FINAL REPORT

PHILIPPINES: ANALYTICAL AND ADVISORY SERVICES ON REVENUE POLICIES AND ADMINISTRATION FOR THE BANGSAMORO AUTONOMOUS REGION IN MUSLIM MINDANAO (BARMM)

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Executive summary

After the ratification of the Bangsamoro Organic Law (BOL) in 2019, the Bangsamoro Transition Authority (BTA) was formed with a mandate from 2019 – 2022 and responsibility to create the institutional and normative frameworks required for BARMM to assume powers devolved to it with the enactment of BOL. This study sets out to provide a complete overview of public revenue raised in BARMM by all levels of government, an examination of the collection and distribution arrangements for public revenue, to identify opportunities for expanding revenues accruing to BARMM taking into account the existing payment burdens on BARMM residents and business, and the effect of additional revenue-raising initiatives on economic activity, motivation, incomes and the distribution of the government revenue collections across the region and across individuals and organizations. We also discuss the size and composition of the BARMM Revenue Office to be established in 2021.

There are five provinces and one independent (from any province) city in BARMM, which in turn consist of two cities and 116 municipalities at the sub-provincial level and 2,590 barangays at the bottom level, including the newly joined 63 barangays from Soccsksargen (Region XII) that form a Special Geographic Area. As of 2020, the population of BARMM is 4,183,316 people (2015 Census of Population or POPCEN projected), or 3.8% of the total population of the Philippines. It is projected that the population of BARMM will increase by 452,203 by 2025, at a projected population growth rate of 10.8% over the 5-year period, which is higher than the overall projected population growth for the Philippines over the same period – 6%. In terms of economic activity, BARMM has the lowest Gross Regional Domestic Product (GRDP) at 128.7 million pesos, or 0.7% of the whole GDP of the Philippines. BARMM also ranks the lowest in terms of GRDP per capita at only 32,220 pesos per person, compared to 163,475 pesos per person in the Philippines as a whole, or roughly one-fifth of the national average. Breaking down the GRDP in BARMM, we can see that agriculture and forestry, along with fishing, have generated approximately 60% of all economic activity in BARMM since 2015 (compared to 9.7% in the Philippines).

BARMM is the only region in the Philippines to collect less than 1,000 pesos in total national tax collections by the Bureau of Internal Revenue (BIR) since 2016. In 2019, the revenue per capita collections were 30 times lower than the total revenue per capita collections in the Philippines. Revenue collections as a % of Gross Domestic Product (GDP) is the lowest among all regions in 2016 and 2017 and the third lowest in 2018 (due to a sharp decrease in most of the other regions). All BARMM provinces are in the 4th and lowest quintile of revenue collection distribution, while Lanao Del Sur, Basilan, and Sulu provinces have the lowest revenue per capita collections in 2019 across all provinces in the Philippines (excluding National Capital Region). In terms of relative importance, income taxes contribute to more than half of all collections; however, their share has been volatile as well across provinces. Overall, income taxes and Value Added Taxes (VAT) contribute more than 93-98% of revenue collections in the provinces, with other taxes contributing little revenues.

While most of the regional government revenue was from the annual block grant (94%), regional taxes and fees generated 332,161,671 pesos, which is only 0.5% of total revenue. Approximately 74% of it came from regional taxes, mostly through regional wealth tax and contractor's tax. At the local government unit level, approximately two-thirds of the local source or own revenue is collected from tax revenue. Provinces collected 24.8 million pesos from local sources, 9.5 million of which on average was from tax revenue, and another 15.4 million pesos from non-tax sources. Cities collected on average 81.8 million in tax revenue and 54.5 million in non-tax revenue,

although Cotabato city collected 90% of tax revenue and 68% of non-tax revenue among cities. Municipalities collected 2.5 million from local sources, 1.4 million of which were in tax revenue and 1.1 million in non-tax revenue. The tax revenues collected by the provinces are mostly generated from real property taxes, on average 84% of tax revenue (9.5 million pesos on average), and only 5% from taxes on business. In contrast, in the case of cities and municipalities, most tax revenues come from taxes on business – on average, 73% and 67% respectively (or on average 39 million pesos and almost 1 million pesos).

BARMM regional government has the authority to collect its own taxes and fees. According to BOL, BARMM shall "enact a Bangsamoro tax revenue code, which shall cover taxing powers of the Bangsamoro Government, in accordance with the Constitution and this Organic law." (Article XII, Section 14). To review the revenue potential of the regional BARMM government, we will rely upon (1) revenue allowance outlined in BOL, (2) relative fiscal effort in provinces compared to other provinces in the Philippines, and (3) new potential revenue items used in other countries.

Despite containing significant gold, nickel, and copper reserves, mining and quarrying contributed only 0.4% to total GDP in 2018 (or 541 million pesos), which makes it a relatively small industry, that most likely would not bring significant additional revenue. It is estimated that nickel reserves in BARMM are valued at approximately USD 2 trillion, while gold and copper reserves are values at around USD 8-10 billion. Therefore, with proper management of increased investment by national and foreign mining companies, there is a potential for a significant revenue stream from mining and quarrying.

The second option available to analyze additional potential revenue is to look at the tax effort. Our analysis using stochastic frontier analysis shows that half of the provinces in Philippines collect lower national tax revenue than the potential estimated revenue. According to our estimations, Maguindanao province is the only province in BARMM that collects more national tax revenue than the potential revenue estimated by our model – approximately by 300 pesos per person. All other provinces in BARMM collect lower revenue than their potential limit, although Lanao Del Sur comes close (92%). Basilan and Sulu provinces are among the provinces in the Philippines that underperform the most, with Sulu province revenue effort the lowest among all provinces – actual revenue collections are only 21% of potential revenue.

Finally, there several new potential revenue sources that the BARMM government can utilize based on international experience. First, it is important to note that the list of taxes and fees listed in Muslim Minandao Autonomy (MMA) Act No. 49 (also known as ARMM Revenue Code of 1996) is already very extensive and covers practically most available revenue bases usually assigned at sub-national level. One option is collecting additional property tax revenue in the form of 'betterment levies' or lump-sum payments (already allowed for local government units in the Local Government Code of 1991). It's a payment exacted upfront from land and housing developers and also from homeowners as a charge for public service improvements. Another emerging type of taxation that is not fully accounted for in MMA Act No. 49 are so-called "green taxes" that have been utilized frequently in both advanced and developing countries. These are taxes on any market activity that generates negative externalities, including polluting activities and other environmentally harmful activities, mostly due to production. Since most of the burden falls on producers, particularly in the mining sector, which mostly focused on export, it is considered a desirable revenue from a social stand-point due to increased revenue and improved environmental outcomes for the local population, which has been an important issue in provinces such as Tawi-Tawi.

Next, we analyzed the distribution of the revenue burden for main taxes collected in BARMM: VAT, excises, personal income (employees and self-employed), corporate income, real property, and property transfer taxes. Using a long literature on tax incidence, we make a series of assumptions regarding the final incidence of taxes after they have been shifted in the economy. We then allocate the actual aggregate collections in 2019 to households based on these assumptions using the 2018 Family Income and Expenditure Survey (FIES). The FIES contains detailed information on the income and expenditures of the household, which allows us to allocate (for example) the amount of each tax collected on the share of each household's consumption or income (depending on the tax). We make such an attribution for each tax instrument and respective aggregate collections over the household to arrive at a measure of total taxes borne by each household. Finally, sorting households by the level of their total household income from low to high, we report the amount of tax borne by the average household at each level of income, and we also report tax borne divided by income—a measure of the effective rate of taxation. Similarly, we report the amount of tax borne by the average household in each province of BARMM, and we again report tax borne divided by the average household income in each province—a measure of effective rate of taxation. The burden of the entire tax system is sharply regressive over the bottom three deciles and rather flat over deciles 4-10. This is primarily driven by the regressive distribution of the national consumption taxes. Since 90 percent of the BARMM households are below the taxable threshold for the personal income tax, that latter has very limited ability to mitigate the regressivity of consumption taxes.

The final component of this report focuses on providing advice on the size, composition, skills, and systems requirements for the new BARMM revenue office in meeting their responsibilities. The revenue office administration will play a key role in upholding efficient revenue collection and management, especially in a dynamic environment of changing laws and rules on revenue authority and distribution. In general, organization design of a tax or revenue administration can be structured along the tax focus, function focus, and taxpayer focus, or a hybrid of these. The Philippines currently uses a functional focus mostly, but also with an extra focus on large taxpayers. This is a model and general approach that the new BARMM Revenue office could follow at a regional scale. The business operations of large taxpayers are complex because they have high transaction volumes, they act as withholding agents for the taxes of other taxpayers, and they often have no arm's length transactions with the foreign parent corporation. All these features makes it more suitable to dedicate a special division or unit for large taxpayers. However, the definition of a large taxpayer may be revised based on BARMM regional economic activity and taxpayer population.

It is also important to have a flexible structure that can allow for the necessary adaptation and reforms over time. Especially, the development of new technology and its role in electronic filings will necessitate the update of revenue administration over time. Therefore, it is important to program and mandate some level of review of the revenue administration every 3 to 5 years. It will also be important to ensure a high level of autonomy for the revenue office to avoid potential revenue losses due to bureaucracy and corruption. In this regard, the revenue authority (RA) model has become a popular tax administration system innovation and anew standard of revenue administration in a good number of countries. The RA model is a "governance model for revenue administration where the revenue collection function typically is removed from the ministry of finance departments into an agency with a degree of autonomy from civil service rules to structure and manage it." In addition, and as final benchmark, a large number of countries, including Guatemala, Peru, Ecuador, Canada have integrated their tax and customs departments into a single

agency. This provides a number of advantages; primary among them are the better flow of information and the ease of conducting more integral audits since large firms frequently pay both domestic taxes and customs duties.

BOL states that "the Parliament shall establish by law the Bangsamoro Revenue Office for the Assessment and collection of Bangsamoro taxes, as well as all other collectible taxes in the Bangsamoro Autonomous Region" (Article XII, section 11). When we look at the international experience, Asian Development Bank (ADB) report by Araki and Claus (2014) comparing the performance of national tax adsministration units in Asia, shows the average taxpaying area to offices ratio (for countries with available data) is about 11.75 thousand square km per office; for the Philippines the ratio is 2.07 thousand square km per office. If we assume a continuation of 5 regional district offices (RDOs) for 12.7 thousand km square in BARMM, the ratio would be 2.54, which is higher than in the Philippines and comparable to countries like China and Myanmar.

Currently, national taxes in the Philippines are collected in 19 revenue regions and 115 Revenue District Offices (RDO), which are usually dedicated to a specific province. BARMM provinces are covered by revenue regions. If we also account for RDO officers and assistant RDO officers in each accompanying RDO, we can estimate that a BARMM Revenue office that would continue a similar structure of with five provinces and one independent component city would have 16 regional office staff members and 12 RDO officers and their assistants, or 28 staff members overall. The total number of employees will depend on interaction and cooperation between BARMM Revenue Office and BIR in terms of duplication of these services at the regional level. During the transition to the new revenue office, it is important to keep a certain level of continuity in these dedicated revenue district offices to ensure, at the least, continuity in the level of collections for national taxes.

In addition, with an increasing number of working-age population and potentially an increasing number of businesses, each revenue district office in BARMM would have to adjust the number of employees and resources depending on the jurisdiction/province they are located in. Hence, while considering the human capital and other resources for the revenue office, it important to keep track of, as well as project in the medium term, the actual and potential number of individual and business taxpayers. Maguindanao has the highest number of working-age population projected for 2020-2025; by 2025, its working-age population of 874,242 people will be 3.5 times that number for Basilan. On the other hand, Lanao del Sur has the greatest number of businesses registered with 10,282 firms, which is more than eight times the number of businesses in Basilan. These discrepancies will need to be accounted for at the regional revenue office level and at the district office level because thye will require quite different types of accounting, audit, and evasion deterrence teams.

As a final benchmark of the efficiency of revenue administration at the regional BARMM Revenue Office, there will be a need to account for the costs of administration. The recent ADB report by Araki and Claus (2014) on comparative tax adaminsitration practices in Asia already mentioned above shows that on average, approximately 1% of net revenue (gross revenue minus refunds) collected would be spent on the administration of taxes. In the Philippines, the cost of revenue administration was reported at 0.7% of net revenue collected in 2011. Therefore, it is important to benchmark and monitor the revenue administration expenses of the new tax administration office, and perhaps set an upper limit threshold, which would inform a potential evaluation of the entire program if that threshold is crossed.

Abbreviations

ADB – Asian Development Bank

ARMM - Autonomous Region in Muslim Mindanao

BARMM - Bangsamoro Autonomous Region in Muslim Mindanao

BIR - Bureau of Internal Revenue

BLGF - Bureau of Local Government Finance

BOL - Bangsamoro Organic Law

BRC - Bangsamoro Revenue Code

BRO - Bangsamoro Revenue Office

BTA - Bangsamoro Transition Authority

FIES - Family Income and Expenditure Survey

FY – Fiscal Year

GDP - Gross Domestic Product

GRDP - Gross Regional Domestic Product

IRA - Internal Revenue Allotment

LGU- Local Government Units

MMA - Muslim Minandao Autonomy

NCR - National Capital Region

PHP – Philippine Peso

POPCEN – Census of Population

PSA - Philippines Statistics Authority

RA - Revenue Authority

RDO - Regional District Offices

VAT - Value Added Taxes

1. Introduction and Context

The current study is taking place in the context of the implementation of the political, administrative, fiscal, and decision-making reforms aimed at establishing the BARMM of the Philippines, as envisioned in the Bangsamoro Organic Law (BOL or RA 11054). BARMM replaced the now dismantled Autonomous Region in Muslim Mindanao (ARMM) created in the 1987 Constitution. The subsequent 2014 Comprehensive Agreement on the Bangsamoro (CAB) provided guarantees to overhaul the ARMM legislation to make it more responsive to the needs of the Bangsamoro Autonomous Region.

After the ratification of the BOL in 2019, the Bangsamoro Transition Authority was formed with a mandate from 2019 – 2022 and responsibility to create the institutional and normative frameworks required for BARMM to assume powers devolved to it with the enactment of BOL, while in the interim also delivering programs and services in the region, such as welfare programs, infrastructure, and other basic services. The powers devolved to BARMM in the BOL, but which remain with the national government in the rest of the country, include explicit revenue-raising powers in addition to guaranteed automatic appropriations from the national budget. The latter is in the form of an annual block grant in the amount to "be equivalent to five percent (5%) of the net national internal revenue tax collection of the Bureau of Internal Revenue and the net collection of the Bureau of Customs" in a base year. To implement these revenue-raising powers, BTA has to create the required capacity, which among other things, requires drafting a Bangsamoro Revenue Code (BRC) and establishing a Bangsamoro Revenue Office (BRO).

The World Bank has provided support for the BARMM and its predecessors for several years. As part of this support, the World Bank has contracted the International Center for Public Policy at Georgia State University (Atlanta, GSU) to produce this study in order to inform BTA's work related to the implementation of the revenue-raising powers devolved to the BARMM government.

In this context, this study sets out to provide a complete overview of public revenue raised in BARMM by all levels of government, an examination of the collection and distribution arrangements for public revenue, to identify opportunities for expanding revenues accruing to BARMM taking into account the existing payment burdens on BARMM residents and business, and the effect of additional revenue-raising initiatives on economic activity, incentives and motivation, incomes and the distribution of the government revenue collections across the region and across individuals and organizations. The resulting policy document will be based, among other things, on the review of the Bangsamoro organic law and other pertinent laws, policies, and agreements related to the BARMM's powers as an autonomous regional government and its fiscal relationships with the national and municipal governments.

Administratively, BARMM is one of the 17 regions in the Philippines (including the National Capital Region), and unlike other regions, BARMM is autonomous. There are five provinces and one independent city in BARMM, which consists of two component cities, 116 municipalities, and 2,590 barangays, including the newly joined 63 barangays from Soccsksargen (Region XII) that form a Special Geographic Area[1] (table 1). Two of the cities – Lamitan and Marawi are component cities and are part of Basilan and Lanao del Sur, respectively. In contrast, Cotabato City is an independent component city (formerly part of Soccsksargen, now in Maguindanao), and therefore, independent from the province in which it is geographically located.

[1] These barangays will be part of existing or new municipalities.

Table 1. Administrative division of BARMM

Province	Municipalities	Barangays
Basilan	11	210
Lamitan City	—	45
Lanao del Sur	39	1,159
Marawi City	—	96
Maguindanao	36	508
Sulu	19	410
Tawi-Tawi	11	203
Cotabato City	—	37
Special Geographic Area	—	63
Total	116	2,590

From a revenue perspective, the administrative composition of BARMM implies relatively weak tax bases, as traditionally it is urbanized areas that lead economic activity in manufacturing and services, which tend to be the foundations for strong tax bases of income and consumption taxes in the international practice.

As of 2020, the Population of BARMM is 4,183,316 people (2015 Census of Population projected), or 3.8% of the total population of the Philippines (table 2). It is projected that the population of BARMM will increase by 452,203 by 2025, at a population growth rate of 10.8% over the 5-year period, which is higher than the overall projected population growth for the Philippines over the same period – 6%. Thus, it is projected that by 2025 BARMM's population share in the Philippines will increase to 4%. From a revenue-raising potential viewpoint, population growth is a significant positive determinant but only in the long term. In the short and even medium terms, young new generations of BARMM residents will not be generating incomes but will be high users of public services, especially education and health services.

Table 2. Overall population and its density, BARMM provinces, 2020

Province	Population (2020)		Area (km sq)	Density per km sq
Basilan (except Isabela City)	8.25%	386,698	1,103.50	350
Lamitan city		81,745		
Lanao del Sur	24.47%	1,146,285	3,872.89	296
Marawi city		217,364		
Maguindanao	28.24%	1,323,050	4,871.60	272
Sulu	19.50%	913,593	1,600.40	571
Tawi-Tawi	8.83%	413,690	1,087.40	380
Cotabato City	6.61%	309,498	176	1759
Special Geographic Area	4.10%	192,324	—	—
Total	100%	4,685,138	12,711.79	369

Source: Philippines Statistics Authority (PSA)

Maguindanao is the most populated province with 1,323,050 people, closely followed by Lanao Del Sur with 1,146,285 people, then Sulu - 913,593, Tawi-Tawi - 413,690, and Basilan - 386,698.

After the ratification of BOL, Cotabato city became the largest city in BARMM with an estimated population of 309,498, followed by Marawi City (214,364) and Lamitan City (81,745). Sulu province is the most densely populated province at 571 people per km square, while Cotabato city is the most densely populated area at 1759 people per km square, and Maguindanao is least dense – 272 people per km square.

In terms of economic activity, BARMM has the lowest Gross Regional Domestic Product (GRDP) at 128.7 million pesos, or 0.7% of the whole GDP of the Philippines (table 3). As expected, the National Capital Region (NCR) generates the most economic activity in the Philippines – 37.5% of GDP. At the same time, nominal GRDP in BARMM has been steadily increasing at approximately 9% annually on average between 2015 and 2018 compared to 9.4% of overall nominal GDP for the country. However, the growth rate in BARMM has been volatile over the years, both in real and nominal terms. In real terms, GRDP stalled between 2014 and 2016, only to increase by over 7% in 2017 and 2018.

BARMM also ranks the lowest in terms of GRDP per capita at only 32,220 pesos per person, compared to 163,475 pesos per person in the Philippines as a whole, or roughly one-fifth of the national average (table 4). The next lowest region, Bicol, has almost twice the level of GRDP compared to BARMM – 58,600 pesos per capita (see Tables 3 and 4).

Table 3. Gross Regional Domestic Product at current prices by province (in thousands of pesos)

REGION	2015	2016	2017	2018
PHILIPPINES	13,322,041,273	14,480,348,803	15,807,595,679	17,426,201,969
NATIONAL CAPITAL REGION	5,043,596,897	5,526,337,349	6,018,298,973	6,534,797,200
CORDILLERA ADMINISTRATIVE REGION	234,583,094	242,868,004	272,731,182	304,301,178
ILOCOS	409,097,791	450,382,549	487,531,147	547,522,743
CAGAYAN VALLEY	236,832,451	251,400,390	280,530,665	303,001,217
CENTRAL LUZON	1,187,307,089	1,304,052,510	1,458,208,948	1,620,341,632
CALABARZON	2,059,547,574	2,142,921,719	2,316,605,861	2,571,283,568
MIMAROPA REGION	204,848,841	210,586,119	236,473,199	274,305,330
BICOL	282,759,855	306,539,332	331,633,768	374,317,685
WESTERN VISAYAS	549,753,304	596,220,667	659,051,937	739,011,183
CENTRAL VISAYAS	867,162,727	964,908,118	1,033,388,776	1,156,592,260
EASTERN VISAYAS	271,914,849	311,740,923	320,959,419	354,550,767
ZAMBOANGA PENINSULA	277,208,133	295,105,827	312,758,523	342,259,823
NORTHERN MINDANAO	517,648,536	576,819,708	625,635,324	691,655,647
DAVAO REGION	565,205,235	641,245,739	727,445,778	816,873,862
SOCCSKSARGEN	355,960,468	386,407,684	426,530,116	472,662,866
CARAGA	159,038,290	167,565,170	180,529,301	194,014,284
BARMM	99,576,138	105,246,996	119,282,762	128,710,725

Source: PSA

Table 4. Gross Regional Domestic Product per capita at current prices by province (in pesos)

Region	2015	2016	2017	2018
PHILIPPINES	131,171	140,255	150,661	163,475
NCR	398,650	432,155	465,850	500,947
CORDILLERA ADMINISTRATIVE REGION	131,530	133,791	147,634	161,888
ILOCOS	79,653	86,608	92,629	102,819
CAGAYAN VALLEY	67,707	70,880	78,020	83,158
CENTRAL LUZON	106,975	115,769	127,609	139,833
CALABARZON	145,786	148,873	158,029	172,310
MIMAROPA REGION	66,309	66,793	73,520	83,614
BICOL	46,876	49,859	52,920	58,600
WESTERN VISAYAS	71,356	76,324	83,215	92,043
CENTRAL VISAYAS	116,448	127,494	134,385	148,067
EASTERN VISAYAS	59,930	67,475	68,218	73,996
ZAMBOANGA PENINSULA	73,634	77,045	80,274	86,368
NORTHERN MINDANAO	109,981	120,623	128,802	140,224
DAVAO REGION	113,881	126,772	141,166	155,657
SOCCSKSARGEN	77,396	82,397	89,228	97,034
CARAGA	58,541	60,447	63,823	67,228
BARMM	26,862	27,691	30,610	32,220

Source: PSA

Breaking down the GRDP in BARMM (as shown in table 5), we can see that agriculture and forestry sectors, along with fishing, have generated approximately 60% of all economic activity in BARMM since 2015 (compared to 9.7% in the Philippines), followed by public administration and defense services which generate 12.7% of economic activity in 2018 (compared to 4.5% in the Philippines). These are, but less so in the case of public administration and defense services, generally hard-to-tax sectors that tend to be highly fragmented with small tax bases and therefore little tax revenue potential. In the case of agriculture, negative tax revenues may be expected if subsidy programs are in place. Interestingly, mining and quarrying only generate 0.3-0.4% of overall GDP since 2015 (compared to 0.8% in the Philippines). Therefore, these sectors with potentially high rents and tax revenues are very small. Also, importantly from the tax revenue potential perspective, manufacturing is almost non-existent at present in BARMM (compared to almost 20% of GDP in the Philippines). This practically eliminates one of the strongest potential tax bases and tax revenue generation sources for BARMM. The service sector, other than its public component, represent about 23% of GDP in 2018 (compared to 55% in the Philippines). This is indeed a positive feature, although it is relatively small in comparison to the rest of the country. To the extent that there is firm fragmentation and informality, the service sector may not be either a very strong foundation for income and consumption tax bases and therefore robust revenue generation potential in the future.

