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Determinants' Analysis of the Perception of the Sidewalk as a Public Good in Cotonou

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Abstract

This paper aims to study the determinants of the perception of the sidewalk as a public good in Cotonou. In fact, some economic agents' behavior towards the sidewalk leads to think that it is not a public good. To highlight this problem, an estimation of a Logit model has been done over a random sample of 373 agents who work close to sidewalks. Results show that people admit the sidewalk as a public good. In addition, the determinants of the perception of the sidewalk as a public good are: (i) the education level of agents, (ii) the costs of space occupation, and (iii) the fact that they share the sidewalk with pedestrians. The third determinant shows that the non-exclusion is not total and the sidewalk is not a pure public good. For the sidewalk to be a pure public good, an optimal management model should be developed for good use of sidewalks.

Keywords: Logit model, Costs of space occupation, Sidewalk, Public good, Cotonou.

Classification JEL: C25-H30-H41

1. Introduction

Based on Samuelson (1954), it is reiterated that the problem of offsetting the effects of economic activities falls within a framework for analyzing public goods or collective goods (Guerrero, 2013). Thus, the good is considered as collective when its consumption by an individual does not reduce the quantity available to another individual. For Bontems & Rotillon (2007), many environmental goods are public goods and some of them are produced in a decentralized way, while others are provided by the government.

Addressing the question of public spaces involves considering a certain type of goods namely 'public goods'. First, the concept of public space can be perceived differently. According to Tassin (1991), the public space is perceived as an adjoining interval and not as a relation of distance. For this author, the fundamental characteristic of public space is the intervallic dimension in which individuals are close to each other. In the same direction as that author, Chelkoff & Thibaud (1993) show that the design of urban forms postulates that a space is public when it is open to all, and every individual may be physically in and circulate freely. Considering the space in the same way as these authors, the intervallic dimension of space has the characteristics of a public good. Thus, in the use of this space, there is neither rivalry nor exclusion.

In general, public goods are non-market goods whose consumption does not require a currency exchange. In this situation, no agent is excluded from the consumption of this good and there is no rivalry. But in African economies and in Benin in particular, the spaces provided by the government such as sidewalks or pedestrian crossings and streets seem not to have the characteristics of a public good in the big cities. Leimdorfer (1999) shows that the physical public space in Abidjan is occupied by informal trade. This situation leads to conflicts between various actors. Indeed, some users are deprived of the use of public spaces. Some economic agents who work along the curb of sidewalks occupy the entire part of the sidewalk in front of their normal location.

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This makes it difficult for pedestrians to move. Therefore, sidewalk users are deprived of the use of that good, and are forced to walk on the roadway, causing them to be exposed to the risk of accidents. The usual behavior adopted by the economic agents installed at the edge of the sidewalks facing this space suggests that this good is private. This is what Gbetanou (2010) shows, referring to the case of the city of Lome in Togo, where the sidewalk is used by some agents for their activities. Thus, one wonders whether people consider a particular public good of the environment as a private management or not. In other words, how do agents perceive this type of good which is the sidewalk?

Facing this reality, it is normal to try to understand how people perceive the good "sidewalk" and what are the determinants of this perception?

In this paper, we are interested in people's perception about the sidewalk which is a particular public good of the environment. In fact, the occupation behavior of some users towards the sidewalk leads to think that it is considered is private good.

From all the above, the goal of this paper is to analyze the determinants of the perception of the sidewalk as a public good according to people who work along the edge of sidewalks in the city of Cotonou in Benin. Specifically, we aim to appreciate the effect of the education level on the good's probability of perception and secondly, to measure the effect of the average number of police or local authorities' controls as well as the payment of occupation costs on the good's probability of perception.

This paper is one of the scarce researches in Benin on how certain economic agents use the sidewalk. The rest of the paper is organized as follows: the second section is devoted to a literature review; the adopted methodology is described in the third section; the fourth section presents the results, an analysis and a discussion. The last section is the conclusion.

