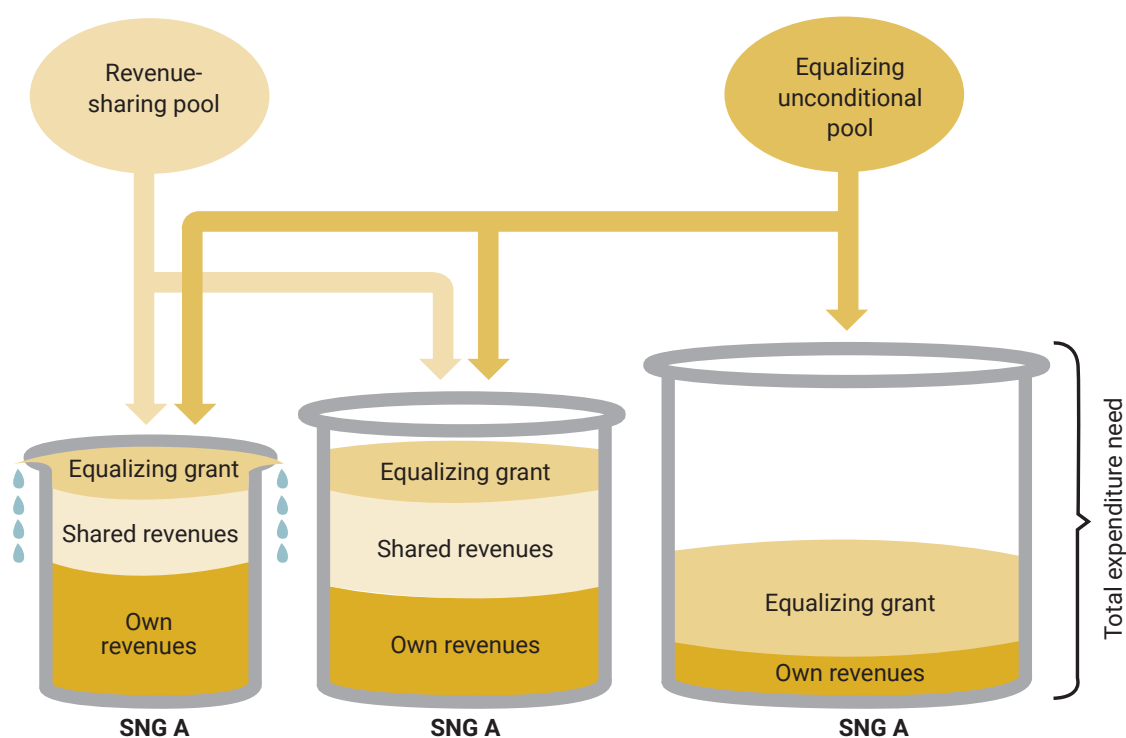
- Even with the exact same legal spending mandates, the actual levels of public spending responsibility will always vary between SNGs, due to their differing population sizes, levels of development and access to services, costs of service provision, etc.
- Even with the exact same legal revenue powers, there will always be differences in the fiscal capacities of SNGs, due to their differing levels of economic development and urbanization, tax bases, etc.

The challenge for central government is then to design fiscal transfer instruments which address these differences to ensure equity across the national territory.

The Figure below illustrates the challenge. It shows three SNGs A, B and C.

- The size of the “bucket” for each SNG indicates the different levels of *spending responsibility*, resulting from different population sizes, poverty levels, etc.: SNG A has the lowest level of spending responsibility and SNG C the highest level.
- Each SNG also enjoys different levels of *local revenue capacity* shown in green; SNG A has the highest (perhaps because the most urbanized) and SNG C the lowest.
- Each SNG also enjoys different levels of *shared-revenue transfer*, shown in orange: SNGs A and B receive substantial transfers (perhaps because of SNG A’s greater tax base due to urbanization and SNG B’s natural resources) but SNG C receives nothing.

**Figure 1 The “equalization” challenge**



The challenge in allocating the “equalizing” unconditional grant transfer, shown in blue, is to take account of these differences and ensure that each SNG has enough total revenues to meet its spending responsibilities. But this can be hard to achieve and unconditional grant allocations may often fail to equalize spending capacities. Thus in the Figure only SNG A is able to meet its responsibilities (indeed has excess revenues), while SNG B and especially SNG C do not have adequate total revenues - even though SNG C enjoys a much greater “equalizing” grant transfer than the other SNGs. Failure to equalize may be either because the pool is simply inadequate or the allocation formula is not appropriately designed.