Table 5. Share of GRDP at current prices by industrial origin in BARMM, 2015-2018

INDUSTRY/YEAR	2015	2016	2017	2018
I. AGRICULTURE, HUNTING, FORESTRY & FISHING	60.6	59.8	60.9	58.9
a. Agriculture and Forestry	47.9	49.2	50.8	48.5
b. Fishing	12.7	10.6	10.1	10.4
II INDUSTRY SECTOR	5.0	5.0	4.9	5.1
a. Mining and Quarrying	0.3	0.3	0.4	0.4
b. Manufacturing	1.1	1.1	1.0	1.0
c. Construction	1.6	1.9	1.7	2.0
d. Electricity, Gas and Water Supply	1.9	1.7	1.7	1.7
III SERVICE SECTOR	34.4	35.2	34.2	36.0
a. Transportation, Storage & Communication	4.4	4.2	3.9	4.1
b. Trade and Repair of Motor Vehicles, Motorcycles, Personal and Household Goods	1.2	1.3	1.2	1.3
c. Financial Intermediation	3.9	4.1	4.1	4.5
d. Real Estate, Renting & Business Activities	8.0	7.8	7.3	7.1
e. Public Administration & Defense; Compulsory Social Security	11.3	11.8	11.6	12.7
f. Other Services	5.6	6.0	6.1	6.4
Total GRDP	100.0	100.0	100.0	100.0

Source: PSA

The background discussion of population trends, administrative structure and economic bases, and the composition of GDP highlight the importance of a careful design of the tax system reaching a good balance between tax revenue generation, the encouragement of business activity and economic growth, and a fair and equitable distribution of tax burdens among resident and organizations. The latter theme will be analyzed in the next section of the report.

The background discussion also highlights the importance for BARMM of building a tax administration apparatus that is both lean and efficient, minimizing both enforcement and taxpayer compliance costs, and with good taxpayer services that can encourage voluntary compliance. This is the theme further developed in the last section of the report.

Structure of this study

Based on the scope of work, this study is further structured along the three distinct, but interrelated components, each described in a dedicated section in what follows below:

- Assessment of revenues currently collected in BARMM by all levels of government and opportunities for additional revenue for the BARMM regional government.
- The impact and incidence of current and potential revenue sources.
- BARMM revenue office administration.

2. Revenue collections and opportunities for additional revenue

This component focuses on the assessment of the current government revenue collected in the BARMM territory by each level of government and opportunities for additional revenue raising by the BARMM government. Conceptually, the component is comprised of two main parts separately addressing each of those two main points.

2.1 Review of current revenues collected in BARMM by each level of government

Based on the available data, we first review the existing current government revenues collected in BARMM. In particular, this includes the absolute value of the total and each revenue source and their trends over time, the relative importance of each revenue source within each level of government and their trends over time, overall revenue collection distribution across provinces, cities, and municipalities and its trend over time, as well as aggregate revenue collection distribution across levels of government and its trend over time.

The tax revenues in BARMM are currently collected by the National Government, BARMM Regional Government, and Local Government Units (LGUs), with the latter comprised of 5 provinces (Basilan, Lanao Del Sur, Maguindanao, Sulu, Tawi-Tawi), 3 component cities (Cotabato city, Lamitan city, Marawi city), 116 municipalities, and 2,590 barangays.

National taxes collected in Philippines and BARMM

Based on the National Internal Revenue Code of 1997, the main national taxes collected in BARMM (same as in the rest of the country) are as following:

- Capital Gains Tax is a tax imposed on the gains presumed to have been realized by the seller from the sale, exchange, or other disposition of capital assets located in the Philippines, including pacto de retro sales and other forms of conditional sale.
- Documentary Stamp Tax is a tax on documents, instruments, loan agreements and papers evidencing the acceptance, assignment, sale or transfer of an obligation, rights, or property incident thereto.
- Donor's Tax is a tax on a donation or gift, and is imposed on the gratuitous transfer of property between two or more persons who are living at the time of the transfer.
- Estate Tax is a tax on the right of the deceased person to transmit his/her estate to his/her lawful heirs and beneficiaries at the time of death and on certain transfers which are made by law as equivalent to testamentary disposition.
- Income Tax is a tax on all yearly profits arising from property, profession, trades or offices or as a tax on a person’s income, emoluments, profits and the like.
- Percentage Tax is a business tax imposed on persons or entities who sell or lease goods, properties or services in the course of trade or business whose gross annual sales or receipts do not exceed P550,000 and are not VAT-registered.
- Value-Added Tax is a business tax imposed and collected from the seller in the course of trade or business on every sale of properties (real or personal) lease of goods or properties

(real or personal) or vendors of services. It is an indirect tax, thus, it can be passed on to the buyer.

- Withholding Tax on Compensation is the tax withheld from individuals receiving purely compensation income.
- Expanded Withholding Tax is a kind of withholding tax which is prescribed only for certain payors and is creditable against the income tax due of the payee for the taxable quarter year.
- Final Withholding Tax is a kind of withholding tax which is prescribed only for certain payors and is not creditable against the income tax due of the payee for the taxable year. Income Tax withheld constitutes the full and final payment of the Income Tax due from the payee on the said income.
- Withholding Tax on Government Money Payments is the withholding tax withheld by government offices and instrumentalities, including government-owned or -controlled corporations and local government units, before making any payments to private individuals, corporations, partnerships and/or associations.
- Excise Tax is a tax on the production, sale or consumption of a commodity in a country. It applies to goods manufactured or produced in the Philippines for domestic sale or consumption or for any other disposition; and to imported goods.

Table 6 below shows the total national tax collections in all regions of the Philippines, including BARMM, from 2016 through the 3rd quarter of 2020. BARMM consistently has the lowest total revenue collections across all regions since 2016 in absolute terms. In 2019, 85% of all BIR collections was from the NCR, which includes the city of Manila, while BARMM accounted only for approximately 0.13% (or 0.8% excluding NCR). The trend of collections since 2016 has been volatile, with most regions experiencing a dip in collections in 2018 (except NCR and Davao), with the trend recovering in 2019. In BARMM, revenue collections increased by 1 billion pesos between 2016 and 2020, or by 62% (average annual inflation in the Philippines during the same period was 3.3%).

Table 6. National tax collections by BIR by regions, 2016-2020 Q3 (in millions of pesos)

REGIONS	2016	2017	2018	2019	2020 Q3
N.C.R.	1,270,356.97	1,426,373.12	1,630,613.40	1,805,223.75	1,189,545.44
Cordillera Administrative Region	5,743.53	6,712.03	5,202.10	6,440.32	3,779.75
REGION I - Ilocos Region	11,942.96	14,688.24	12,477.28	14,084.05	9,274.20
REGION II - Cagayan Valley	8,936.16	9,958.76	8,283.24	8,859.75	6,235.27
REGION III - Central Luzon	35,816.36	43,277.51	40,104.49	41,977.43	29,566.48
REGION IV - A Calabarzon and Mimaropa	60,009.13	71,134.94	67,263.46	78,509.69	46,855.81
REGION V - Bicol Region	9,223.69	10,801.31	7,700.24	9,090.97	6,596.93
REGION VI - Western Visayas	18,684.39	20,848.12	9,443.75	18,962.28	12,693.88
REGION VII - Central Visayas	61,919.08	64,746.73	60,794.70	69,400.25	44,968.26
REGION VIII - Eastern Visayas	7,836.58	9,067.42	6,222.31	7,046.72	4,979.04
REGION IX - Zamboanga Peninsula	5,861.38	6,493.61	4,725.34	5,786.09	4,056.13
REGION X - Northern Mindanao	11,950.52	12,368.62	9,214.48	11,106.46	7,665.56
REGION XI - Davao Region	16,884.52	30,478.21	32,847.99	37,618.48	23,760.55
REGION XII - Soccsksargen	8,801.48	9,023.34	6,468.08	6,757.15	4,739.42
REGION XIII - CARAGA	5,238.60	5,950.19	4,302.73	5,143.11	3,624.27
BARMM	1,641.96	2,165.03	1,723.16	2,664.17	1,920.67
TOTAL BIR Collection	1,540,847.31	1,744,087.18	1,916,695.62	2,128,670.67	1,400,261.66

Source: Bureau of Internal Revenue

Table 7. National tax collections by BIR per capita by regions, 2016-2020 Q3 (in pesos)

REGIONS	2016	2017	2018	2019	2020 Q3
N.C.R. – National Capital Region	97,220	107,531	121,202	132,411	86,170
Cordillera Administrative Region	3,302	3,819	2,930	3,594	2,091
REGION I – Ilocos Region	2,353	2,864	2,409	2,695	1,760
REGION II – Cagayan Valley	2,558	2,815	2,314	2,448	1,705
REGION III – Central Luzon	3,132	3,709	3,373	3,468	2,401
REGION IV – A Calabarzon and Mimaropa	3,381	3,922	3,633	4,159	2,436
REGION V – Bicol Region	1,573	1,819	1,282	1,497	1,075
REGION VI – Western Visayas	2,455	2,712	1,216	2,420	1,606
REGION VII – Central Visayas	8,243	8,485	7,850	8,837	5,651
REGION VIII – Eastern Visayas	1,743	1,990	1,347	1,505	1,050
REGION IX – Zamboanga Peninsula	1,601	1,758	1,269	1,541	1,072
REGION X – Northern Mindanao	2,513	2,563	1,883	2,241	1,528
REGION XI – Davao Region	3,399	6,037	6,404	7,220	4,491
REGION XII – Soccsksargen	1,905	1,919	1,354	1,393	963
REGION XIII – CARAGA	1,994	2,237	1,598	1,889	1,316
BARMM	426	550	429	650	459
TOTAL BIR Collection	15,028	16,743	18,124	19,841	12,873

Source: Bureau of Internal Revenue

To normalize the revenue figures above by population and economic activity, table 7 shows the BIR revenue collections per capita and table 8 as a percent of GDP. BARMM is the only region in the Philippines to collect less than 1,000 pesos in total BIR revenue since 2016. In 2019, the BIR per capita collections were 30 times lower than the total BIR per capita collections in the Philippines. However, accounting for disproportionately high per capita collections in the National Capital Region, per capita collections in the Philippines excluding NCR was 3,454 pesos (in 2019), which is still 5.3 times higher than in BARMM.

BIR collections as a % of GDP in table 8 shows a similar story with BARMM collections as a % of GDP lowest among all regions in 2016 and 2017, and third lowest in 2018 (due to sharp decrease in most of the other regions). BIR Collections in BARMM constitute 1.34% of its GDP, compared to 11% overall in the Philippines, or 2.54% excluding NCR.

Table 9 compares BIR collections in 2019 at the province level across regions of the Philippines (excluding NCR). Again BARMM provinces are among the lowest in per capita terms (table 9). All BARMM provinces are in the 4th quintile of BIR collections distribution, while Lanao Del Sur, Basilan, and Sulu provinces have the lowest BIR per capita collections in 2019 across all provinces in the Philippines (excluding NCR).

Table 8. National tax collections by BIR as % of GDP by regions, 2016-2018

REGIONS	2016	2017	2018
N.C.R. - National Capital Region	23.0%	23.7%	25.0%
Cordillera Administrative Region	2.4%	2.5%	1.7%
REGION I - Ilocos Region	2.7%	3.0%	2.3%
REGION II - Cagayan Valley	3.6%	3.5%	2.7%
REGION III - Central Luzon	2.7%	3.0%	2.5%
REGION IV - A Calabarzon and Mimaropa	2.5%	2.8%	2.4%
REGION V - Bicol Region	3.0%	3.3%	2.1%
REGION VI - Western Visayas	3.1%	3.2%	1.3%
REGION VII - Central Visayas	6.4%	6.3%	5.3%
REGION VIII - Eastern Visayas	2.5%	2.8%	1.8%
REGION IX - Zamboanga Peninsula	2.0%	2.1%	1.4%
REGION X - Northern Mindanao	2.1%	2.0%	1.3%
REGION XI - Davao Region	2.6%	4.2%	4.0%
REGION XII - Soccsksargen	2.3%	2.1%	1.4%
REGION XIII - CARAGA	3.1%	3.3%	2.2%
BARMM	1.6%	1.8%	1.3%
TOTAL BIR Collection	10.6%	11.0%	11.0%

Source: Bureau of Internal Revenue

Table 9. National tax collections by BIR per capita collections by provinces excluding NCR, 2019 (in pesos)

Rank	Provinces (excluding NCR)	BIR collection per capita 2019	Rank	Provinces (excluding NCR)	BIR collection per capita 2019
1	LAGUNA	7,664	37	Nueva Ecija	1,686
2	CEBU	6,204	38	MISAMIS OCCIDENTAL	1,666
3	BENGUET	5,807	39	QUEZON	1,663
4	PAMPANGA	5,797	40	NEGROS ORIENTAL / SIQUIJOR	1,639
5	CAVITE	5,512	41	ABRA	1,612
6	DAVAO DEL SUR / DAVAO OCCIDENTAL	5,081	42	QUIRINO	1,586
7	BATANGAS	5,067	43	CAMARINES SUR	1,565
8	ZAMBALES	4,790	44	AURORA	1,544

9	ZAMBOANGA SIBUGAY	4,594	45	CAPIZ	1,503
10	BATAAN	4,441	46	ZAMBOANGA DEL NORTE	1,471
11	BULACAN	3,710	47	LANAO DEL NORTE	1,438
12	CAMIGUIN / MISAMIS ORIENTAL	3,704	48	CAMARINES NORTE	1,360
13	LA UNION	3,435	49	BUKIDNON	1,336
14	AKLAN	3,334	50	IFUGAO	1,300
15	BATANES / CAGAYAN	3,088	51	OCCIDENTAL MINDORO	1,293
16	AGUSAN DEL NORTE	3,075	52	SOUTHERN LEYTE	1,263
17	PALAWAN	3,065	53	AGUSAN DEL SUR	1,227
18	ILOCOS NORTE	2,984	54	SURIGAO DEL SUR	1,210
19	TARLAC	2,775	55	MAGUINDANAO	1,105
20	ILOCOS SUR	2,765	56	ANTIQUE	1,102
21	ILOILO / GUIMARAS	2,746	57	ROMBLON	1,099
22	NEGROS OCCIDENTAL	2,454	58	EASTERN SAMAR	1,079
23	PANGASINAN	2,425	59	TAWI-TAWI	1,044
24	ALBAY	2,236	60	SAMAR (WESTERN SAMAR)	1,040
25	BOHOL	2,159	61	SULTAN KUDARAT	999
26	NUEVA VIZCAYA	2,139	62	DAVAO ORIENTAL	973
27	SARANGANI / SOUTH COTABATO	2,059	63	SORSOGON	949
28	ISABELA	1,997	64	MARINDUQUE	949
29	BILIRAN / LEYTE	1,995	65	COTABATO (NORTH COTABATO)	926
30	DINAGAT ISLANDS / SURIGAO DEL NORTE	1,940	66	NORTHERN SAMAR	881
31	ORIENTAL MINDORO	1,910	67	MASBATE	761
32	KALINGA / APAYAO	1,835	68	ZAMBOANGA DEL SUR	612
33	DAVAO DEL NORTE / DAVAO DE ORO	1,780	69	LANAO DEL SUR	461
34	MOUNTAIN PROVINCE	1,773	70	BASILAN	379
35	CATANDUANES	1,749	71	SULU	166
36	RIZAL	1,701			

Source: Bureau of Internal Revenue

Note: There is not separate data on BIR collections in Cotabato city. Large taxpayer districts in Cebu and Davao are also excluded due to the unavailability of separate population data.

Selected national taxes collected in BARMM provinces

Besides the total national tax collections accessed from BIR website, BIR provided revenue by major tax type, specifically income tax, VAT, percentage tax, excise tax, and other taxes for FYs 2017-2020. However, the data are limited to selected provinces – Basilan, Lanao Del Sur, and Maguindanao. Table 10 shows the per capita collection of these taxes over time. Maguindanao (excluding Cotabato city) consistently collects higher per capita income taxes than Basilan and Lanao Del Sur, as well as in VAT (except for 2019). In 2018, there was a dip in income tax collection, which still almost did not recover by 2020, especially in the case of Basilan (40% drop). On the other hand, Lanao Del Sur and Maguindanao increased their VAT collections per capita in 2018, only for it to drop significantly by 2020. It has also been volatile for each province, which will complicate meaningful estimates for revenue collection in the near future. Overall, despite Lanao Del Sur collecting higher per capita revenues in 2020 compared to 2017, it has been very volatile, while Basilan and Maguindanao's per capita revenues have been decreasing since 2017.

Table 10. Per capita BIR collections in selected BARMM provinces by major taxes, 2017-2020 (in pesos)

	Income Taxes	Value-Added Tax	Percentage Taxes	Excise Taxes	Other Taxes	Total
	2017					
Basilan	71.8	32.8	5.8	0.0	4.3	114.6
Lanao Del Sur	71.5	80.1	2.2	0.0	2.1	155.9
Maguindanao	151.8	103.4	4.0	0.0	1.2	260.5
	2018					
Basilan	35.2	14.3	13.3	0.0	0.8	63.5
Lanao Del Sur	72.0	114.0	0.5	0.0	5.4	191.9
Maguindanao	108.0	140.1	10.6	0.0	29.3	288.0
	2019					
Basilan	38.3	18.3	7.7	0.0	0.8	65.2
Lanao Del Sur	117.3	162.3	0.6	0.1	3.4	283.7
Maguindanao	129.5	124.7	7.2	0.2	16.5	278.1
	2020					
Basilan	41.7	24.9	3.2	0.0	0.7	70.4
Lanao Del Sur	112.3	67.3	1.4	0.0	11.1	192.1
Maguindanao	142.7	119.4	3.4	0.1	2.1	267.6

Source: Bureau of Internal Revenue

Table 11. National collections and its share in total by major tax type in selected BARMM provinces, 2017-2020 (in pesos and percentage)

	Income Taxes	VAT	Percentage Taxes	Excise Taxes	Other Taxes	Total	Income Taxes	VAT	Percentage Taxes	Excise Taxes	Other Taxes
	2017										
Basilan	25,974,223	11,851,226	2,085,629	0	1,539,933	41,451,010	63%	29%	5%	0%	4%
Lanao Del Sur	77,460,326	86,763,374	2,363,594	30,000	2,289,135	168,906,429	46%	51%	1%	0%	1%
Maguindanao	186,631,478	127,048,284	4,942,543	0	1,526,830	320,149,135	58%	40%	2%	0%	0%
Cotabato city	312,398,666	77,693,068	16,220,026		11,539,548	417,851,308	75%	19%	4%	0%	3%
63 barangays	106,933	0	306,287	0	3,090	416,310	26%	0%	74%	0%	1%
	2018										
Basilan	13,005,199	5,277,318	4,901,082	0	282,459	23,466,057	55%	22%	21%	0%	1%
Lanao Del Sur	79,507,037	125,845,769	561,474	0	5,988,394	211,902,674	38%	59%	0%	0%	3%
Maguindanao	136,098,660	176,423,827	13,372,536	0	36,898,245	362,793,267	38%	49%	4%	0%	10%
Cotabato city	0	0	0	0	888,900	888,900	0%	0%	0%	0%	100%
63 barangays	504,019	238,126	1,164,087	0	17,785	1,924,016	26%	12%	61%	0%	1%
	2019										
Basilan	14,491,060	6,921,365	2,924,557	0	308,559	24,645,541	59%	28%	12%	0%	1%
Lanao Del Sur	131,893,909	182,592,340	625,209	111,370	3,848,428	319,071,256	41%	57%	0%	0%	1%
Maguindanao	167,129,641	161,036,006	9,243,349	251,832	21,329,509	358,990,338	47%	45%	3%	0%	6%
Cotabato city	0	0	0	0	1,243,000	1,243,000	0%	0%	0%	0%	100%
63 barangays	521,116	371,171	1,293,643	0	48,745	2,234,675	23%	17%	58%	0%	2%
	2020										
Basilan	16,121,819	9,614,724	1,234,161	0	254,354	27,225,059	59%	35%	5%	0%	1%
Lanao Del Sur	128,691,101	77,109,177	1,603,997	12,800	12,777,892	220,194,968	58%	35%	1%	0%	6%
Maguindanao	188,804,206	157,920,195	4,490,955	71,026	2,747,932	354,034,314	53%	45%	1%	0%	1%
Cotabato city	3,187,604	759,302	42,663	0	1,361,000	5,350,569	60%	14%	1%	0%	25%
63 barangays	559,257	69,329	1,186,035	0	1,000	1,815,621	31%	4%	65%	0%	0%

Source: Bureau of Internal Revenue

Table 11 also includes revenue collections by type of tax for Cotabato city and 63 barangays that joined BARMM in 2019. However, there are no data for Cotabato city in 2018 and 2019. Again, most of the BIR collections are in Maguindanao, followed by Lanao Del Sur. In terms of relative importance, income taxes contribute to more than half of all collections; however, their share has been volatile as well across provinces. Overall, income taxes and VAT contribute more than 93-98% of revenue collections in the provinces, with other taxes contributing little revenues. Consumption taxes form the bulk of total national collections but VAT is paid by head offices in Manila hence we mostly see income taxes collected by district revenue offices. On the other hand, a quarter of all Cotabato city revenue was collected from "other taxes," while 63 barangays heavily rely on percentage taxes. Excise taxes are consistently the least important, and only Maguindanao and Lanao Del Sur collected some revenue from them.

Customs duties revenue

In addition, we need to take into account the revenues from VAT and excises collected by the Bureau of Customs from imports within the BARMM territory. The Bangsamoro Organic Law (BOL) states that the taxing power of the Bangsamoro Government shall not extend to Customs duties, registration fees of vessels, and wharfage on wharves, tonnage dues, and all other kinds of customs fees (Article XII, section 9b). However, it is expected that BARMM regional government will take over collections of VAT and excise taxes on imports within its territory.

While we don't have the data on the Bureau of Customs collection for BARMM, collection district XI (port of Zamboanga) includes the ports of Basilan, Tawi-Tawi, and Jolo (in Sulu province), which are all ports of BARMM. Unfortunately, it also includes Zamboanga International Airport (in the Zamboanga Peninsula region). Therefore, it is not possible to separate the share corresponding to BARMM ports' collections. In 2019 according to their Customs Gazette (Jan-Feb 2020 issue)[2], the Bureau of Customs reported 545.02 million pesos customs duties collection in district XI, which includes BARMM ports. Overall, 630.47 billion pesos were collected by the Bureau of Customs. Therefore, collections in district XI constitutes approximately 8% of all collection and ranks 15th out of 17 collection districts, only ahead of districts IX (Surigao) and XV (Aparri).

