

Social Stratification in the CPI



2015

Bogota D.C., March 2016

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Stratification of the CPI in Colombia

Socioeconomic stratification is the classification of residential dwellings in a city or town, following the Public Utilities Law that is in place in Colombia (Law 142 / 1994).



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Social stratification in Colombia

Socioeconomic stratification is a universal concept. But while in other countries it follows a variety of political, social, cultural and technical criteria, in Colombia it is an instrument of tariff setting for residential public utilities. As such, it follows a legal and constitutional mandate and it is bound by legal and technical procedures and guidelines.



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Social stratification in Colombia

Colombia, as a democratic state, is founded on solidarity and income redistribution among its different groups of citizens. As such, the country has in place a socioeconomic stratification system of residential dwellings aimed at subsidies allocation and contributions in the tariffs of public utilities.



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Social stratification in Colombia

Solidarity and redistribution mean in this context that under this tariff regime, some measures will be adopted to allocate resources to solidarity and redistribution funds, so that high-strata residential users and industrial and commercial users will help low-strata residential users to cover the tariffs of public utilities that meet their basic needs.



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Socioeconomic stratification methodology

The urban methodology of stratification takes into account the homogeneous land registry zones and the physical characteristics of residential dwellings.

The stratification unit is the sub-zone, with homogeneous characteristics in the physical aspects (land use, public utilities, access routes and topography) and the geoeconomic aspects (land valuation).



Social stratification in Colombia

Physico-economic homogeneous sub-zones are obtained through geo-statistical processing, through a spatial interception of cadastral zones.

The sub-zones are appraised and ranked, based on physical characteristics of the residential dwellings found in each of them.



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In the appraisal, some elements are taken into account, such as: the quality of the structure, finishings, kitchen, bathrooms, equipment of the rooms, bathrooms and built-up area. The appraisal makes a distinction between condominium-type properties (apartments) and stand-alone houses.



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The sub-zones (stratification units) are classified (cluster analysis) using simultaneously the Dalenius-Hodges method and the K-averages, taking as final criterion the method that generates the least accumulated variance of the groups.



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Finally, residential dwellings are classified in the predominant stratum of the sub-zone, as long as their characteristics do not differ ostensibly from the predominant conditions in the group. Otherwise, they are considered outliers and their stratum is assessed based on their particular characteristics.



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Social stratification in the CPI in Colombia

The CPI in Colombia produces indices that correspond to the different structures of expenditure of households according to their income levels: low, medium, high.



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Social stratification in the CPI in Colombia

For price collection purposes, the CPI classifies its information sources in different groups:

Group 1: information sources that are located in socioeconomic strata 1, 2 and 3.

Group 2: information sources that are located in socioeconomic strata 4, 5 and 6.



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Social stratification in the CPI in Colombia

Group 3: information sources that are located in commercial areas that are affordable to all socioeconomic strata.

This classification of sources allows to obtain or classify the variations obtained for the calculation of the CPI according to income level.



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Social stratification in the CPI in Colombia

For low levels of income, the price variations that are taken into account for CPI calculation, are those from sources from Groups 1 and 3.

For medium levels of income, the price variations that are taken into account for CPI calculation, are those from sources from Groups 2 and 3.



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Social stratification in the CPI in Colombia

For high levels of income, the price variations that are taken into account for CPI calculation, are those from sources from Group 2.



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Social stratification in the CPI in Colombia

This difference between households' expenditure structures is obtained by setting some values and income ranges, according to the normalized incomes of households.

Households are ranked according to their income, from the lowest to the highest, and the 50% of the lowest households corresponds to the sample of households that will give us the expenditure structure of the low income households.



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Social stratification in the CPI in Colombia

The next 45% of households that follow this first range will give us the expenditure structure for the medium income households.

The remaining 5% of households will give us the expenditure structure of high income households.