Around the world, different approaches are used in the design of grant transfer formulas aiming to equalize, from simple to more complex:

- *Simpler formulas aim only to measure different spending needs* of different SNGs (almost always including population size, but also often other indicators such as poverty or development levels, or land area or remoteness).
- *More complex formulas try to measure both different spending needs and also different local revenue capacities* of different SNGs.

In these formulas, each indicator or variable is given a percentage weight. The total allocable grant transfer pool is split into sub-pools and the allocations for each of the indicators are made from the corresponding sub-pool. For example, if we give a 40 percent (or 0.4 factor) weighting to the population indicator, this means that 40 percent of the total pool will be allocated according to SNG population sizes. The sum of these weights for all indicators must be 100 percent.

## FORMULA-BASED ALLOCATIONS AND OUTCOMES IN MYANMAR

- **The Union government provides only two main fiscal transfers to states/regions: 1) percentage shares of certain Union revenues collected in each state/region and 2) general grants.**
- **Both transfers are for general budget support and states/regions have full discretion to spend between Schedule II-determined sectors - there are no earmarked sector-specific transfers in Myanmar (unlike many other countries in the region).**
- **Since 2015/16 the general grant transfer is allocated according to a formula which aims to measure relative spending needs and revenue capacities of states/regions in order to equalize spending – a major reform with potential for greater transparency and equity.**
- **However, this potential is not yet fully realized – the financing outcomes, when measured in spending capacity per person, which result from the general grant transfers vary widely between the 14 states/regions, giving rise to equity concerns.**

## FISCAL TRANSFERS IN MYANMAR

In Myanmar, the spending responsibilities of states/regions are defined in Schedule II of the Constitution, and their revenue powers in Schedule V. For all states/regions combined, their spending (MMK 2,685 billion) is over five times greater than their revenues (MMK 550 billion) – this leaves a “fiscal gap” of around MMK 2,150 billion.

The Union government allocates two main types of fiscal transfer to state/region governments to finance this “fiscal gap”.

### Shared revenues

Since 2016/17, percentages of certain tax revenues (15 percent of commercial and special goods taxes, and 10 percent of income taxes and stamp duties) have been allocated to the states/regions where they were generated. At some MMK 336 billion, these comprise about 12 percent of state/region revenues overall but accrue primarily to Yangon and Mandalay where most such revenues are originally generated.

### General grants

There are as yet no conditional grants, but there are *unconditional general grant transfers*. At some MMK 1,800 billion these constitute 67% of all state/region revenues. These were historically allocated to states/regions to finance the ‘deficit’ between the spending and revenue budget proposals submitted annually to the Union government. These were allocated on the basis of negotiations with each state/region.

However, from 2015/16 a formula-based allocation methodology was introduced, as part of the medium-term fiscal framework (MTFF) reforms. This aimed to make the allocations more transparent and also to play an equalizing role, to take account of the different needs and also fiscal constraints of the 14 states/regions.

## THE EQUALISATION FORMULA IN MYANMAR

“In Myanmar, after some initial changes, the MTFF formula now comprises six indicators”

- Three to reflect different state/region spending needs
- Three to reflect different state/region revenue constraints.

## The MTFF allocation formula indicators

Indicators reflecting relative spending needs:

- State/Region Population – based on the national population census, 2014, with annual adjustments
- State/Region Poverty Index – based on the Integrated Household Living Condition Assessment, 2009/10
- State/Region Land Area – based on the national population census, 2014

Inverse indicators reflecting relative revenue constraints:

- State/Region per capita GDP – based on Planning Department annual estimates
- State/Region Urban Population as a percentage of the total state population – based on the national population census, 2014, with annual adjustments
- State/Region per capita Tax collection – based on the actual tax revenue collected in the previous fiscal year.

There is no explicit weighting of each indicator so, by default, each of these six indicators are accorded equal weight – i.e. each indicator accounts for the allocation of one sixth (17 percent) of the pool.

