



**PEAK VISION  
N°5**

October 2020

## **THE STRATIFICATION SYSTEM TO FUNDING UTILITIES IN COLOMBIA AND ITS LIMITS TO CONTRIBUTE TO THE REDUCTION OF INEQUALITY:**

An opportunity to improve a relevant tool for economic and social  
policy

**PEAK  
URBAN**  
CONTRIBUTE

**10** REDUCCIÓN DE LAS  
DESIGUALDADES



**11** CIUDADES Y  
COMUNIDADES  
SOSTENIBLES



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# Highlights

## 1.

There is a consensus on the weak points of the stratification system. The empirical evidence supports the mismatch between subsidies recipients and the high economic capacity of a share of those recipients. As a consequence the system do not accomplish one of its main requirements, the fiscal progressiveness.

## 3.

Recent research also indicates that the system has contributed to unanticipated consequences such as cities spatial segregation , people stigmatization, and discrimination. Furthermore, the stratification categories for allocating subsidies have been used in other policy fields such as housing, health, and education to identify potential recipients, this governmental practice has amplified the mismatch and the fiscal regressivity.

## 2.

The Research in Spatial Economics (RiSE) group joins in to the group scholars and non-governmental agencies that propose to modifying the stratification system, preserving the benefits of a cross-subsidy funding structure. The RiSE group proposes creating a multidimensional index to improve accuracy to identifying low-income population . The multidimensional index should have as relevant distinction the inclusions of the socioeconomic characteristics of its beneficiaries and not only the characteristics of the properties.

This PEAK Vision was prepared by the RiSE group of the EAFIT University for the PEAK-Urban project led by the University of Oxford, and it summarizes the main weaknesses of the current stratification system in Colombia. This exercise was carried out to add some evidence on why the current stratification system has become an obstacle in achieving the Sustainable Development Goals (SDGs). You can consult the full report on the subject at <https://bit.ly/2U0mwLF>

## Reasons to modify the current stratification system

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The stratification system has been studied because it does not reflect the principles grounded in its creation. In 1994 the Law 142 was enacted stating the ruling principles in its implementation which are solidarity, financial and economic sufficiency, neutrality, simplicity, and transparency.

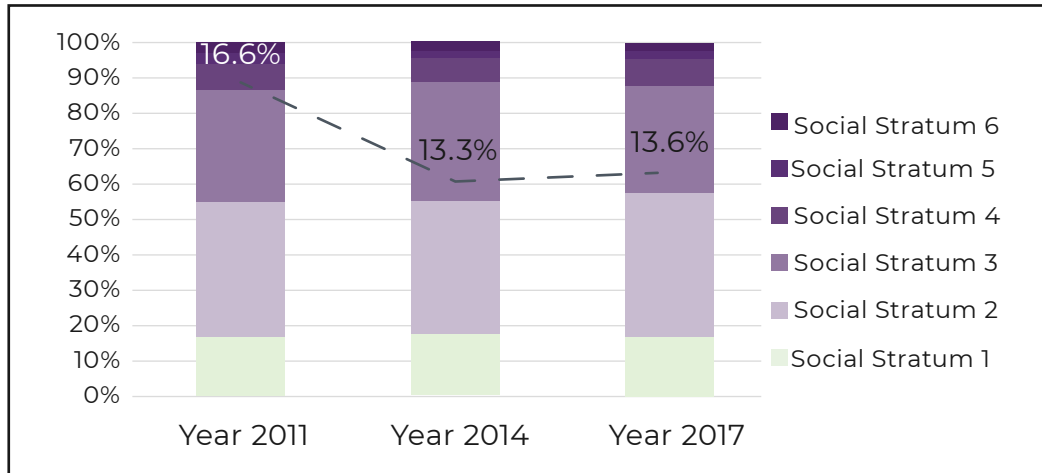
There is a consensus on the stratification system weaknesses, which shows a mismatch between subsidies recipients and the high economic capacity of a

share of those recipients. This effect is observed through the system inability to capture the reduction in poverty experienced by households.

