Optimizing Real Estate Tax in Liberia

Implications for Revenue Performance and Economic Growth

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Executive Summary

Real estate tax is considered to have strong economic efficiency, equity and governance benefits; however, its administrative and political costs prevent it from being used extensively in many developing countries. In Liberia, real estate tax revenues are less than 0.2 percent of GDP, compared to an average of 0.6 percent of GDP in developing countries, suggesting that Liberia may be underutilizing the tax.

In cross-country empirical studies, real estate tax is observed to have a less detrimental impact on growth compared to corporate income and individual income taxes. However, the specific impact in a country depends on the policy design and administrative decisions regarding the implementation of the tax. Liberia has some growth-friendly provisions in its tax code, such as a high tax rate on vacant lands in urban centers; however, these benefits are not always realized due to limitations in enforcement, such as the inability to identify property owners.

To improve real estate tax revenue performance, the Revenue Department of the Ministry of Finance must focus on increasing the coverage ratio (the fraction of total property that is on the tax roll) and the collection ratio (the fraction of total tax liability that is collected). Merging primary data from the 2008 Population and Housing Census with administrative records from the Revenue Department reveals that the coverage ratio of owner-occupied residences is less than 5 percent. An impressive 84 percent of annual tax liabilities are collected as revenue; however, this figure masks the fact that a large proportion of bills are issued upon the request of the taxpayer. In practice, only 37 percent of individuals making payment in one year also make payments in the subsequent year.

The Revenue Department’s current project of creating a property database for Central Monrovia is a promising exercise that will significantly expand the potential for enforcement and collection. However, as many property owners will be receiving their first tax bill in over a decade, great care must be taken to establish a positive compliance culture by using appropriate messaging, providing flexible payment options and demonstrating a willingness to enforce the law to its full extent. This new database presents a valuable opportunity to better understand factors affecting taxpayer compliance and the long-term economic and social impacts of property taxation using rigorous economic research methods.
Real estate tax is envisioned to play a major role as the primary tax base for the proposed decentralized county governments. With careful design and data collection, the ongoing pilot in Buchanan could be used as an opportunity to understand incentives facing local government administrators and staff in revenue collection and public good provision, as well as the corruption risks involved with locally raised revenues. More broadly, the revenue potential of real estate tax in rural counties must be carefully assessed when determining the nature of the functions that will be devolved to them.
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1. Introduction

Real estate taxation has been described as “one of those good ideas that has not yet caught on.”\(^1\) Proponents of the tax recommend it because there is a large tax base and associated revenue potential. It is often the primary tax base and source of autonomous revenue available to local governments—making it a key component of fiscal decentralization. In addition, given the visibility of real property, real estate tax is hard to avoid and is thought to distort business and consumer economic decisions less than other taxes. Real estate tax is also considered socially equitable by many because the burden, in general, falls more on those with a greater ability to pay. Supporters of this tax therefore advocate for policy and administrative reforms to expand the role of the tax as it is considered to be underutilized in many developing countries.

On the other hand, there are many challenges with the use of the real estate tax and it has, in other quarters, been described as “the tax everyone loves to hate.”\(^2\) It can be very costly to administer and often difficult to enforce. Property tax often faces significant resistance from taxpayers due to its high visibility: taxpayers typically make one or two lump sum payments a year as opposed to smaller, but more frequent, deductions associated with other tax categories. Since real estate tax is not based on income, but on the value of an asset, compliance may be difficult for households that have substantial assets but modest income. These issues make enforcement politically sensitive, often resulting in the underutilization of the tax.

While Liberia has experienced challenges with implementing the property tax, it has nevertheless made significant progress in recent times. Liberia has had a real estate tax for several decades but the tax was not actively administered during the civil conflict, resulting in a substantial backlog of taxes and penalties on many properties. In the 2006/2007 fiscal year, the Government of Liberia granted amnesty on overdue taxes and called for citizens to voluntarily register their property. The tax code was also amended in 2009 to reduce tax rates on most categories of property to promote compliance.

The highly informal nature of the real estate market in Liberia makes the administration of the property tax challenging. Disputes over land ownership, illegal sale of land, and

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1 Bahl (2009)
2 Rosengard (2012)
absentee land owners, result in an illiquid market in which property transactions are often limited to personal networks. The difficulty of identifying true property owners, as well as the disconnect between property ownership and income previously discussed, have hindered the use of the tax.

Liberia is not alone in its quest to expand its use of the real estate tax. Over the last decade, several other developing countries have implemented reforms to their property tax. Box 1 presents a summary.

**Box 1 Recent Property Tax Reforms and Plans in Selected Countries**

- **Niger** in 2008 reduced its tax rates by about half, from 7 percent, 12 percent and 20 percent of rental value (different rates based on use) to 5 percent and 10 percent of the rental value, and from 2.5 percent of property value to 1.5 percent of property value.

- **Cameroon** in 2006 made changes in its General Tax Code from one in which the calculation of property tax rates was based on the surface area of the property to one based on the property value and fixed the rate at 0.11 percent.

- **Namibia** recently introduced a central government land tax on the value of agricultural land (with a basic rate of 0.75 percent) to supplement the existing municipal tax on urban property, with the primary aim of encouraging efficient utilization of agricultural land.

- **Cambodia** introduced a new property tax in 2011, in principle based on assessed market values of land and buildings.

- **Vietnam** adopted in June 2010 a new area-based tax on non-agricultural land (excluding housing) and is considering further reform in this area.

- **Ireland** abolished the residential property tax in 1997 (leaving the local ‘rates’ on commercial property as the only recurrent property tax). A new market-value-based property tax is expected to come into effect in mid-2013 to replace the annual household charge of €100 put in place on January 1, 2012 as part of a broader fiscal package.

- **Egypt** adopted a new real estate law with a rate of 10 percent applied to estimated rental income, effective 2009 but with a delayed application until 2012.

Several **Caribbean** countries are contemplating introduction or strengthening of property taxes, in part because their highly open economies are exposed to regional tax competition.

- **El Salvador** is one of the few Latin American countries (together with Paraguay and Costa Rica) at present without an immovable property tax, but is considering introducing one.

**Source:** Reproduced from Norregaard (2013) and supplemented with African country experiences documented in the Lincoln Institute for Tax Policy and African Tax Institute joint venture (2007).
Real estate tax revenue in Liberia has been growing rapidly since 2006, and at a faster rate than total tax revenue. Nevertheless, real estate tax revenue constitutes only 0.6 percent of all tax revenue, and less than 0.2 percent of GDP. Although most countries have a relatively low reliance on property taxes, Liberia’s collection from this tax category remains well below the global average (1.04 percent of GDP), or even when compared to only developing countries (0.6 percent of GDP), suggesting the Liberia may be underexploiting this source of tax revenue.³

<table>
<thead>
<tr>
<th>Year</th>
<th>US $</th>
<th>as % of Tax Revenue</th>
<th>as % of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>392,434</td>
<td>0.37</td>
<td>0.06</td>
</tr>
<tr>
<td>2007</td>
<td>790,394</td>
<td>0.46</td>
<td>0.11</td>
</tr>
<tr>
<td>2008</td>
<td>1,386,274</td>
<td>0.66</td>
<td>0.16</td>
</tr>
<tr>
<td>2009</td>
<td>1,279,330</td>
<td>0.49</td>
<td>0.11</td>
</tr>
<tr>
<td>2010</td>
<td>1,840,207</td>
<td>0.53</td>
<td>0.14</td>
</tr>
<tr>
<td>2011</td>
<td>2,590,155</td>
<td>0.63</td>
<td>0.17</td>
</tr>
</tbody>
</table>

Source: Revenue Department, Ministry of Finance

- **Goal of the Rapid Response Note**

The Revenue Department of the Ministry of Finance (MoF) in Liberia has requested technical assistance in increasing the role of real estate taxes in increasing revenue and stimulating economic growth. This Rapid Response Note draws from the existing literature on global experiences and best practices in property tax administration and highlights lessons for Liberia. Since over 90 percent of real estate taxation occurs in Monrovia, much of the ensuing analysis focuses on Monrovia; however, the document also includes a discussion of rural taxes, especially in light of the national interest in decentralization. The paper highlights two recent developments—the block mapping exercise in Monrovia and the revenue sharing pilot in Buchanan—as important opportunities that the MoF has to better understand the impact of real estate tax practices on revenue and economic growth through the use of rigorous research.

This paper begins with a discussion of the theoretical and empirical linkages between property taxes and growth in Section 2. In Section 3, it proceeds to examine in detail different aspects of the property tax design and implementation in Liberia to identify

specific factors affecting revenue performance and growth. Section 4 focuses on the potential role of property taxes under the proposed decentralized county governments in Liberia. Section 5 concludes with policy recommendations for the Ministry of Finance in optimizing the use of real estate taxes in generating revenue and promoting growth.
2. Real Estate Tax and Economic Growth

Land and buildings are important factors of production, therefore, imposing taxes on them will have implications for economic growth. Indeed, there are many empirical studies that use cross-country datasets to investigate the impact of property taxes (relative to taxes on income and consumption) on the income level and growth rate of economies over the medium and long run.\(^4\) While the evidence from these studies is not conclusive, a general point of consensus is that property taxes and consumption taxes are less detrimental to the economy than income taxes (corporate income taxes and personal income taxes).\(^5\) In other words, these studies indicate that for a government seeking to raise a given level of revenue, the mix of tax categories employed is important.