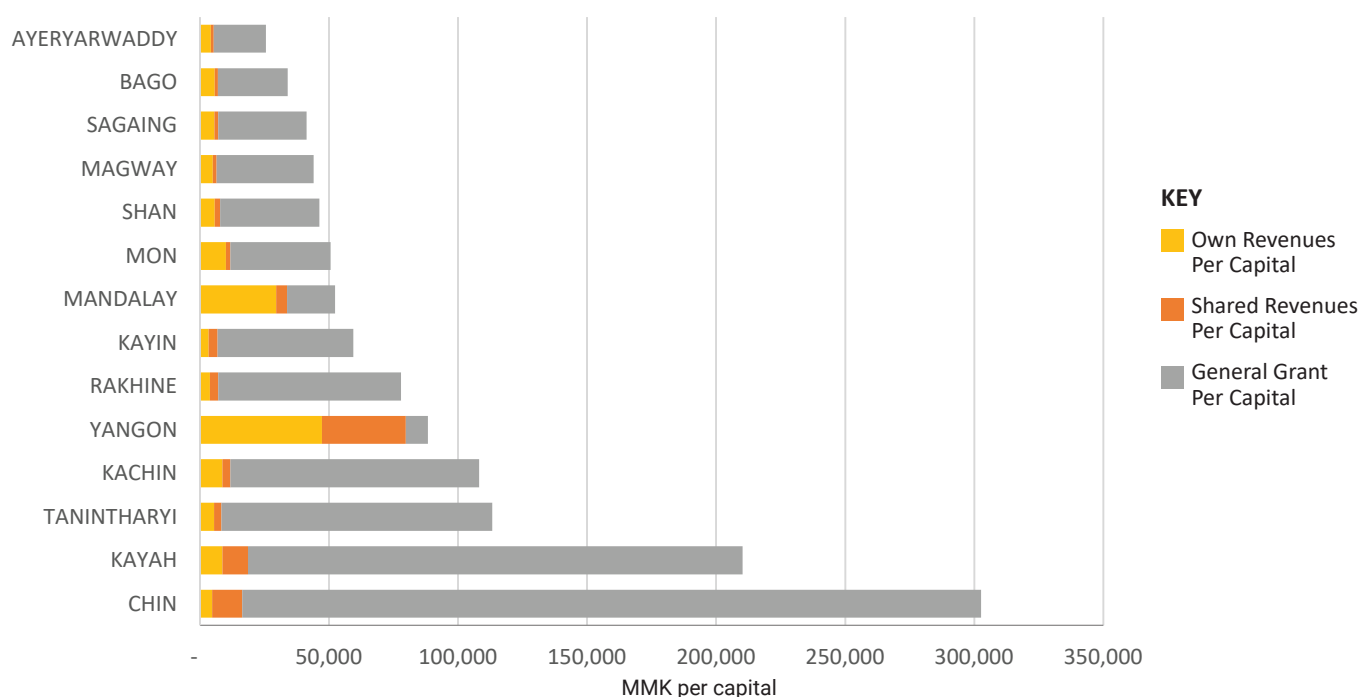
## RESULTING OUTCOMES AND EQUITY ISSUES ARISING

With an eye to examining the “equalizing” effect of these transfers, it is important to compare the total budget resources per person (i.e. per capita) between states/regions. Figure 2 indicates the *per capita total budget revenues* enjoyed by each state/region in 2018/19, by revenue source.

Unsurprisingly, Yangon and Mandalay enjoy much higher own-revenues and also shared-revenue transfers per capita than other states/regions. However, Figure 2 also shows that these disparities are greatly outweighed by the per capita allocations of the much larger general grant transfers. The resulting total per capita revenues from all sources show wide disparities. At one extreme Chin state enjoys some MMK 300,000 per capita, while Ayayerwaddy only some MMK 24,000 – a ratio of **12:1** in per capita public spending capacities.

Here it should be underlined that fiscal equalization *does not mean that total budget resources per capita* should be equal across states/regions – differences in local context, levels of deprivation, delivery costs, etc., will require some variations in per capita spending for the infrastructure and services for which states/regions are responsible. But these variations should not be arbitrarily determined and be within a reasonable range – a 12:1 range seems quite large and hard to explain.

