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# When metropolitan consumption reshuffles the economic opportunities in the Paris Metropolitan Area

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## Summary:

Still focus on the production side, we neglect consumption as an important redistribution mechanism in a world where consumers are relatively foot-free. The process of metropolisation changes the way territories deal with them and take part in the metropolitan economics. Recent papers which talk about “consumer city” and “consumption amenities” give a more important role to the metropolis as a consumption center to explain economic performance. Hinterland plays probably a great but yet neglected role in the success of the metropolitan economy. Conversely the metropolitan process certainly helps suburban economics. The economic reshaping of intra-metropolitan activities also concerns consumer services. That’s why some peripheral communities are now in position to count on local consumption to grow.

We try to understand how the metropolitan consumption can affect positively suburban economics by raising local-serving jobs. Keeping a great attention on the economic base theory, we identify local-serving activities by assignment method. We also use cross-referencing data to estimate the amount of euros spent across the metropolitan area. Afterwards we can trace the evolution of the spatial distribution of local-serving jobs and the performance of different spaces in the metropolitan area.

That shows that urban sprawl raises employment not only for the outer-suburb by a ‘catch-up’ effect but also in the inner part where a huge supply of goods and services can meet unfulfilled needs of the outer one. It’s finally a question of economic relationships between Paris and its inner-suburb, and the whole agglomeration and the low-density metropolitan spaces.

**Keywords:** economic geography, urban economics, metropolisation, community economics, Paris

## Consumption as a driver of community economics

When people talk about metropolis, they think about London, New-York, Shanghai or Los Angeles. American geographers probably think also about 'new economic geography' and cities as powerful engines of growth. You know: Specialization, Concentration, Competitiveness, Innovation and so on... In a few words, it seems hard to meet growth if you're not a big city with metropolitan or supra-urban functions jobs.

Productive theories can't explain why some communities meet development far from metropolis or just around them. By development, we talk about an increase of jobs, income and/or population. In France, Davezies shows that only 20% of local income comes from production for employment area as well as metropolitan areas. In other words, 80% of regional income have been made by redistributive mechanisms as public employment or social transfers, but above all by residential economics (Talandier, 2007; Davezies, 2008). Residential economics is the capacity of some communities to attract tourists or inhabitants earning money elsewhere. In US, Markusen also demonstrates that rural communities can use local consumption to drive their economy. A change in the local structure of consumption can indeed promote import substitution and reduce money outflows. It's an alternative way to the export base variant of economic base theory (Williams, 1997; Markusen, 2007).

### *Slide 2: Background of the study*

Consumer cities (Weber M, Glaeser E...), Consumption amenities (Rappaport J, Scott A...)



Vancouver      Royal House Opera in London      Las Vegas

Consumption base (Williams CC, Markusen A...), 'Residential economics' (Davezies L, Talandier M...)



Center Parcs (France)      Sardinia (Italy)      Alberta (Canada)

The same is true for cities and metropolis. Glaeser clearly correlates growth with the capacity to be a pleasant place to live and consume. A place where we can find some rare facilities as theater or cinema (Glaeser & al, 2001). It's something particularly present in consumption and urban amenities works (Rappaport, 2008; Scott, 2009).

However the metropolisation process also transforms how submetropolitan spaces interact and participate to the metropolitan economics. Metropolitan area simultaneously amplify the concentration of wealth (if you consider the birth place of wealth) and its dispersion (if you consider where people sleep and keep wealth). Indeed commuters contribute to moving wealth from their workplaces to the residential areas where they live. Metropolisation is clearly a process driven by people and their mobility choices. Community economics too. That's why it's important to consider where consumers spend their money. When we shop or when we go to cinema far from the place where we live, we create transfers of wealth. In order to improve our knowledge about that, I have investigated the way of measuring where money goes and how much goes. So what is the impact on local-serving jobs growth? And what the money flow tell us about metropolisation?