Since Liberia relies significantly on income taxes, and only 0.6 percent of revenue comes from property taxes, taking these studies literally would suggest that the economy may benefit from a greater deployment of property tax in the tax mix. However, it is important to interpret and apply these results with caution since they represent the average effects from broad cross-country studies and are mostly based on data from industrialized countries.\(^6\) Further, the peculiarities of the manner in which the real estate tax is administered in Liberia may have different implications for growth. For example, although both residential and commercial properties are subject to taxation, in practice, commercial properties face much greater enforcement action. As a result, the property tax works more like a tax on capital compared to settings in which the tax is primarily on residences and used to fund local public services.

As a result, beyond this indication from the empirical studies that a greater reliance on property taxes, relative to income taxes, may be better for economic growth, the true impact depends on the details on how the tax is designed and implemented in each setting. The following sections explore avenues by which the real estate tax may impact growth.

\(^5\) A notable dissention to this view is Xing (2012).
\(^6\) A notable exception is a recent IMF working paper by Acosta-Ormaechea and Yoo (2012) which includes 20 years of data from 25 low-income countries, alongside 21 high income and 23 middle income countries. It finds that a shift from income taxes to property taxes is positively associated with growth in the full sample, although this result is weaker when the sample is limited to low income countries. The authors postulate that this may be due to the poorer quality of tax administration and tax enforcement.
2.1 Efficiency

A tax creates inefficiency when it causes individuals to change their behavior in order to avoid the tax. By changing the effective price of economic activities, a tax prevents mutually beneficial economic transactions that would have occurred in the absence of the tax from occurring. For example, personal income taxes may induce people to work fewer hours since their effective wage is lower or to complete less schooling since the effective returns to education are lower.\(^7\) This issue applies to all taxes but is particularly harmful when the tax is on factors of production because it prevents the economy from producing at its optimum. The efficiency costs of taxation are ameliorated in the case of property taxes due to the immobility and visibility of real property, as well as the expected tax-benefit linkage of the tax. Nevertheless, there are caveats on the use of property taxation on businesses and on the transfer of property.

To the extent that property such as land and housing is fixed and immobile, property owners have a low ability to adjust their behavior in response to the tax, resulting in lower distortions compared to income or consumption taxes, particularly in the immediate.\(^8\) For example, existing buildings are unlikely to be demolished to avoid the tax, but in the long run, the supply of buildings may change. Similarly, the use of expensive tax avoidance maneuvers (such as the use of tax shelters and creative accounting practices to avoid income taxes) are severely limited in the case of property taxes, again, due to the visibility and immobility of the tax base.

Another way in which the efficiency loss of taxation is mitigated under real estate taxes is when property owners are compensated through the provision of local public services that are funded by the tax and are therefore less induced to adjust their behavior. Often, real estate tax revenues are used to provide local public goods such as environmental improvements that benefit residents. Empirical studies indicate that these service benefits are typically capitalized almost fully into the value of the properties.\(^9\) As a result,

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\(^7\) In some cases, such as when a tax on gasoline leading individuals to drive less than they otherwise would, the change in behavior due to the tax may be desired due to the presence of external costs imposed by the activity on others and the environment which the individual does not take into consideration when making consumption decisions.

\(^8\) Some categories of property, such as that used in production may indeed be mobile as discussed subsequently.

\(^9\) Fischel (2001)
distortions are reduced since the taxpaying property owner is compensated by increased property wealth due to the public benefits enjoyed.

A divergent perspective on the efficiency impact of real estate tax highlights the fact that property taxes are a tax on capital. This is particularly relevant for commercial property used by businesses. By raising the cost of an input relative to other inputs, real estate taxes create distortions by changing the production process. For example, businesses that rely heavily on property as an input may change their mix of inputs to reduce their reliance on property due to the higher costs. The higher costs are also reflected in higher prices which lead to a reduction in the consumption of property-intensive goods. A major problem with a tax on capital is therefore that capital (in this case, real estate) would no longer be put to its most productive use. For example, if residential housing has a lower tax rate than commercial property, property owners may be induced to use their property for residential purposes instead of higher value commercial activities.

In other contexts, an additional source of distortion from property taxes is that as producers seek to locate their businesses in regions with lower taxes, districts may begin to engage in tax competition to attract more businesses. However, this could result in under-provision of public goods since, due to the lower tax rates, districts are now left with lower tax revenue to fund public investments. In addition, to the extent that businesses can shift the burden of the tax to their consumers (who are often outside the locality) via higher prices, the tax-benefit linkages of a local property tax are eroded. With a single country-wide tax regime in Liberia, these issues are not a concern at present but should be a factor to consider if different counties will be able to determine their tax rates in the future.

Lastly, in evaluating the efficiency impact of property taxes, it is crucial to distinguish between recurring property taxes and one-time property transfer taxes. Capital transfer taxes create distortions because they represent an additional transaction cost and discourage the turnover of property. As a result, they lead to misallocation of resources in the economy with resulting efficiency losses. Alternatively, they could reduce the number of formal land transactions and slow the development of the real estate market and also lead to under-declared values that would subsequently yield lower annual taxes.

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10 Originally attributed to Mieszkowski (1972)
2.2 Equity

Equity is the other major criteria by which tax systems are judged. It is a measure of the fairness of the system and assesses the extent to which taxpayers who are similarly situated are taxed similarly (horizontal equity) and the extent to which taxpayers with a greater ability to pay are taxed more (vertical equity). Equity is important because the more taxpayers are convinced about the fairness of the system, the more compliant they are. For instance, property taxes are also considered fair when they are directly linked to local benefits enjoyed by property owners in a region and reflected in the value of property. Since properties with higher values tend to reflect ability to pay (however imperfectly), property taxes are considered progressive.

Equity is also important because it is often viewed as a tradeoff with efficiency, with resulting implications for growth. However, one must be careful in assessing equity as the ultimate burden of the tax may lie with unintended parties. For example, taxing commercial property more heavily than residential property is often considered equitable because owners of commercial property generally have a higher ability to pay taxes. However, if landlords are able to pass on the burden of the tax to tenants through higher rents, the tax is ultimately paid by tenants who may be less able to pay than residential home owners.

2.3 Land Use and Development

Real estate tax can be used to stimulate infrastructure development in a region by imposing a direct cost to land ownership. In places with developed financial sectors, property tax can also provide a future revenue stream that can be used to subsidize current infrastructure investments.

When the value of land is taxed, particularly when this value reflects the location and best possible use of the land, property owners have an incentive to use their land optimally. The process of developing their property generates economic growth. Some countries also use the land tax in this manner to discourage speculation in land as the tax presents real costs to holding on to property. In Liberia, this is particularly important because there are inefficiencies in land use, such as empty or barely developed lots in prime locations in urban centers. In some cases, the land belongs to absentee property owners that have little incentive to develop the land yet continue to hold on to it since they face no direct costs.
In principle, taxing land alone is more favorable to investment and growth than taxing land and buildings, since the prospective taxes that would be paid on the new construction may prevent the property owner from putting the land to the best possible use.\textsuperscript{11} It is advisable, where feasible, to place a heavier tax burden on land than on improvements.

Another avenue by which property taxes can promote development is by stimulating investment in a region by providing a revenue stream on the investment. Tax Increment Financing (TIF) is a commonly used method for this. TIF creates funding by borrowing against future property tax revenues that are expected to be generated in the newly developed area. When a development project is completed in an area, the value of nearby property will rise. Property owners pay taxes based on the appreciated value but taxes are remitted to the government based on only the original value the property had before the development occurred. The difference, that is, the taxes on the incremental value of property due to development is then used to pay for the investment that occurred.\textsuperscript{12}

\textbf{2.4 Political Economy}

When property taxes are administered at the local level, they have the potential to improve economic outcomes by strengthening local accountability in the way the revenue is spent. Local property taxes create a direct linkage between revenue generation and expenditure, since the revenue raised from a locality is expected to be spent there and local residents may have better information about local finances than other sources of revenue such as transfers from a central government or natural resources.

In a study of local governments in Brazil, where property taxes are one of the major sources of local tax revenue, Gadenne (2012) finds that an increase in local tax revenue leads to a bigger increase in local public services (health and education) than an increase in central government transfers of the same amount. Further, unlike extra tax revenues, extra transfer revenues lead to more corruption. Hoffman and Gibson (2005) find similar results in Tanzania and Zambia: local governments in both countries produce more public services as a share of their local budget as the amount of taxes the local government collects rises (relative to central transfers and foreign assistance).

\textsuperscript{11} Netzer (1998)
\textsuperscript{12} Hoyt (2012)
Property taxes can thus contribute to economic growth by better aligning spending decisions of local government officials with the provision of local public services that improve the welfare of the population and increase their human capital for greater productivity. In this regard, Chapter 4 discusses the potential role of property taxes in the upcoming decentralization process in Liberia.
3. Real Estate Tax Performance in Liberia

This section analyzes the way in which the details of the design and implementation of real estate tax in Liberia affects revenue performance and economic growth. It employs a conceptual framework that incorporates key policy choices (the tax base and the tax rate) and administrative actions (the coverage ratio, the valuation ratio, and the collection ratio) that determine revenue performance.\textsuperscript{13} Examining these variables also highlights implications for economic growth, given the issues discussed in the previous section.