**Figure 2 state/region revenues per capita by sources 2018/19**



# OPTIONS FOR REFORM OF GENERAL GRANT ALLOCATIONS

The roots of the disparities as a result of the formula emerge from two factors:

- Firstly, in practice the formula is used only to allocate the annual increase to the national grant transfer pool – not to the entire transfer pool - and so allocation patterns previous to the introduction of the formula in 2015/16 are still carried through.
- Secondly, the formula itself contains a number of features which cause disparities even if it were to be applied to the entire transfer pool.

## ROLE OF THE PRESENT FORMULA

The MoPF adopting formula-based allocations has been a *major policy reform*, allowing for *potentially greater transparency and equity*, as compared to previous arrangements. It also makes it possible for grant transfers to be announced much earlier in the budget year, giving states/regions time to prepare a much better considered budget proposal than was possible previously, thanks to a more accurate and reliable estimate of total revenues available in the coming year. However, several factors limit the full potential of this reform.

### Application of the formula

In practice, it appears that the formula is not used to determine the allocation of the entire national grant resource pool, but only to allocate the annual increase in the pool since 2015/16. For 2018/19 the national grant pool was increased by MMK 10 billion, from MMK 1,793,645 billion to MMK 1,803,645 – hence the formula was applied only to the MMK 10 billion increment (equivalent to only 0.5 percent of the allocable resources). As a result, the total allocations still largely carry forward the allocation patterns resulting from *the previous negotiated deficit approach* which prevailed up to 2015/16.

Moreover, even after application of the formula to the incremental pool, there is then some discretionary upward or downward “policy adjustment” made to allocations of the annual increase by Union government – which can mean that some states/regions actually get no increase at all.

### Structure of the formula and computation method

#### *Utilisation of Poverty Index as Need Indicator*

The relative poverty incidence of states/regions is an important variable to ensure that per capita allocations in poorer areas are appropriately greater than those allocations in less-poor areas. However, the poverty index value is included as an absolute number in the formula, rather than being statistically ‘normalised’ by relative population in order to make them comparable.

Failure to do this means that, for example, Bago and Kayin for which poverty index values are almost the same, receive almost the same amount for this indicator, despite their hugely different populations.

#### *Calibrating for local fiscal constraint*

The three variables that have been used to provide a measure of relative ‘fiscal poverty’ for states/regions, tax revenues per capita and urban share of the population each are reasonable proxy measures of fiscal capacity – but they too need to be normalised by relative population.

That aside, the three fiscal need criteria together account for 50 percent of the allocable pool in the formula. This seems too high a weighting considering that, nationally, own-source revenues only finance about 20 percent of total state/region spending. In other words, 50 percent of the equalizing grant pool (which itself constitutes almost 70 percent of state/region revenues) is used to compensate for variations in 20 percent of state/region revenues. This over-compensates the more “revenue-poor” states/regions at the expense of those with higher spending needs (which two factors may not always co-vary).

## Weighting

Since no explicit weights seem to have been given to the six 'MTFF formula' criteria, then by default each of the six variables is given equally one-sixth (or 17 percent) importance in the allocations. This means that:

- Population, which is recognized internationally as the most important of all the factors driving relative spending needs and is often given a weighting of 50 percent or more, has a very low weighting. Mathematically, this therefore means that transfers per capita are likely to be very different across states/regions, with states/regions with a larger population receiving much less.
- Combining all three 'need' criteria accounts for only three-sixths (50 percent) of the pool. This gives far too little importance to relative expenditure needs (and too much to the relative fiscal revenue constraint).

## Data values used

Aside from these problems in the formula indicators, there are also some issues around the data values used for some formula indicators such as state/region population size and the poverty index values.

## Compensating for shared-revenue allocations

Finally, if shared-revenue transfers are intended simply as another form of budget support to states/regions, then general grant allocations should make explicit allowance for the amount of revenue-sharing enjoyed by different states/regions, notably Yangon and Mandalay. It appears that this was factored-in on a one-time basis during the 2016/17 allocations of the grant transfers, by deducting the shared revenue transfers from the amounts due to each state/region through the formula in that year. This deduction appears not to have been repeated in subsequent years for allocation of the annual increment – but it does carry through insofar as it continues to be reflected in the historically reduced “base” allocations of states/regions enjoying such transfers. If patterns or levels of shared revenues change substantially in the future this could, however, create growing inequities between states/regions, especially if new revenue-sharing arrangements are introduced around, for example, natural resource extraction.