BARMM regional government revenue collections

The only data available for revenue collected by the BARMM regional government is for 2020, where we focus on data collected in regional taxes, as well as fees and charges. While most of the regional government revenue was from the annual block grant (94%), regional taxes and fees generated 332,161,671 pesos, which is only 0.5% of total revenue (table 12). Approximately 74% of it came from regional taxes, mostly through regional wealth tax and contractor's tax. Other notable source of revenue is Special Development Fund (2,5 billion pesos or 3.7% of total). As repoted previously, BIR collected 2,664.17 million pesos in national taxes in BARMM in 2019, while LGUs combined local source revenue was 661 million pesos, so in comparison, regional taxes and fees amount to only 12.5% of national taxes and 50% of total LGU revenue collection.

[2] https://customs.gov.ph/wp-content/uploads/2020/03/GazetteJAN2020.pdf

Table 12. Annual Revenue Collection by regional BARMM government, 2020 (pesos)

Revenue item	Revenue collection	Share in total revenue
I. Regional Share in the National Government Taxes, Fees and Charges (Inclusive of LGU Shares)	475,312,191	0.7%
II. Revenues from the Annual Block Grant	63,634,076,000	94.0%
III. Revenues from Regional Taxes, Fees and Charges	378,513,052	0.6%
A. REGIONAL TAXES	**244,748,018**	**0.4%**
Regional Wealth Tax	132,017,789	0.2%
Contractor's Tax	112,340,292	0.2%
Travel Tax	389,937	0.0%
B. Regional Fees and Charges	**87,413,653**	**0.1%**
C. Other Revenues		0.0%
Rental Income	210,000	0.0%
Net Interest Income on Deposits	74,348	0.0%
Sale of Accountable Forms	152,900	0.0%
Sale of Housing Units	43,412,022	0.1%
Other Fees and Charges	2,502,110	0.0%
IV. Revenues from Appropriations and Other Budgetary Allocations from the National Government	91,268,500	0.1%
V. Special Development Fund	2,500,000,000	3.7%
GRAND TOTAL	**67,702,430,813**	100.0%

Source: Bangsamoro Treasury Office

BARMM Local Government Unit revenue collections

On top of the revenues collected by the national and regional governments, there are also Local Government Units (LGUs) in the BARMM territory, which levy and collect their own taxes and fees, particularly provinces, cities, and municipalities (data for barangays are not available). According to BOL (section 6, article XII), the "constituent local government units in the Bangsamoro Autonomous Region shall continue to exercise the taxing powers granted under Republic Act No. 7160, as amended."[3] Specifically, we review the aggregate importance of tax and non-tax revenue sources utilized by the provincial, city, and municipality levels in BARMM, in absolute terms, in terms of their structure or composition (in percentage terms), and their trends over time. The data available for the most current or latest available fiscal years have been used for those computations.

[3] Revenue sources reviewed are based on Republic Act No. 7160, otherwise known as the "Local Government code of 1991". A new "Bangsamoro Local Governance Code of 2020" is expected to be enacted in 2021.

To perform the review of the current revenues collected by LGUs in BARMM, we received the statement of receipts and expenditures from Bureau of Local Government Finance (BLGF). It contains aggregate data on five provinces (Basilan, Lanao Del Sur, Maguindanao, Sulu, Tawi-Tawi), three cities (Cotabato city, Lamitan city, Marawi city), 116 municipalities for fiscal years 2010 through 2019. For collected revenues, the relevant data contains information on:

- Tax revenue
    - Real property taxes
    - Tax on Business
    - Other taxes
- Non-tax revenue
    - Regulatory Fees (Permits and Licenses)
    - Service/ User Charges (Service Income)
    - Receipts from Economic Enterprises (Business Income)
    - Other Receipts (Other General Income)

In 2019, as is the case for every other prior year, most of the total current operating income is from intergovernmental transfers, particularly from the Internal Revenue Allotment (IRA), a direct transfer from the National Government (table 13 and 14). On average, 96.4% of provinces' total revenue were from IRA, compared to 88% for cities and 96% for municipalities (13 municipalities did not receive IRA). In contrast, only 1.48% of revenue in provinces was generated by tax and non-tax local sources, similar to municipalities – 2.2%. Cities (Cotabato, Lamitan, and Marawi) generated 10.5% of their revenue from tax and non-tax local sources. However, it is mostly dominated by Cotabato city, which generated 202.5 million pesos from local sources, which is more than all provincial governments and two other cities combined (166 million pesos). In fact, all other 116 municipalities in total generated 292.1 million pesos.

Overall, approximately two-thirds of the local source or own revenue is collected from tax revenue (table 15). Provinces collected 24.8 million pesos from local sources, 9.5 million of which on average was from tax revenue, and another 15.4 million pesos from non-tax sources. Cities collected on average 81.8 million in tax revenue and 54.5 million in non-tax revenue, although Cotabato city collected 90% of tax revenue and 68% of non-tax revenue among cities. Municipalities collected 2.5 million from local sources, 1.4 million of which were in tax revenue and 1.1 million in non-tax revenue. However, there was a significant disparity among municipalities, with some collecting as much as 58 million pesos in tax revenue (Languyan, Tawi-Tawi province), which is more than other provinces and cities except for Cotabato city, and 19 million in non-tax revenue. Languyan is home to a large nickel ore production, which contributes to the Philippines being the world's second-largest producer of nicker ore behind Indonesia. However, due to environmental devastation caused by 90% of Languyan being mined out has led to the complete halt of all mining activities in 2021, which will surely impact revenue from business taxes negatively in the future.

Table 13. Overall revenue collections and IRA by LGU, 2016-2019 (in millions of pesos)

	TOTAL LOCAL SOURCES	TOTAL TAX REVENUE	Real Property Tax	Tax on Business	Other Taxes	NON-TAX REVENUE	Regulatory Fees	User Charges	Business Income	Other Receipts	IRA
	2019										
Provinces	124.1	47.3	39.7	2.4	5.1	76.8	0.0	18.5	0.0	58.3	8,077.9
Cotabatocity	202.6	145.5	25.4	112.5	7.6	57.1	15.8	13.1	19.4	8.8	861.3
Lamitan city	31.2	9.4	2.6	6.0	0.8	21.8	3.8	2.8	15.2	0.0	564.3
Marawi city	11.6	5.5	4.8	0.0	0.7	6.1	4.0	2.1	0.0	0.0	628.6
Municipalities	292.1	161.8	40.0	108.4	13.4	130.3	41.6	27.1	52.6	9.0	12,785.8
	2018										
Provinces	38.5	24.7	21.4	1.9	1.3	13.8	1.2	9.6	1.0	1.9	7,262.4
Cotabatocity	185.8	134.1	25.4	101.6	7.1	51.7	13.2	11.0	20.6	6.9	775.8
Lamitan city	29.4	11.1	3.6	6.8	0.7	18.3	1.7	2.3	14.1	0.3	510.6
Marawi city	6.2	4.0	2.3	0.7	1.0	2.2	1.3	0.9	0.0	0.0	566.7
Municipalities	246.5	96.3	32.1	51.8	12.4	150.2	40.3	29.6	54.3	25.9	11,727.0
	2017										
Provinces	58.0	16.6	13.5	2.7	0.5	41.4	0.4	0.8	12.0	28.2	6,759.0
Cotabatocity	177.6	126.9	21.1	98.2	7.5	50.7	11.6	12.2	22.7	4.2	722.1
Lamitan city	26.9	10.1	2.5	6.7	0.9	16.7	1.8	2.3	12.2	0.5	475.4
Marawi city	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Municipalities	251.5	107.9	30.1	62.9	14.9	143.5	34.2	22.5	58.0	28.8	10,906.2
	2016										
Provinces	30.4	21.9	16.5	4.7	0.8	8.5	0.6	5.6	1.3	0.9	5,810.4
Cotabatocity	150.0	111.1	20.3	83.3	7.6	38.8	13.2	7.3	15.0	3.4	634.9
Lamitan city	26.1	9.5	1.7	7.1	0.7	16.6	1.8	2.1	11.9	0.9	419.7
Marawi city	5.7	2.2	1.7	0.5	0.1	3.5	3.1	0.4	0.0	0.0	468.9
Municipalities	306.8	180.9	23.6	146.4	11.0	125.9	23.7	19.2	49.4	33.6	9,319.9

Source: BLGF

Table 14. Share of revenue collections and IRA in total current operating income by LGU, 2016-2019

	TOTAL LOCAL SOURCES	TOTAL TAX REVENUE	Real Property Tax	Tax on Business	Other Taxes	NON-TAX REVENUE	Regulatory Fees	User Charges	Business Income	Other Receipts	IRA dependency
	2019										
Provinces	1.5%	0.6%	0.5%	0.0%	0.1%	0.9%	0.0%	0.2%	0.0%	0.7%	96%
Cotabatocity	19.0%	13.7%	2.4%	10.6%	0.7%	5.4%	1.5%	1.2%	1.8%	0.8%	81%
Lamitan city	5.2%	1.6%	0.4%	1.0%	0.1%	3.7%	0.6%	0.5%	2.6%	0.0%	95%
Marawi city	1.7%	0.8%	0.7%	0.0%	0.1%	0.9%	0.6%	0.3%	0.0%	0.0%	94%
Municipalities	2.2%	1.2%	0.3%	0.8%	0.1%	1.0%	0.3%	0.2%	0.4%	0.1%	96%
	2018										
Provinces	0.5%	0.3%	0.3%	0.0%	0.0%	0.2%	0.0%	0.1%	0.0%	0.0%	96%
Cotabatocity	19.1%	13.8%	2.6%	10.4%	0.7%	5.3%	1.4%	1.1%	2.1%	0.7%	80%
Lamitan city	5.4%	2.1%	0.7%	1.3%	0.1%	3.4%	0.3%	0.4%	2.6%	0.1%	95%
Marawi city	0.9%	0.6%	0.3%	0.1%	0.2%	0.3%	0.2%	0.1%	0.0%	0.0%	86%
Municipalities	2.0%	0.8%	0.3%	0.4%	0.1%	1.2%	0.3%	0.2%	0.4%	0.2%	96%
	2017										
Provinces	0.8%	0.2%	0.2%	0.0%	0.0%	0.6%	0.0%	0.0%	0.2%	0.4%	95%
Cotabatocity	19.7%	14.1%	2.3%	10.9%	0.8%	5.6%	1.3%	1.4%	2.5%	0.5%	80%
Lamitan city	5.3%	2.0%	0.5%	1.3%	0.2%	3.3%	0.3%	0.5%	2.4%	0.1%	95%
Marawi city											
Municipalities	2.2%	1.0%	0.3%	0.6%	0.1%	1.3%	0.3%	0.2%	0.5%	0.3%	96%
	2016										
Provinces	0.5%	0.4%	0.3%	0.1%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	96%
Cotabato city	19.1%	14.2%	2.6%	10.6%	1.0%	4.9%	1.7%	0.9%	1.9%	0.4%	81%
Lamitan city	5.8%	2.1%	0.4%	1.6%	0.2%	3.7%	0.4%	0.5%	2.7%	0.2%	94%
Marawi city	1.1%	0.4%	0.3%	0.1%	0.0%	0.6%	0.6%	0.1%	0.0%	0.0%	88%
Municipalities	3.1%	1.8%	0.2%	1.5%	0.1%	1.3%	0.2%	0.2%	0.5%	0.3%	95%

Source: BLGF

Table 15. Summary statistics of sources of revenue by LGUs in 2019, millions of pesos

Source of Revenue		Provinces				Cities				Municipalities			
		Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max
TOTAL LOCAL SOURCES		24.8	31.20	1.61	78.81	81.8	105.05	11.62	202.58	2.5	6.86	0	61.09
TAX REVE-NUE	TOTAL TAX REVENUE	9.5	11.44	0.38	24.25	53.5	79.71	5.52	145.48	1.4	5.69	0	58.72
	Real Property Tax	7.9	9.71	0.31	21.92	10.9	12.60	2.57	25.43	0.3	0.71	0	5.45
	Tax on Business	0.5	0.96	0	2.19	39.5	63.27	0	112.48	0.9	5.51	0	58.12
	Other Taxes	1.0	2.11	0.01	4.8	3.0	3.93	0.7	7.57	0.1	0.26	0	2.44
NON-TAX REVE-NUE	NON-TAX REVENUE	15.4	22.99	0.01	54.56	28.3	26.11	6.1	57.09	1.1	2.62	0	19.07
	Regulatory Fees	0.0	0.00	0	0	7.9	6.89	3.78	15.81	0.4	0.76	0	4.11
	User Charges	3.7	7.52	0	17.13	6.0	6.15	2.11	13.09	0.2	0.46	0	2.71
	Business Income	0.0	0.00	0	0	11.5	10.19	0	19.35	0.5	1.90	0	16.42
	Other Receipts	11.7	23.40	0	53.42	2.9	5.10	0	8.84	0.1	0.25	0	2.19
TOTAL EXTERNAL SOURCES		1651.6	689.71	1039.39	2518.39	694.5	151.89	564.59	861.49	111.9	62.50	0	298.79
Internal Revenue Allotment		1615.6	674.96	1016.74	2511.17	684.8	156.25	564.34	861.32	110.2	62.15	0	298.79
TOTAL CURRENT OPERATING INCOME		**1676.4**	**709.08**	**1057.15**	**2538.71**	**776.3**	**251.90**	**595.8**	**1064.06**	**114.4**	**65.87**	**0**	**320.47**

Source: BLGF

The tax revenues collected by the provinces are mostly generated from real property taxes, on average 84% of tax revenue (9.5 million pesos on average), and only 5% from taxes on business. In contrast, in the case of cities and municipalities, most tax revenues come from taxes on business – on average, 73% and 67% respectively (or on average 39 million pesos and almost 1 million pesos). Again, the amounts are mostly dominated by Cotabato city, which generated 112.48 million pesos from tax on business, almost as much as all other provinces, cities, and municipalities combined – 116.81 million pesos. Among municipalities, the average was also dominated by an outlier – Languyan in Tawi-Tawi province, which generated 58.1 million pesos in tax on business. Excluding Cotabato city, the next most collected revenue from the tax on business is 8.8 million pesos (Parang, Maguindanao province).

Provinces also generate 3.7 million pesos in service or user charges, although it is mostly (92%) collected in Basilan province. At the same time, Maguindanao province collects 53.42 million in "Other non-tax receipts"; however, it is not clear what the exact source is. It constitutes 67.8% of all local source revenue collected in Maguindanao province. Cities also collected significant amounts in non-tax revenues; Cotabato city generated 57 million pesos, mostly in receipts from economic enterprises (business income). Lamitan city generated 15 million in receipts from economic enterprises (business income), which was more than any other tax or non-tax item.

Municipalities collected half a million pesos in business income. However, it was dominated by Upi municipality in Maguindanao (16.42 million pesos), which represented almost half of all business income receipts collected in all other municipalities.

Figure 1. Average revenue by LGU, in millions of pesos, 2015-2019

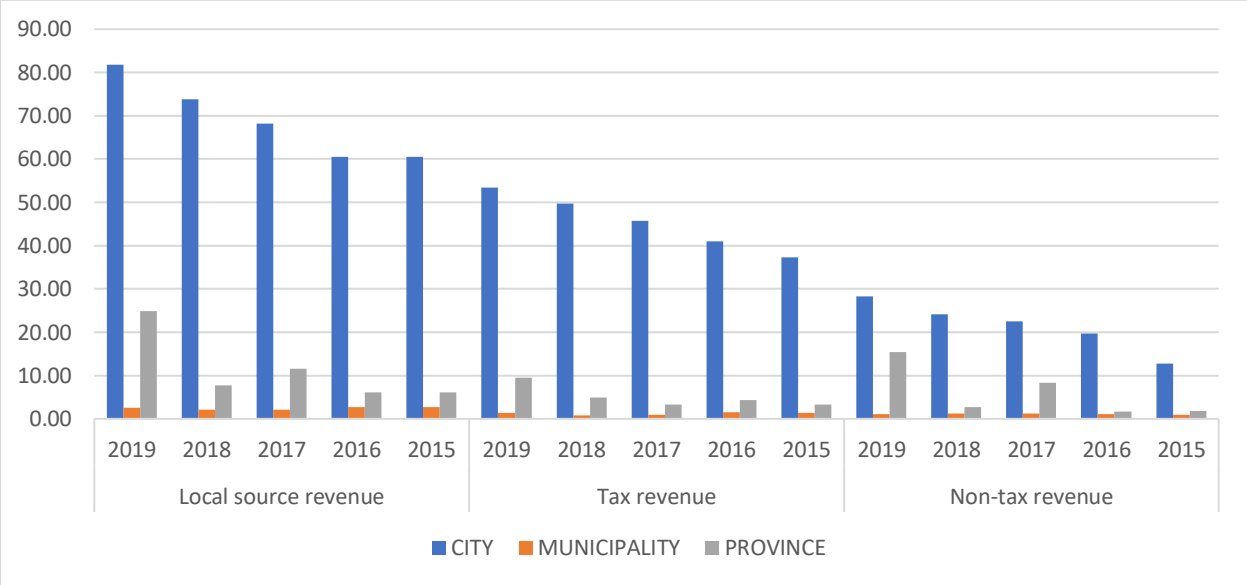
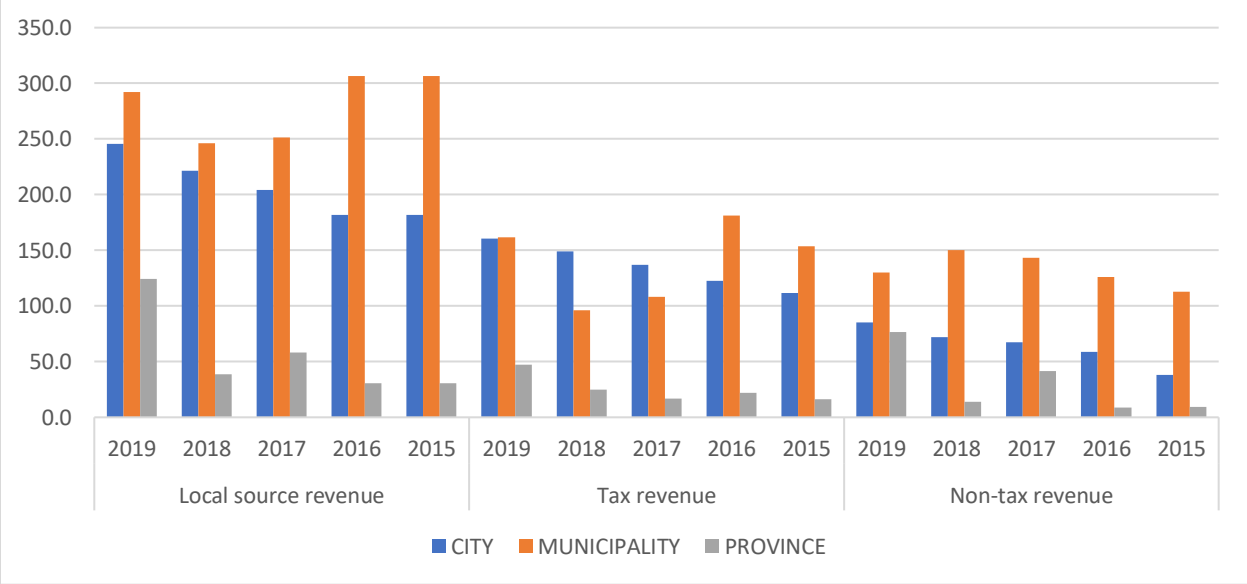


Figure 2. Total revenue by LGU, in millions of pesos, 2015-2019



The average revenue from local source revenue, particularly tax and non-tax revenue, has been increasing since 2015 in nominal terms (figure 1 and 2). The increasing trend is more apparent for cities, mostly dominated by the growth of revenue in Cotabato city. In contrast, the revenue growth in provinces and municipalities has been fluctuating from to year, with a clear long-term upward trend for provinces. On the other hand, the average revenue from tax and non-tax revenue has stagnated in municipalities at just over 1 million pesos in both, and overall average local source revenue collections decreased from 2.64 in 2015 to 2.52 in 2019. When we look at the total revenue

collected by each LGU level, we see that municipalities collected most of the local source revenue, including non-tax revenue, although based on the current trends, cities, particularly Cotabato city, will collect most of the revenue in the near future; this is already evident for the case of tax revenue collections. Also notable, the overall local source revenue in provinces increase from 38.5 million in 2018 to 124 million in 2019, or by almost three-fold, mostly driven by jump in non-tax revenue collection.

In 2019, 63 barangays in six different municipalities of North Cotabato province voted to join BARMM as a Special geographic area. As a consequence, BARMM gained an additional LGU revenue base that would increase revenues by the amount collected from citizens and businesses located in these additional barangays. Overall, there are 192,324 persons living in these mostly agricultural barangays. Eventually, these barangays are planned to be reorganized into several municipalities. Unfortunately, we don't have data on these barangays or their corresponding municipalities to estimate their revenue.

2.2 Opportunities for additional revenue for the BARMM regional government

BARMM regional government has the authority to collect its own taxes and fees. According to BOL, BARMM shall "enact a Bangsamoro tax revenue code, which shall cover taxing powers of the Bangsamoro Government, in accordance with the Constitution and this Organic law." (Article XII, Section 14). Before the revenue code is enacted, The Muslim Mindanao Act No. 49 (Revenue Code of the ARMM) enacted in 1996 is still active, where the regional government was assigned 27 revenue sources, including real property tax, tax on the transfer of real property ownership, tax on the business of printing and publication, franchise and concession tax, amusement tax, professional tax, tax on peddlers, tax on delivery vans and trucks, and sand and gravel tax among others.[4]

Unfortunately, we do not have any data on regional BARMM revenue. Therefore, we don't have quantitative tools to look at tax and non-tax revenues that are increasing or decreasing in absolute value and share over time. It also complicates the review of potential additional revenue sources since we don't know of the tax space remaining given the revenues collected by all levels of government in BARMM.

Therefore, we will rely upon (1) revenue allowance outlined in BOL, (2) relative fiscal effort in provinces compared to other provinces in the Philippines, and (3) new potential revenue items used in other countries.

BOL (art. XII) enumerates specific revenues to be received by the BARMM regional government, including those stemming from its "power to create its own sources of revenues and to levy taxes, fees, and charges." In particular, it includes the following revenue sources[5]:

[4] Regional permit and service fees include fees for sealing and licensing of weight and measures, regional secretary's fees, service fee for health examination (chapter III); regional charges include rental fee of municipal waters and government facilities, as well as lease of equipment (chapter IV); and other miscellaneous revenue items include tax on fishery and aquatic resources and lease of fishponds, tax on agricultural products, regional natural wealth utilization and development tax, travel tax, affluent consumption tax, barter trade tax, contractors tax, tax on banks and other financial institutions, tax on all corporations, partnerships and other business entities directly engaged in business in ARMM, social amelioration tax (chapter V).