## Methodology

To do that I used different methodologies. In short, I firstly made a cross data analysis. A regional travel survey in one hand. A household budget survey in the other hand. The purpose of the operation is based on a backward elimination regression to predict the consumption budget of regional travel survey households. Then I can distribute money flow by shopping trip.

*Slide 4: Significance t-test of predictor variables*

Subjects	Variables	Coefficient (t-test)
Model	Constant	1.91103 (6.38)
Household	No. secondary school graduate components	0.05211 (2.25)
	No. adults	0.11109 (5.81)
	Debt rate	0.00288 (3.74)
	Income	0.70444 (24.47)
	Home owner	0.12189 (2.78)
	No. employees	-0.10899 (-2.30)
	Living < 5 years	0.15833 (2.78)
	Living > 30 years	0.15160 (3.09)
	< 50 sqm	-0.11873 (-2.57)
	74-100 sqm	0.08133 (1.97)
100-150 sqm	0.12119 (2.71)	
Head of household	35-54 years old	-0.16716 (-3.73)
	55-64 years old	-0.40921 (-6.74)
	> 65 years old	-0.46689 (-7.77)

No. Observations : 12,087

SAS Software

R<sup>2</sup>=0.5293

R<sup>2</sup> ajust.=0.5272

As we can see on the table, all the variables of the model are significant. The t-test is always greater than 1.96. And the row square is 0.53. A good one for this kind of model.

Secondly we use an employment data base and an assignment method to analyse local-serving growth. We choose assignment method for its flexibility. We doesn't really look

for domestic jobs but rather all jobs meeting consumers no matter if the consumer is an inhabitant, a tourist or something else. By local-serving jobs, we obviously mean retail activities, restaurants, cinema and so on.

Metropolitan consumption introduces the idea that inhabitants of any submetropolitan space spend money not only in the submetropolitan space where they live but in the metropolitan area as a whole. Indeed the slide show you that 34% of the furthest inner suburb money inflows come from passing trade and 29% for the closest outer one.

That is significant! Particularly if you consider that the outer suburb doesn't have a production edge. So any money inflow make the difference for community economics. However it's not the case of the closest inner suburb because of the sandwich effect provide by its geographic situation, between the huge supply of core city and the increasing one of the furthest inner suburb. No surprise. Everyday purchases concern to a lesser extent the metropolitan consumption then exceptional one, entertainment, leasure or restaurants purchases.

In short, metropolitan consumption provides an additional trade for local market, particularly for the furthest inner suburb and the closest outer one.

### **Metropolitan consumption as a key to an additionnal trade for local market**

Consider the weight of passing trade in regional economics is well but it tells us nothing about the attraction of submetropolitan spaces. Do they earn money from passing trade faster than their inhabitants spend their money elsewhere? How can you see, Paris earn 247 euros from passing trade for a loss of 100 euros. No doubt that Paris is a consumer city. But the furthest inner suburb follows closely Paris with a gain of 203 euros for 100 euros lost. This two submetropolitan spaces have a clear lead when others making losses. Paris is more specifically attractive for entertainment, leisure and restaurant when the furthest inner suburb makes the difference by everyday and exceptional purchases. In short, Paris providing more consumer services and furthest suburb more manufactured goods.

*Slide 5: the weight of the regional passing trade in local market money inflows considering the type of purchase*

Metropolitan spaces subclasses	Everyday purchases	Exceptional purchases	Leisure / Entertainment	Restaurant purchases	All purchases
Paris	6	32	30	53	31
Inner suburb (<20 km)	4	14	10	24	12
Inner suburb (>20km)	14	40	21	37	30
Outer suburb (<50 km)	8	19	25	44	17
Outer suburb (>50 km)	19	36	36	39	32
<b>IdF</b>	<b>8</b>	<b>26</b>	<b>21</b>	<b>40</b>	<b>23</b>

Source : EGT 2001, BDF survey 2001

So metropolitan consumption reveals that submetropolitan spaces perform differently on passing trade. Consumption is not captive of where we live but depends on linked spaces where we can deeply satisfy our needs.