# OPTIONS FOR IMPROVING THE ALLOCATION FORMULA

Several changes are needed to reach more equitable allocations, primarily:

- **the formula should be applied each year to the entire grant transfer pool – or to increasing shares of the pool each year if this is to be phased-in gradually;**
- **formula computations: even with unchanged indicators and weights, the poverty and revenue constraint index values should be 'normalised' by factoring-in relative state/region populations;**
- **formula structure: the relative weights of population and other need indicators should be increased, and those for local revenue constraints decreased.**
- **Ultimately, unless there is a clear, distinct reason for allocating shared-revenue transfers by area of collection, these transfers should also be factored-in to the grant transfer allocations.**

**In order to ensure that the formula-based allocation arrangements achieve their full potential for equity it is therefore necessary to introduce a number of modifications.**

## Normalising indicator values

Even without any change to the present formula and the weightings of the six indicators, the most significant change is to ensure a *change in the manner of computation*. The poverty index and the three fiscal constraint index values need to be *normalized* by weighting for the relative populations of states/regions – otherwise, as happens now, it introduces a serious distortion and, other things being equal, will tend to give larger allocations to states/regions with smaller populations.<sup>1</sup>

<sup>1</sup> Such neglect of the need to normalise poverty and other indices by relative population in grant allocation formulae is not uncommon. For example, in Nepal and Mongolia it was only after a few years that grant allocation formulas were properly normalized for relative population. It should be stressed that the need for normalization of poverty or other index values is quite separate to the rationale for inclusion of the 'standalone' population number itself in the formula.

## Normalising index values by relative population

- Multiply the index value 'p<sup>i</sup>' for each state/region 'i' by the population 'pop<sup>i</sup>' of that state/region, i.e. p<sup>i</sup> x pop<sup>i</sup>
- Sum the values of that product for all 14 states/regions, i.e.  $\sum (p^i \times \text{pop}^i)$
- For each state/region divide the product of 'p<sup>i</sup>' and 'pop<sup>i</sup>' by this sum, i.e.  $[(p^i \times \text{pop}^i) / \sum (p^i \times \text{pop}^i)] = v^i\%$
- Use the resultant fraction value / percentage to determine the share of each state/region from the part of the total transfer pool '(transfer pool x f%)' set aside for the poverty index value, i.e. v<sup>i</sup>% x [transfer pool x f%)

## Changes to weighting of the indicators

It is generally recognized that population size is the main driver of public spending need and that this indicator needs to be given the largest weighting – more than the approximately 17 percent (1/6th) weight it currently is given. Conversely, the combined weight of 50 percent for the three fiscal constraint indicators seems excessive given that for all states/regions own revenues only comprise some 20 percent of sub-national fiscal resources. The Box suggests one possible alternative set of weights – where the balance is changed: raising the total weighting of the 3 need indicators to 80 percent (by increasing especially the weight of population, and also, though somewhat less, of poverty and land), and decreasing the weightings of the 3 fiscal constraint indicators to a total of 20 percent (so matching the relative importance of local revenues in total SNG financing).

However, this is just illustrative - any changes would of course require much discussion and consensus.

### Possible alternative indicator weightings

- Population 40%
- Poverty 20%
- Land 20%
- Tax index 10%
- GDP per capita 5%
- Urban population share 5%

## Factoring-in shared revenues

Lastly, it would also be important to factor the expected shared-revenue transfers explicitly into the computation, especially if these are expected to grow in future years. This is done quite simply, as follows:

- Adding all expected shared revenues to the grant transfer pool – giving a total transfer pool of MMK 2,140 billion.
- Applying the formula to this total pool to determine the total transfer that each state/region should receive.
- Then subtracting from this amount, the shared-revenues to be allocated to each state/region under the current "derivation" method.
- The difference is the amount of general grant transfer to be allocated to each state/region to ensure that each gets the transfer amount dictated by the formula.