Table 2 Five Determinants of Real Estate Tax Revenue Performance

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tax base</td>
<td>Defines which property is subject to taxation</td>
</tr>
<tr>
<td>Coverage ratio</td>
<td>Measures the share of taxable property that is captured on the tax roll</td>
</tr>
<tr>
<td>Valuation ratio</td>
<td>Measures the proportion of the true value of property that is captured by the valuation procedure</td>
</tr>
<tr>
<td>Tax rate</td>
<td>Establishes the amount of tax to be charged based on property value</td>
</tr>
<tr>
<td>Collection ratio</td>
<td>Measures the share of total tax liabilities due that is collected</td>
</tr>
</tbody>
</table>

The simple framework is as follows:

\[
\text{Tax Revenue} = \text{Tax base} \times \text{Coverage ratio} \times \text{Valuation ratio} \times \text{Tax rate} \times \text{Collection ratio}
\]

Expanding this equation gives:

\[
\text{Tax Revenue} = \frac{\text{Market value of taxable property}}{(\text{Tax base})} \times \frac{\text{Market value of property on tax roll}}{\text{Market value of taxable property}} (\text{Coverage ratio}) \times \frac{\text{Assessed value of property on tax roll}}{\text{Market value of property on tax roll}} (\text{Valuation ratio}) \times \frac{\text{Tax amount due}}{\text{Assessed value of tax roll}} (\text{Tax rate}) \times \frac{\text{Tax revenue collected}}{\text{Tax amount due}} (\text{Collection ratio})
\]

\textsuperscript{13} Kelly (2000) explains this framework and applies it to the case of Kenya
The tax base could also be measured as the ratio of the value of taxable property to the value of all property, in which case total revenue would no longer be a currency figure but will also be a ratio: revenue collected relative to total property value in the jurisdiction.

This framework illustrates how these policy and administrative variables build on one another to determine total revenue collection: the tax base and tax rate determine the maximum tax revenue, whereas the coverage, valuation and collection ratios determine what share of this maximum revenue is ultimately collected. Modest changes in any of these variables can have significant implications for the overall revenue collected. For example, holding constant the tax rate and tax base, if the coverage, valuation and collection ratios each increased from 30 percent to 50 percent, the total revenues would more than triple.14 The following sections discuss each of these determinants and, where possible given the available data, produce estimates which are summarized below.

Table 3 Estimates of Real Estate Tax Revenue Performance Determinants

<table>
<thead>
<tr>
<th>Variable</th>
<th>Estimate</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tax base</td>
<td>$800 million</td>
<td>Estimate is calculated using census data and Real Estate Tax Division (RETD) billing records and is for residential property in Montserrat County only: commercial property values are significantly higher but more difficult to estimate since the census does not include business locations. Assessed values, rather than market rates, are used in this calculation.</td>
</tr>
<tr>
<td>Coverage ratio</td>
<td>5%</td>
<td>Estimate is calculated using census data and RETD billing records and is for residential property in Montserrat County only: coverage is significantly higher for commercial property (rental housing and business locations) which have higher average values and higher tax rate.</td>
</tr>
<tr>
<td>Valuation ratio</td>
<td>?</td>
<td>The lack of data on market prices of property makes it difficult to estimate how much of the market value is captured by the valuation methods used.</td>
</tr>
<tr>
<td>Tax rate</td>
<td>1/12% - 4%</td>
<td>Rates vary by location and use of property. Lowest rate is on residential (non-rental) property; highest rate is on farmland in urban centers.</td>
</tr>
<tr>
<td>Collection ratio</td>
<td>&lt; 51%</td>
<td>In a given year, 84 percent of taxes billed for are paid; however, 63 percent of taxpayers in one year do not pay in the subsequent year.</td>
</tr>
</tbody>
</table>

14 The calculation is as follows: the current ratio is 0.3*0.3*0.3 = 0.027; the improved ratio is 0.5*0.5*0.5 = 0.125; the percentage change from 0.027 to 0.125 is 363 percent (more than three times the current revenue yield). Kelly (2000) uses this illustration.
3.1 Tax Base

The Revenue Code of Liberia determines the tax base, that is, which property is subject to taxation. With a few exemptions, all land and buildings in both rural and urban areas of Liberia are subject to real estate tax. The tax base thus includes vacant land, farm land, completed and uncompleted buildings, and industrial sites.

As is commonly the case across countries, government-owned property is exempt from taxation. Similarly, an exemption is granted to property that is used exclusively by non-profit organizations such as religious groups, educational institutions, and charitable organizations.\(^{15}\) Although properties in these categories is exempt, for transparency purposes, it is advisable to still assess them and include them in the fiscal cadaster so that the government can easily calculate how much revenue is forgone as a result of these exemptions.\(^{16}\)

Exemptions are also made for property used under a renewable resource contract (e.g. agricultural concessions for the cultivation of rubber, palm oil, cocoa, coffee and rice) and property within a mineral exploration license area. However, revenue is still obtained from such land as it is subject to an annual surface rent.\(^{17}\)

A significant exemption that could be problematic once real estate taxes are devolved to county governments is the exemption of huts from taxation. The Revenue Code (2000) imposes a flat rate of L$100 on huts\(^{18}\) but this provision was eliminated in the 2009 Amendment to the Code. This exemption of the hut tax is conceivably due to its extreme unpopularity among rural dwellers given its historical use.\(^{19}\)

The Revenue Code (2009) describes a hut as “any structure built of indigenous natural materials (for example, earth, sticks, bamboo, round poles, leaves) with a foundation made of earth, walls made of earth and sticks, and a roof made of leaves or other indigenous materials.”

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\(^{15}\) Revenue Code (2009), Section 2009 (b) indicates that property owned by non-profit organizations but rented out is exempt only if the renting body is also an exempt organization and the rental income is used for non-profit purposes, a condition that is likely to be difficult to verify in practice.

\(^{16}\) Bird and Slack (2004)

\(^{17}\) The surface rent is $2 per acre for developed land and US $1 per acre for undeveloped land under renewable resource contracts: US $0.20 per acre for land within a mineral exploration license area.

\(^{18}\) The tax was not to come into effect until 2006 (Revenue Code (2000) Section 5.1.b.4).

\(^{19}\) Historically, heavy handed measures (including physical torture and humiliation) were used to enforce payment of the hut tax in rural areas. The hut tax was also perceived as a tool of political subjugation as proceeds were remitted to Monrovia and did not support development in local communities (Weh-Dorliae 2004).
natural materials.” Data from the Population and Housing Census of 2008 indicate that a significant proportion of the rural population resides in structures that fit the above description: in eight counties, more than 70 percent of households live in buildings with mud walls and floors, indicating that a broad segment of the housing property in these regions is outside the tax base. This issue must be addressed if real estate tax is to fund county governments under a decentralized regime.

3.1.1 Estimating the Tax Base
Property and valuation information is not available to calculate the size of the tax base. However, an estimate can be derived for a subcategory of property (residential property) using the 2008 Population and Housing Census data and RETD billing records. The census data is used to obtain the number of taxable residential buildings in a zone by identifying the households in each zone that indicate they live in homes owned by their family (and not rented). The billing records are used to calculate the average housing value in each zone. Multiplying these two values and summing across the different zones in Montserrado County provides the estimated residential tax base of about $800 million.

3.2 Coverage Ratio
The coverage ratio measures the share of taxable property that is captured on the tax roll. It reflects the ability of the tax authority to identify and collect information on the property base in the jurisdiction and develop a comprehensive land cadastral. In Liberia, due to several years of neglect during the civil crisis and the lack of credible secondary sources of information such as a functional land registry, the coverage is not only very low but also unsystematic.

The cadaster is populated when property owners come to register their property voluntarily or, more likely, when field agents collect information during field visits. The law requires

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20 Author’s analysis. See Appendix 1 for distribution across counties.
21 Huts are exempted from the calculation: also because the census data is provided on a household level, rather than per housing structure, the analysis assumes that on average, four households share the same housing structure.
22 Since higher value properties are more likely to be on the tax roll, this approach overestimates the value of the tax base. This problem is more severe in rural counties given the very low number of registered property and they are thus excluded from the analysis.
23 The property values from the billing records are derived from the property valuation rather than the market value as specified in the framework equation.
individuals to register all real property acquired with the Ministry of Finance within 30 days of such acquisition but this is rarely followed in practice.

Until very recently, there has been no systematic way of populating and updating the cadaster. As a result, the current coverage is highly skewed by the geographical proximity and potential tax revenue of the property, reflecting the relative costs and benefits of registering a property. The existing database includes 4558 properties for which bills were sent out in the last fiscal year (July 2012- June 2013); more than 90 percent of these properties are located in Montserrado County and three zones within the city of Monrovia account for 50 percent of the property on the national tax roll. Among these properties, 43 percent are commercial properties, a fraction that is likely over representative of the share of property that is commercial. The focus on commercial property is not surprising given the higher average value (as shown in Table 4 below) and the higher tax rate (as discussed in Section 3.4 below). As a result, more than 80 percent of tax revenue is derived from commercial property.