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Exercise

The exercise was carried out:

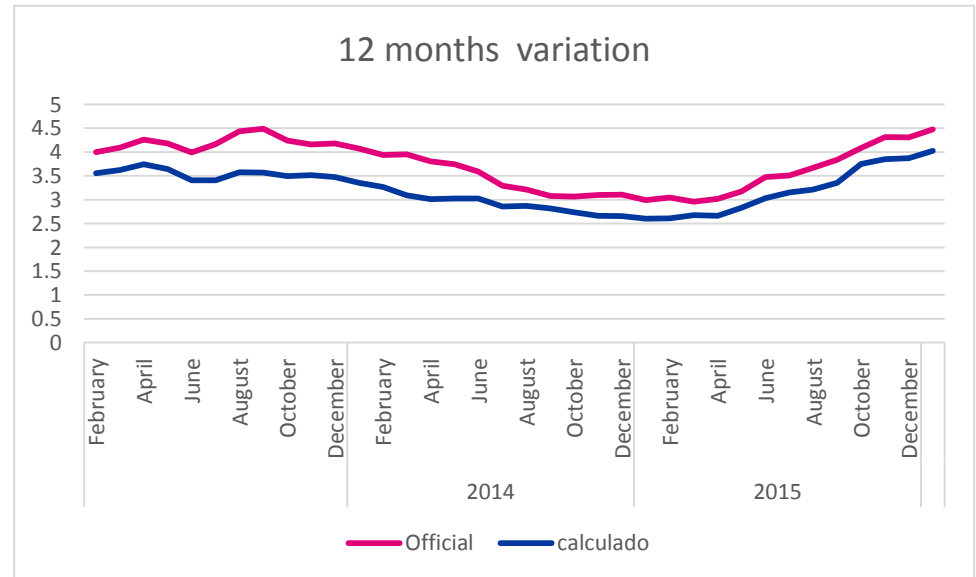
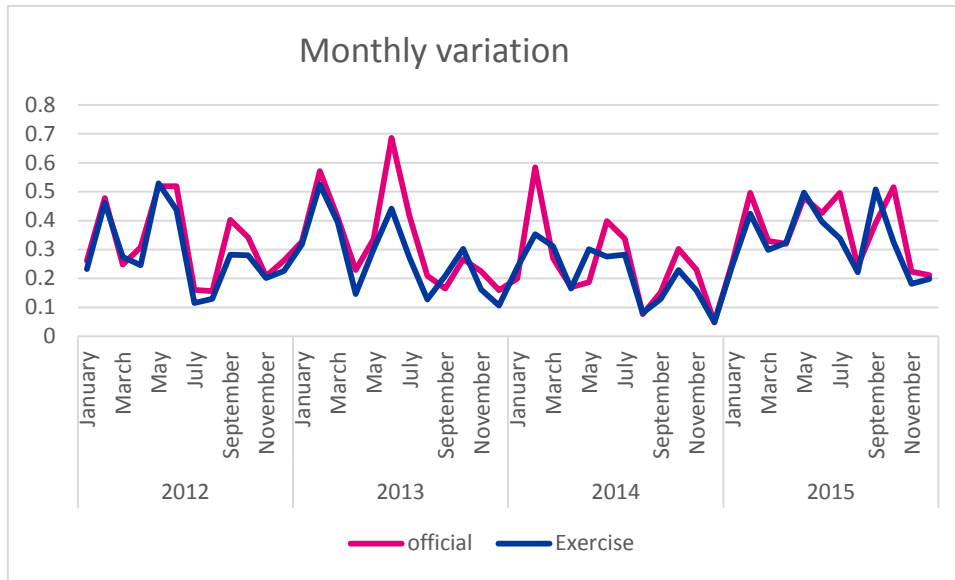
- Taking flexible shares for each income level and summing them up, based on dwelling type.
- Taking the average price variations, regardless of their group of source.



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Exercise



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Conclusions

- As we expected, the CPI aggregation based on income levels determines a higher impact of low- and medium-level prices. However, the difference in monthly variations is not higher than 1 percentage point.



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