## SIMULATING THE OUTCOMES OF CHANGES PROPOSED

Applying these changes results in a 'flatter' pattern of total per capita revenues across states/regions, and reduces the maximum-to-minimum range from present 11:1 to around 3:1

## Changes to application and computation of the formula

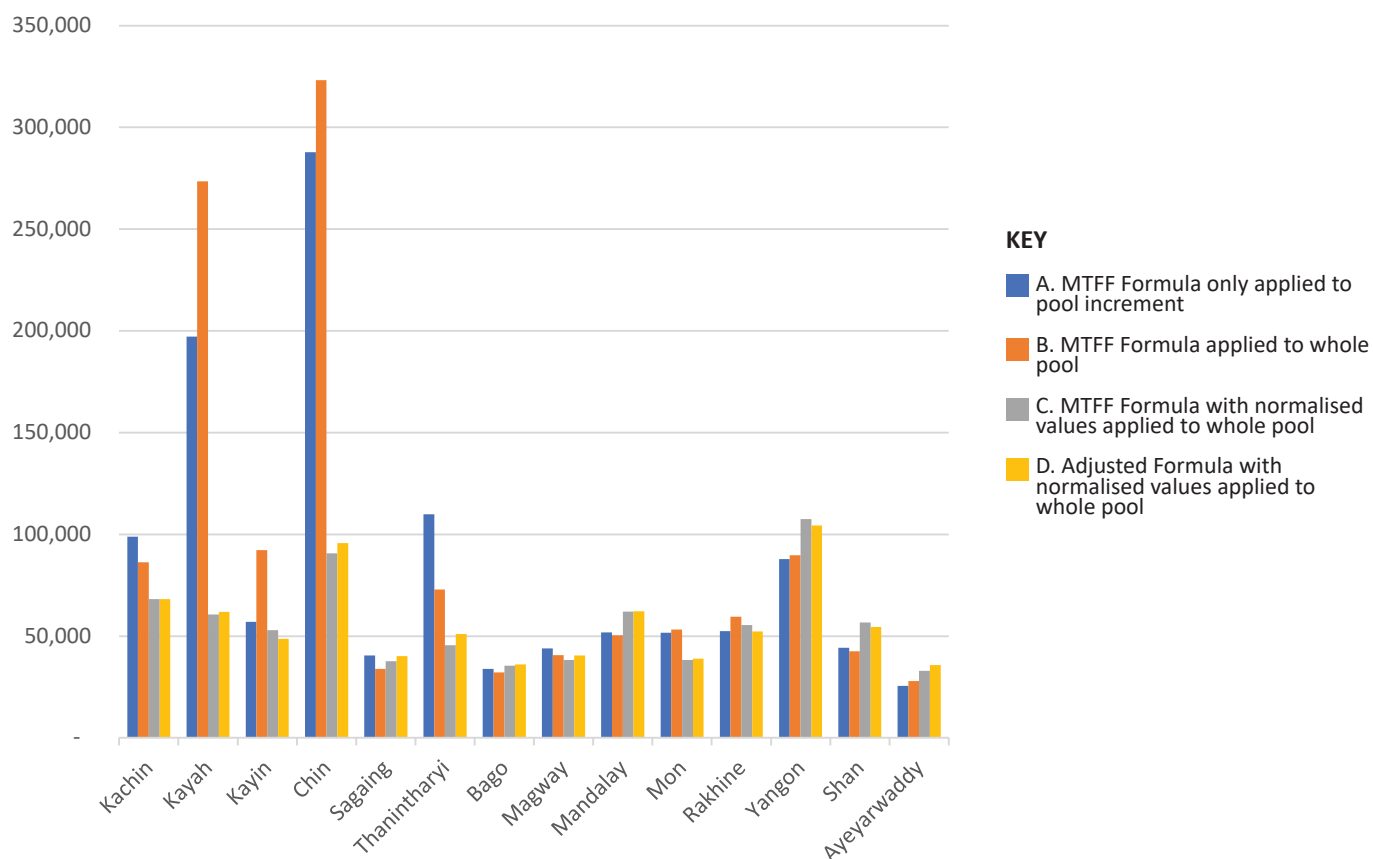
We can simulate the implications of the changes to the formula proposed above, using 2018/19 budget data for the general great transfer pool of MMK 1,803 billion, under 4 scenarios.