2. Literature Review

The provision of most public goods is often attributed to the Government. This option has been controversial among some economists especially neo-institutionalists (Goldin, 1977; Coase, 1974). It's still within the scope of the debate raised by these authors that Depres & al (2005) provide some extensions to the new institutional economics relating to the production of public goods. For these authors, the supply of such goods may be provided by a non-government institution and especially when it is about environmental goods. Thus, although the supply of public goods raises debate, environmental goods such as public spaces are provided. Once these environmental public goods are produced and in view of their characteristics of non-market goods, the problem of effective management that can ensure the non-exclusion of an agent remains in specific cases. According to the economic theory, public goods are goods for which the use of an agent must not affect that of another agent; and their use does not exclude anyone.

Desjeux & al. (2011) come back on the concept of public goods but in the agriculture field. Indeed, these authors state that agriculture provides public goods that are environmental goods. For these authors, public goods provided by agriculture have various degrees of non-rivalry and non-exclusion, because we observe varying degrees of the public nature of these goods. Indeed, public goods can be either "pure" public, "impure" public or "club" goods. Whatever the category of these goods, the non-rivalry nature is respected; but the non-exclusion is only assured for "pure" public goods.

Gbetanou (2010) showed that the sidewalk has become for many Lome citizens a principal place for their activities, diverting it from its function and its first use, which is to allow pedestrians to pass. This situation poses a problem not only in the public management and urban planning, but especially in terms of urban governance, considering the negative impact that such practices have on residents and passers. Indeed, this phenomenon of congestion and occupation of public spaces generally and sidewalks in particular, makes foot traffic difficult. This occupation of the sidewalk forces pedestrians to walk on the roadway traditionally reserved for motorists. Note also that these sidewalks are contaminated by motor oil and liquid waste, where there are repairers of cars or motorcycles and tyres. Added to all this, noise nuisances caused by bar owners and refreshment bar, tape sellers, mechanics, welders, scrap dealers, etc., make the environment noisy. We realize in that situation the presence of the exclusion principle in the use of public goods, contrary to the definition of Samuelson (1954), while we are not even in the case of "club" goods where exclusion could to be made by fixing the price or membership fees (McNutt, 1996).

Given the degree of these inconveniences, the municipal authorities with their financial services can control and regulate the use of such good by conducting a census of occupants and by taxing them. Finally, the functions that these spaces were originally intended for are diverted for other purposes that the municipality endorses as profitable sources of revenue. Consequently, these goods become private goods (with rivalry and exclusion). This is also why Hummel (1990) thinks that there are few remaining examples of pure public goods rather defined as public externality.

Moreover, as notified by Ghorra-Gobin (1993) and reiterated by the Goix & Loudier-Malgouyres (2005), the public space is considered as a "space created and maintained by a public authority and accessible to all" and it can be seen as a common good under the responsibility of public policy communities. From the perspective of these authors, the sidewalk is considered as a common good. But the facts that its use is not restricted to a particular community, its features go beyond this type of good. By focusing on the case of global public goods and international cooperation, Gabas & Hugon (2001) come again on the elements that fundamentally determine the types of goods. Really, they recall that non-rivalry and non-exclusion are the characteristics of public goods.

Landis & al. (2005) find that the quality or nature of the sidewalk is an important element of safety and satisfaction for pedestrians. This nature of sidewalks seems to easily explain the occupation of the latter by the activities developed in their vicinity, especially in most cities in Africa. Frackelton & al. (2013), in order to measure the pedestrian potential recall one of the characteristics of the sidewalks evoked by Marshall and Garrick (2010) which consists in reducing the pipes on the roads. Thus, sidewalks are seen as a mode of the road network and therefore should not exclude any user; which is one of the determinants of this transport infrastructure.

Wang & al. (2012) developed a model to explore the determinants of pedestrian satisfaction with sidewalks. Indeed, they conducted a survey on the emotional perceptions of 20 sidewalk environments with 105 participants. These authors have identified two perception factors namely harmony and openness. Starting from a satisfaction model, they show that the physical components have greater indirect effects on the overall satisfaction of the sidewalk environments, through the emotional components, than the direct effect. These results obviously suggest that sidewalk environments are a determining factor in giving a public good character to these pedestrian infrastructures. A congestion of the latter by economic activities that take place in its vicinity and sometimes extend on these sidewalks, seems to give a character of private good to these spaces.