[5] The division of shares across levels of government in BARMM, as well as the limitations on taxes and fees by BARMM regional government is in Appendix B.

a) Revenues or shares in revenues from the exploration, development, and utilization of natural resources derived from land or water areas or territories within the Bangsamoro territorial jurisdiction.[6]
b) Tax of not more than ten percent (10%) of fair market value in the locality per cubic meter of ordinary stones, sand, gravel, earth, and other quarry resources, as defined in the National Internal Revenue Code (30% to BARMM Government, 70% to LGUs).
c) Where all taxable elements are within the Bangsamoro territorial jurisdiction, the Parliament may impose the following taxes to the exclusion of the Bureau of Internal Revenue of the National Government: (1) Capital Gains Tax; (2) Documentary Stamp Tax; (3) Donor's Tax; (4) Estate Tax.[7]

Regarding natural resources, BOL specifies further that "Government revenues generated from the exploration, development, and utilization of all natural resources in the Bangsamoro Autonomous Region, including mines and minerals, shall pertain fully to the Bangsamoro Government. In the case of uranium and fossil fuels such as petroleum, natural gas, and coal, the same may be co-managed, and the revenues shared equally between the National Government and Bangsamoro Government, subject to the limitations provided in the Constitution." (Article XII, Section 34). However, the following two sections add that BARMM regional government can retain 30% share (rest distributed among relevant LGUs), and indigenous communities should have an equitable share for resources within their territory (exact share to be defined).

Since we don't have data on how much revenue from natural resource extraction is collected at the national and regional levels, we can't estimate the revenue potential from this source. As mentioned before, despite containing significant gold, nickel, and copper reserves, mining and quarrying contributed only 0.4% to total GDP in 2018 (or 541 million pesos), which makes it a relatively small industry, which most likely would not bring additional revenue. It is estimated that nickel reserves in BARMM are valued at approximately USD 2 trillion, while gold and copper reserves are values at around USD 8-10 billion. Therefore, with proper management of increased investment by national and foreign mining companies, there is a potential for a significant revenue stream from mining and quarrying.

However, the damage and disruptions due to the environmental impact of mining undermine the potential revenue stream from natural resources. Recently, the mining of nickel ore in Tawi Tawi province was temporarily suspended by the government due to its impact on the environment. The Philippines accounts for 15% of global nickel production, second after Indonesia (29.8%), with a significant part of the production being located in Languyan, Tawi-Tawi[8]. Due to the expected export ban of nickel in Indonesia, the global prices are expected to increase, which would increase the value of nickel production in Tawi-Tawi. However, due to already depleted reserves, it cannot be a sustainable source of revenue in the years to come. In addition, in the case of geographically concentrated natural resources, local taxation could cause extensive horizontal fiscal imbalances (e.g., the recent cases of Indonesia, Nigeria, Peru, and Russia). Beyond the fiscal inequities they

[6] Section 21b, Article XII stipulates that collections from share of Bangsamoro Government in the income derived from the exploration, development, and utilization of natural resources three years prior will be deducted from annual block grant "twenty years from the operationalization of the Bangsamoro Government".
[7] Section 21a stipulates that collection of these taxes three years prior would be deducted from annual block grant "twenty years from the operationalization of the Bangsamoro Government".
[8] Tawi Tawi is country's biggest exporter of high-grade nickel ore to China, with shipments in the first half of 2018 reaching 2.34 million wet metric tons, or 88% of total exports of the high-grade material for that period.

may cause in the financing and access to basic public service, these fiscal disparities can lead to inefficient population migration and location of business. Given the high volatility of world commodity prices, local taxation of natural resources would not constitute a stable source of revenue, and therefore, at the least, some sort of stabilization fund should be considered.

According to BOL, the BARMM government also will have an opportunity to independently impose and collect revenues from the capital gains tax, documentary stamp tax, donor's tax, and estate tax. Since we don't have data on the collection of these taxes in BARMM by BIR, we can't estimate the potential revenue stream for the BARMM regional government. Besides, it is expected that the BARMM government will be collecting and retaining all national taxes in BARMM. Therefore, the transfer of these particular taxes does not have an additional impact on revenue.

The second option available to analyze additional potential revenue is to look at the tax effort, particularly the effort in the collection of national taxes (due to lack of data on regional taxes and for comparability with other regions) in comparison to other provinces and regions in the Philippines. The main idea is to estimate the potential tax collection of national taxes in BARMM provinces, given the demographic and economic characteristics of these provinces, and rank them based on their relative tax effort. For example, if two provinces in the Philippines have similar demographic and economic characteristics, we would expect a similar level of tax collection effort. Then if one province collects less than the other, it is presumably due to lower tax effort, which could be potentially improved by increasing revenues collected from existing taxes.

We collected data at the provincial level for 67 provinces in the Philippines (excluding NCR and few provinces with missing data), particularly inflation rate, area of farms by land use (in hectares), Human Development Index, dependency ratio, population density, urbanization rate (% urban population of total), share of the population with high school education or higher and literacy rate from PSA. We further applied a stochastic frontier analysis to estimate a so-called production function of tax revenue (national tax collections per capita) given the inputs listed above.[9]

The results indicate that half of the provinces in Philippines collect lower national tax revenue than the potential estimated by the stochastic frontier analysis (table 16). According to our estimations, Maguindanao province is the only province in BARMM that collects more actual revenue than the potential revenue estimated by our model – approximately by 300 pesos per person. All other provinces in BARMM collect lower revenue than their potential limit, although Lanao Del Sur comes close (92%). Basilan and Sulu provinces are among the provinces in the Philippines that underperform the most, with Sulu province revenue effort the lowest among all provinces – actual revenue collections are only 21% of potential revenue.

It is important to note that we lack key economic indicators such as provincial GDP and the share of agriculture in provincial GDP. At the same time, we had to use only one year for each variable, which were not consistent across provinces and variables. All these limitations complicate the estimation results and may lead to biased estimates. If there is access to more updated annual data of key economic indicators, there is a potential to estimate more accurate revenue potential, particularly own-revenue potential, as long as data would be available for all provinces in the Philippines.

[9] See the Appendix D for a brief explanation of this methodology for estimating tax effort.

Table 16. Stochastic Frontier estimation of potential revenue collection by provinces in Philippines, 2019 (in pesos)

Rank	Province	Actual national tax collections	Potential national tax collections	Revenue collection effort
1	CEBU	6204	3719	1.67
2	DAVAO DEL SUR	5081	3338	1.52
3	MAGUINDANAO	1105	814	1.36
4	CAMIGUIN / MISAMIS ORIENTAL	3704	2824	1.31
5	AGUSAN DEL NORTE	3076	2392	1.29
6	ZAMBALES	4790	3796	1.26
7	LAGUNA	7664	6460	1.19
8	PALAWAN	3065	2649	1.16
9	IFUGAO	1300	1135	1.15
10	MOUNTAIN PROVINCE	1773	1565	1.13
11	BATANGAS	5067	4600	1.10
12	EASTERN SAMAR	1079	1014	1.06
13	PAMPANGA	5797	5732	1.01
14	ILOCOS SUR	2765	2805	0.99
15	KALINGA / APAYAO	1835	1920	0.96
16	AKLAN	3334	3568	0.93
17	CATANDUANES	1749	1890	0.93
18	LANAO DEL SUR	461	499	0.92
19	SURIGAO DEL NORTE	1940	2112	0.92
20	LANAO DEL NORTE	1438	1576	0.91
21	BATANES / CAGAYAN	3089	3470	0.89
22	BENGUET	5808	6587	0.88
23	BILIRAN / LEYTE	1995	2292	0.87
24	BOHOL	2159	2503	0.86
25	SARANGANI / SOUTH COTABATO	2059	2412	0.85
26	ALBAY	2237	2634	0.85
27	CAVITE	5512	6560	0.84
28	ILOILO / GUIMARAS	2746	3269	0.84
29	BUKIDNON	1336	1594	0.84
30	ZAMBOANGA DEL NORTE	1471	1777	0.83
31	ROMBLON	1100	1343	0.82
32	TAWI-TAWI	1044	1319	0.79
33	LA UNION	3435	4369	0.79
34	SAMAR (WESTERN SAMAR)	1040	1364	0.76
35	BATAAN	4441	5936	0.75
36	ABRA	1612	2162	0.75
37	AGUSAN DEL SUR	1227	1655	0.74
38	MISAMIS OCCIDENTAL	1666	2287	0.73
39	ORIENTAL MINDORO	1910	2672	0.72
40	ILOCOS NORTE	2984	4237	0.70
41	NORTHERN SAMAR	881	1256	0.70

42	NEGROS OCCIDENTAL	2454	3578	0.69
43	MASBATE	761	1136	0.67
44	ISABELA	1997	3009	0.66
45	PANGASINAN	2425	3672	0.66
46	BULACAN	3710	5698	0.65
47	DAVAO DEL NORTE / DAVAO DE ORO	1780	2796	0.64
48	SOUTHERN LEYTE	1263	1988	0.64
49	DAVAO ORIENTAL	974	1587	0.61
50	QUEZON	1664	2730	0.61
51	NUEVA VIZCAYA	2139	3633	0.59
52	CAMARINES SUR	1565	2676	0.58
53	TARLAC	2775	4788	0.58
54	SULTAN KUDARAT	999	1776	0.56
55	AURORA	1545	2769	0.56
56	NEGROS ORIENTAL / SIQUIJOR	1639	3032	0.54
57	CAMARINES NORTE	1360	2530	0.54
58	BASILAN	379	745	0.51
59	CAPIZ	1503	2958	0.51
60	MARINDUQUE	949	1871	0.51
61	NUEVA ECIJA	1686	3529	0.48
62	COTABATO (NORTH COTABATO)	926	2053	0.45
63	ANTIQUE	1102	2522	0.44
64	SURIGAO DEL SUR	1210	3541	0.34
65	ZAMBOANGA DEL SUR	612	2702	0.23
66	RIZAL	1701	7523	0.23
67	SULU	166	773	0.21

Source: Own calculations based on BIR data.

Finally, there several new potential revenue sources that the BARMM government can utilize based on international experience. It is important to note that the list of taxes and fees listed in Muslim Minandao Autonomy (MMA) Act No. 49 (also known as ARMM Revenue Code of 1996) is already very extensive and covers practically most available revenue bases usually assigned at sub-national level. One option is collecting additional property tax revenue in the form of 'betterment levies' or lump-sum payments (already allowed for local government units in the Local Government Code of 1991). Tax complexity is a general drawback on economic efficiency and growth potential, discouraging investors and new economic initiatives; complexity also imposes additional administration costs and especially compliance costs among taxpayers. Therefore, in the interest of balancing the intent to increase revenue streams and of maintaining a reasonable level of simplicity of the tax system, we will just list a limited number of additional tax instrument options, which after consideration might be added to the updated revenue code.

First, while MMA Act No. 49 allows the ad valorem taxation of "one-tenth of one percent on the assessed value of all real property, such as lands, buildings, machinery and other improvements affixed or attached to real property" (with some exceptions), as well as the taxation of transfer of real property, another option for collecting property tax revenue is in the form of '**betterment levies'** or lump-sum payments. It's a payment exacted upfront from land and housing developers and also from homeowners as a charge for public service improvements, such as road paving, drain

infrastructure, sidewalks, street lights, and so on, which all have a visible benefit for property values. Betterment levies can be useful in providing subnational governments with liquidity to invest in needed infrastructure; they also have the advantage of being more directly contractual than property taxes and therefore reinforcing the benefit principle feature in subnational government financing. Another option to increase the revenue from property taxes is to improve the administration of it through updating of property valuations and reduction of informality.

Another emerging type of taxation that is not fully accounted for in MMA Act No. 49 are so-called **"green taxes"** that have been utilized frequently in both advanced and developing countries. These are taxes on any market activity that generates negative externalities, including polluting activities and other environmentally harmful activities, mostly due to production but also from consumption. Although these taxes typically yield a "double dividend," in that they discourage the polluting activity and raise revenues, the main purpose of these taxes is to affect behaviors and not to raise revenues. As long as the externality is contained within the local jurisdiction and the taxes cannot be avoided through mobility, these taxes and fees on pollution can be imposed at the sub-national level, such as BARMM. Since most of the burden falls on producers, particularly in the mining sector, which mostly focused on export, it is considered a desirable revenue from a social stand-point due to increased revenue and improved environmental outcomes for the local population, which has been an important issue in provinces such as Tawi-Tawi.

There are different ways to impose taxes and fees that are environmentally responsible. For example, under the property tax, buildings that do not meet certain environmental conditions could be taxed at higher rates; the same applies to local motor vehicle taxes. The most frequent application of "green taxes" are taxes on emissions by producers, which requires some kind of measurement of emission by each producer, or at least classification by industry or activity. Another option is a carbon tax, which is a fee imposed on the burning of carbon-based fuels (coal, oil, gas) usually imposed on fuel suppliers (extractors) and processors. Since these are mostly imposed on producers, there is a risk of shifting the cost of the tax to consumers, which may increase prices of fuel, which in turn will increase the cost of production in many other industries such as agriculture. Therefore, it is very important to design the tax with different incidence scenarios in mind.

As mentioned above, levying "green taxes" is increasingly popular among both advanced and developing countries. For example, in Brazil, most states and large municipalities operate environmental funds partly fed by revenue from environmental fines and oil and gas revenues. In China, provincial governments have the authority to set the tax rate for coal production activities within the range of 2 to 10 percent, which is legislated by the central government. In Indonesia, provinces and local governments have been assigned a list of environment-related taxes. In Latvia, local governments can levy an air pollution tax (and get to keep 60% of the revenues), while in Lithuania, local governments receive 70% of the air emission non-compliance fees charged on emission amounts exceeding standard limits.

When designing "green taxes," it is important to remember that some forms of environmental taxation are quite complex to administer, and these difficulties can be compounded when taxpayers are sophisticated global multi-unit businesses, which practice in different venues for tax avoidance, such as through transfer pricing and profit shifting. It is likely that many subnational governments may not have the required high levels of sophistication in tax administration to overcome such behaviors by the tax base. Another important technical constraint is related to the ability to measure

and monitor pollution emissions levels, for which many subnational governments may lack expertise.

3. The impact and incidence of current and potential revenue sources

Tax incidence analysis provides policy makers and practitioners with information regarding who bears the burden of all taxes raised in BARMM, that is, who suffers a loss of consumption because of lower disposable incomes or higher taxes resulting from taxes. Because taxes may lead individuals and corporations to behave differently than they do in the absence of taxes, the economic incidence may differ from the statutory incidence (that in the law) of taxation. A simple example, as in the case of fuel, helps to differentiate between the economic and statutory incidence. If the legal language states that the distributor of gasoline must turn over P10.00 per liter of petrol to the tax authorities, the statutory incidence of the tax is on the distributor. However, the increased cost of petrol due to the tax may lead the distributor to push the tax forward in higher consumer prices. Consumers in return may reduce their consumption of gasoline if they have alternatives—such as public transit or more fuel-efficient vehicles—driving prices down. In the end, the net price for producers may be less, reducing profits. The burden of the tax may be shared in this case by consumers in the form of increased prices and by those that own shares in businesses by lower returns to investment.

An important component of incidence analysis is the distributional analysis of the burden of taxation among the population. "Who pays" taxes and where they are in the distribution of income in BARMM is a relevant question for policy makers who seek to balance revenue yield with some semblance of equity in the tax system. Additionally, a distributional analysis of tax burden provides information regarding where incentives related to tax avoidance (and tax evasion) exist in the system. For example, taxing capital of the wealthy at relatively high rates could incentivize individuals to shift capital out of the region (or out of view of tax administration). Tax incidence and distributional analysis therefore provide important information regarding the equity and efficiency aspects of the current and proposed revenue systems.

Methodology

There are several steps involved in determining the incidence of the revenue burden in BARMM. The incidence of taxes is measured as the amount of the revenue burden attributed to a given group of households divided by a comprehensive measure of household income. The model is run in R-Studio.

There are five main steps to the tax incidence methodology:

- Determine the revenue streams to be analyzed and determine the aggregate amount of the tax burden to attribute for each revenue stream.
- Identify appropriate data to measure household income and consumption, determine a measure of ability to pay (denominator for the revenue burden calculation), adjust for inflation as necessary.
- Appealing to the literature on tax incidence, make appropriate assumptions regarding the incidence of each revenue stream.
- Once the incidence has been determined, allocate the aggregate revenue burden to households based on their share of consumption or income (depending on the incidence assumption) or their share of factor income (wages and return on capital).

- Sort the households from lowest income to highest income to report the revenue burden relative to income (by income groups) and also report the revenue burden relative to income by each segment of the population. This is the calculation of the revenue burden distribution. If the ratio of the revenue burden to income increases with income, the system is called "progressive" and if it falls as income rises, the revenue stream is regressive.

Revenue streams and aggregate amounts of revenue burden

This modeling effort relies on good estimates of actual revenue collections for tax liabilities that occurred in a given year. The collections should not include arrears, fines, penalties, etc., since we are estimating the impact of *revenue assignments in BARMM*. It may be difficult to get collections that are "clean" (that do not include arrears, etc.), but working with the BIR and BLGF, we understand that we have reasonable numbers. In the future, these amounts would obviously be adjusted.

The revenue streams and aggregate amounts (in million Pesos) of collections by BARMM's LGUs in FY 2019 are as follows:

Table 17. Total local source revenues by LGU, 2019 (millions of pesos)

	Provinces	Cotabato city	Lamitan city	Marawi city	Municipalities	**All LGUs**
TOTAL LOCAL SOURCES	**124.1**	**202.6**	**31.2**	**11.6**	**292.1**	**661.6**
TOTAL TAX REVENUE	**47.3**	**145.5**	**9.4**	**5.5**	**161.8**	**369.5**
Real Property Tax	39.7	25.4	2.6	4.8	40	**112.5**
Tax on Business	2.4	112.5	6	0	108.4	**229.3**
Other Taxes	5.1	7.6	0.8	0.7	13.4	**27.6**
Community Tax-Corporation	0	0.76	0.02	-	0.37	**1.15**
Community Tax-Individual	0	3.35	0.76	0.65	10.24	**15**
Professional Tax	0.08	0.2	-	0.05	0.02	**0.35**
Real Property Transfer Tax	0.25	2.8	-	-	0.3	**3.35**
Other Taxes	4.8	-	-	-	2.35	**7.15**
Fines and Penalties-Other Taxes	0	0.47	0.05	-	0.17	**0.69**
NON-TAX REVENUE	**76.8**	**57.1**	**21.8**	**6.1**	**130.3**	**292.1**

Source: BLGF

Non-tax revenues are assumed to place no burden on BARMM households as the amounts paid are equal to the benefits received for the public services. The incidence of a user charge has an inherent fairness based on the benefit principle.

Data

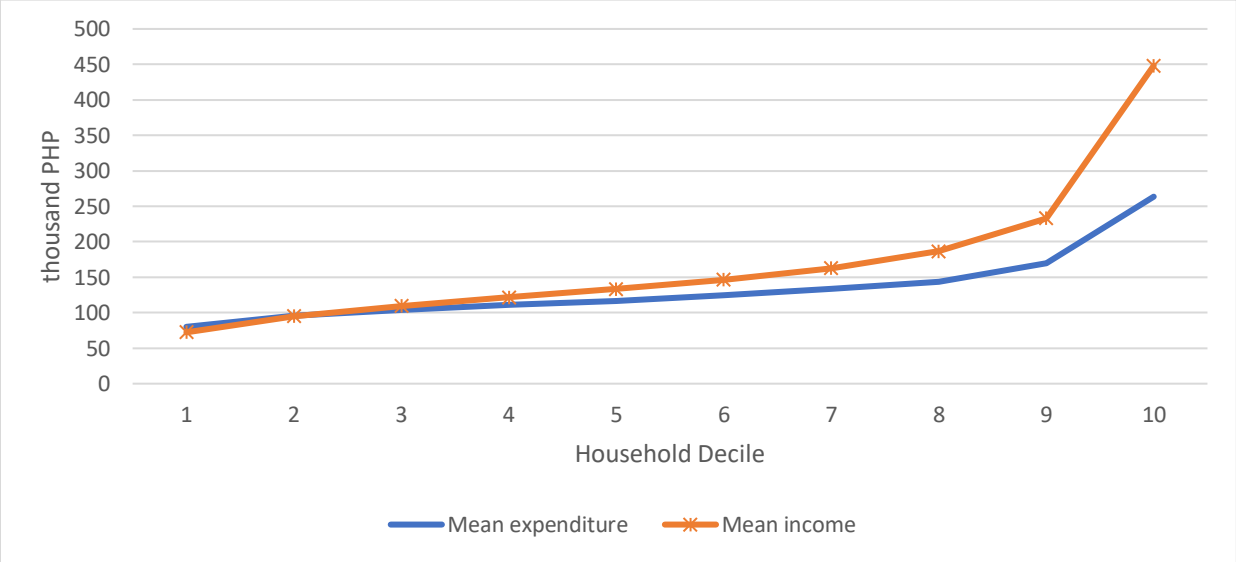
The base data for this model is the 2018 Family Income and Expenditure Survey (FIES), which is a nationwide survey of households undertaken by the Philippine Statistics Authority (PSA) to gather data on family income and expenditures. The incidence model utilizes micro-level

(household level) data for several income items and numerous consumption expenditure items covered in FIES 2018.

The FIES is 2018 based so we adjusted for inflation to reach 2019 levels. The current model assumes a 2.6 percent rate of CPI relative to the 2018 price level. This can easily be changed or updated.

The FIES provides household income and expenditure information. The income variable that represents "total income" is *totinc*. The expenditure variable that represents all expenditures is simply a sum of all of the expenditure (*totex*) items. The model allows a base (denominator) of expenditure or a base of income to be used, but the current version outputs include the income base only. Figure 3 shows the distribution of BARMM households by population decile (the lowest 10 percent of population in terms of household income to the top 10 percent of the population). As seen there, income and expenditures start to increasingly diverge after the 3rd decile.

Figure 3. Distribution of BARMM households in the 2018 Family Income and Expenditure Survey (FIES), by income decile, inflated to the 2019 price level



Source: FIES

Incidence assumptions

Appendix E discusses the incidence assumptions in some detail. In general, the assumptions are taken from the consensus in the existing literature on tax incidence analysis. All assumptions are flexible, and the model can be changed to incorporate new assumptions. The assumptions and the method of attributing the revenue burden based on these assumptions for national and LGU taxes are summarized in tables 18 and 19, respectively. In cases where there is some exporting of the tax to foreigners (through foreign ownership of capital or foreign labor payments), the amount of tax assumed to be paid by foreigners is subtracted from the total amount attributed. There are no hard data on this type of exporting, and these assumptions can be changed. When attributing nationwide collections of national taxes to all households in 2018 FIES, we relied on the information about the inflows and outflows of the labor income and property and entrepreneurial income components of the system of national accounts reported by PSA.

