

Comment

Income segregation in cities: A reflection on the gap between concept and measurement

Comment on “*Standards of living and segregation in twelve French metropolises*”
by Jean-Michel Floch

Ana I. Moreno-Monroy*

Abstract – In his study of twelve French metropolises, Jean-Michel Floch argues that the level of segregation, defined as the spatial separation of groups with different living standards within cities, is higher, in the city-centres as well as the suburbs than in the outer-suburbs. It is also more marked in the higher living standards. This commentary argues that income segregation in French cities is low for international standards. Based on issues around the measurement and comparability of income segregation indices, it elaborates on three issues. The first is that, contrary to popular belief, the segregation of poverty contributes little to overall city segregation, while the segregation of affluence as a large contributor remains under-debated. The second is that an empirical or normative benchmark for segregation is needed to frame the discussion around “too much” segregation. The third is that the actual degree of physical disconnection between income groups, and between income groups and city amenities and services, is not truly measured by current income segregation measures, limiting the usefulness of such measures for policy designs.

JEL Classification: A14, I32

Keywords: segregation, income inequality, city planning

Reminder:

The opinions and analyses
in this article
are those of the author(s)
and do not
necessarily reflect
their institution's
or Insee's views.

* OECD (ana.morenomonroy@oecd.org)

Received on January 12, 2018

<https://doi.org/10.187/ecostat2017.497d.1932>

The article by Jean-Michel Floch compares segregation in standards of living levels of twelve French metropolises. Segregation is understood as the unequal distribution of households between different areas of cities. The article uses a combination of two methodologies. First, it analyses segregation profiles built on 500 square meter neighborhoods based on rank order measures by standard of living percentiles, as well as their correspondent city-level aggregates across living standards groups. These indicators allow for the comparison of segregation levels across cities and their city-centres, suburbs and outer-suburbs. Second, to obtain information on the contribution of neighborhoods to segregation levels, a typology of neighborhood profiles is constructed based on the classification of the distribution of living standards by national quintiles into histograms, which range from “poor non-mixed” to “rich non-mixed” neighborhoods.

Besides the wealth of information provided in the article about the segregation situation in different French metropolises, one fact not mentioned in the article stands out: segregation levels in France are low for international standards. A recent OECD study (Veneri *et al.*, forthcoming) also uses rank order segregation indices¹ with values between 0.02 and well below 0.1 for a group of cities in OECD countries including Ireland, New Zealand, Denmark, the Netherlands, Canada, Australia, Mexico and France; between 0.05 and 0.15 for cities in the US; and between 0.1 and above 0.24 for cities in South Africa and Brazil. In the OECD study, French cities show one of the lowest values of income segregation across countries and one of the lowest variations in inter-city values on the same indicator.

It is then worth asking the question: does France present a high level of segregation in comparison with OECD comparable countries? Which level of segregation is to be considered problematic from a policy perspective? The article by Floch offers a good opportunity to reflect more generally about the gaps between the concept and measurement of income segregation. In this commentary I will elaborate on three issues. The first is that average segregation levels are by no means indicative of the segregation of poverty. The second is that there is a need for a clear benchmark when analyzing segregation levels, which is currently lacking. The third is that although income segregation is fundamentally a spatial phenomenon, the tools used to analyse it do not have a truly

spatial component, often hiding inequalities in access.

While income segregation and the segregation of poverty are wrongly assumed to be the same in the public debate, the segregation of affluence remains insufficiently debated

The article by Floch rightfully and clearly points out at the difference between income segregation and the segregation of poverty. Implicitly or explicitly, when talking about segregation in general public and policy circles alike, the concept tends to be directly and unequivocally associated of those at the bottom of the income distribution, when in reality income segregation measures are often averages constructed for the entire income distribution. In fact, in many cases segregation indices averaged over the entire income distribution are more a reflection of high segregation levels of high-income households. In this sense, the identification made by Floch of different profiles based on the shapes of plots of income percentiles versus income segregation values is a welcome addition to the analysis. These profiles are informative about segregation levels experienced by each income group, which can be highly different at the extremes of the distribution in comparison to the mean value. It is worth mentioning at this point that the lack of statistical information for households at the extremes of the distribution may affect the shape of this curve, particularly if there are groups with no registered income (e.g. homeless or other itinerant populations), or restrictions on information beyond a certain level of income.