**Table 4 Property Classification on Tax Roll**

<table>
<thead>
<tr>
<th>Property Classification</th>
<th>Percentage of Tax Bills Issued (%)</th>
<th>Percentage of Tax Bill Value (%)</th>
<th>Average Property Value ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial</td>
<td>43</td>
<td>83</td>
<td>110,818</td>
</tr>
<tr>
<td>Residential</td>
<td>37</td>
<td>7</td>
<td>42,269</td>
</tr>
<tr>
<td>Vacant Land</td>
<td>18</td>
<td>7</td>
<td>6,461</td>
</tr>
<tr>
<td>Industrial</td>
<td>1</td>
<td>3</td>
<td>275,180</td>
</tr>
<tr>
<td>Farmland</td>
<td>1</td>
<td>0</td>
<td>68,224</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100,590</td>
</tr>
</tbody>
</table>

Source: Revenue Department, Ministry of Finance

**3.2.1 Estimating the Coverage Ratio**

A precise estimate of the tax coverage gap is difficult to obtain because of the lack of other sources of information on real estate. The Center for National Documents and Records Agency (CNDRA), established in 1977, is responsible for maintaining a lands registry. However, many of the records were lost or destroyed during the civil unrest. The existing
records are compiled in deed ledger books containing chronologically entered hand-written copies of the original probated deeds. Unfortunately, these entries do not contain any spatial information linking the parcel to a specific geographic location but contain only a metes and bounds description (which are subject to changes in vegetation or topography) or an occasional block and lot number in urban areas. The storage in ledger books and lack of indexes, also contribute to the difficulty of developing a comprehensive land map, much less identifying owners of property.24

Similar to the calculation for the tax base, the 2008 Population and Housing Census can be used to calculate a rough estimate of the extent of the coverage rate across tax zones. For improved accuracy, the analysis is narrowed down to the residential property category in the tax bills which is matched to the number of taxable residential buildings.25,26

Table 5 Estimated Coverage Ratio of Owner-Occupied Residential Property

<table>
<thead>
<tr>
<th>County</th>
<th>Estimated Number of Taxable, Owner-Occupied Homes</th>
<th>Number of Residential Bills Issued</th>
<th>Coverage Rate Estimate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Montserrado</td>
<td>27519</td>
<td>1328</td>
<td>4.83</td>
</tr>
<tr>
<td>Margibi</td>
<td>4585</td>
<td>17</td>
<td>0.37</td>
</tr>
<tr>
<td>Bomi</td>
<td>1891</td>
<td>3</td>
<td>0.16</td>
</tr>
<tr>
<td>Sinoe</td>
<td>925</td>
<td>1</td>
<td>0.11</td>
</tr>
<tr>
<td>Bong</td>
<td>9377</td>
<td>5</td>
<td>0.05</td>
</tr>
<tr>
<td>Grand Bassa</td>
<td>4185</td>
<td>2</td>
<td>0.05</td>
</tr>
<tr>
<td>Lofa</td>
<td>6105</td>
<td>2</td>
<td>0.03</td>
</tr>
<tr>
<td>Nimba</td>
<td>12919</td>
<td>1</td>
<td>0.01</td>
</tr>
<tr>
<td>Gbarpolu</td>
<td>1039</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Grand Cape Mount</td>
<td>2497</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Grand Gedeh</td>
<td>1156</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Grand Kru</td>
<td>379</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Maryland</td>
<td>1575</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>River Cess</td>
<td>630</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>River Gee</td>
<td>571</td>
<td>0</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Source: LISGIS 2008 Population and Housing Census, Ministry of Finance Records and Author’s Calculations

24 There is an ongoing program to digitize and index the handwritten entries to facilitate querying of the records, but the geo-referencing challenges remain.
25 Huts are exempted from the calculation: also because the census data is provided on a household level, rather than per housing unit, the analysis assumes that on average, four households share the same housing structure. Assuming eight households to one housing structure will double the estimates, but will remain under 10 percent in Montserrado.
26 Since the census does not provide information on commercial buildings, matching only rented property to the commercial property category in tax records would be misleading.
Outside Monrovia, there are many counties in which virtually no home owners receive property tax bills. Within Monrovia, the coverage (among this subcategory) remains extremely low at less than 5 percent.\textsuperscript{27} While the rate can be expected to be higher among commercial buildings, it is unlikely to be close to comprehensive.

\textbf{3.2.2 Block-Mapping Exercise in Monrovia}

A promising development with the potential to transform the current paucity of property documentation is an ongoing block-mapping exercise by the Real Estate Division in the Ministry of Finance. This project aims to develop a comprehensive fiscal cadaster for the country.

The exercise commenced in June 2013 with a pilot in three zones in Monrovia. A layout of the streets was drawn and each block was numbered. Field agents assigned to each block then collected information on each structure and lot in the block. Each structure and lot in the block was numbered according to a pre-specified pattern and, ultimately, the exercise is expected to produce a unique identification number for each structure based on its county, zone, block and property number. During the field exercise, information was also collected on the following items: name and contact information of the property owner, photograph of the property, use of the property, and the characteristics of the property (e.g. square footage, building materials for the wall, roof and floor, number of rooms etc.).

Once this information is compiled and organized, it has tremendous potential for facilitating valuation, collection and enforcement, for example, through the use of digital records and automatic billing. It also presents a valuable opportunity to examine policies and practices for optimizing the revenue and growth potential of real estate tax using rigorous research tools. For example, different collection and enforcement approaches can be employed across different randomly selected subgroups of taxpayers and the subsequent compliance behavior and revenue generated compared. Further, economists could study the medium to long term impact of real estate taxes on land use, real estate market liquidity and overall economic development. Successfully extracting these lessons to help guide future administrative and policy decisions would require a careful design in the early

\textsuperscript{27} This approach measures the coverage rate in terms of number of registered properties, rather than in monetary value. Since higher value property is likely to be targeted for registration, this result underestimates the value but has very little impact given the overall low coverage rates. For example, assuming that all registered units were from the top 30 percent of housing values only increases the coverage rate in Montserrado from 5 percent to 6 percent.
stages of the project and ongoing, well-timed data collection—a process in which economists from IGC or other research institutions could partner with the Ministry of Finance.

3.3 Valuation Ratio

The valuation ratio is the share of the market value of property that is captured on the tax roll. It indicates the accuracy of the valuation procedure used in capturing the true market value. Given the weak property market with infrequent recorded transactions in Liberia, there is no ready source of information on the market value of property. This lack of data prevents the use of modern market-based computer-aided mass appraisal techniques that use statistical models to assign an estimated market value to property using data on property characteristics (location, size, amenities etc.) and sale price from recent transactions.

Three methods of valuation are used in Liberia: area-based, self-declaration and rental value. However, all three methods have weaknesses that indicate a low valuation ratio.

3.3.1 Area-based

The area-based method of valuation is based on the floor area of the building, building materials and the land value according to this formula:

\[
\text{Property Assessed Value} = \text{Total Square Area} \times \text{Technical Appraisal Rate (TAR)} - \text{Age Depreciation} + \text{Land Value}
\]

The Technical Appraisal Rate (TAR) is a rough means of adjusting the value of the property by the cost of construction materials.\(^\text{28}\) For different categories of buildings, it takes on three values for “above average,” “average,” and “below average” quality according to specified criteria regarding the building materials for the roof, walls and floors as well as the overall structural features such as the type of foundation. For example, the corresponding TAR for different types of apartment buildings are as shown below.

\(^\text{28}\) To better reflect market values, other inputs to the calculation of assessed value from square footage could potentially include the location of the property and available amenities. For instance, different zones in the city could have adjustment rates based on the quality of services.
### Table 6 Technical Appraisal Rates for Different Types of Apartment Buildings

<table>
<thead>
<tr>
<th></th>
<th>Above Average</th>
<th>Average</th>
<th>Below Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Apartment Building</td>
<td>US $35</td>
<td>US $30</td>
<td>US $20</td>
</tr>
<tr>
<td>One or Two Storey Office Building</td>
<td>US $30</td>
<td>US $25</td>
<td>US $20</td>
</tr>
<tr>
<td>One and Two Storey or Duplex</td>
<td>US $30</td>
<td>US $25</td>
<td>US $10</td>
</tr>
<tr>
<td>Multi Storey Office Building</td>
<td>US $35</td>
<td>US $30</td>
<td>US $25</td>
</tr>
<tr>
<td>Multi Storey Office Building with</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stores and Dwellings</td>
<td>US $30</td>
<td>US $25</td>
<td>US $20</td>
</tr>
<tr>
<td>Warehouse</td>
<td>US $25</td>
<td>US $20</td>
<td>US $10</td>
</tr>
</tbody>
</table>

The assessment is done by either Ministry of Finance valuation agents or a private firm who is a certified member of the Liberia Chamber of Architect, in which case, the cost of the service is deductible from tax liability.

A major problem with the area-based system is that of revenue growth as the tax revenue does not automatically adjust with the value of property. There would need to be periodic changes in the Technical Appraisal Rate (TAR) to capture these increases in value onto the tax base. In the absence of market information on property values, the area approach is most appropriate for Liberia as it is transparent, verifiable and leaves little room for manipulation. The area-based method is common among low income countries; however, a good number of African countries instead use value-based assessments, often as a result of their colonial and historical legacies (see Box 2).