Table 18. Assumptions and the method of attributing the revenue burden of national taxes

Tax source	Nationwide Collection Attributed (2019) (In million Pesos)	Incidence assumption	Allocation method
TOTAL NATIONAL SOURCES	2,186,419.10 collected by BIR plus 556,500.00 collected by BOC		
I. TAXES ON NET INCOME AND PROFIT	1,155,544.59		
1. Company, corporate enterprise	587,329.61	50% Borne by labor (wage earners); 50% borne by capital ALTERNATIVE: 50% borne by consumer; 50% borne by capital NOTE: In all cases the portion borne by wages is assumed to be 93% domestic; portion borne by capital is assumed 34% foreign	Wages as reported in the FIES (wages), Capital income from FIES: sum of asset income (rentals_rec, interest, dividends) and imputed rent for owner-occupied (imputed_rent) Consumption from FIES total expenditures (totex)
a) Corporate Income Tax	335,072.49		
b) Withholding at Source	252,257.11		
2. Individual	465,486.14		
a) Capital Gains Tax	23,875.93	Residential: 50% to property owners (assumed to be domestic) and 50% to renters; ALTERNATIVE: 100% to renters Industrial/commercial: 100% to property owners; ALTERNATIVE: 50% to property owners and 50% to all capital (34% is assumed exported); ALTERNATIVE: 50% to property owners and 50% to consumption (Assumes that foreign companies/individuals face same basic market structure)	Property income from FIES: rentals received (rentals_rec) and imputed rent (imputed_rent) Capital income from FIES: (rentals_rec + interest + dividends + imputed_rent) Consumption from FIES: total expenditures (totex)
b) Withholding on Wages	252,176.62	100% Borne by wage-earners (labor) above threshold	Simulated tax liability for wage earners with FIES data and then adjusted to total national collection amount
c) Individual Income Tax	18,850.34	100% Borne by labor in self-employed sector above threshold	Simulated tax liability for non-wage income with FIES data: income from entrepreneurial activities (eainc) and asset income (rentals_rec, interest, dividends) and then adjusted to total collection amount
d) Withholding at Source	170,583.25		
3. Others	102,728.85		

a) Bank Deposits	61,272.97	100% to interest income; alternative 50% interest income and 50% to all capital (34% is assumed exported);	interest income FIES (interest) Capital income from FIES: sum of asset income (rentals_rec, interest, dividends) and imputed rent for owner-occupied (imputed_rent)
b) Tax on Government Securities	41,455.88		
II. EXCISE TAXES	317,267.27 collected by BIR plus 129,800 collected by BOC	100% to consumption of the taxed product	
1 . Alcoholic Products	76,998.59 collected by BIR		Alcohol Consumption from FIES (alcohol)
2. Tobacco Products	147,632.56 collected by BIR		Tobacco Consumption from FIES (tobacco)
3. Petroleum Products	42,708.76 collected by BIR		Transport Consumption from FIES (transport)
4. Miscellaneous Products	44,474.60 collected by BIR		Consumption from FIES total expenditures (totex)
5. Mining/Mineral Products	5,452.77		
Ill. VALUE-ADDED TAX	406,084.08 collected by BIR plus 426,700 collected by BOC	100% to total consumption of taxed products	Consumption from FIES total expenditures (totex) net of agricultural and marine food products (meat, fish, milk, fruit, veg), Medical, dental, hospital (health), Educational services (education), Lease of residential units with a monthly rental per unit not exceeding P15,000.00 in 2009 (rentval)
IV. PERCENTAGE TAXES	133,851.15	100% to income from entrepreneurial activities	FIES data on income from entrepreneurial activities (eainc)
1. Banks/Financial Institutions	48,709.44		
2. Insurance Premiums	2,166.60		
3. Amusements	528.7		
4. Other Percentage	81,203.25		
5. Taxes on use of goods or permission to perform activities (Franchise Tax)	1,243.16		
v. OTHER TAXES	173,672.00		
1. Tax on Property	7,219.46	Residential: 50% to property owners (assumed to be domestic) and 50% to renters; alternative 100% to renters Industrial/commercial: 100% to property owners; alternative 50% to property owners and 50% to all capital (34% is assumed exported); alternative 50% to property owners and 50% to consumption	Property income from FIES: rentals received (rentals_rec) and imputed rent (Imputed_rent) Consumption from FIES: total expenditures (totex)

		(Assumes that foreign companies/individuals face same basic market structure)	
2. Documentary Stamp Tax	145,970.09	100% to all capital (34% is assumed exported);	Capital income from FIES: sum of asset income (rentals_rec, interest, dividends) and imputed rent for owner-occupied (Imputed_rent)
3. Travel Tax			
4. Miscellaneous	20,482.46		

Source: Own construction.

Table 19. Assumptions and the method of attributing the revenue burden of LGU taxes

Tax source	BARMM-wide collections attributed (2019) (In million Pesos)	Incidence assumption	Allocation method
TOTAL TAX REVENUE	-	-	-
Real Property Tax	TOTAL: 112.5 Individuals/domestic: 45% Industrial/commercial: 55%	Individual: 50% to property owners and 50% to renters; alternative 100% to renters Companies-domestic: 100% to property owners; alternative 50% to property owners and 50% to all capital (34% is assumed exported); alternative 50% to property owners and 50% to consumption (Assumes that foreign companies/individuals face same basic market structure)	Realized and imputed property income from FIES rentals received (rentals_rec) and imputed rent (Imputed_rent) Actual and imputed rent from FIES: actual rent (actrent) and imputed rent (Imputed_rent) Consumption from FIES: total expenditures (totex) Capital income from FIES: sum of asset income (rentals_rec, interest, dividends) and imputed rent for owner-occupied (Imputed_rent)
Tax on Business	229.3	50% Borne by labor (wage earners); 50% borne by capital ALTERNATIVE: 50% borne by consumer; 50% borne by capital NOTE: In all cases the portion borne by wages is assumed to be 93% domestic;	Wages as reported in the FIES (wages), Capital income from FIES: sum of asset income (rentals_rec, interest, dividends) and imputed rent for owner-occupied (imputed_rent) Consumption from FIES total expenditures (totex)
Community Tax-Corporation	1.15		

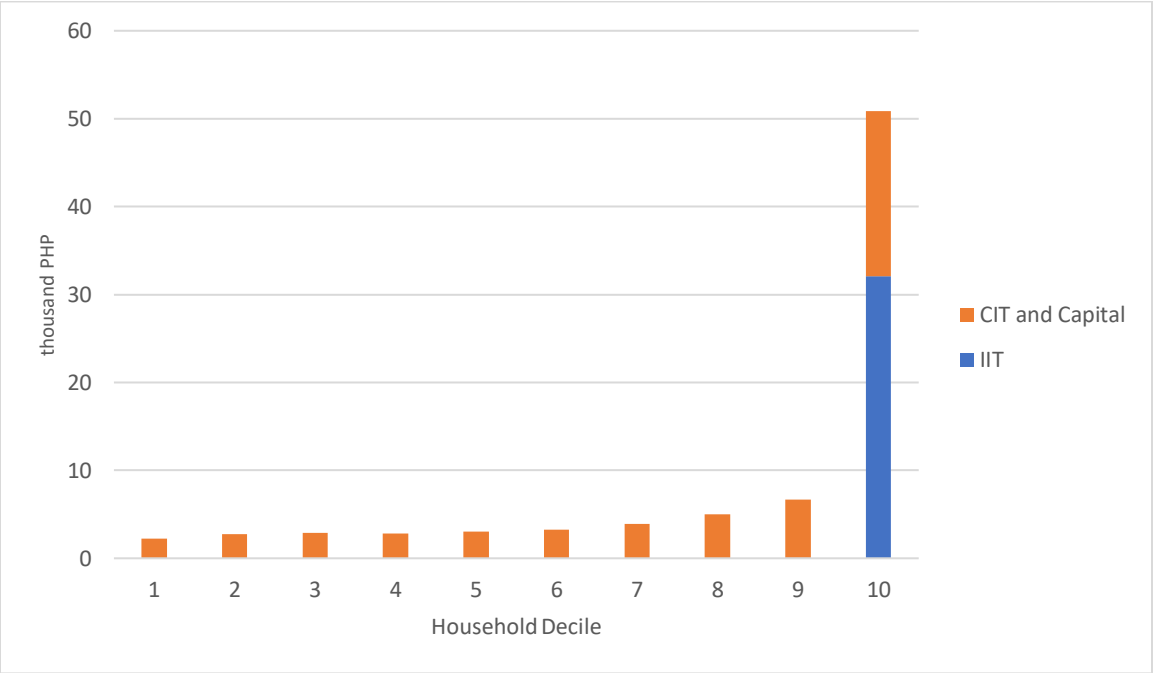
		portion borne by capital is assumed 34% foreign n	
Community Tax-Individual	15	100% to total household income	Total income from FIES: totinc
Fines and Penalties-Other Taxes	0.69		
Professional Tax	0.35	100% to income the exercise or practice of profession	FIES data: income from entrepreneurial activities (eainc)
Real Property Transfer Tax	TOTAL: **3.35** Individuals/domestic: 45% Industrial/commercial: 55%	Residential: 50% to property owners (assumed to be domestic) and 50% to renters; alternative 100% to renters Industrial/commercial: 100% to property owners; alternative 50% to property owners and 50% to all capital (51% is assumed exported); alternative 50% to property owners and 50% to consumption (Assumes that foreign companies/individuals face same basic market structure)	Property income from FIES: rentals received (rentals_rec) and imputed rent (Imputed_rent) Consumption from FIES: total expenditures (totex)
Other Taxes	7.15	100% to total household income	Total income from FIES: totinc

Source: Own construction

Findings

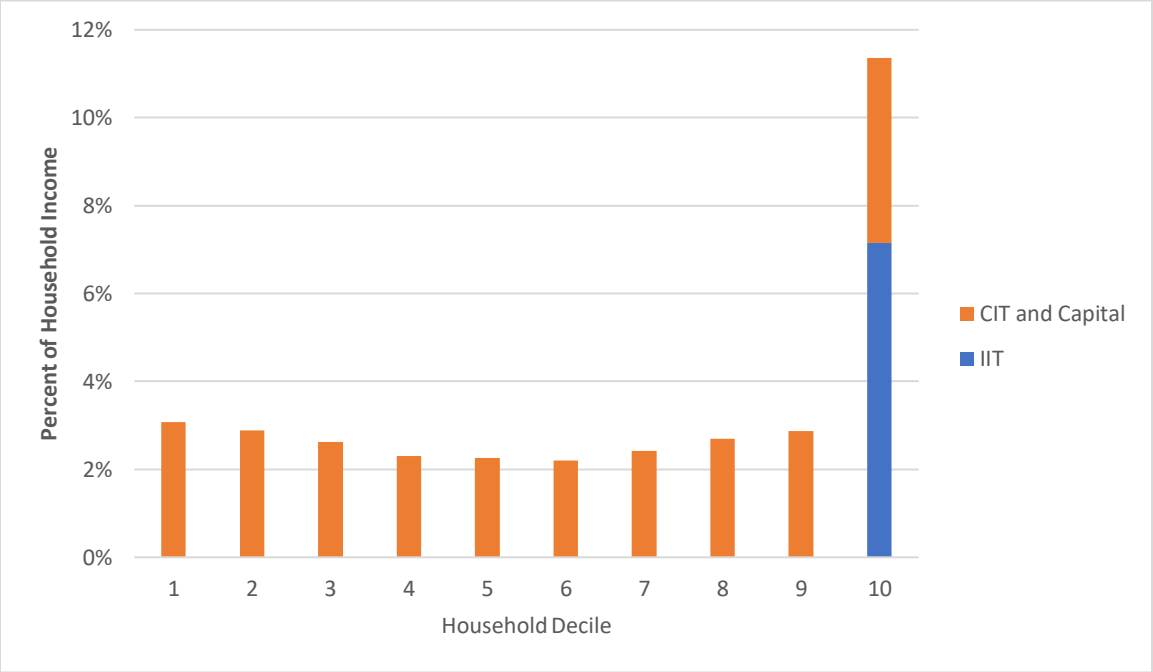
The level of national taxes on income borne by BARMM households in 2019 varies from PHP 2,221 per year in the first decile to PHP 50,888 per year in the 10th decile (Figure 4). The distribution of the tax burden for all national taxes on income combined (personal, employee, corporate, and capital) is progressive (see Figure 5).

Figure 4. Mean National Taxes on Income, thousand PHP 2019.



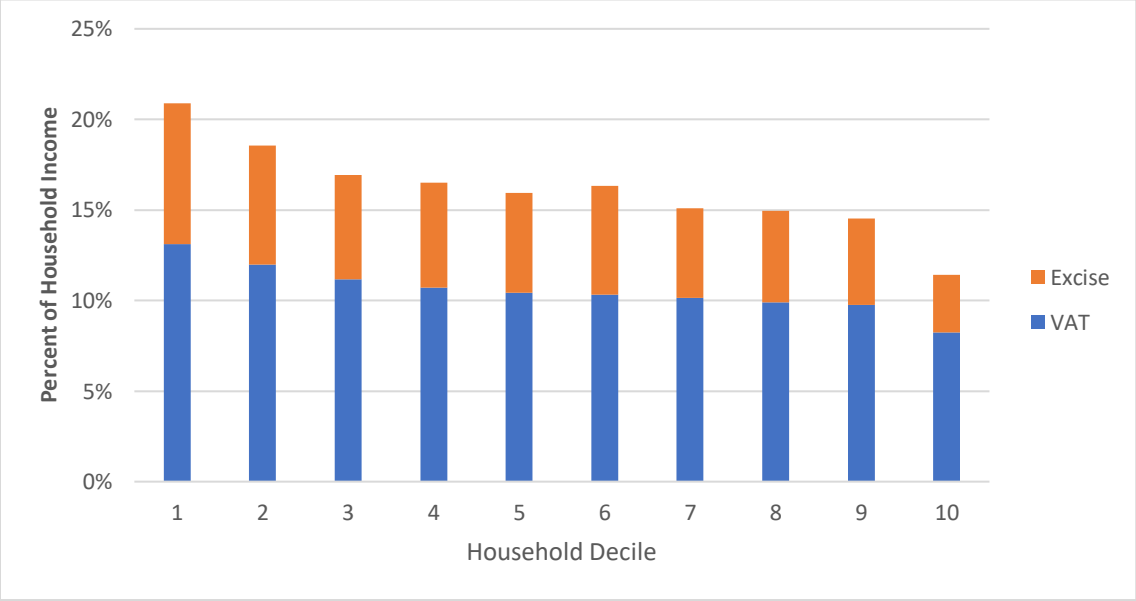
However, the relationship between tax and income is not monotonic as the burden (tax divided by household income) decreases from 3.07 percent in the bottom decile to 2.21 percent in the 6th decile before jumping to 11.35 percent in the 10th decile. The progressivity is largely determined by an interplay between the highly progressive personal income tax and mildly regressive company income and property taxes. The large threshold (PHP 250,000) eliminates over 90 percent of the BARMM households from the personal income tax system. The assumption that the corporate income tax is shared by wages and capital means that some of the burden of the corporate income tax is found in all deciles—since there are households in each decile that report wage and capital income.

Figure 5. National taxes on income, as a share of household income, 2019



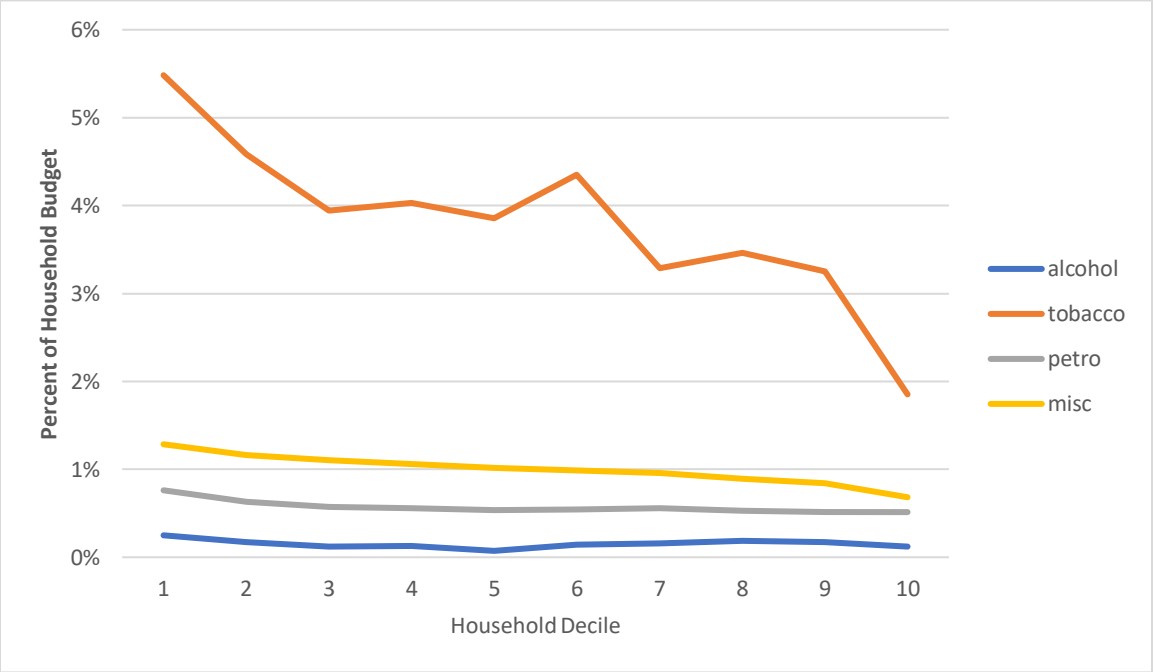
Under the aforementioned incidence assumption, the burden of the national consumption taxes (VAT and excises) is regressive, especially in the bottom three deciles (Figure 6). The burden drops from 20.89% in the first decile to 16.92 % for the 3rd decile, and then slightly declining over deciles 4-9, before dropping to 11.40 % in the top decile. Thus, the poorest BARMM households essentially pay a substantially higher share of their income in consumption taxes than the middle-income households, while the richest ten percent of BARMM households pay a substantially lower share of their income in consumption taxes than the middle-income households.

Figure 6. National Consumption Taxes a share of household income, 2019



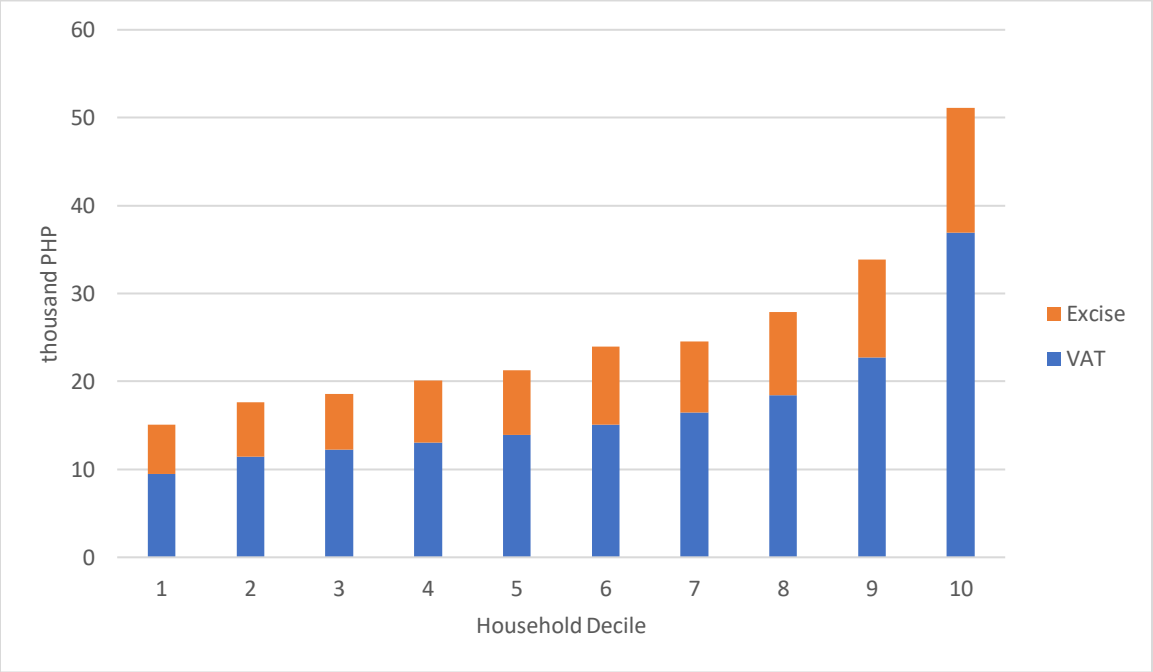
Furthermore, it has to be pointed out that regressivity is more pronounced for the excise tax than the VAT. While the burden of the VAT on the bottom decile is 1.6 times higher than that on the richest ten percent of BARMM households, it is 2.4 times higher for excises. The regressivity is even higher for the tobacco excise: the burden on the bottom decile is 2.96 times higher than that on the top decile (see Figure 7). On the other hand, the burden of the excise tax on motor fuels is less regressive as it is only 1.48 times of that on the top decile, which is even lower than the 1.69-fold difference in the case of the broad-based VAT tax. This suggests that, if there any tax space left with respect to consumption taxes, it would be in relation to motor vehicles, which are disproportionately owned by better of households. In addition, sub-national taxes and charges on vehicles can counteract the negative externalities associated with local traffic congestion and air pollution in the local area. Taxes on motor fuels alone cannot fully capture road use and congestion. Therefore, additional tax instruments might be required based on the size (weight and number of axils) and other characteristics of the vehicle. While the amount has to be set independently by each locality based on the local road congestion and air pollution, the actual collection can be done through the national system of vehicle registration.

Figure 7. National excise tax by item as a percent of household expenditure, 2019



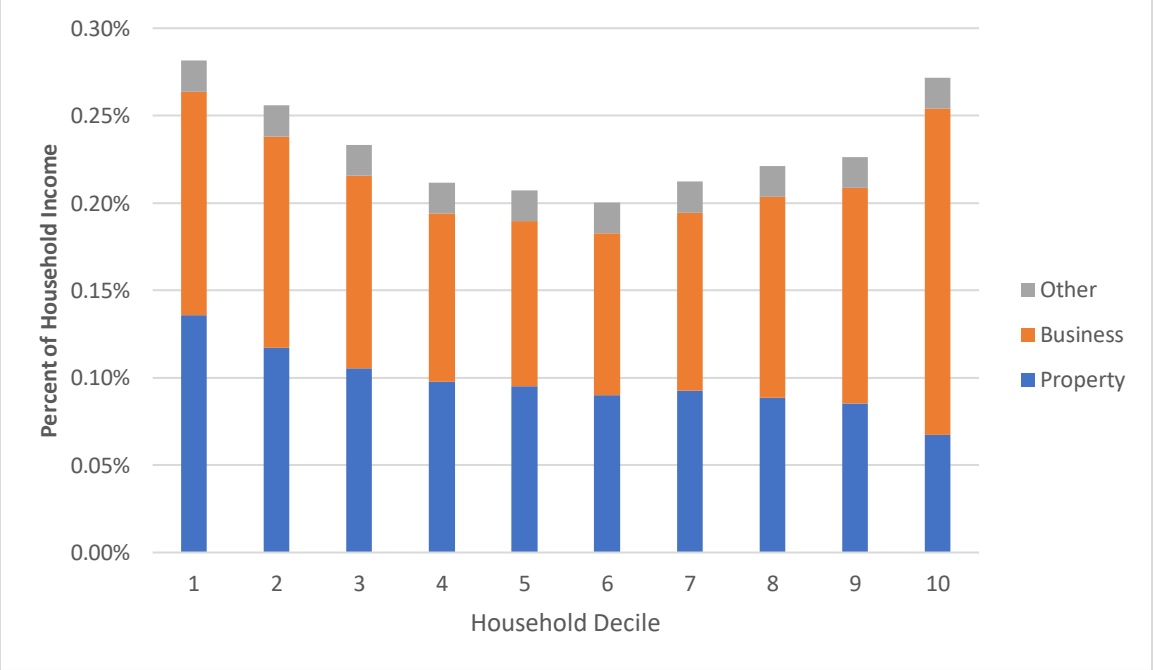
Even though the burden of consumption taxes might be declining for better-off households relative to their ability to pay, nevertheless it is increasing in absolute amounts (Figure 8). Thus, the top decile pays three times more in national consumption taxes than the bottom decile but has six times more in household income.