According to studies by the Planning Office of the District of Bogotá (2017) and UN-Habitat (2016), it is shown that simultaneously to the system lack of progressiveness, the financial sustainability is compromised because there is a financial-accounting imbalance with a growing trend.

As far as the system's unanticipated consequences, research has identified its contribution to the spatial segregation of cities, people stigmatization, and discrimination. Additionally, the use of stratification categories as proxies for allocating resources in other policies fields amplifies the final effect on the fiscal regressivity.

**Figure 1** Evolution of poverty rates and household distribution by stratification categories in Colombia.



**Source:** Authors' calculation based on GEIH-MESEP.

## Diagnosis

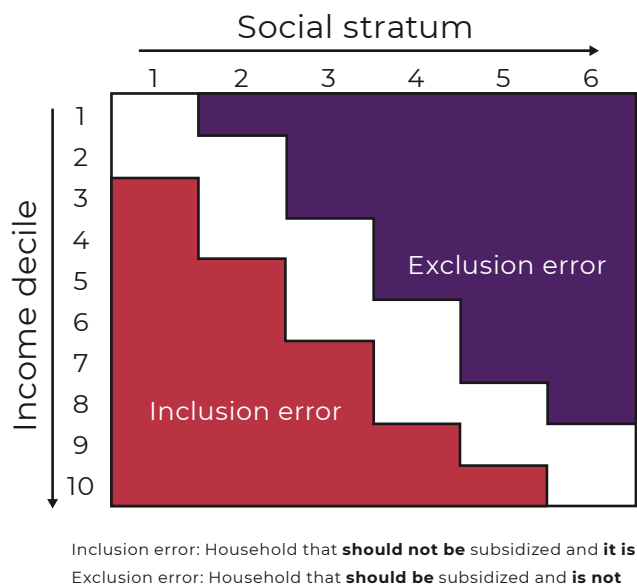
The standard approach to assess the system mismatch for subsidies allocation is based on two concepts: the inclusion error and the exclusion error. These two concepts are used to determine the degree of mismatch in the allocation of subsidies, and to identify where the adjustments should be made.

The inclusion error benefits the households that do not meet the requirements for being subsidies recipients but still they are classified in the group of beneficiaries. According to

UN-Habitat (2016) is likely this type of error does not self-correct by the beneficiaries, because although a household have the economic capacity to bear the costs of the utilities, it will lose the benefit of paying less due to the subsidies. In the case of the exclusion error, it occurs when a household that meets the conditions to be subsidized is wrongly classified as non beneficiary.

Figure 3 shows the percentage of each type of error and its comparison for Colombia. The figure shows that the percentage of households that are wrongly subsidized is much higher than

**Figure 2** Social class income deficit.

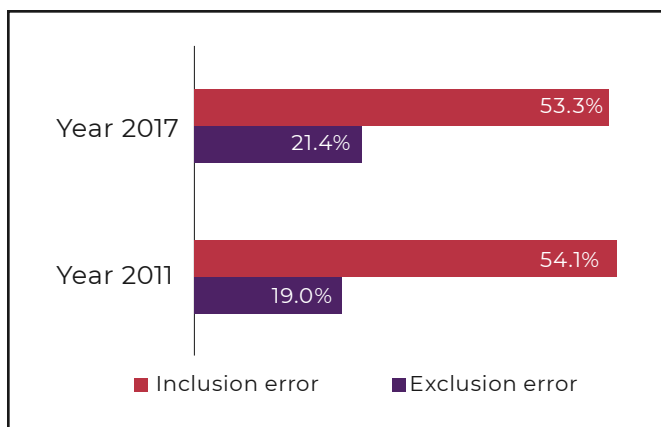


**Source:** Processing of authors based on Alzate (2006).

the percentage of households that are not subsidized and should be. Inclusion and exclusion errors increase depending on the city, as shown in Figure 4.