#### 3.3.2 Self-Declaration

The second method used, solely by residential property owners, is self-declaration, whereby the property owner declares a possible selling price of the property as the value of the property. This method is arbitrary and property owners have a strong incentive to underestimate the value of their home. Moreover, property owners may not realize the potential value of their property and may overestimate or underestimate its value. The Real Estate Tax Division (RETD) officials reserve the right to query self-declarations that appear unrealistically low (based on the required photograph of the property). Although this method is highly subjective, it is used given the limited amount of official assessors and to minimize the barriers to registration for property owners.
3.3.3 Rental Value

The rental value approach (the income generated by property) is used on property leased to the Government of Liberia by private individuals or businesses. Under this method, the net operating income (annual rent) is divided by the estimated rent factor of 12 percent per annum to obtain the property value.

Box 2 Property Tax Practices in Select African Countries

The table below is reproduced from Franzen and Youngman (2009). Annual value refers to the rental value whereas capital value refers to the amount at which the property may be sold.

<table>
<thead>
<tr>
<th>Country</th>
<th>Government Level</th>
<th>Tax Base and Valuation Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angola</td>
<td>National</td>
<td>Annual value</td>
</tr>
<tr>
<td>Burundi</td>
<td>National</td>
<td>Area</td>
</tr>
<tr>
<td>Cameroon</td>
<td>National¹</td>
<td>Capital value; Area</td>
</tr>
<tr>
<td>Cape Verde</td>
<td>Local</td>
<td>Capital Value</td>
</tr>
<tr>
<td>Central African Republic</td>
<td>National</td>
<td>Annual value</td>
</tr>
<tr>
<td>Chad</td>
<td>National</td>
<td>Annual value</td>
</tr>
<tr>
<td>Comoros</td>
<td>Local</td>
<td>Area</td>
</tr>
<tr>
<td>Congo</td>
<td>National</td>
<td>Area (land); Annual value (buildings)</td>
</tr>
<tr>
<td>Cote d'Ivoire</td>
<td>National</td>
<td>Capital Value (undeveloped urban land); Annual value (developed urban property)</td>
</tr>
<tr>
<td>Democratic Republic of Congo</td>
<td>National</td>
<td>Area (with some locational factors)</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>Local</td>
<td>Area</td>
</tr>
<tr>
<td>Gabon²</td>
<td>National</td>
<td>Annual value</td>
</tr>
<tr>
<td>Gambia</td>
<td>Local</td>
<td>Annual value (buildings only)</td>
</tr>
<tr>
<td>Ghana</td>
<td>Local</td>
<td>Annual value (buildings only)</td>
</tr>
<tr>
<td>Guinea-Bissau</td>
<td>National</td>
<td>Annual value</td>
</tr>
<tr>
<td>Madagascar</td>
<td>Local</td>
<td>Annual value</td>
</tr>
<tr>
<td>Mozambique</td>
<td>Local</td>
<td>Capital value (buildings only); Area</td>
</tr>
<tr>
<td>Niger</td>
<td>National</td>
<td>Annual value</td>
</tr>
<tr>
<td>Nigeria</td>
<td>State</td>
<td>Capital value; Annual value</td>
</tr>
<tr>
<td>Rwanda</td>
<td>Local</td>
<td>Area (with limited locational adjustment)</td>
</tr>
<tr>
<td>Sao Tome &amp; Principe</td>
<td>National</td>
<td>Capital value</td>
</tr>
<tr>
<td>Senegal</td>
<td>Local</td>
<td>Annual value (improved property); capital value (unimproved property)</td>
</tr>
<tr>
<td>Sierra Leone³</td>
<td>Local</td>
<td>Annual value (buildings only)</td>
</tr>
</tbody>
</table>

Notes: 1. Local authorities in Cameroon are entitled to levy a surcharge on the central government property tax. Until 2006, the surcharge was 25 percent but presently it is 10 percent. 2. In practice, local authorities in Gabon still use an area-based system. 3. In practice, local authorities in Sierra Leone still use an area-based system.
3.4 The Tax Rate

The tax rate prescribes the percentage of the property value that is due as tax. Tax rates in Liberia vary based on the location of property (within or outside city or town limits), its level of improvement (i.e. whether or not there is construction on the land) and the use of the property (for residential, commercial, industrial or agricultural purposes). The rate schedule is centrally determined by the Revenue Code and applied throughout the country.

Often, governments use differential tax rates to (dis)incentivize certain types of economic behavior and to promote economic growth. For example, undeveloped land in urban areas may be taxed at a higher rate to encourage owners to develop their property. In Liberia, the highest tax rates (2 percent–4 percent) are placed on empty lots, vacant land and farm land within city or town limits. These rates were as high as 10 percent prior to the 2009 Amendments.

Table 7 Tax Rates by Type of Property

<table>
<thead>
<tr>
<th>A. Tax Rates on Improved Land</th>
<th>Old rate</th>
<th>New rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within city or town limits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial building*</td>
<td>1%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Industrial building*</td>
<td>1/2%</td>
<td>1.5%</td>
</tr>
<tr>
<td>Residential building*</td>
<td>1/2%</td>
<td>1/12%</td>
</tr>
<tr>
<td>Farm in urban areas</td>
<td>1/3%</td>
<td>1/3%</td>
</tr>
<tr>
<td>Outside city or town limits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Farmland outside urban areas (with building)</td>
<td>1/4%</td>
<td>1/4%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Rates on Unimproved Land</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Within city or town limits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>City &amp; Town lots*</td>
<td>7%</td>
<td>2%</td>
</tr>
<tr>
<td>Farmland*</td>
<td>10%</td>
<td>4%</td>
</tr>
<tr>
<td>Vacant land*</td>
<td>5%</td>
<td>3%</td>
</tr>
<tr>
<td>Outside city or town limits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All land (without building)</td>
<td>LD$5 per acre</td>
<td>LD$5 per acre</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C. Building Improvement on Public Land</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial building</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Residential building</td>
<td>1/7%</td>
<td>1/7%</td>
</tr>
</tbody>
</table>

Source: Revenue Code (2000 and 2009); * indicates categories with new rates in the 2009 Amendment to the Tax Code
In most countries, single-family, owner-occupied residences are favored while non-residential properties face higher rates. In Liberia, owner-occupied/ rent-free residential properties face the lowest tax rates of 1/12 percent whereas industrial property and commercial buildings (including residential units that are rented out) face a tax rate that is 18 times greater (1.5 percent). Prior to the 2009 Amendments, the rates were equal for residential and commercial units at 1/2 percent and double for industrial property at 1 percent.

The preamble to the 2009 Amendments indicates that the new tax code was designed to “provide tax relief” and to “enhance revenues while creating a stimulus effect.” These goals suggest the motivation in the significant reduction in tax rates in residential rates and unimproved land. In particular, the severe mismatch between property ownership and income generation for residential owners appears to have prompted the low residential rates.

### 3.5 Collection Ratio

The collection ratio is the fraction of the total tax liability that is paid by taxpayers. Once the total tax liability is established by the tax base, tax rate, coverage and valuation of property on the tax roll, the tax administration is left with the responsibility of collecting taxes and enforcing taxpayer compliance with their obligations. The collection ratio is crucial to revenue performance but often also one of the most difficult functions of tax administration.

Bahl (2009) summarizes estimates of the property tax collection ratio (collections as a percent of liability) in different contexts and they are generally quite low: 15 percent in Macedonia, 43 percent in Montenegro, 50 percent in The Philippines, 55 percent in Mumbia, and 60 percent in Kenya. However, in Latin America, collection rates are as high as 75 percent in Colombia and 90 percent in Bogota.

#### 3.5.1 Estimating the Collection Ratio

In 2011, bills were issued for $3.073 million and in the same year, $2.59 million was received in revenues implying an impressive collection rate of 84 percent. A less positive observation, however, is that only 37 percent of property owners who paid real estate tax in

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29 Bird and Slack (2004)
the 2010 also paid taxes in 2011.\footnote{Author’s calculation is as follows: Of the 4933 tax payments made in 2010, a representative 8.5 percent sample was selected and a match was manually sought among all the tax payments for 2011, paying attention to name variations and type of property (i.e. land or building). A match was found for 37 percent of the 2010 entries.} This apparent contradiction is explained by the fact that Liberia primarily relies on voluntary compliance and a large proportion of bills are issued upon the request of the taxpayer. As such, in a given year, bills are not issued for \textit{all} property that has been on the tax roll in previous years. Taking into account the 37 percent rate of recurrent payment indicates a collection rate of 51 percent, rather than 84 percent.\footnote{Using 2010 and 2011, the 37 percent overlap in taxpayers and 84 percent collection rate in 2011 gives \( \frac{84}{(100 + (100-37))} = \frac{84}{163} \approx 51 \) percent over the two years. This amount is an underestimate as it uses only 2 years and does not consider properties that were on the tax roll in other years but for which taxes were not paid in 2011. Note also that the analysis assumes all property has the same likelihood of recurrent payment, although in practice, this may differ by the value of the property.}

To encourage compliance, tax administrators provide tax education to property owners through print materials such as brochures and administrative circulars that explain tax obligations and procedures. They also find creative ways to tie services desired by property owners to tax payment as described in the following subsection.