Figure 8. Mean national consumption taxes, thousand PHP 2019



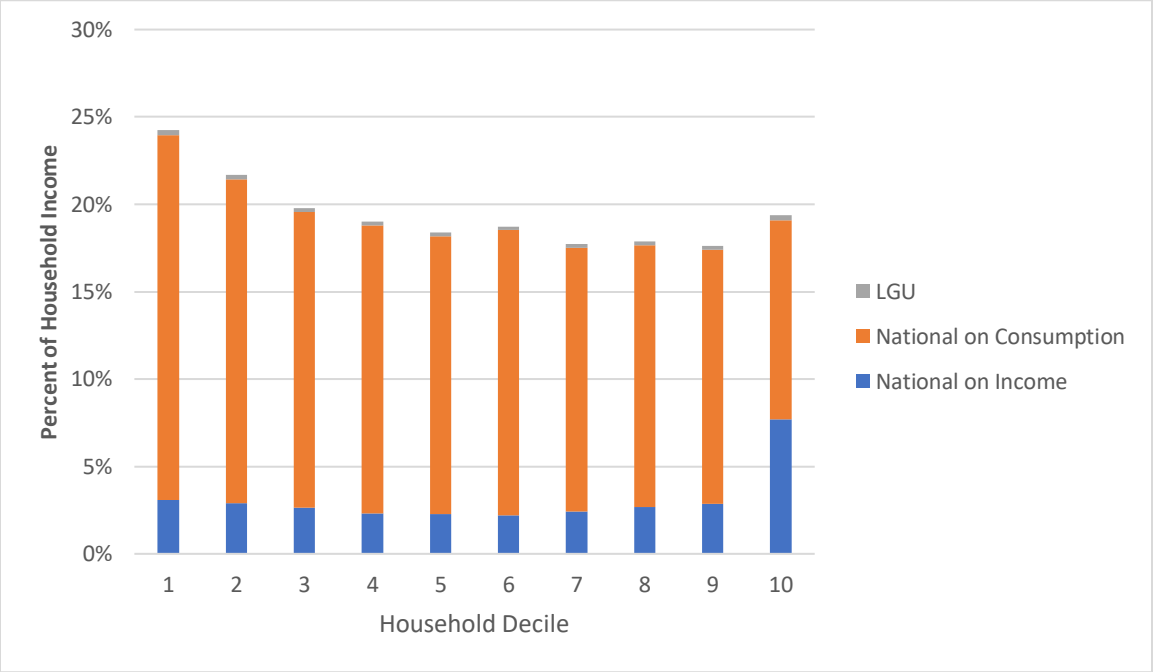
Similarly to the national taxes on income, the combined burden of all LGU taxes is regressive at the bottom, decreasing from 0.28% for the first decile to 0.20% for the seventh decile, and then mildly increasing over deciles 8-9 before jumping back to 0.27% for the top decile (Figure 9). This incidence is determined by an interplay of the regressive burden of taxes on property and the U-shape distribution of the burden of taxes on businesses.

Figure 9. LGU Taxes as a share of household income, 2019



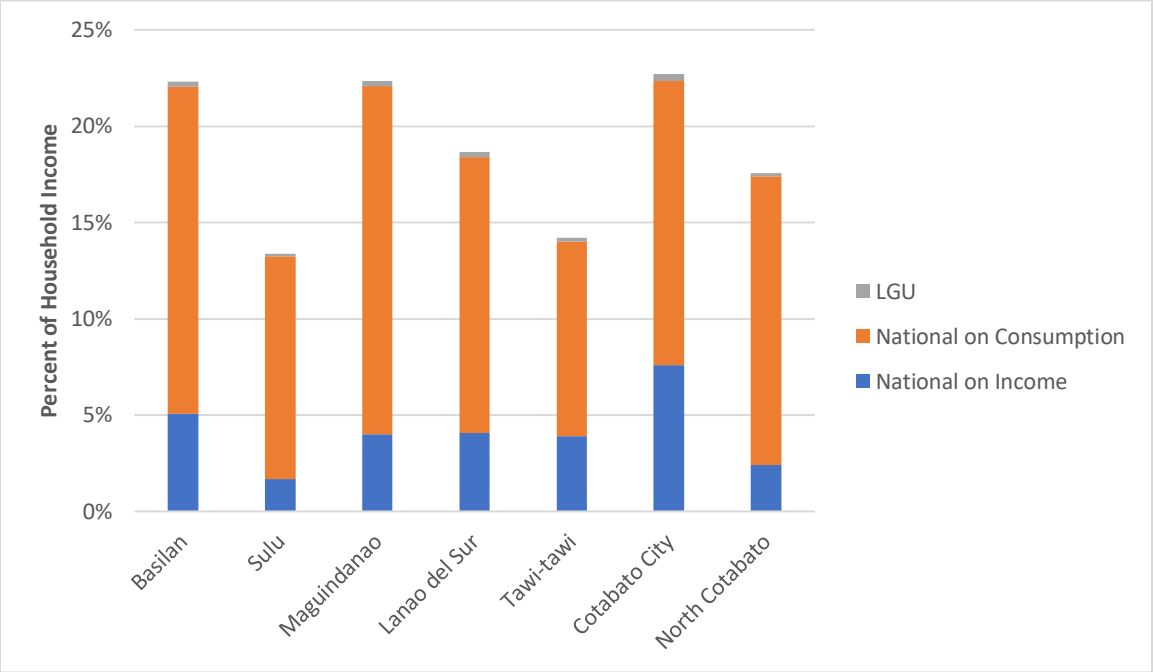
The entire burden story is summed up in Figure 10, which presents the combined burden of national and LGU taxes as a share of household income. The burden of the entire tax system is sharply regressive over the bottom three deciles and rather flat over deciles 4-10. This is primarily driven by the regressive distribution of the national consumption taxes. Since 90 percent of the BARMM households are below the taxable threshold for the personal income tax, that latter has very limited ability to mitigate the regressivity of consumption taxes.

Figure 10. National plus LGU taxes as a share of household income, 2019



Similarly, we report the amount of tax borne by the average household in each province of BARMM, and we again report the tax borne divided by the average household income in each province—a measure of effective rate of taxation (Figure 11). We find wide disparities in the tax burdens, ranging from 13.37% in Sulu to 22.7 in Cotabato City. However, this disparity has no relation to the level of household income, as is evident from Figure 11 ranking the provinces from the poorest on the left-hand side to the richest on the right-hand side. Thus, while the average household income in Cotabato City is close to that of the 63 barangays of the former North Cotabato, its tax burden is significantly higher. The disparity has more to do with the composition rather than the level of household income. Thus, in Cotabato City, households primarily rely on wages (one can assume from the government sector), unlike households in the 63 barangays of the former North Cotabato, who are more reliant on self-employment.

Figure 11. National plus LGU taxes as a share of household income, by province, 2019



4. BARMM revenue office administration

This component focuses on providing advice on the size, composition, skills, and systems requirements for the new BARMM revenue office in meeting their revenue collection responsibilities. The revenue office administration will play a key role in upholding efficient revenue collection and management, especially in a dynamic and complex environment of changing laws and rules on revenue authority and distribution. The BARMM Revenue Office is expected to be officially established in 2021, and likely to take over some of the functions of the ARMM Treasury in relation to the collection and management of regional revenues, and it will have the role of identifying and developing new revenue sources for the region.

Overall, three general issues need to be considered in reference to the resources the revenue administration will require. First is the aggregate level of resources. Lack of adequate resources will impose serious constraints on the revenue administration in managing voluntary compliance and countering tax evasion. It may also limit the new Revenue Office ability to upgrade its operations to improve performance in those areas that may present especial collection and enforcement challenges. Second, the new Revenue Office needs to ensure the quality of available resources. Skill deficiencies, outdated IT systems, or run-down infrastructure could be the cause of low performance in many critical areas in the future. Third, the new Revenue Office should have in its design a fairly high degree of flexibility in the use of the available resources available to revenue administration management. Inability to change the resource mix in response to emerging priorities and difficulties in re-tooling, retraining, and reconfiguring resources could be the source of many chronic deficiencies and poor overall revenue performance (Gill, 2003).

International experience

The review of international experience in establishment and evaluation of revenue offices shows the importance of distinguishing between tax administration needs in developing countries, which remain fundamentally different from those in industrialized countries due to, among other factors, differences in the size of the informal economy and the extent of corruption in the formal economy.

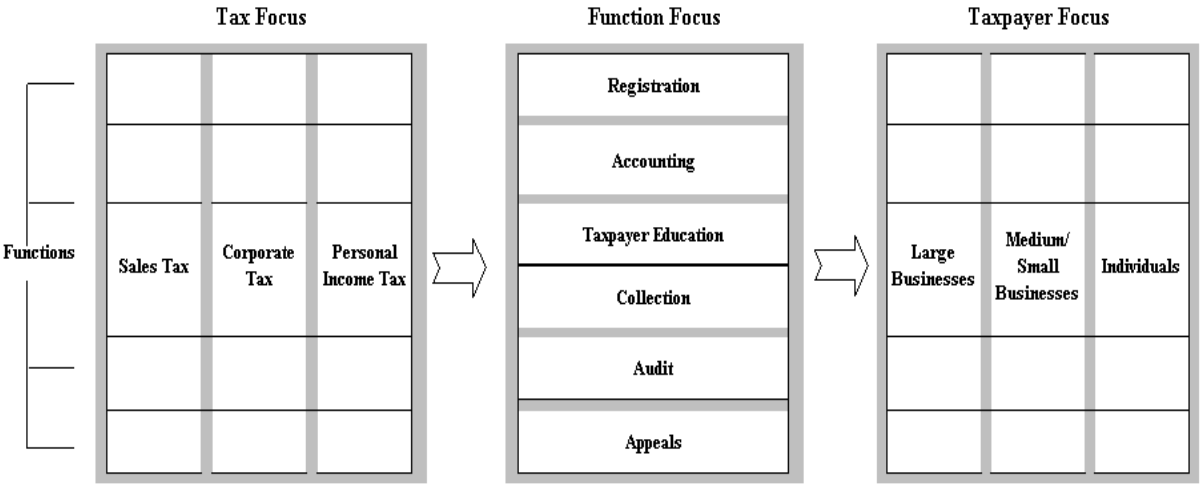
Hostile administrative practices in these environments can drive small formal businesses into the informal sector and can potentially decrease the investment appeal in the region for outsiders. In that sense, Stiglitz (2004) advocated for the adoption of a *corruption resistant tax structure*, where corruption reduction is part of tax design. He argues that some tax structures provide less opportunity for corruption than others if it curtails the discretionary authority of tax administration officials and has increased transparency in the contacts with taxpayers and in the form of payment.

In general, organization design of a tax or revenue administration can be structured along the tax focus, function focus, and taxpayer focus (Figure 12). The tax-by-tax organization design results in lost efficiency, through the duplication of the fundamental functions for registration, accounting, audit, collection, training, IT, and human resources. In contrast, a functional approach, as already used in Philippines, allows for tax returns and tax payments to be processed in a single department, rather than in many tax specific departments. An important additional benefit of the functional approach is that it deters excessive direct contract between taxpayers and tax officers that expose the tax administration to unnecessary risks for corruption. Some countries have adopted a taxpayer focus approach (Netherlands, USA, Pakistan), which is embedded in the different characteristics and tax compliance behaviors of different size (by tax liability) of taxpayers. There are also examples of hybrid models with both functional and taxpayer focus, and with varying degree of functional responsibilities for large versus medium/small taxpayers (McCarten, 2006).

From a taxpayer focus, the business operations of large taxpayers are complex because they have high transaction volumes, they act as withholding agents for the taxes of other taxpayers, and they often have non arm's length transactions with foreign parent corporation. Very often large taxpayers are branches of foreign enterprises or they themselves own branches abroad leading to issues of how their global profits will be distributed across tax jurisdictions. Large taxpayers employ highly qualified accountants and lawyers and sometimes they use forms of avoidance that are difficult to detect, such as abusive transfer pricing and thin capitalization strategies.

These characteristics make it desirable to monitor large taxpayers with an explicitly established unit having highly specialized personnel with sophisticated accounting and auditing skills. Other international constraints that impinge on tax administration of large taxpayers may require specialized knowledge, such as sophisticated transfer pricing systems, other profit shifting techniques between different country locations, or the ability to identify and enforce the provisions of tax treaties with other countries. Usually, large taxpayers in developing countries comprise less than 1% of all taxpayers but are responsible for more than half, or in some cases up to 90% of all revenue collections. Therefore, having dedicated personnel to ensure fair and efficient taxation of large taxpayers is important to ensure stable revenue stream at the regional level.

Figure 12. The Evolution of Organization Design Ideas for Tax Administration



Source: Ebrill, Keen, Bodin and Summers (2002)

In the Philippines, an organization unit known as the Large Taxpayer Service was created in 1999 within BIR to strengthen control over those taxpayers responsible for a major share of tax revenue, which led to significant increases in compliance and overall efficiency of the tax administration. There are specific conditions (any or combination of) that would make a firm a large taxpayer in Philippines based on Revenue Regulations No. 1-98 such as:

- VAT - Any taxpayer with net VAT paid or payable of at least 100,000 pesos per quarter;
- Excise Tax - Any taxpayer with annual excise tax paid or payable of at least 1-Million pesos;
- Income Tax - Any taxpayer with annual income tax paid or payable of at least 1-Million pesos;
- Withholding Tax - Any taxpayer with annual withholding tax payment/remittance for all kinds of withholding taxes (i.e., on compensation, expanded, final, and government money payment) of at least 1-Million pesos (for taxpayers, business establishments and government offices with branches/units, the basis is the total annual taxes withheld by the Head Office and all the branches/units);
- Percentage Taxes - Any taxpayer with percentage taxes of at least 100,000 pesos per quarter; or
- Documentary Stamp Taxes - Any taxpayer with aggregate annual documentary stamp taxes of at least 1-Million pesos.
- Gross Sales/Receipts - Any taxpayer with total annual gross sales/receipts of 1-Billion pesos; and
- Net Worth - Any taxpayer with a total Net Worth at the close of each calendar or fiscal year of at least 300-Million pesos.

While we do not have the information on number of large taxpayer units in BARMM that satisfy any or combination of these requirements, it would be advisable for the regional BARMM government to develop its own sets of criteria given its economic conditions. While BIR defined requirement can be an initial roadmap for BARMM adjusted criteria, they would also need to reflect the structure of the economy in BARMM with a high participation of agriculture iand a relatively high level of informal activity, since some potentially large taxpayers may show low tax liability through avoidance and evasion.

Let us also address the other important considerations for the establishment of the revenue office administration.

Flexibility over time: Countries as diverse as Bulgaria, Jamaica, Latvia, Pakistan, and Tanzania have embraced multiyear programmatic approaches to reform, involving reorganization of their tax administrations along functional and taxpayer segment lines, reengineering of business processes, and effective utilization of new opportunities in information and communications technology (McCarten, 2006). Development of technology and its role in electronic filings necessitate the update of revenue administration over time, therefore, it is important to mandate some level of review and potential reform of the revenue administration every 3 to 5 years.

Autonomy: It is also important to ensure the level of autonomy for the revenue office to avoid potential revenue losses due to bureaucracy and corruption. In this regard, the revenue authority (RA) model has become a popular tax administration system innovation. The RA model is a "governance model for revenue administration where the revenue collection function typically is removed from the ministry of finance departments into an agency with a degree of autonomy from civil service rules to structure and manage it" (Fjeldstad, 2007). According to Crandall (2010), the RA model involves the creation of a quasi-autonomous agency, "which has a role in the processes of national government, but is not a government department or part of one, and which accordingly operates to a greater or lesser extent at arms' length from ministers". Revenue authorities are semi-autonomous because they "are not meant to be as autonomous as other types of public sector organizations like the central bank nor as dependent as ministerial line departments, hence the moniker "semiautonomous'" (Kwaku and Owusu, 2015).

Integration of customs duties: A large number of countries, including Guatemala, Peru, Ecuador, Canada have integrated their tax and customs departments into a single agency. This has a number of advantages; primary among them are the better flow of information and the ease of conducting more integrated and integral audits since large firms frequently pay both domestic taxes and customs duties.

Revenue administration in BARMM

BOL states that "the Parliament shall establish by law the Bangsamoro Revenue Office for the Assessment and collection of Bangsamoro taxes, as well as all other collectible taxes in the Bangsamoro Autonomous Region" (Article XII, section 11). It also specifies that "Until such time that the Bangsamoro Revenue Office is established, tax collection shall be undertaken by the Bureau of Internal Revenue. The share of the Bangsamoro Government shall be retained by the National Government collecting agencies and remitted to the Bangsamoro Government in lump sum without need of an appropriation law. Upon its establishment, The Bangsamoro Revenue Office shall start collecting such taxes regularly: Provided, that it shall report promptly all its collections to, and remit the share of, the National Government through a duly accredited government depository bank: Provided, further, That the National Government and the Bangsamoro Government shall share the cost of administering the tax collection as provided herein."

Furthermore, the Bangsamoro Administrative Code (Bangsamoro Autonomy Act No. 13 of 2019) specifies the organization structure and functions of BARMM Revenue Office (Title IV, Chapter 7, sections 19 and 20). It states that "It shall consist of the Revenue District Offices and the following divisions:

- Collections Division;
- Assessments Division; and
- Document Processing Division."

It also states the following functions:

- Assess and collect all taxes, fees and charges and account for all revenues collected;
- Exercise duly delegated powers for the proper performance of its functions and duties;
- Formulate preventive measures for tax evasion and all other illegal economic activities;
- Exercise immediate supervision over its field units; and
- Perform such other functions as may be assigned by the Minister or the Cabinet through the Minister of Finance, and Budget and Management.

Currently, national taxes in Philippines are collected in 19 revenue regions and 115 regional district offices (RDO), which are usually dedicated to a specific province. BARMM provinces are covered by Revenue Region No. 15 (Zamboanga city), 16 (Cagayan de Oro city) and 18 (Koronadal city):

- Revenue region 15, RDO 94 in Isabela city covers Basilan province
- Revenue region 15, RDO 95 in Jolo covers Sulu province
- Revenue region 15, RDO 96 in Bongao covers Tawi-Tawi.
- Revenue region 16, RDO 102 in Marawi city covers Lanao Del Sur province
- Revenue region 17, RDO 107 in Cotabato City covers Maguindanao province

When we look at the international experience, the ADB report by Araki and Claus (2014) shows the average taxing area to offices ratio (for countries with available data) is about 11.75 thousand square km per office, while for Philippines the ratio is 2.07 thousand square km per office. If we assume continuation of 5 RDOs for 12.7 thousand km. square in BARMM, the ratio would be 2.54, which is higher than in the Philippines and comparable to countries like China and Myanmar. Obviously, the density and concentration of population in certain areas matter as well; for example, the ratio of area to offices in Australia is 121 thousand square km per office. Similarly, the average ratio of population to offices is 0.9 million per office, or 0.68 million in Philippines. In BARMM, with an estimated population in 2020 at 4,183,316 people, five offices would average to 0.83 million per office, which is expected to increase to 0.92 million by 2025. Therefore, the continuation of a similar structure to an existing one is reasonable given the international experience and best practices.

Revenue regional offices administer and enforce internal revenue laws including the assessment and collection of all internal revenue taxes, charges and fees from taxpayers within the region's jurisdiction, as well as ensures proper and effective implementation of National Office's policies and programs within the Regional Office. It usually includes legal, assessment, collection, finance, administrative and human resources, regional investigation and document processing divisions that carry out respective functions. Notice that these cover the divisions that are mandated by Administrative Code of 2019 listed above.

Each revenue region is usually comprised of 6 RDOs on average and include following staff members:

1. Regional Director
2. Asst. Regional Director
3. Legal division Chief

4. Legal division Assistant Chief
5. Assessment division Chief
6. Assessment division Assistant Chief
7. Collection division Chief
8. Collection division Assistant Chief
9. Administrative and Human Resource Management division Chief
10. Administrative and Human Resource Management division Assistant Chief
11. Regional investigation division Chief
12. Regional investigation division Assistant Chief
13. Finance division Chief
14. Finance division Assistant Chief
15. Document processing division Chief
16. Document processing division Assistant Chief

If we also account for RDO officers and assistant RDO officers in each accompanying RDO, we can estimate that a BARMM Revenue office that would continue a similar structure of with five provinces and one independent component city, would have 16 regional office staff members and 12 RDO officers and their assistants, or 28 staff members overall. However, the overall extent of staffing also depends on the level of autonomy and therefore replication of functions of the Office of the Commissioner of Internal Revenue, which includes performance evaluation division, planning and management service divisions, project management and implementation service divisions, large taxpayer service divisions (by tax type and province), as well as various divisions for operations (which are mostly covered by regional offices, but have equivalent services at federal level), legal (including international tax affairs division, litigation division, internal investigation division), information systems (information systems development and operations, revenue data centers) and resource management (training management division, budget and accounting, procurement division, records management division among others).[10]

The total number of employees will depend on the interaction and cooperation between BARMM Revenue Office and BIR in terms of duplication of these services at the regional level. During the transition to the new revenue office, it will be important to keep certain level of continuity in these dedicated revenue district offices to ensure similar level of collection of national taxes. It is also important to note that these functions necessitate various levels of expertise, and high-skilled heads would be especially important in the legal, finance, assessment and investigation divisions.

The international experience shows that the number of staff members around the world are highly correlated with population. While it is difficult to compare the staffing of various revenue offices to population across countries, the average for countries, as reported in the ADB report by Araki and Claus (2014), is 6,412 people per full-time equivalent tax administration employee (5,318 if we remove India as an outlier). In the Philippines, the ratio in 2014 was reported as 11,257 people per staff assuming 7,525 full-time employees for tax and support functions. This number includes employees at the central level that are beyond the regional office functions, to achieve similar ration BARMM would need to employ 371 people, which may not be feasible or necessary. However, as we mentioned above, it would depends on the level of cooperation of the BARMM Revenue Office with BIR to avoid unnecessary duplication of certain services that can be covered by BIR at the regional level.

[10] www.bir.gov.ph/images/bir_files/internal_communications_1/Organizational%20Structure/org%20struc.pdf

In addition, with increasing number of working age population and potentially number of businesses, each revenue district office in BARMM would have to adjust the number of employees and resources depending on the jurisdiction/province they are located in. Hence, while considering the human capital and other resources for revenue office, it important to keep track of the actual and potential number of individual and business taxpayers. According to POPCEN 2015 projections, working age population (between the ages of 15 and 60) in BARMM and its provinces will increase by 317,973 people from 2020 to 2025, or by 13.5% (table 20). The gistribution of resources across provinces also has to account for working age and business population. Maguindanao has the highest number of working age population projected for 2020-2025; by 2025, its working age population of 874,242 people will be 3.5 times the number in Basilan. On the other hand, Lanao del Sur has the greatest number of businesses registered with 10,282 firms, which is more than 8 times the number of business in Basilan. These discrepancies will need to be accounted for at regional revenue office level or in the district office level because theyt require different types of accounting, audit and evasion deterrence porgrams.