3. Methodology

This article analyses the perception of the nature of the relevant environmental good by considering the economic agents who work along the curb of sidewalks in the Cotonou city because of the size of the problem mentioned above. To get information on these agents, a survey is required.

3.1. Sampling

The survey that allowed the collection of data covered the thirteen districts of the Cotonou city. In consideration of the lack of a database relating to the units considered for this survey, we proceeded as follows: (i) we have identified in each district two roads where the sidewalks are visible (a 40 lane and a standard lane); (ii) statistical units are chosen randomly along these roads; (iii) fifteen units are selected along each road in accordance with budgetary constraints. In short, thirty individuals were interviewed by district; and the size of the sample selected is 390. When we consider all the roads and streets in the Cotonou city, many activities are carried out on the edge of sidewalks during the day as well as at night. From this point of view, the population considered is large. Thus, the sample size selected with a 95% confidence level corresponds to an absolute error of 0.05061 or about 5% (see Ardilly 1994).

The statistical units are the economic agents installed along the curb of sidewalks for their activities. The questionnaire used for this survey includes two parts. The first part describes the characteristics of the statistical units while the second part is based on issues related to the perception of the sidewalk as a public good and its occupation constraints. This questionnaire, developed at the « Centre de Recherche en Economie Appliquée et de Management (CREAM) » of the « Ecole Nationale d'Economie Appliquée et de Management» in Benin, benefited from the expertise of statisticiens from the « Institut National de la Statistique et de l'Analyse Economique (INSAE) ». They helped us develop a reliable questionnaire. Its pre-test has revealed no major abnormalities. The administration of the final questionnaire occurred from August 19 to August 25, 2014.

3.2. Variables

Dependent variable:

The dependent variable in the context of this paper is the perception of statistical units about the good "sidewalk" (PERCEPT)

PERCEPT: It reflects the perception that the agent has of the type of good which is the "sidewalk". Does the agent recognize the good as "public good" or not? Therefore, this variable is binary. This is to analyze the likelihood of the perception of the sidewalk as a "public good". This variable is set to 1 if the individual recognizes the sidewalk as a public good and as 0 otherwise.

Independent variables:

The different variables that might explain the variable PERCEPT are economic as socio-demographic variables:

NIVIN: The educational level of the agent is a variable that allows them to provide a certain assessment of the good. More the individual is educated, more likely they are to perceive the sidewalk as a public good. Four terms are considered (primary, secondary, higher and none).

AGE: the age of the individual is an important variable. More the individual is aged, more the probability of perceiving the good as public would be high because of the experience they accumulated over time.

DOT: the daily duration of sidewalk occupation. More the occupation time of the curb per day is high, less the individual would be likely to consider the good as public. When the individual occupies a part of the sidewalk all day long without being frequently bothered, their likelihood of perceiving the sidewalk as a public good will be low.

SEX: the gender of the agent is a variable that shows whether or not men have a greater likelihood of perceiving the good as public than women.

TPAL: the time spent in the individual's activity during the survey. When TPAL is long, with no repression, the individual's likelihood of perceiving the sidewalk as a public good will be very low. The occupation time at their work place allows the individual to understand how the sidewalk is used, and from this point of view, considering it as a public good is very likely.

NPPOL: the average number of times police or municipal authorities pass by a month for a warning about the occupation of the sidewalk (declared by the respondent). For this variable, when this number is high, the individual will have a higher likelihood of perceiving the good as public.

NIVCTB: the understanding of the individual of the public good. When the individual has a good understanding of the public good, their likelihood of perceiving the sidewalk as a public good would be high. In consideration of that, a contingent scenario (see box below) is described in the assessment of the individual's understanding. According to the scenario, if the individual chooses the "Item 1" for the situation 1 and "Item 2" relative to the type of the good for the situation 2, so he has a good understanding of the types of good; otherwise he has a bad understanding..

OCPTRO: this variable represents the recognition by indicates whether the individual recognizes that their activity occupies a part of the sidewalk. This recognition contributes positively to perceiving the sidewalk as a public good.

FOC: this variable indicates whether the individual pays occupancy costs. The payment of fees may lead the individual to consider that he pays periodically a price for the temporary use of the sidewalk, and therefore can understand that the sidewalk is a public good. Thus, paying a fee for the occupation of public space will increase the likelihood of perceiving the sidewalk as a public good.