\subsection*{3.5.2 Collection and Enforcement Strategies}

Field agents deliver bills and encourage payment but this is largely concentrated on commercial properties. Often, a major part of this ‘encouragement’ is the threat of legal action and property closure, which in some cases is adequate to persuade property owners seeking to avoid the potential embarrassment and income loss associated with a closure.

According to the Revenue Code (Section 2007), all unpaid real estate tax obligations become a lien on the property after the due date and the overdue taxes are preferred in payment to all other charges on the property. Delinquencies are to be reported to the Minister of Justice for collection through the Tax Court. If the alleged delinquency is confirmed by the Tax Court, the court is authorized to sell the property in a public auction and the proceeds used to settle tax liabilities, cover court costs, and settle other liabilities, and the balance given to the property owner.

In practice, this is rarely ever the case and there is no record of property being seized and auctioned in the last 7 years. According to RETD officials, some delinquent property owners were reported to the Ministry of Justice in 2008 but the case proceeded very slowly and eventually reached an out-of-court settlement in 2012. This slow progression through
the Tax Courts appears to have dissuaded the RETD from pursuing these methods and, according to the Legal Enforcement Division, there were no new cases submitted in fiscal year 2012-2013.

A final strategy of the RETD in promoting compliance is to attach different services to the settlement of tax liabilities. Property owners are required to provide a tax clearance when seeking to register and probate their property, or when seeking to use their property as collateral for a loan or as a proof of their ties to their home country when applying for foreign visas. Tax clearances are also required from all individuals who desire to run for political office or to engage in a procurement contract with the government. Before such clearances can be obtained from the RETD, property owners are required to settle all outstanding liabilities.

A crucial challenge facing collections is the difficulty in keeping track of tax payments as there is no direct way of updating a taxpayer’s records once a tax bill is paid. RETD issues bills but payments are made to the centralized tax administration system (TAS). Unlike other tax divisions that use a tax identification number (TIN) for tracking transactions, the real estate tax payments are done in the name of the business or individual. As a result, in order to check whether payment has been made for an issued bill, the RETD obtains from the TAS records on payments made each month and then manually matches the names and tax due to issued bills.

This inadequate system of record-keeping also makes it difficult to track taxpayers from year to year, which defeats the purpose of using self-declaration to attract property owners into the tax net, and also erodes the advantages gained by registering property owners seeking to obtain loans or government contracts. To address this problem, it will be essential to have a unique identification number for each property owner and each piece of property to automate updating with TAS records.
4. Real Estate Tax and Decentralization in Liberia

Property taxes are usually a major part of decentralization programs since they are typically the most obvious tax base for local governments, especially in rural areas, where the only other options may be a limited range of user fees or permits. Although in many countries, local governments derive a significant proportion of their funding from grants and transfers from the central government, fiscal autonomy of local governments can only be ensured when they have locally-derived revenues that are under their control.\textsuperscript{32} The local nature of property enables the local government to identify taxpayers and collect taxes. Whereas these property taxes may be an insignificant contribution to the national budget, they can represent a very significant resource to local communities and present the fiscal capacity to provide basic services.

4.1 Goals of Decentralization

Decentralization takes different forms in different countries, but in general is associated with the transfer of political, fiscal, and/or administrative autonomy to lower levels of government in a country. Decentralization programs seek to improve governance and public policy formation by having local residents have a greater say in the decisions that affect them.

Countries also decentralize in order to improve service delivery by having local governments cater to the specific needs in each community given the diversity of needs in the country. Decentralization is also expected to improve the provision of local services by strengthening the accountability and responsiveness of locally elected officials to their constituency. In addition, at lower levels of government, citizens may have better information on government finances and be better able to monitor expenditure and reduce corruption.\textsuperscript{33}

A related concept to decentralization is deconcentration, a situation in which a central government transfers some of its administrative functions from the center to regional offices but retains overall control and decision-making authority. Often, deconcentration is considered an appropriate interim step before full decentralization to help local

\textsuperscript{32} FAO (2004)

\textsuperscript{33} On the other hand, decentralization may increase the amount of corruption through patronage and local elite capture. See Bardhan and Mookherjee (2005) for a full discussion.
governments develop administrative capacity. Many countries are adopting a mixture of deconcentration and full decentralization. Under this mixed arrangement, some responsibilities are retained at the center while others are transferred to local governments.

4.2 Process of Decentralization in Liberia
Liberia is a highly centralized country without local governments. Although there are 15 counties, each administered by a County Authority, they are primarily administrative units whose superintendents are appointed by the president, and which have no authority to levy taxes and collect revenue. Each county receives $200,000 annually as a County Development Fund and some counties receive additional funding resulting from concession agreements. The main representation of the counties in fiscal affairs results from the fact that each county elects two members of the Senate and the Constitution requires that the legislative committee for appropriation and revenue include one member from each county.

The highly centralized nature of government in Liberia is widely considered to be one of the root causes of past conflict in the nation due to the long-term exclusion of many citizens from participation in governance and development. Decentralization is therefore seen as an essential step in correcting these inequalities and promoting stability and growth for all.

The Liberian government has stated a commitment to improve governance in the country by pursuing a decentralization program as highlighted in Liberia’s Medium Term Economic Growth and Development Strategy, Agenda for Transformation (AfT). In February 2012, the cabinet adopted the Liberia National Policy on Decentralization and Local Governance (NPDLG) which outlines the plans for the creation of local governments in each county (see Box 3 for a description of key features). Deconcentration, devolution of budget execution and service provision to the local level has begun with the Ministry of Education and the establishment of regional security hubs, while preparatory steps are ongoing for the

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35 FAO (2004)
36 For instance, the preamble to the Liberia National Policy on Decentralization and Local Governance states that the “centralized system of government has... led to the gap in economic growth and development and equal access to social and economic opportunities and human wellbeing between Monrovia and the rest of Liberia” and the Medium Term Economic Growth and Development Strategy, Agenda for Transformation, credits the “income inequality and socio-political marginalization” in the country as fueling the civil conflict.
Ministry of Health.\textsuperscript{37} A major condition for decentralization however would be the vote of the electorate on a national referendum planned for 2014 to amend the 1986 constitution.\textsuperscript{38}

**Box 3 Proposed Features of Local Government in Liberia**

<table>
<thead>
<tr>
<th>New Elected Officials</th>
</tr>
</thead>
<tbody>
<tr>
<td>\begin{itemize}</td>
</tr>
<tr>
<td>\item County Superintendent</td>
</tr>
<tr>
<td>\item County legislative assembly (CLA)</td>
</tr>
<tr>
<td>\item Administrative district commissioners, one for each district</td>
</tr>
<tr>
<td>\item Mayors of municipalities granted city charters</td>
</tr>
<tr>
<td>\item City council of the municipalities granted city charters</td>
</tr>
<tr>
<td>\end{itemize}</td>
</tr>
</tbody>
</table>

**Administrative Structures**

\begin{itemize}
\item County departments to cover the following functions
  \begin{itemize}
  \item Finance – revenue, expenditure, budget
  \item Administrative and personnel
  \item Public works and utilities
  \item Health and social welfare
  \item Agriculture and commerce
  \item Education, information and sports
  \item Community enterprise development agenda
  \end{itemize}
\item Direct administrative office to include:
  \begin{itemize}
  \item Planning and development officer
  \item Health officer
  \item Educational officer
  \item Agriculture officer
  \end{itemize}
\end{itemize}

**Functions**

Unspecified, the policy only lists those that are to remain at the National level, which include: Justice, Auditing Elections, Foreign Affairs, Immigration, Industrial Licensing and Intellectual Property, Money, Bank and Insurance, National Defense, Natural Calamities, National Health, Education and Water policies.

**Resources**

\begin{itemize}
\item Property tax levied on all real estate property
\item Licenses and fees on local business
\item Grants/tax shares as established in a revenue sharing agreement
\end{itemize}

**Source:** National Policy on Decentralization and Local Governance, GoL, February 2012 as summarized in Last et al. (2012).

Property taxes are projected to constitute a major portion of local revenues under the decentralization policy, in fact, property is the only explicitly mentioned tax base for counties in the NPDLG. Other non-tax potential sources of local revenue include the

\textsuperscript{37} Agenda for Transformation, AfT (2013)

\textsuperscript{38} Implementation challenges to decentralization and the development of local accountability for local public service delivery are also likely to arise from the lack of harmonization of significant county and local boundaries. (AfT, Chapter 11)
issuance of licenses, inspection fees, fines and operating permits to local businesses in the county. Besides the locally raised revenue, county governments will also receive funds from the national government according to a yet unspecified formula.

There is no explicit timeline for the decentralization process: the NPDLG states that its implementation shall be incremental over a period of 10 years and the AfT considers decentralization a goal to be accomplished by 2030. Given the radical changes that decentralization implies for administrative, fiscal and political governance in Liberia, the process is likely to require several years.