### Current allocation and 4 scenarios for change

- A** – the current allocation scenario based on current MTF formula and method of computation (without policy adjustment).
- B** – applying the current MTF formula and method of computation to the entire MMK 1,803 billion pool.
- C** – applying the current MTF formula to the entire MMK 1,803 billion pool, but normalizing the index values by relative state/region populations.
- D** – revising the formula using the relative weights suggested in the box above, and normalising the index values by relative state/region populations.

Figure 3 below shows the total per capita revenues (transfers and own-revenues combined) for each state/region under the present scenario A and under the three different change scenarios.

**Figure 3 Total per capita (transfer plus own) revenues own under present and alternative scenarios**



The main change comes with the move from scenario B to C i.e. when index values for the grant transfer are statistically normalized by relative population: Kayah and Chin, especially, facing substantial per capita revenue reductions, while other, more populated states/regions receiving increases. The Table below showing key statistics for each of the 4 scenarios confirms this. Under scenario C the range of maximum to minimum total per capita revenues drops from over 11:1 to just around 3:1 – which seems a more plausible range.

**Table 1 Variance statistics for total MMK per capita revenues under different scenarios using 2018/19 transfer resources and own-revenues**

Statistic	A.MTFF	Change Scenarios		
	Formula only applied to pool increment (Present scenario)	B. MTFF Formula applied to whole pool	C. MTFF Formula with normalised values applied to whole pool	D. Adjusted Formula with normalised values applied to whole pool
MEDIAN	52,134	56,406	54,176	51,707
MAXIMUM	287,871	323,130	107,477	104,305
MINIMUM	25,486	27,830	32,957	35,773
MAX:MIN RATIO	11.3	11.6	3.3	2.9

### Factoring-in shared revenues as well

Lastly, if shared-revenues are also factored into the formula computations as outlined further above there will then be a further reduction in the maximum to minimum range of total revenues per capita under scenarios C and D to around **2.5 : 1**.



## CONCLUDING REMARKS

- In order to increase likelihood of uptake for changes recommended above, which may face greater challenges if introduced all at once, it is proposed to phase-in the changes incrementally over a period of time. This will also require much attention to consultation and communication in the process.
- Much also depends on the evolution of overall fiscal transfer policy. If Myanmar moves to also establishing sector-specific grant transfers then this may provide opportunities to introduce better-calibrated allocation arrangements for funding key sectors, which better reflect relative spending needs than is possible with a general grant transfer.

## ENSURING POLITICAL FEASIBILITY OF CHANGES

Any such adjustments to the formula-based allocations will generate substantial changes as compared to present allocations. Some states/regions will receive more but others will lose, and there will likely be strong opposition, making it hard for MoPF to implement them (a lesson from many other countries faced with similar problems).

Two options are therefore possible:

- Increase the size of the total grant transfer pool to a level whereby no state/region receives less in absolute terms from the revised allocation method (though may receive less in relative terms). But such a large increase is not likely to be feasible given government's overall budget constraints.
- Phase in the changes to the allocation method over time – say 10 years. This would require the revised formula allocation method to be applied to an additional 10 percent of the total pool every year, until it is applied to 100 percent of the pool by year 10.

For any such changes to be made it is also important that major stakeholders at union and state/region level be sensitized to and consulted on to the issues at stake.

## FUTURE EVOLUTION OF FISCAL TRANSFERS IN MYANMAR

Finally, in the future development of the fiscal transfer system in Myanmar it may be worth moving towards establishing a more diverse set of grant transfers. These might be through:

- More modestly, separating the present unconditional general grant transfer into *a component for development spending and a component for spending on administration* – the latter perhaps with a ceiling, to avoid inflated spending on administration.
- More ambitiously, establishing a *number of conditional grants* for spending on major sectors such as highways or electricity sectors (being presently funded from the general grant), or for other sectors which may be legally mandated in the future to state/region budgets, such as rural water supply or basic education. In the case of such sector-specific grants it becomes easier to devise allocation criteria or formulas which *relate directly to the relative spending needs in those sectors*, and can better ensure spending equity.

In discussing such possible changes, the challenge will be to achieve the right balance between, on one hand, providing adequate national guidance to ensure that local spending patterns are equitable and effective in matching national policy priorities while, on the other hand, allowing the proper degree of state/region discretion in spending decisions.



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