Table 20. Working age population (15-59) and number of businesses in BARMM by provinces

	Working age population (15-59)						Number of businesses (2020)
	2020	2021	2022	2023	2024	2025	
BARMM	**2,355,781**	**2,416,331**	**2,478,381**	**2,541,930**	**2,607,168**	**2,673,754**	**24,270**
Basilan	214,188	220,086	226,151	232,383	238,801	245,371	1,220
Lanao del Sur	643,100	658,329	673,943	689,948	706,388	723,178	10,282
Maguindanao	749,671	773,150	797,333	822,226	847,907	874,242	8,833
Sulu	511,751	524,542	537,673	551,138	564,976	579,121	2,212
Tawi-Tawi	237,071	240,224	243,281	246,235	249,096	251,842	1,723
Cotabato city	187,595	188,668	189,677	190,618	191,495	192,303	Not available

Source: PSA and Ministry of Trade, Investment and Tourism

As a final benchmark of the efficiency of revenue administration at the regional BARMM Revenue Office, there will be a need to account for the costs of administration. ADB report by Araki and Claus (2014) on comparative tax adaminsitration practices in Asia shows that on average, approximately 1% of net revenue (gross revenue minus refunds) collected would be spent on the administration of taxes. In the Philippines, the cost of revenue administration was reported at 0.7% of net revenue collected in 2011. Therefore, it is important to benchmark and monitor the revenue administration expenses of the new tax administration office, and perhaps set an upper limit threshold, which would inform a potential evaluation of the entire program if that threshold is crossed. For example, in 2019 BIR collected a total of 2,664.17 million pesos in BARMM, and therefore, assuming a 1% administration expenditure ratio, it should amount to approximately 26.6 million pesos. If we also account for the learning curve during the first years of BARMM Revenue Office, the upper limit could be set higher at the beginning with the expectation of decreases over time and settlement at an agreed level in a fixed time horizon.

Appendix A: TERMS OF REFERENCE

Analytical and advisory services on revenue policies and administration for the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM)

Philippines

1. Background

The Bangsamoro region in Mindanao has been affected by violent conflicts spanning over 5 decades. After several peace negotiations brokered and supported by the international community, the resistance factions signed peace agreements with the Philippine Government (GPH) in 1996 and 2014.

The 1996 Peace Agreement successfully established an Autonomous Region in Muslim Mindanao by virtue of Republic Act 6734 (RA), later amended to RA 9054. This law created the now dismantled Autonomous Region in Muslim Mindanao (ARMM), as provided for in the 1987 Constitution. However, critics including the Moro Islamic Liberation Front (MILF) contested that such autonomy was not genuine as the ARMM government was still dependent on the national government due to the former's limited fiscal powers and a political system that enabled a skewed democratic process by entrenching elite political families and local warlords in government. With this, the MILF demanded that the 2014 Comprehensive Agreement on the Bangsamoro (CAB), the peace agreement that they later signed, reflected guarantees to overhaul of the ARMM legislation that would be more responsive to the needs of the Bangsamoro.

The subsequent RA 11054, or the Bangsamoro Organic Law (BOL), established in 2018 provided greater political, bureaucratic, fiscal and decision-making reforms. Consequently, after the ratification of the BOL in 2019, the Bangsamoro Autonomous Region in Muslim Mindanao (BARMM) replaced the ARMM and Bangsamoro Transition Authority (BTA) was established with a mandate from 2019 – 2022. The BTA is composed of both appointees from the MILF and government with the head of the MILF as the Interim Chief Minister. The mandate of the 80-member BTA is to set-up the BARMM's bureaucracy, deliver government services and legislate relevant codes such as civil service, internal revenue, local government, indigenous peoples and administrative code amongst others.

In addition, the BTA is mandated to deliver programs and services in the region such as welfare programs, infrastructure and other basic services. In order to deliver such, the BTA needed to prepare the region's development and operational plan and budget and put in place its public financial management systems and processes. The development plan has been approved by the Bangsamoro parliament and basic financial management arrangements are in place but need further strengthening, especially in managing revenue responsibilities of the BARMM.

The BOL also requires the BTA and national government convene an inter-governmental relations body (IGRB), the structure that enables both to dialogue, resolve policy issues and draft a common agenda. Another key feature of the BARMM's autonomy is its greater fiscal power through the automatic appropriations guarantee and explicit revenue raising powers. The revenue powers provide the BARMM government with greater flexibility and decision-making power in terms of allocating and managing the necessary operational and programmatic funds according to Bangsamoro priorities.

The BOL provides BARMM revenue shares from the taxes and fees collection and from the minerals and resources extracted from the region. There is also a provision in the BOL to allocate PhP 5 billion to serve as a Special Development Fund (SDF) for rehabilitation and recovery of conflict affected communities.

The World Bank has provided support for the BARMM and its predecessors for several years. In terms of economy and development, the Bank has provided technical assistance support for Marawi redevelopment, analytical and advisory support on health, education, employment and financial management along with other inputs to development initiatives in the region.

Amongst the many expectations for the BTA and Bangsamoro government set out in the BOL, an important foundational matter is the fiscal sustainability of BARMM in the medium to long term. The BOL provides for establishment of a Bangsamoro Revenue Office and identifies potential areas for revenue to meet the region's needs. These revenue sources and opportunities for BARMM are nested within a national and subnational environment of laws on taxes and other sources of revenue that are already imposed on BARMM residents and businesses.

2. Objectives

The objective of this activity is to provide the BTA with a complete overview of public revenue raised in BARMM from all levels of government, examination of the collection and distribution arrangements for public revenue and identify opportunities for expanding revenues accruing to BARMM. The expansion of revenue assessment should take account of the existing payments burden on BARMM residents and business and the effect of additional revenue raising initiatives on economic activity, motivation, incomes and the distribution of the government revenue burden across the region and across individuals and organizations.

This activity will require a review of the Bangsamoro organic law and other pertinent laws, policies and agreements related to the BARMM's powers as an autonomous regional government and its fiscal relationships with the national and municipal governments. It will also require assessment of the incidence of existing national and subnational government taxes and other existing and potential revenue raising measures on BARMM residents and entities operating in BARMM.

The output from the activity will include recommendations on revenue raising options for BARMM in the short and medium terms. It will also provide recommendations on the organization and management of BARMM Revenue Office to manage current and prospective revenue functions efficiently.

3. Scope of Work

The activity will address the following matters:

I. An assessment of the size (value), composition and distribution of government revenue collected in BARMM by each level of government – both current and most recent full fiscal year.
II. Identification and assessment of the opportunities for additional revenue raising by the BARMM government, in line with the BOL (RA 11054), other legislation and regulations, and consideration of the specific and cumulative incidence and impact on individuals and businesses from the existing set of revenue sources and possible additional revenue sources. This will include including capital gains tax, documentary stamp tax, donor's tax and estate tax, and other relevant taxes and charges. Advice on

sharing of revenue from collections from within and outside the BARMM jurisdiction should also be provided.

III. Advice on the size, composition, skills and systems requirements for BARMM revenue office in meeting their responsibilities.

The work will be completed remotely using information available publicly or provided by Philippines governments in the form of documents, virtual meetings and data. The World Bank will provide support for the activity from staff and local consultants.

4. Deliverables and Timeline

The work is expected to be completed by March 31, 2021. The consultant will provide an inception report one month after contract signing and a preliminary draft report to the World Bank by February 28, 2021 at the latest. The work may be provided as a single report or separate advice on parts of the work, as determined following discussion between the Consultant, the World Bank and BARMM administration after commencement of the project.

This work is expected to require a total of 40 person days.

The Consultant is expected to participate in relevant meetings and cooperate effectively with other team members on this project, which may be outside normal working hours (within reason) due to time zone differences between the Consultant's location and the Philippines.

a. Reporting and Compensation

The Consultants will report to Lewis Hawke, Lead Public Sector Specialist. The fee will be paid as a lump sum in three tranches: 10 percent on commencement, 30 percent on receipt of a satisfactory inception report and 60 percent on receipt of satisfactory final deliverable(s). If the activity involves travel to the Philippines, the cost of travel, accommodation, subsistence, and other related expenses will be covered separately from the fees in accordance with standard World Bank allowances.

Appendix B: Other revenue sources of BARMM regional government and LGUs (including sharing)

1. **BARMM Regional Government - National Government appropriations and budgetary allocations.**
   According to BOL, "For the budget year immediately following the year of the effectivity of this Organic Law, the amount of the block grant shall be equivalent to five percent (5%) of the net national internal revenue tax collection of the Bureau of Internal Revenue and the net collection of the Bureau of Customs from the third fiscal year immediately preceding the current fiscal year immediately preceding the current fiscal year." (Article XII, Section 16). It is estimated that the block grant will account for up to 80 percent of total BARMM revenue and amount to approximately PhP 72-84 billion.
   Another five billion pesos per year for 10 years will be provided as a special development fund for "the rehabilitation, reconstruction, and development of Bangsamoro Autonomous Region as part of the normalization process" (Article XIV, Section 1).
2. **BARMM Regional Government and LGU Shares in National Government taxes.**
   According to BOL, of all National Government taxes, fees, and charges collected in the Bangsamoro Autonomous Region, other than tariff and customs duties, Seventy-five percent (75%) to the Bangsamoro Government, inclusive of the shares of the constituent local government units. (Article XII, Section 10b). The following sections stipulate that BARMM will establish Bangsamoro Revenue Office for the assessment and collection of Bangsamoro taxes and expected to "enact a law detailing the shares of constituent local government units". Based on the latest draft of the Bangsamoro Local Governance Code (BLGC), the BARMM regional government will retain 50% of it and the rest would be distributed among LGUs.
1. **BARMM Regional Government apportionment of multijurisdictional revenue sources**.
   Finally, there is an ongoing determination of taxes paid by corporations, partnerships and firms. The Organic law states that "Corporations, partnerships, or firms whose central, main or head offices are located outside the Bangsamoro Autonomous Region but are doing business within its territorial jurisdiction, shall pay the income taxes for income derived from their business operations in the Bangsamoro Autonomous Region to the city or municipality where their branch office or business operations or activities are located. The Bureau of Internal Revenue and the Bangsamoro Revenue Office shall agree on modalities for the filing of income tax returns through the Intergovernmental Fiscal Policy Board" (Article XXI, section 12). At this moment, the agreement on apportionment of the revenue for multijurisdictional companies are not yet decided. As a result of this agreement, there might be extra revenue base that will pertain to municipalities and cities in BARMM. One potential remedy is to estimate this potential revenue through VAT records of branches registered in BARMM (as opposed to corporate tax records for which the records are on domicile of the head office of the company only).
2. **LGU transfers from National Government - Internal Revenue Allotment (IRA)**
   By far the largest source of income for LGUs in Philippines, including BARMM is the direct fiscal transfer from the National Government. Per Supreme Court ruling in Mandanas Case (GR No. 199802; July 3, 2018), the local government units shall have a Forty Percent (40%) share in all national taxes. According to draft BLGC, "the share of local government units in the allotment shall be allocated in the following manner: (i)

Provinces - Twenty-three percent (23%); (ii) Cities - Twenty-three percent (23%); (iii) Municipalities - Thirty-four percent (34%); and (iv) Barangays - Twenty percent (20%). Provided, however, that the share of each province, city, and municipality shall be determined on the basis of the following (a) Population - Fifty percent (50%); (b) Land Area - Twenty-five percent (25%); and (c) Equal sharing - Twenty-five percent (25%).

In 2016, 96% of LGU revenue in ARMM was from IRA, compared to 64% average in Philippines. It is expected to be the dominant source of revenue for LGUs during BARMM government.

3. **LGU Shares in BARMM regional government revenue**

   According to BOL, BARMM Government shall enact a law detailing the shares of constituent local government units in 75 percent allocation of all National Government taxes, fees, and charges collected in the Bangsamoro Autonomous Region, other than tariff and customs duties. According to draft BLGC, "constituent local government units shall have a (50%) share in the share of the Bangsamoro Government from the taxes, fees, and charges collected in the Bangsamoro territorial jurisdiction by the National Government, to be distributed as follows: (i) Fifteen Percent (15%) to the provinces; (ii) Fifteen Percent (15%) to the cities; (iii) Fifty Percent (50%) to the municipalities; and (iv) Twenty Percent (20%) to the barangays (Chapter 2, Section 297).

   According to BOL, LGUs are also entitled to 70 percent share in taxes on ordinary stones, sand, gravel, earth, and other quarry resources extracted from public lands or from the beds of seas, lakes, rivers, streams, creeks, and other public waters within its territorial jurisdiction with following distribution: (i) Thirty percent (30%) to the province; (ii) Thirty percent to the component city or municipality; and (iii) Forty percent (40%) to the barangay.

   Finally, BOL also stipulates that LGUs will have a share in Exploration, Development, and Utilization of Natural Resources. Particularly, in the case of uranium and fossil fuels such as petroleum, natural gas, and coal, the revenues will shared be equally between the National Government and Bangsamoro Government. The Bangsamoro Government will keep 30 percent share , while the rest will be apportioned as follows: (i) Twenty Percent (20%) to the provinces; (ii) Fifteen Percent (15%) to the cities; (iii) Twenty Percent (20%) to the municipalities; and (iv) Fifteen Percent (15%) to the barangays.

Finally, it is also important to account for funding for National Government Agency activities in the region which are usually centrally managed. These agencies include the Department of Health, the Department of Public Works and Highways, and the Department of Education. While technically these are not revenue sources for BARMM to allocate, they are part of funds available for use to benefit BARMM citizens.

We should note, that there are also limitations on taxing powers of the BARMM Government (Article XII, section 9), particularly the taxing power of the Bangsamoro Government shall not extend to the following:

(a) Income tax, except when levied on banks and other financial institutions.
(b) Customs duties, registration fees of vessels and wharfage on wharves, tonnage dues, and all other kinds of customs fees with the Bangsamoro Government and wharfage on

wharves construed and maintained by the Bangsamoro Government or its constituent local government units.

(c) Taxes, fees, or charges and other impositions upon goods carried into or out of, or passing through the territorial jurisdiction of the provinces, cities, municipalities, or barangays in the Bangsamoro Autonomous Region in the guise of charges for wharfage, tolls for bridges or otherwise, or other taxes, fees, or charges in any form whatsoever upon such goods or merchandise, except tolls on bridges or roads constructed and maintained by the Bangsamoro Government or its constituent provinces, cities, municipalities, or barangays concerned.

(d) Taxes, fees, or charges on agricultural and aquatic products when sold by marginal farmers or fisherfolk.

(e) Taxes on business enterprises certified by the Board of Investments or by the Parliament as pioneer or non-pioneer for a period of six (6) and four (4) years, respectively, from the date of registration.

(f) Excise taxes on articles enumerated under the National Internal Revenue Code of 1997, as amended, and taxes, fees, or charges on petroleum products.

(g) Percentage or value-added tax on sales, barters, or exchanges or similar transactions on goods or services except as otherwise provided by national law.

(h) Taxes on the gross receipts of transportation contractors and person engaged in the transportation of passengers or freight by hire and common carriers by air, land or water except as provided in this Organic Law.

(i) Taxes on premiums paid by way of reinsurance or retrocession.

(j) Taxes, fees, or other charges on Philippine products actually exported, except as otherwise provided by law enacted by the Congress of the Philippines.

(k) Taxes, fees, or charges on countryside and barangay business enterprises and cooperatives duly registered under Republic Act No. 6810, otherwise known as the "Magna Carta for Countryside and Barangay Business Enterprises," and Republic Act No. 6938, otherwise known as the "Cooperative Code of the Philippines".

(l) Taxes, fees, or charges of any kind on the National Government, its agencies and instrumentalities, and local government units except on government-owned or controlled corporations or entities that are primarily organized to do business.

Appendix C: Review of Bangsamoro Local Governance Code of 2020 and LGU revenue sources

The revenue sources of LGUs in BARMM are also regulated by a different legislation. BOL stipulates that "the authority of the Bangsamoro Government to regulate the affairs of its constituent local government units shall be guaranteed in accordance with this Organic Law and a Bangsamoro local Government code to be enacted by the Parliament. The privileges already enjoyed by local government units under Republic Act No. 7160, otherwise known as the "Local Government code of 1991," as amended, and other existing laws shall not be diminished." (Article VI, Section 10). A new Bangsamoro Regional Office of the Bureau of Local Government Finance under the Department of Finance will have the authority to coordinate, assist, and monitor the treasury and assessments operations of constituent local government units (Article XII, Section 3). While it is not enacted yet, we have access to the draft of the "Bangsamoro Local Governance Code of 2020" (BLGC), which we will use to define the revenue sources of LGUs in BARMM.

The original Local Government Code 1992 devolved powers, functions, and responsibilities to LGUs including those in the autonomous region (unless a separate code is enacted), which greatly limits the power of BARMM Government over its constituent LGUs. On top of that, LGUs receive a direct National Government transfers called Internal Revenue Allotment or IRA, upon which the BARMM Government have no authority and which constitute up to 90% of LGU revenue. High dependence on IRA and no obligation to share budget plans and content with BARMM Government complicates the overall fiscal planning in the region and can lead to duplicate activities or unintended gaps.

Revenue of LGUs in BARMM come from following major sources:

1. Local level taxes and fees
   The draft BLGC outlines the taxing and other revenue raising powers of local government units. While some taxes and fees are common across provinces, cities and municipalities, BLGC stipulates other specific taxes and fees that can be levied by each level of LGUs.
   First, according to BLGC, "a province or city, may levy an **annual ad valorem tax on real property** such as land, building, machinery, and other improvement not hereinafter specifically exempted." (Chapter V, Section 239). The rates are set at uniform 1% of the assessed value of real property for provinces, and 2% for cities. An additional 1% can be levied for a Special Education Fund and up to 5% on idle land. At the same time, provinces would have to share 40% of proceeds with municipalities, and 25% with barangays where the property is located, while cities will share 30% of proceeds with barangays.
   Second, cities and municipalities can levy **an annual community tax** of up to 5,000 pesos on adult inhabitants who has been regularly employed on a wage or salary basis for at least thirty consecutive working days during any calendar year, or who is engaged in business or occupation, or who owns real property with an aggregate assessed value of 1000 pesos or more, or who is required by law to file an income tax return.
   Furthermore, BLGC outlines taxes that can be levied by each level of LGU. Provinces can further levy following taxes:
   - Tax on Transfer of Real Property Ownership
   - Tax on Business of Printing and Publication
   - Franchise Tax
   - Tax on Sand, Gravel and Other Quarry Resources

- Professional Tax
- Amusement Tax
- Annual Fixed Tax for Every Delivery Truck or Van of Manufacturers or Producers, Wholesalers of, Dealers, or Retailers in, Certain Products

Municipalities can impose following taxes and fees:

- Tax on Business
- Fees for Sealing and Licensing of Weights and Measures
- Fishery Rentals, Fees and Charges

For cities, BLGC states that they may levy the taxes, fees, and charges which the province or municipality may impose and that the rates of taxes that the city may levy may exceed the maximum rates allowed for the province or municipality by not more than fifty percent (50%) except the rates of professional and amusement taxes.

Finally, barangays may levy following taxes, fees and charges which shall exclusively accrue to them:

- Taxes - On stores or retailers with fixed business establishments with gross sales or receipts of the preceding calendar year of Eighty Thousand Pesos (P80,000.00) or less, in the case of cities and Fifty Thousand Pesos (P50,000.00) or less, in the case of municipalities, at a rate not exceeding one percent (1%) on such gross sales or receipts.
- Service Fees or Charges - Barangays may collect reasonable fees or charges for services rendered in connection with the regulation or the use of Barangay-owned properties or service facilities such as palay, copra, or tobacco dryers.
- Barangay Clearance - No city or municipality may issue any license or permit for any business or activity unless a clearance is first obtained from the Barangay where such business or activity is located or conducted. For such clearance, the Sangguniang Barangay may impose a reasonable fee. The application for clearance shall be acted upon within seven (7) working days from the filing thereof. In the event that the clearance is not issued within the said period, the city or municipality may issue the said license or permit.
- Other Fees and Charges - The Barangay may levy reasonable fees and charges: (1) On commercial breeding of fighting cocks, cockfights and cockpits; (2) On places of recreation which charge admission fees; and (3) On billboards, signboards, neon signs, and outdoor advertisements.

Finally, BLGC also outlines common revenue fees and charges within their jurisdictions such as public utility charges and toll fees and charges use of any public road, pier or wharf, waterway, bridge, ferry or telecommunication system funded and constructed by the local government unit concerned.

Appendix D. Stochastic Frontier Analysis Framework

Defining efficiency through Stochastic Frontier Analysis

In a world where there is no inefficiency, the tax administration in a province collects tax revenues $q_i = f(z_i, \beta)$. Stochastic frontier analysis, however, assumes that tax administrations potentially collect less revenue than it might due to a degree of inefficiency, that is

$$q_i = f(z_i, \beta)\xi_i$$

where $\xi_i = (0,1]$ is the level of inefficiency in its revenue collection. If $\xi_i = 1$, the tax administration is collecting the optimal amount of tax revenues, using the available inputs z_i defining the tax bases, and the production function $f(z_i, \beta)$. When $\xi_i < 1$, the tax administration is not making the most of the available inputs z_i. Since tax collection q_i is assumed to be strictly positive $(q_i > 0)$, the degree of technical inefficiency is also assumed to be strictly positive $(\xi_i > 0)$.

Tax revenue collection q_i is also assumed to be subject to random shocks, implying that

$$q_i = f(z_i, \beta)\xi_i \exp(v_i) \quad (2)$$

Taking the natural log of equation (1) yields

$$ln(q_i) = ln[f(z_i, \beta)] + ln(\xi_i) + v_i \quad (3)$$

Assuming that function $f(z_i, \beta)$ is linear in logs, that there are k inputs defining the country's or province tax bases, and defining $u_i = -ln(\xi_i)$ yields

$$ln(q_{ji}) = \beta_0 + \sum_{j=1}^{k} \beta_j \, ln(z_{ji}) + v_{ji} - u_{ji} \quad (4)$$

where q_i represents a ratio of total revenues (sum of tax and non-tax revenues) to GDP, while z_{ji} represents a matrix of variables affecting the country's potential revenues. When identifying determinants of local/regional revenue potential that can be derived from the stochastic frontier regression analysis, we are led by the hypothesis that a jurisdiction's revenue capacity depends on most economic factor, but also some demographic and even institutional factors may play a differentiated role. As economic factors we can include GDP per capita, shares of hard-to-tax sectors in the local economy (agriculture, services, and construction). Among demographic variables we can identify age dependency, population density, and level of education. Finally, to account for institutions we can consider the corruption level as an additional determinant, if such disaggregated information actually exists.