### 4.3 Considerations for Real Estate Tax in Liberia’s Decentralization

There are important considerations to be made in evaluating the potential of the property tax to fulfill the role envisaged for it in the NPDLG as a major local source of revenue. In particular, given the tax base and rate, the size of the revenue potential must be assessed relative to the responsibilities of the local government. In addition, the administrative capacity to administer the tax must be developed.

#### 4.3.1 Revenue Requirements and Potential of Rural Counties

The NPDLG reflects some significant imbalances in the responsibilities to be devolved to counties relative to the revenue the counties are able to generate. As noted in Box 3, county governments will be responsible for health, education, agriculture development among other roles. However, the current revenues generated from rural counties are a small fraction of the expected expenditure. For example, the 2012/2013 budget allocations to rural counties from the Government of Liberia was over $46 million\(^{39}\) whereas total revenues collected outside Monrovia was merely about $2 million, an amount that would have been insufficient even if the only responsibility was the rural health sector, which had a budget $3.67 million.\(^{40}\)

Real estate tax constituted less than 10 percent of all taxes collected in rural counties and were about $141,000 in the 2012/2013 fiscal year. This low figure is partly due to tax policy decisions regarding the exemption of huts and land under concession agreements from taxation. However, the low revenue performance is also significantly driven by the low

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\(^{39}\) Excluding donor funds and excluding amounts budgeted for Montserrado

\(^{40}\) Last et al (2012)
collection and enforcement rates, which are even more pronounced in rural Liberia compared to Monrovia given the historically motivated resistance described in Section 3.1.

### Table 8 Taxes and Budget Allocations in Rural Counties

<table>
<thead>
<tr>
<th>Year</th>
<th>Real Estate Taxes in Rural Counties ($US)</th>
<th>Total Tax Collection in Rural Counties ($US)</th>
<th>Rural County Budget Allocations ($US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009/2010</td>
<td>66,503</td>
<td>830,810</td>
<td>N/A</td>
</tr>
<tr>
<td>2010/2011</td>
<td>69,351</td>
<td>2,719,801</td>
<td>18,818,751</td>
</tr>
<tr>
<td>2011/2012</td>
<td>98,145</td>
<td>1,484,406</td>
<td>19,582,334</td>
</tr>
<tr>
<td>2012/2013</td>
<td>140,878</td>
<td>2,000,636</td>
<td>46,311,864</td>
</tr>
</tbody>
</table>

Sources: IMF Government Finance Statistics and GOL Draft National Budget. The rural county budget allocation figures are obtained from Table 1.7 “Allocations by County” by deducting Montserrado and “unspecified” allocations from the total.

As the decentralization process develops, tax revenue may increase. For example, the relocation of individuals and government functions from Monrovia to rural counties will stimulate the local provision of goods and services, including higher value housing. Further, the more direct tax-benefit linkage rural community dwellers enjoy by having their tax revenues spent on local public goods and services may improve tax morale and encourage compliance. Nevertheless, the extremely large gaps between expected revenue and expected expenditure suggest that a significant proportion of local county revenues will come from government transfers.

To derive the governance and accountability benefits that arise from fiscal decentralization, the government of Liberia may consider limiting the expenditure categories for which local counties will be responsible. These expenditure items would be such that locally-derived revenues would constitute a substantial portion. These functions of government would be truly decentralized: whereas other functions may be de-concentrated, such that they are administered at the local level, but the ultimate responsibility and funding will be provided by the central government. Alternatively, counties could be given an expanded tax base beyond the real estate tax.

#### 4.3.2 Revenue Administration in Rural Counties

Real estate tax administration faces many of the same challenges in rural counties as it does in Monrovia, such as the lack of a comprehensive tax roll and low enforcement capacity. In addition, however, the greater geographical spread makes the already low level
of potential revenue even more costly to collect. As a result, there are not many incentives for investing additional resources into improving revenue administration.

The Rural Tax Division (RTD) of the Revenue Department at the Ministry of Finance is responsible for collecting revenue from taxpayers outside the Greater Monrovia District who have annual turnover of less than $2 million (i.e. taxpayers who are not in the centrally administered medium or large tax categories). The RTD is divided into 18 collectorates across the country. Given the technical skills required for property valuation, the Real Estate Tax Division (RETD) assigns Real Estate Tax Officers to rural tax collectorates to administer the real estate tax. The Real Estate Tax Officers conduct property appraisals and issue tax bills. They work in collaboration with the RTD tax officers who are responsible for collection and enforcement of all tax bills, including those issued for real estate tax.

Real estate tax (as well as other taxes) is very expensive to collect in rural areas due to the low population density and poor transportation resources. Population density outside Monrovia (Montserrado County) is low, falling as low as 22 persons per square mile in Gbarpolu (see Appendix 2). Outside Monrovia, there are only 18 towns that have more than 5,000 inhabitants.41 Further, there are often no good roads linking different towns and villages within a county, therefore tax officials assigned to rural areas undergo significant difficulty in reaching potential taxpayers across their collectorates.

Under a decentralized system, in which locally raised real estate tax revenues are expected to play a greater role, there will need to be significant changes in the revenue collection process to ensure greater coverage. First, each county, with technical assistance from the headquarters, must develop a comprehensive property tax roll that uniquely identifies and values all property within the county. Collection and enforcement can then be decentralized further within counties to the district level whereby local representatives at the district level are provided with valuation and billing information obtained from professional assessments and tasked with revenue collection. Separating the valuation function from the collection function and assigning them to two different units, and ensuring unique property identifiers that can be used to track assessments and payments will ameliorate some of the corruption risk from the additional layer of decentralization.

41 LISGIS (2008)
4.3.3 Revenue-Sharing Pilot in Buchanan

The Ministry of Finance is currently piloting a real estate tax revenue sharing arrangement in Buchanan, the capital of Grand Bassa county. Under this arrangement, the county administration will be actively involved in the implementation of the property tax and in return, it will keep 40 percent of property tax revenues collected. This pilot is motivated by the recognition that citizens in rural counties desire to receive direct benefits in return for tax payments, as well as the belief that county administrators are closer to citizens and thus better able to influence their tax behavior.

Since the pilot is occurring only in Buchanan, the third largest city in the country, the specific results, such as the amount of revenue raised, are unlikely to be representative of what would be obtained if the exercise was replicated in rural Liberia. Nevertheless, this pilot presents an important opportunity to understand some key elements of how a decentralized property tax collection system could work, specifically:

- **Incentivizing county administrators**: To what extent would 40 percent of property tax revenues incentivize county administrators, relative to the other sources of revenue? As earlier noted, the total revenue collection across *all* rural counties was $141,000 in 2012/2013. While the collection in Buchanan is not available, even with the expected growth from increased administration, it is likely to be significantly smaller than the $200,000 community development grants that each county receives. Given the political costs associated with the collection of the tax, it would be important to observe the response of county administrators.

- **Incentivizing collection agents**: A core part of the program design is to save on collection costs by deploying staff members from the county office to conduct registration and enforcement. Adding on this task to their regular duties may create multitasking problems and it would be important to understand the implications for their regular duties as well as the new tax duties.

- **Managing corruption risk**: With the introduction of a new revenue source will arise new corruption risks. The pilot program should focus on understanding the potential ways in which corruption can occur e.g. collusion between agents, taxpayers and county officials. For instance, there should be random audits of taxpayers to compare their receipts with revenue submitted to the government.
A crucial consideration is that extracting these lessons from this pilot depends critically on the details of the design of the project. As such, the design must be tailored to facilitate a rigorous evaluation of the project, and data must be collected on the key questions of interest at appropriate times during the implementation of the project. Exploring these questions further could be another area of collaboration with researchers from IGC or other institutions.
5. Conclusion and Policy Recommendations

This section highlights key policy actions that the Revenue Department at the Ministry of Finance can take to enhance the role of real estate taxes in generating revenue and promoting growth. It discusses short, medium and long term actions.

5.1 Short Term Action around Recently Completed Block-Mapping Exercise

In the next few months, due to the recent block-mapping pilot exercise, the Real Estate Tax Division (RETD) will have, for the first time in many years, a comprehensive listing of all property within the three pilot zones. Many taxpayers will be receiving their first property tax bill and this process must be managed with great care to establish a positive culture around real estate tax.

5.1.1 Bill tax arrears in annual installments

If property owners are required to pay the taxes, interest and penalties they owe from the past six years at once, they are unlikely to comply. On the other hand, given the 2006 presidential waiver, waiving all back taxes again may cause moral hazard problems as property owners may believe that such waivers may be granted again in the future. The RETD could send out bills that indicate the back taxes owed, but only require a fraction to be paid immediately, with the balance spread out over several years.

5.1.2 Maintain accurate and automated records

Before embarking on an aggressive widening of the tax net using the new property database, the RETD must ensure that its accounts and records systems are current and automated. Billing and payment histories from the current systems should be imported to the new system, and very importantly, the new accounts system must be easily reconciled with the central tax administration system that records all payments. This will facilitate automated bill processing and reconciliation, and will project an image of organization and transparency to taxpayers.

5.1.3 Pursue available legal options to promote compliance

With even the best coverage and valuation, tax revenues will not change without effective collection and enforcement. For example, a property tax reform in the Philippines successfully increased valuations by 37.5 percent and collectibles by 13.6 percent by producing tax maps and updating property assessments. However, actual tax revenues only
increased by 1.1 percent.\textsuperscript{42} To avoid a similar outcome, the RETD must demonstrate its willingness to prosecute non-compliers to the full extent of the law. The Ministry of Justice should be directly engaged to fast track legal procedures on a few cases for demonstration effect.