## Metropolitan consumption as a revealing process of different capacity of attraction and linked spaces

No doubt that much money inflow creates more local-serving jobs. It's a good reason to look at the density per inhabitant. Contrary to the previous work, we used the updated frontiers of Paris metropolitan area to define two additional metropolitan spaces: new inner and new outer suburb. New suburbs mean that such spaces don't take part of the metropolitan area in 1999 yet.

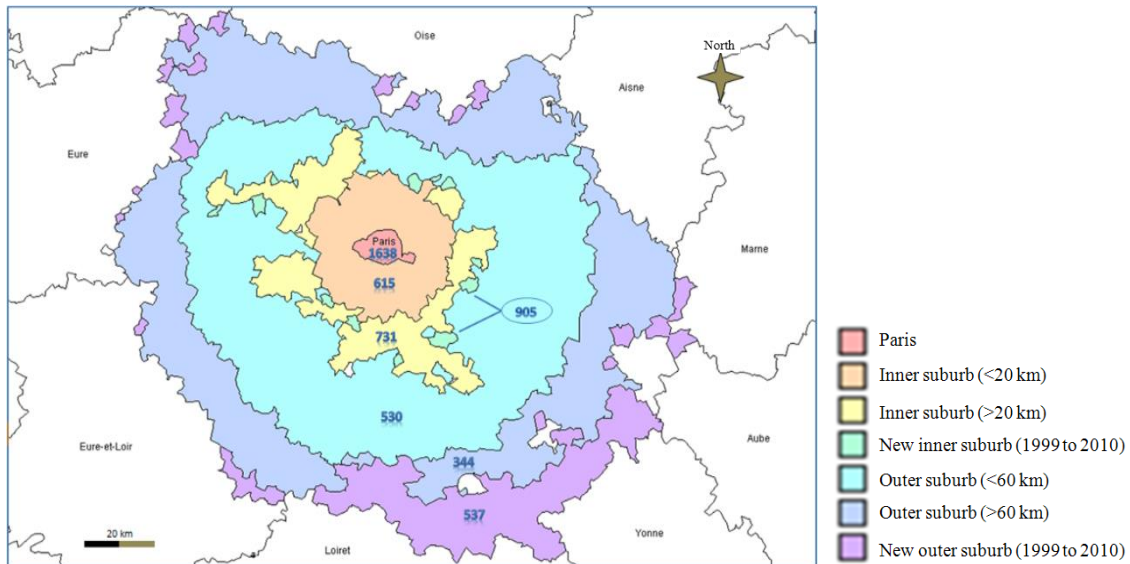
*Slide 6: Everyweek capturing euros from passing trade when inhabitants are spending €100 outside the subclasse space where they live*

Metropolitan spaces subclasses	Everyday purchases	Exceptional purchases	Leisure / Entertainment	Restaurant purchases	All purchases
Paris	112 €	412 €	371 €	715 €	431 €
Inner suburb (<20 km)	81 €	42 €	40 €	39 €	44 €
Inner suburb (>20km)	152 €	163 €	69 €	59 €	124 €
Outer suburb (<50 km)	40 €	14 €	60 €	37 €	22 €
Outer suburb (>50 km)	59 €	60 €	119 €	36 €	56 €
<b>MS Mean</b>	<b>89 €</b>	<b>138 €</b>	<b>132 €</b>	<b>177 €</b>	<b>135 €</b>

What's particularly interesting here is the fact that new suburb have a higher density of local-serving jobs per inhabitant than any other neighbouring suburb. That is also where largest increase of local-serving jobs share is recorded. For its part, Paris maintains its leadership as the historical consumption center of the metropolitan area with more than twice the average density. Conversely, the closest inner suburb is below the average density. As we noted above, the sandwich effect which affect it explain than less people spend their money and why less local-serving jobs are available.