We assume that the idiosyncratic error component, v_i, is independently $N(0, \sigma_v)$ distributed over the observations. Since $\xi_i = (0,1]$, it implies that $ln(\xi_i) \leq 0$ and, therefore, $u_i \geq 0$. In other words, the inefficiency effect u_i lowers the tax collection from its potential level. We assume two alternative specifications of the inefficiency term, u_i. In the first one, the u_i is independently half-normally $N^+(0, \sigma_u^2)$ distributed, and in the second one, the u_i is independently exponentially distributed with variance, σ_u^2.

Explaining Technical Inefficiency

As we mentioned above, the stochastic frontier analysis allows us to estimate the level of technical inefficiency and its determinants in revenue collection systems.

Basically, after estimating equation (4)

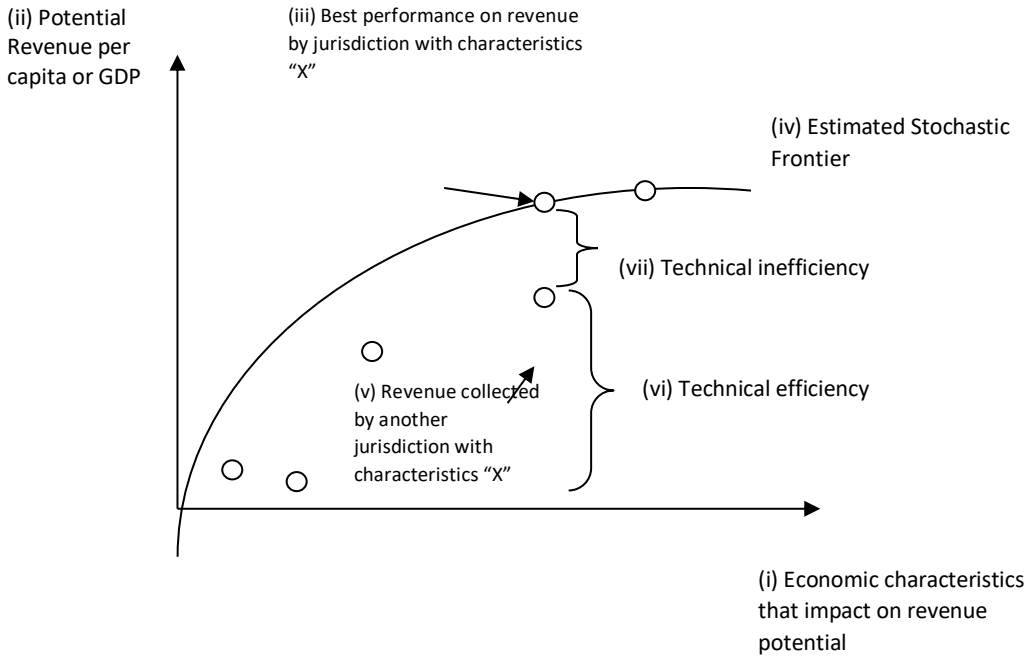
$$ln(q_{ji}) = \beta_0 + \sum_{j=1}^{k} \beta_j \, ln(z_{ji}) + v_{ji} - u_{ji}$$

we predict the technical inefficiency term, $\widehat{u_{ji}}$, and then we estimate the following equation

$$\widehat{u_{ji}} = \sum_{j=1}^{k} \theta_j \, w_{ji} + \alpha_i + \mu_t + \varepsilon_{ji} \quad (5)$$

where w_{ji} represents a set of variables that may explain technical inefficiency in revenue collection; α_i is the unobserved individual province (country) effect, while μ_t is the time effect.

Graphically, one way to measure the revenue performance of local authorities is to look at the gap between actual collections and potential collections (see the figure below). It is assumed that potential revenue collections are determined by a number of variables, including certain socio-economic characteristics. Among a set of jurisdictions that have similar characteristics, the jurisdiction that raises the highest level of decentralized revenue to GDP sets the revenue potential for that group of jurisdictions. The best performing jurisdictions for given characteristics lie on an "efficiency frontier." Less efficient local tax administrations can be seen as falling short of the frontier, and the larger the distance to the frontier the greater the degree of inefficiency. Therefore, efficiency and inefficiency are relative to the best performers.



Appendix E. Methodology for the incidence analysis of current and potential revenue sources[11]

For each existing and potentially new revenue stream described in Component 1, we analyzed the distribution of the "revenue burden across the region and across individuals and organizations," as envisioned in the TOR. There are a number of steps in the methodology to analyze the incidence and distribution of taxes in the BARMM. At each step in the methodology, important decisions have to be made, and many of those hinge on assumptions based on available data and existing literature. These assumptions become critically important in the incidence analysis. We performed some sensitivity tests on these assumptions to judge how large an impact they have on the resulting estimates.

The main components of the methodology are as follows, and each will be discussed in turn:

- Determine the unit of analysis (individual, family, household, business entity, geographic area)
- Develop the stratification (household income; business size; type of geographic area, such as urban versus rural)
- Determine taxes to be analyzed
- Use attribution of actual revenue or simulation approach
- Establish the incidence of each tax
- Calculate effective tax rates: Tax by group/income level

Unit of analysis

Since the burden of all taxes, even those on businesses, can be argued to be ultimately born by individuals, such as business owners, typical units of analysis could be the individual, family, household. If we believe that decisions regarding work, consumption, savings, etc., are made based on a family or household unit, it is more appropriate to carry out our analysis on that latter basis. Gravelle (2006) and Rosen (2005) both discuss the legitimacy of analyzing taxes relative to families or households. Furthermore, survey data typically report income and spending for the entire household. Thus, when a household is used as the unit of analysis, results are reported by household deciles; that is, by households grouped from poorest to wealthiest.

Furthermore, there are several decisions to be made regarding the appropriate measure of household income. Ultimately, we would like to express taxes as a share of comprehensive income, where comprehensive income represents a household's ability to consume, pay taxes, and save. Annual income, as reported with the "toinc" variable in the family income and expenditure survey (FIES), is one possible measure of comprehensive income. Another possibility is expenditures, which may be a proxy for permanent income because expenditures are based in part on future expectations of income. In either case, the base should be grossed up by components that are not reported in the FIES. For example, if wages are lower because of taxes paid, the wage

[11] This annex draws heavily on "The Incidence of Taxes in Jordan" by Sally Wallace and Andrey Timofeev, book chapter in Erdoğdu, M. Mustafa, and Bryan Christiansen, (eds.), *Handbook of Research on Public Finance in Europe and the MENA Region.* IGI Global, 2016. 372-390

component of income should be "grossed up" to account for those taxes. If this is not done, then the income definition is net of taxes, and when we estimate the effective tax rate measured as taxes divided by income, our denominator is artificially low. The same holds true if we use expenditures as the "permanent income" base. Expenditures are made out of net income, so we need to impute taxes that have reduced wages, capital income, etc. To gross up appropriately (whether grossing up income or expenditures as the permanent income proxy), we are required to first make the incidence assumptions. This will be discussed more below.[12]

Comprehensive income may be expressed as:

$Y = W + INKIND + IC + OTHERINC + IOOH + FB + TRANSFER + CIT + PROPTAX + IIT + PAYROLL$

where W = net wages and salaries

INKIND = income in kind and the value of home production

IC = income from capital (realized and unrealized, including retained earnings, interest, dividends, etc.)

OTHERINC = income from other sources, including remittances and gifts

IOOH = income from owner-occupied housing

FB = fringe benefits

TRANSFER = transfer payments

CIT = corporate taxes that reduce returns to factors

PROPTAX = property taxes that reduce returns to factors

IIT = individual income taxes that reduce returns to factors

PAYROLL = payroll taxes that reduce returns to factors

The data requirements for measuring this form of income are tremendous. Not only are data needed for each item, but if a permanent measure of income were sought, data are needed for a series of years to estimate a "normal" or "permanent" income based on individual years (see also Fullerton and Rogers 1992). For those reasons, this comprehensive income definition is not attainable in most countries, and other reasonable measures have to be used.

The FIES usually provides a measure of total individual and household expenditures on food and non-food consumption (durable goods). This allows us to use an equivalence relationship between the sources side of income and the uses side to define comprehensive income:

$Y = W + INKIND + IC + OTHERINC + IOOH + FB + TRANSFER + CIT + PROPTAX + IIT + PAYROLL$

$= EXP + S + INKINDC + PAYROLL + IIT + CIT + PROPTAX$

This equivalence says that the sources side of income (W, INKIND, IC, IOOH, FB, TRANSFER, CIT, PROPTAX, IIT, and PAYROLL) must equal the uses side (consumption expenditures EXP, savings S, in-kind consumption INKINDC, corporate income taxes CIT, payroll taxes PAYROLL,

[12] Immervoll and O'Donoghue (2001) provide a review and various algorithms that may be used for grossing up income under certain conditions.

individual income taxes IIT, and property taxes PROPTAX; these taxes reduce returns to capital and labor). Savings can be positive or negative and is the variable that is used to help smooth consumption over the lifecycle. If savings are not included in the calculation of income, then expenditures will absorb the impact of savings—higher debt yields higher expenditures, savings yields lower expenditures in any one time period.

The choice of whether to use the sources (income) or uses (expenditure) definition of comprehensive income is due in part to data availability and the attractiveness of the expenditure measure as a proxy for permanent income.

Taxes to be analyzed

The taxes to be analyzed in this study are current revenues collected by all levels of government that ultimately affect households and businesses located in BARMM territory, as well as the additional revenue instruments identified for the regional BARMM government in Component 1 of this study. The latest avaiable fiscal year has been chosen in consultation with the Client, to be consistent with the underlying microdata files.

Actual Revenues or Simulation?

The main analytical component of the incidence analysis is to determine who pays taxes in the BARMM, that is, the distribution of tax burdens across the different groups of taxpayers. There are two primary methods that are used to calculate taxes paid by the household. One is a micro-simulation model approach, and the other is attributing actual tax receipts to the micro-data. In the simulation approach, the micro-level baseline data are used to determine tax liability. For example, consider the case of the individual income tax. If the underlying microdata have very complete, disaggregated income information and also contain information on deductible expenses, investment behavior, etc., then we can take an observation, apply a tax calculator, and estimate the potential tax liability of that observation (individual or family). If we apply the tax calculator to the entire set of observations pertaining to BARMM, we have an estimate of potential tax liability. A simulation approach can be also used for the major consumption taxes, where an effective tax rate is assumed and applied to consumption expenditures (by various levels of detail). This is the only possible approach for potential sources of additional revenues for which no data on actual collections exist by definition.

The allocation approach uses the distribution of the underlying microdata and distributes actual tax receipts to the appropriate income item. For example, in the case of the income tax, if the tax is assumed to be borne by those earning wage income, then the tax would be allocated to individuals with wage income who are above the exemption threshold.

These two approaches are not mutually exclusive, and both have their merits and shortcomings. Alleyne et al. (2004) provide an example of different methods for different taxes. The simulation approach makes policy analysis of alternative options very straightforward. If the threshold of the income tax were changed, the revenue and distributional effects could be analyzed by changing the tax calculator and re-running the data. If a new exemption were made to a consumption tax, that consumption item could be zeroed out and re-run. The shortcomings in the simulation approach are that explicit assumptions need to be made regarding the level and distribution of non-compliance. For example, running the income tax calculator on the entire micro file and using appropriate weights will provide an estimate of potential tax liability. However, this will overstate actual collections and therefore overstate tax burdens. A comparison can be made between

potential collections and actual receipts as a measure of tax evasion, and the simulated levels of taxes can be adjusted downward. However, it may be that the evasion behavior is not evenly distributed among the population. So, without further work on an analysis of evasion across the income distribution, there will be some bias introduced in the resulting distributions of tax burdens. The other major complication with the simulation approach is that, in the case of VAT or other similar consumption taxes, it is difficult to incorporate cascading effects of input taxes, zero-rating, exemptions, evasion in the VAT system, etc. on effective tax rates.[13] Applying statutory tax rates to consumption expenditures may over or understate tax burdens as the cascading of input taxes can make effective tax rates on final products quite different than statutory rates. Also, the resulting distribution will again be inflated unless an adjustment is made regarding the level of actual collections relative to the potential level of revenues.

The attribution approach has the advantage that the level of tax evasion is already captured. However, the distribution of tax evasion is still an important consideration. If tax evasion is distributed among the population with the same distribution of the relevant income item (say, wages), then there is no need for adjustment. If, however, lower-income or higher income individuals are more likely to cheat, then, without adjustment, allocating the level of tax receipts may overstate burden for some individuals and understate it for others.

The attribution approach also partially captures the effects of cascading, zero-rating, exemptions, and evasion within the consumption tax system since actual tax revenues are attributed. However, it requires extra analytical steps and assumptions to attribute taxes actually collected on the inputs entering production to the prices paid by the consumers of specific final products.

One of the limitations of the attribution approach is that it cannot as easily estimate the effect of changes in the tax system as a simulation model can. However, it is possible to do so for many tax policy changes if the level of disaggregation of income and consumption expenditures is detailed. For example, if the attribution approach disaggregates consumption expenditures in fine enough detail, it would not be difficult to zero-out the amount of tax attributed from any particular commodity (say fruit or vegetables). A new statutory rate could also be applied to the given consumption groups to estimate increases in tax rates. Both approaches are acceptable and used in the literature.

Incidence assumptions

The answer to the question of "who bears the burden of taxes" is critically affected by the assumed incidence of the various taxes. Statutory incidence of taxation is the legal incidence—who by law is liable to pay tax. The economic incidence of taxes takes into consideration the ability of the tax to be shifted through the economy and can be very different from statutory incidence. In general, if a tax is imposed on a mobile factor or on a consumer good for which there are many substitutes, the tax will more easily be shifted to other components of the economy.

There is a wide range of literature that analyzes the incidence of various taxes. Economic studies of tax incidence have yielded several principles and insights which serve to inform practical analysis of taxes. The key principle is that only people (individuals) bear the tax burden. Those

[13] An Input-Output model can be used to track the effects of cascading through the system. However, even that approach may not capture all of the complications of evasion throughout the system without a very detailed disaggregation of actual receipts. Use of an I-O model can track the cascading of zero-rating, exemptions, and other input taxes such as customs duties, etc.

individuals may be residents of BARMM, or may be residents of other regions or even other countries. Corporations are simply legal entities made up of individuals. By drawing a sharp distinction between individual and corporation, this principal points out a common fallacy that businesses have an independent ability to bear the tax burden. The corporate income tax is a popular focus of taxpayer ire. However, a corporate tax may be shifted in a variety of ways. The company bears the "statutory incidence" of the corporate income tax because its responsibility is to remit the tax payment to the government. However, the economic incidence will be borne by one or more of several possible candidates: the owners of the company who take in lower profits because of the tax, the consumers of the company's product (s) who face higher prices because of the tax, or the workers of the company who receive lower wages. Based on numerous economic studies tracing the shifting of various taxes to various groups of individuals, the following conventional assumptions have emerged in practical analysis of incidence of the various types of taxes.

Incidence of taxes on labor. The incidence of taxes on wage income (primarily payroll taxes and the labor component of individual income tax) is a function of the labor supply elasticity—how much labor changes as wages change. The larger the elasticity of labor supply with respect to wages, the smaller is the impact of payroll and income taxes on net wages. The intuition behind the elasticity impact is straightforward. If labor is mobile, then, as labor taxes increase, individuals will seek to escape the tax by moving to sectors without the tax. In the case of labor, these sectors may be more limited than in the case of capital. Labor can escape to the informal sector or can leave the country.

There are few hard estimates of labor supply elasticity in non-OECD countries. In the major developed countries, there are numerous studies that estimate labor supply elasticities. There is a general consensus that the elasticity of labor supply with respect to wages is relatively low for men (much smaller than 0.4) and that for women, the elasticity has fallen over time. Current estimates for female labor supply in developed countries put it just slightly higher than that for men (less than 0.5). Killingsworth (1983) and McCurdy et al. (1989) provide detailed summaries of the empirical literature.

In service-oriented economies, we expect that labor supply would be more mobile between the formal and informal sector, thus possibly increasing the labor elasticity somewhat. However, if labor is mobile only between these two sectors, if labor leaves the formal sector due to a tax on wages, the increase in the supply of labor will reduce the net wage in the informal sector in order to absorb the additional supply of labor. In this case, labor in both the formal and informal sectors would bear the burden of the tax (above the exemption threshold if the labor moving is above the threshold and that labor is different from low wage labor in both sectors). If labor is not mobile to the informal sector due to social norms, the importance of being in the formal sector (for stability or benefits, for example), there is little place for labor to go to escape the tax.

Empirical estimates of labor supply elasticities in non-OECD countries are hard to come by, and the estimates vary widely. In addition, many of these empirical studies estimate the elasticity of labor supply with respect to a wide variety of factors that may be more or less directly related to the wage. Therefore, it is difficult to compare the estimates. For example, Jayachandran (2006) estimates labor supply elasticities for agricultural labor in India and finds Gruber (1997) analyzes the incidence of payroll taxes in Chile and does not find evidence of shifting of the tax. He finds that labor bears the full burden of the payroll tax in Chile.

We can use two incidence assumptions in our analysis. First, we can take the traditional route and assume that the tax falls 100 percent on labor in the taxpaying sector. In our sensitivity analysis, we will assume that the tax falls on all wage earners above the income tax threshold.

Incidence of the corporate income tax. The debate over the incidence of taxes is probably most contested in the case of corporate income taxes. The theoretical analysis done on the corporate income tax for developed countries in the 1960s and 1970s suggested that the tax could be borne by owners of capital (general financiers large and small), labor in the form of lower wages (which could be reduced to lower the firms' cost of business once a corporate income tax is imposed or increased), or consumers in the form of higher prices (which could be increased to absorb the increased cost to the firms of the corporate income tax) (Harberger 1962, McLure 1975, Hines 1999). Just like the incidence analysis of all other taxes, the true impact of the corporate income tax is affected by the type of market, competitiveness of output prices, mobility of capital and labor, wage constraints, price elasticity of demand for the output, and other factors. Over time, while incidence studies have used different assumptions regarding the incidence of the corporate tax, a general consensus seemed to be the incidence of the tax is shared by capital and consumers in the form of higher prices or by labor in the form of lower wages.

With the growing mobility of capital and general competitiveness of the global economy, there has been a renewed focus on the incidence of the corporate income tax. Price competition is also realized between products produced in the formal and informal sectors of the economy. Similar to the case of exports, if the formal and informal sectors produce a similar good, there will be price competition. The more substitutes that exist in the informal sector, the more difficult it would be for firms in the legal (tax-paying) formal corporate sector to pass off the corporate tax in the form of higher output prices. If labor is not very mobile, labor is also a candidate to bear part of the burden of the corporate income tax.

In our baseline distribution of tax burdens, we will assume that that 50 percent of the corporate income tax falls on capital and 50 percent on labor in the formal sector. We will also provide sensitivity analysis where we assume that 50 percent of the tax is borne by capital and 50 percent and 50 percent is borne by consumers via general consumption.

Incidence of taxes on other capital. Taxes on other income from capital are assumed to be borne by owners of capital. Tax receipts from this category include individual and corporate taxes on interest, dividends, and the wealth tax. Taxes on capital could reduce the level of investment as holders of capital seek higher net rates of return (in other sectors or outside of the country if possible). This would increase the relative price of capital in the short term, which suggests that other factors could possibly bear the burden of the tax. However, the net effect is complex and depends on the relative amounts of capital and labor used in production in the country. In this study, we assume these taxes are borne by owners of capital.

Incidence of consumption taxes. Consumption taxes include both general sales taxes, like VAT, and excise taxes. Consumption taxes are traditionally assumed to be borne by consumers, although Martinez-Vazquez (2007) reports that there is some econometric evidence that producers absorb part of the tax. Consumers are less likely to bear the burden of a consumption tax when there are untaxed substitutes or when the good is not a necessity. Still, most incidence analyses assume that these taxes are borne by consumers and we do the same in this study.

Incidence of customs duties. The incidence of these taxes, like all others, depends on the final use of the taxed product. For instance, if the customs duty is levied on tea bags, it is reasonable to

assume that this is largely a final consumption good, and we allocate the revenue to consumers of tea. However, some customs duties fall on goods that are likely to be inputs into various production processes. If the tax is shifted forward, the tax, therefore, gets stuck in the production process and may affect the net price of a variety of goods—or some of it might be exported. For example, customs duties are charged on petroleum products. Some of the imports of petroleum may be final consumption, but the imports are also used in a variety of production processes. Therefore, we would like to determine which products are mainly inputs and which are mainly final consumption. For those that are inputs, we could use the I-O model to determine how much of the tax on the import ends up in final household consumption versus being exported through a price of the product.

Incidence of taxes on rents, property. This category includes taxes on rent and property income, immovable property tax, and stamp duty. Like the corporate income tax, there is some controversy regarding the incidence of this tax.

In the traditional view of the property tax, capital owners bear no burden of the property tax on capital; the tax is borne by renters, consumers, and/or labor. The tax on land is borne by landowners. The new view treats the capital portion of the property tax as two pieces: a basic, or average, the tax rate applied to all capital, plus a local differential that varies by locality. The average tax is levied on a fixed supply of capital, and thus capital owners can't escape the tax. The differentials around the average encourage capital to move among localities until the net tax rates of return on capital are equal. The net rate of return to capital falls as a result, but how much it falls depends on the effect on land and labor. Tax equity studies that adopt the new view find that the property tax is progressive or at least not as regressive as under the old view (Aaron 1975), as land and capital are owned by higher-income individuals. In the long-run (new view), capital might respond to changes in interest rates, international capital flows, etc., so long-run the elasticity is not as extreme as perfectly inelastic.

Finally, the benefits view of property tax incidence argues that the property tax is a benefit tax equal to the benefits received for the public services funded by the property tax. Under this view, individuals search for jurisdictions that meet their demands for public goods, with the property tax being the price or payment for local public goods. As long as there are sufficient choices of jurisdictions and jurisdictions impose fiscal zoning to prevent individuals from paying less than the average cost, individuals will seek to match their demand for public goods with the appropriate jurisdiction. In this case, the tax is a user charge—and there is an inherent fairness to the tax based on the benefit principle (Hamilton 1975).

In this study, we apply alternative assumptions regarding the incidence of taxes on rental income and property. We will assume first that 50 percent of the tax is borne by renters and 50 percent by owners of property and then we will assume that 100 percent is borne by renters.

Distribution of Taxes Paid and Effective Tax Rate

The burden of the tax system is typically summarized by an analysis of the distribution of taxes paid by income group (after allocating taxes according to accepted incidence assumptions) and calculation of the effective tax rate. It is useful to policymakers to see where taxes come from—are they concentrated in the upper-income deciles, or are they more evenly distributed? The effective tax rate is calculated as (tax as allocated/comprehensive income). The rate is, therefore, a measure of the percent of income (permanent as measured by consumption expenditures or annual) that is paid in tax. We measure the effective tax rate using both the consumption

expenditure base and the annual income base. If the effective tax rate increases as income rises, the overall tax system is progressive. If the tax rate falls with income—it is regressive, and finally, if it remains approximately constant, it is a proportional tax system.

Other than income strata, there can be other ways of summarizing the burden of the tax system:

- Consumers vs. suppliers
- Owners of different production factors (labor, capital, land)
- By geographic area (e.g., provinces of BARMM)
- By generation (old vs. young)

Based on consultations with the relevant stakeholders, this final part of the analysis reports the key results according to the required form of disaggregation.

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