5.1.4 Experiment with different messages to taxpayers to understand most effective ways to increase voluntary compliance

Rather than sending out uniform bills to all taxpayers simultaneously, the RETD has a unique opportunity to use some tools from experimental and behavioral economics to experiment with different messages and assess their relative effectiveness in motivating taxpayers to comply. For instance, some bills could describe the different services provided by tax revenues, while another could describe advantages of paying property taxes (e.g. access to loans), and yet another set of bills could emphasize the legal risks of non-compliance. Relatedly, some property owners could receive bills with their full arrears payments and offered the option of paying in installments while others could have the installments pre-calculated for them. By tracking the type of bill received by each property owner and comparing the compliance behavior across different types of messages, the RETD can optimize its subsequent messaging on bills sent out to property owners.

5.1.5 Evaluate impact of increased tax collection

The upcoming increased enforcement of real estate tax due to the new database also presents an opportunity to study the short, medium and long term impact of increased taxation on growth and other economic outcomes, for example, the impact on property development and land use, as well as the impact on the liquidity of the real estate market.

5.2 Medium Term Action for Real Estate Tax Administration in Monrovia

Beyond the ongoing block mapping exercise, there are several actions the RETD can take over the next few years to improve overall administration of real estate tax.

5.2.1 Develop a comprehensive fiscal cadaster in collaboration with other government agencies

Although the block mapping pilot exercise covered the most lucrative zones for real estate tax, it is important to extend the exercise to the rest of the country. Admittedly, the smaller

potential tax revenue in some districts may not justify the data collection costs; however, the information on property location and ownership information is needed for broader purposes by other government agencies such as the Lands Registry, Post and Telecommunications Ministry, and Lands, Mines & Energy Ministry. A joint task force comprising of these agencies should be developed to collaboratively collect and organize this information in a format that all these agencies can share. In some cases, it may be necessary to organize public forums in different communities where people can register their ownership documents or otherwise lose their claim to the land.

5.2.2 Increase fairness in enforcement procedures
For the real estate tax to be effectively administered, taxpayers must perceive it to be fair. While the current practice of focusing enforcement efforts on income-generating commercial properties may aid revenue generation in the short term, in the long run, it may have a detrimental impact by entrenching the view that residential property owners do not need to comply with the tax. This selective enforcement may also breed resistance among commercial property owners and reduce their compliance. Furthermore, as previously discussed, primarily enforcing the real estate tax on commercial property yields perverse incentives for growth as it may induce people away from developing their otherwise underutilized land.

5.2.3 Reduce compliance costs by automating billing and forming partnerships with financial organizations
Reducing compliance cost that taxpayers encounter in meeting their tax obligations would promote voluntary compliance. The current practice is for taxpayers to come to the RETD to request their tax bill, return in a few days to pick up the bill and then proceed to make payment. The semi-manual billing and records systems should be automated such that annual bills can be prepared and automatic reminders issued if payments are not made by a specified time. Bills should be delivered to property owners for direct payment without the need to visit the RETD.

Another avenue for reducing compliance costs is to partner with financial institutions to bundle tax payments with mortgage payments. Under the ongoing, large scale mortgage stimulus program issued by the Central Bank and implemented by a commercial bank, property owners are required to submit a tax clearance on the land before the loan is
issued. The mortgage coordinator has expressed an interest in partnering with the RETD by bundling taxes with the monthly loan payments and remitting to the government, a common practice in the United States.

5.2.4 Explore localizing the real estate tax within Monrovia
The real estate tax functions best as a local tax and it could be administered as such even within Monrovia. Reports from field collectors reveal that the most common reason given by property owners for their lack of compliance is the absence of any direct benefits provided by the tax payments. The different zones in the city can be responsible for collection and enforcement with the condition that the realized tax revenue would be allocated to providing local public goods such as water and sanitation facilities, garbage removal and street cleaning.

5.3 Long Term Action for Real Estate Taxes under Decentralization
The decentralization process in Liberia is a long term process and many aspects of it are beyond the control of the Revenue Department. Nevertheless, the Ministry of Finance can play a major role by keeping in view the following points regarding the potential role of the property tax.

5.3.1 Match county-level responsibilities to tax base
For counties to be truly autonomous, they must be able to generate a significant proportion of revenues for the functions that have been devolved to them. While the details of the funding mechanisms at the county level under decentralization are being finalized, it is important to make sure they are commensurate to the tasks of the counties.

5.3.2 Employ fiscal incentives for counties to use their property tax potential
As earlier noted, administering real estate tax could be politically difficult and in many countries, lower levels of government prefer to rely on the central government for transfers instead of enforcing the tax. Therefore, the central government in Liberia should consider putting in place incentives for counties to utilize their property tax base. For instance, the size of the intergovernmental transfer a county receives could increase with the degree to which it realizes the property tax potential in its boundaries.43

43 Bahl (2009)
References


## Appendix

### Appendix 1 Distribution of Housing with "Hut Characteristics" across Counties

<table>
<thead>
<tr>
<th>County</th>
<th>Mud Walls</th>
<th>Bamboo Roof</th>
<th>Mud Floors</th>
</tr>
</thead>
<tbody>
<tr>
<td>River Gee</td>
<td>86</td>
<td>72</td>
<td>74</td>
</tr>
<tr>
<td>Grand Kru</td>
<td>84</td>
<td>81</td>
<td>82</td>
</tr>
<tr>
<td>River Cess</td>
<td>82</td>
<td>77</td>
<td>82</td>
</tr>
<tr>
<td>Sinoe</td>
<td>80</td>
<td>72</td>
<td>83</td>
</tr>
<tr>
<td>Maryland</td>
<td>79</td>
<td>55</td>
<td>63</td>
</tr>
<tr>
<td>Gbarpolu</td>
<td>77</td>
<td>62</td>
<td>77</td>
</tr>
<tr>
<td>Bomi</td>
<td>75</td>
<td>50</td>
<td>72</td>
</tr>
<tr>
<td>Grand Gedeh</td>
<td>75</td>
<td>66</td>
<td>72</td>
</tr>
<tr>
<td>Bong</td>
<td>70</td>
<td>32</td>
<td>73</td>
</tr>
<tr>
<td>Grand Cape Mount</td>
<td>65</td>
<td>45</td>
<td>64</td>
</tr>
<tr>
<td>Grand Bassa</td>
<td>65</td>
<td>53</td>
<td>71</td>
</tr>
<tr>
<td>Lofa</td>
<td>58</td>
<td>38</td>
<td>79</td>
</tr>
<tr>
<td>Nimba</td>
<td>51</td>
<td>22</td>
<td>63</td>
</tr>
<tr>
<td>Margibi</td>
<td>39</td>
<td>21</td>
<td>45</td>
</tr>
<tr>
<td>Montserrado</td>
<td>6</td>
<td>2</td>
<td>12</td>
</tr>
</tbody>
</table>

Source: LISGIS 2008 Population and Housing Census and Author’s Calculations
## Appendix 2 Population Density across Counties

<table>
<thead>
<tr>
<th>County</th>
<th>Population</th>
<th>Percentage of National Population</th>
<th>Area (square miles)</th>
<th>Percentage of National Area</th>
<th>Density (population per square mile)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bomi</td>
<td>84,119</td>
<td>2.4</td>
<td>746</td>
<td>2</td>
<td>113</td>
</tr>
<tr>
<td>Bong</td>
<td>333,481</td>
<td>9.6</td>
<td>3,380</td>
<td>9</td>
<td>99</td>
</tr>
<tr>
<td>Gbarpolu</td>
<td>83,388</td>
<td>2.4</td>
<td>3,843</td>
<td>10</td>
<td>22</td>
</tr>
<tr>
<td>Grand Bassa</td>
<td>221,693</td>
<td>6.4</td>
<td>3,017</td>
<td>8</td>
<td>73</td>
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<tr>
<td>Grand Cape Mount</td>
<td>127,076</td>
<td>3.7</td>
<td>1,846</td>
<td>5</td>
<td>69</td>
</tr>
<tr>
<td>Grand Gedeh</td>
<td>125,258</td>
<td>3.6</td>
<td>4,191</td>
<td>11</td>
<td>30</td>
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<tr>
<td>Grand Kru</td>
<td>57,913</td>
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<td>1,504</td>
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<td>Lofa</td>
<td>276,863</td>
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<td>3,854</td>
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<td>72</td>
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<td>Margibi</td>
<td>209,923</td>
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<td>Maryland</td>
<td>135,938</td>
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<td>Montsserado</td>
<td>1,118,241</td>
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<td>726</td>
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<td>462,026</td>
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<td>1.9</td>
<td>1,974</td>
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<td>Sinoe</td>
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<td>2.9</td>
<td>3,770</td>
<td>10</td>
<td>27</td>
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<tr>
<td>Total</td>
<td>3,476,608</td>
<td>100</td>
<td>37,420</td>
<td>100</td>
<td>93</td>
</tr>
</tbody>
</table>

Source: LISGIS 2008 Population and Housing Census and Author's Calculations
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