### Local-serving jobs contribute to a catch-up effect of suburbs

Mainstream economic theories assert that local-serving jobs are rather common than rare, rather dispersed than concentrated. It's mostly true but if we consider the metropolitan ratio of local-serving jobs per inhabitants, we can see that Paris over-concentrate more than 40% jobs. It's the same for the furthest inner suburb and recently for the new inner one. New inner suburb even overpasses Paris in 2008 with a surplus of 52% local-serving jobs!



Overall, the metropolisation process is favorable to a local-serving catch-up effect. In the past, local-serving jobs didn't grow as quickly as population. But during the considered period here, there is a catch-up effect and local-serving jobs grow faster. In this way, in French metropolitan area, new inner suburbs reduced its delay by 9% between 1998 and 2008. The outer suburbs do it by 2%. The new one by 7%.

Metropolitan spaces subclasses	Local-serving jobs over/under-representation		
	1998	2008	Δ 98-08
Paris	+44%	+42%	-2%
Inner suburb (<20 km)	-16%	-18%	-2%
Inner suburb (>20 km)	+3%	+7%	+4%
New inner suburb (1999 to 2010)	-8%	+52%	+59%
Outer suburb (<60 km)	-32%	-30%	+2%
Outer suburb (>60 km)	-50%	-49%	+2%
New outer suburb	-18%	-10%	+7%

Source : Emplois Unedic

Nonetheless, suburbs remains under-supply. Even if there is a catch-up effect, it's still far from sufficient to fully satisfy the local demand.

### Local-serving jobs raise the specific performance of Paris and its furthest inner suburbs

Let us now split growth by a convergence hypothesis factor where the local-serving jobs density was supposed to meet the metropolitan area average. The convergence situation is obviously caricatural but the convergence factor makes sense to take account of the catch-up force leading to bring local-serving jobs closer to inhabitants.

Metropolitan spaces subclasses	$\Delta$ growth 98-08	$\Delta$ convergence hypothesis	$\Delta$ residual share 98-08
Paris	14%	-20%	34%
Inner suburb (<20 km)	10%	35%	-24%
Inner suburb (>20 km)	18%	11%	7%
New inner suburb (1999 to 2010)	<b>99%</b>	31%	<b>68%</b>
Outer suburb (<60 km)	23%	76%	-53%
Outer suburb (>60 km)	23%	<b>141%</b>	-118%
New outer suburb	29%	44%	-15%

Source : Emplois Unedic

That's why Paris which over-concentrate consumer services is mechanically sanctioned by a negative convergence factor (-20%). However this is more than offset by the residual growth rate (+34%). Paris consumer city is such strong that consumer services still grow up despite of local-serving jobs are already over-represented. No doubt that Paris have a consumption edge.

Only the furthest inner suburb, old one or new one, create also more jobs than required by convergence factor. During the last decades, furthest inner suburbs provide most of the metropolitan shopping centers. It's also here than Eurodisney attraction park take place. Among submetropolitan spaces, with Paris, it the most attractive one for consumers.

Shortly, put differently, the catch-up effect explain no more than 60% of the local-serving growth of furthest inner suburb. So the 40% of the remaining growth is probably the fact of passing trade and the ability of this space to provide attractive places for consumption.

Conversely, the convergence factor seems to be the main component of local-serving jobs growth for outer suburbs.

## Conclusion

In closing, metropolisation process seems to provide opportunities for suburbs to compete with Paris for metropolitan consumption. Metropolitan consumption is a key component for community development by providing an additional trade for local market and creating more local-serving jobs. Therefore, some communities with no production edge are able to attract consumers from all around the region.

However not all the suburbs can compete with Paris. Outer suburbs take mostly advantage of a catch-up effect to favor import substitution and reduce money outflows. But the furthest inner suburb, not too far not too close to Paris, clearly targets metropolitan consumption by the creation of regional shopping center and attraction or recreation parks as Eurodisney.

In this way, metropolitan consumption reshuffles economic opportunities between sub-regional spaces.

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