On a more general note, studies usually list the consequences of segregation on the poor to justify the study of segregation, disregarding the possible consequences of the segregation of affluence, consequently excluding cross-group effects such as public service provision skewedness. Floch’s finding that segregation is more pronounced for higher levels of affluence across the cities analysed is in line with recent evidence in studies using a similar index of segregation for developed countries such as Canada, United States and New Zealand (Veneri *et al.*, forthcoming), as well as for cities

1. Based on 1000 m scale (instead of 500 m scale) and calculated at the level of Functional Urban Areas, which comprise urban cores and surrounding commuting zones (OECD, 2013). It is worth noting that a larger radius on a neighborhood definition mechanically results in lower segregation indices (Reardon & O’Sullivan, 2004).

in developing countries, for instance in Hong Kong (Monkonnen & Zhang, 2014) and Brazil (Moreno-Monroy, forthcoming).

As rightfully pointed out by Floch, this is a finding that has yet to permeate the public debate that tends to equate income segregation with the segregation of poverty. The explanation for the segregation of affluence is not limited to group behaviour, and is also related to other reasons such as the existence of localized amenities (e.g. cultural amenities) (Brueckner *et al.*, 1999) or inequalities in service provision (e.g. quality of public transport, street cleaning, safety, etc.). There is a certain stigma associated with the debate on the segregation of affluence which is perhaps associated with the view that the wealthy segregate purely based on “homophily”. Such arguments are difficult to substantiate empirically and leave little room for policy designs. A more promising approach to the study of the segregation of affluence is on understanding the existence and reach of club-type of effects, where high spatial concentrations of wealthy households can tip off the balance in the provision of public services against other income groups (Tiebout, 1956).

There is no benchmark for establishing how much segregation is “too much” segregation, especially in large cities in developed countries

As mentioned earlier, the existent empirical evidence supports the view that income segregation levels in French cities are low for international standards. Technically speaking, the rank order segregation indices, a measure of the family of information theory indices, vary between zero and one, with zero indicating no segregation. Unlike other indicators with less desirable properties, such as the dissimilarity index, it does not have a simple interpretation (Reardon & O’Sullivan, 2004). However, this does not mean that its interpretation is only limited to ranks, as distances between values within the range are telling about observed differences in levels. For instance, it is clear that Brasilia, a city with an indicator of 0.35 for a 500m neighborhood definition (Moreno-Monroy, forthcoming) is far more segregated than Montpellier, an urban area with an indicator of 0.103, and that it is more difficult to infer actual differences in segregation levels between Montpellier and Bordeaux, which has an indicator of 0.096. In other words, the fact that the empirical exercise is made for cities in one country does not rule

out the comparison of the levels of the indicator and the absolute differences between the cities analysed, which may be hidden in an interpretation based on rankings.

In any case, some may argue that segregation levels in France are higher than what is currently socially desirable. How much segregation is “too much” segregation is certainly a normative question intrinsically linked with a similar question for inequality levels, being that residential segregation is the spatial expression of income and wealth inequality levels. Of course these questions have no direct answer. Nevertheless, any evidence on the effect of segregation of groups at the bottom and top of the income distribution can help discern when segregation can be doomed as problematic.

That being said, an alternative empirical approach to establish an empirical benchmark for segregation levels, which can be then used to discern statistically significant differences in segregation levels, has been proposed by Louf and Barthelemy (2016). They build a benchmark based on the theoretical case of an unsegregated city, which is one where all households are distributed at random over the urban space. Given the properties of the function adopted in the theoretical model, the over- or under-representation of a certain group in a neighborhood in a city is defined based on confidence values of the normal distribution. The measure of segregation proposed by Louf and Barthelemy is interpreted as (statistically) significant deviations from the unsegregated case. Whereas such a framework has not been adopted for studies using segregation measures of the rank order type, it allows for a reflection on the meaning of significant differences in segregation and the limitations in the interpretation of the magnitudes of information theory indices when values are relatively small and the variation across cases very narrow, as in the case of France.

An interesting insight that arises from the analysis of Louf and Barthelemy is that neighborhoods become more “coherent” as cities grow, which can partly explain why segregation increases with urban size. The argument is that as cities grow they become more complex, allowing for more sophisticated pockets (e.g. areas with a specialized building types that caters a particular groups) that in measurements translate into the concentration of more homogeneous groups. Given this, the initial question of “how much segregation is too much segregation” extends then to “how much segregation

is tolerable for cities of different sizes”. To correctly answer this question, one would ideally measure the level of segregation related to size (scale) and that related to other factors, especially those related to policies which constrain spatial sorting within large cities. This is probably not feasible but it is useful as a reminder of the need for suitable benchmarks when evaluating segregation.