Figure 4 shows the percentage of households in each type of error and its comparison for the 13 main metropolitan areas. It is a consistent result in all metropolitan areas that the inclusion error is greater than the exclusion error. For this calculations, the inclusion error for each area is close to 50% or higher, showing a significant mismatch. These calculations quantify the magnitude of wrongly recipients' identification that needs to be corrected.

**Figure 3** Percentage of households in Colombia by type of classification error (2011-2017).

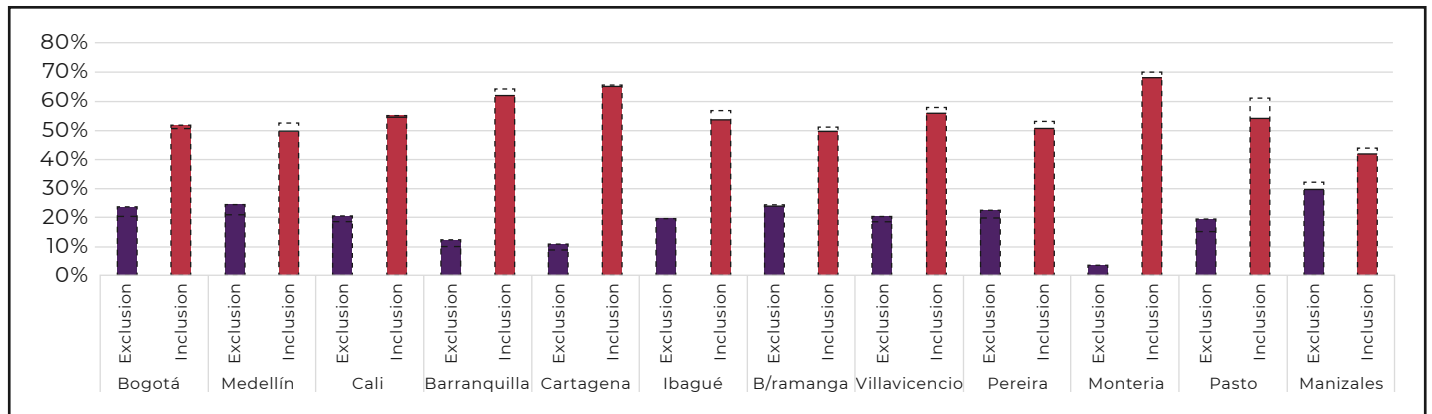


**Source:** Authors' calculation for the thirteen metropolitan areas based on GEIH-MESSEP.

## Estimation of financial stability

One of the consequences of the current stratification system is the sustainability of the economic model. After assessing aqueduct and sewerage (AA), and electricity (EE) financial evolution between 2011 and 2017, it was found a financial deficit in AA utilities for all 13 metropolitan areas; while, it was found a downward trend of a financial surplus in EE utilities for the largest metropolitan areas.

**Figure 4** percentage of households according to the type of classification error for the thirteen main areas, 2011 and 2017.



**Source:** Authors' calculation for the thirteen metropolitan areas based on GEIH-MESEP.

## Conclusions

The main conclusion of the analysis is the imperative need to modify the current stratification system to reduce inequality. Bogotá, from the academic and governmental point of view, has led studies on this topic. However, it is important to expand the analysis to the rest of the country. In this sense, it was found that the current Colombia's Development Plan allows a collective discussion on how to modify the stratification system, favoring to emphasize the need for the multidimensional nature of the new system.

The RiSE group proposes creating a multidimensional index that allows a more accurate identification of the population groups, thus, improving the allocation of resources for utilities subsidies and collecting funding from the correctly identified taxpayers. The index must be related to households' socio-economic characteristics and not exclusively with their physical characteristics.

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## Keywords

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Stratification/ Inclusion error/ Exclusion error/ Medellin/ Colombia/  
Fiscal progressiveness/ Inequality reduction

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