Regarding the question of urban size and segregation, Floch’s article correctly considers the entire urban area, which includes the core and suburban areas. This is a welcome addition to the French evidence, in line with the recent work of Veneri *et al.* (forthcoming) on income segregation measures at the Functional Urban Area (FUA) (OECD, 2013) across cities in selected OECD countries. Along the lines of arguments of increased complexity in urban agglomerations and their relationship with segregation, urban systems are not limited to urban cores and the right unit of analysis should be therefore the FUA or a similar unit. As segregation is a process that applies to the entire urban system, while comparing differences in segregation levels between different components of urban areas is informative, it is clear that changes in residential sorting at any part of the city have consequences for the entire urban system, for which future analysis on the temporal change of segregation indices are more meaningful at the level of the urban area than at local area level.

Although segregation is often related to being far from “where things happen”, segregation indicators do not measure the level of physical disconnection between income groups, or inequalities in provision between poor and affluent areas

In the public mind, segregation is often associated with poor households being “stuck” in low quality neighborhoods which besides being homogenous in terms of levels of income, are located far away from action centres or places “where things happen” – things being cultural entertainment, quality education, quality jobs, higher urban services, parks or other social and cultural amenities. However, segregation measures are silent about the actual physical distance

between social groups within the city, and the relative location of poor households with respect to urban amenities and services. In other words, the indices only point at the existence of spatial separation, in the sense that particular income groups live in “different” areas of the city, but is insensitive to whether these areas are located at 1, 5 or 25 kilometres from each other, or whether the areas concentrating the affluent have exclusive access to certain amenities and services in the city.

This is an issue that is often misunderstood in the literature because of the existence of so-called “spatial” indices of income segregation (Reardon & O’Sullivan, 2004). In this literature, “spatial” relates to the definition of neighborhoods and related analysis on the scale of segregation (macro versus micro) (Wong, 2004), but not with the idea of physical distance between groups or between certain groups and unequally distributed amenities and services in the city. In his article, Floch acknowledges this limitation of segregation measures and subsequently complements the analysis of segregation indices with a mapping approach, which allows visualizing the concentrations of households with low and high living standards. While informative as a neighborhood characterization exercise, a visual analysis of segregation can be misleading since it does not represent differences with respect to the average neighborhood, which is what segregation indices intend to capture, and have no clear benchmark for comparison.

Perhaps the interesting analysis on neighborhood profiles developed by Floch could be extended to understand the difference in the amenities and access that these different types of neighborhoods offer, as a way to bridge the gaps between what non-mixed wealthy neighborhoods offer in comparison to other neighborhoods, instead of focusing on the occurrence of more social mixing *per se*. For policy purposes, segregation indicators and visual representations can be combined with simple measures indicating difficulty of access, excessive commuting, lack of access within a reasonable commuting time (by public transport) to amenities and higher services, access to high-quality public education, etc., to fully understand the issues related to the geographic concentration of certain income groups within cities. □

BIBLIOGRAPHY

- Brueckner, J.K., Thisse, J-F & Zenou, Y. (1999).** Why is central Paris rich and downtown Detroit poor? An amenity-based theory. *European Economic Review*, 43(1), 91–107.
doi.org/10.1016/S0014-2921(98)00019-1
- Louf, R. & Barthelemy, M., (2016).** Patterns of residential segregation. *PloS one*, 11(6), p.e 0157476.
doi.org/10.1371/journal.pone.0157476
- Monkkonen, P., & Zhang, X. (2014).** Innovative measurement of spatial segregation: comparative evidence from Hong Kong and San Francisco. *Regional Science and Urban Economics*, 47, 99–111.
doi.org/10.1016/j.regsciurbeco.2013.09.016
- Moreno-Monroy, A.I. (Forthcoming).** Income Segregation in Brazilian Cities: The role of vertical neighbourhoods. In OECD. *Divided cities. Understanding intra-urban inequality*. Paris: OCDE.
- OECD (2013).** Definition of Functional Urban Areas (FUA) for the OECD metropolitan database. Paris: OCDE.
- Reardon, S.F. & O’Sullivan, D. (2004).** Measures of Spatial Segregation. *Sociological Methodology*, 34 (1), 121–62.
doi.org/10.1111/j.0081-1750.2004.00150.x
- Tiebout, C.M. (1956).** A pure theory of local expenditures. *Journal of Political Economy*, 64(5), 416–424.
doi.org/10.1086/257839
- Veneri, P., Comandon A., Daams M. & García-López, M.À. (Forthcoming).** Divided Cities: Understanding Income Segregation in OECD Metropolitan Areas. In OECD. *Divided cities. Understanding intra-urban inequality*. Paris: OCDE.
- Wong, D.W. (2004).** Comparing Traditional and Spatial Segregation Measures: A Spatial Scale Perspective. *Urban Geography*, 25(1), 66-82.
doi.org/10.2747/0272-3638.25.1.66.