GENP: this variable takes into account the discomfort felt by the individual because of pedestrians. It indicates whether the individual is bothered by pedestrians. This is a dichotomous variable that shows a presence of rivalry in the use of the good. It has a positive effect on the probability of perceiving the sidewalk as a public good.

PART: This is a variable that indicates the absence of exclusion. It is dichotomous and indicates whether the individual agrees that a part of the sidewalk should be left to pedestrians. The effect of this variable on the probability of perceiving the good as public is positive.

Box These two situations are presented: **Situation 1:** Consider Mr. Codjo bought a motor bike of DREAM brand for his travels. He forbade his friends from accessing his motor bike's key, saying that the use of the bike is exclusive to him. Very angry, Mr. Ako one of his friends explained the situation to his older brother who agreed with Mr. Codjo answering him that it is a "private good". If you were in the older brother's shoes, what would be your answer to Mr. Ako about this type of good which is the motor bike of DREAM brand?	1-private good (personal) 2- public good
Situation 2: Three days later, Mr. Codjo was standing under the street-lamp that the government's electricity company placed before the house of his friend Ako for lighting the area, in order to learn his lessons. Mr. Ako rushed out very angrily and wanted to chase his friend Codjo who automatically opposed. Was Mr. Ako right to chase his friend Codjo? Which good is it about in this situation 2?	1-YES 0-NO 1-private good (personal) 2- public good

Table 1 summarizes the explanatory variables and their expected signs (positive or negative).

Table 1: Explanatory variables and expected signs

Indicators	Variables	Items	Expected signs
PERCEPT	Perception of the sidewalk	1-The sidewalk is a public good for the individual 0-Otherwise	Dependent variable
NIVIN	Educational level	1-Primary 2-Secondary 3-Higher 4-None	+
AGE	Age	Discrete	+
OCPTRO	Sidewalk occupation	1-Individual's activity occupies the sidewalk 0-Otherwise	+
DOT	Daily duration of sidewalk occupation	Discrete	-
TPAL	Duration of activity	Discrete	-
SEX	Gender	1-The individual is a man 0- Otherwise	+/-
NPPOL	The average number of police or municipal authorities' interventions	Discrete	+
NIVCTB	The understanding level of the types of good	1-The individual has a good understanding of the good 0- Otherwise	+
FOC	The payment of occupation fee	1-The individual pays a fee to the authority 0- Otherwise	+
GENP	The discomfort caused by pedestrians	1-Pedestrian causes discomfort to individual 0-Otherwise	+
PART	Sharing sidewalk with pedestrians	1-The individual recognize that pedestrian should have access to the sidewalk. 0-Otherwise	+

Source: Author

3.3. Model

The variable **PERCEPT** is dichotomous, and then the probability model that is appropriate in our case is a Logit or a Probit model. Based on the specification tests on the data, the chosen model is appropriate. The AIC, Schwartz and Maximum Likelihood information criteria show that the best fitted model is the Logit model. The Logit model is based on the assumption that errors ε_i follow a logistic distribution. Considering a linear function $Y_i = X_i\beta + \varepsilon_i$, Y_i is the dependent variable not observable, X_i a set of characteristics of the individual i, β is the vector of parameters and ε_i the error. A latent variable Y^* is introduced; unobservable but perceived by the respondent and indicating the utility associated with the occurrence of the phenomenon. Taking Y^* as an index whose main values are associated with higher probabilities of realization of the phenomenon, we have:

$$\begin{cases} PERCEPT_i = 1 \quad if \quad PERCEPT_i^* > 0 \\ PERCEPT_i = 0 \quad if \quad PERCEPT_i^* \le 0 \end{cases}$$

The variable $PERCEPT_i^*$ becomes a dependent function on the independent variables X_i (see table 1): $PERCEPT_i^* = X_i\beta + \varepsilon_i$. Thus, we have:

$$\begin{aligned} \Pr ob\left(PERCEPT_i = 1\right) &= \Pr ob\left(PERCEPT_i^* > 0\right) = \Pr ob\left(X_i\beta + \varepsilon_i > 0\right) \\ &= \Pr ob\left(\varepsilon_i > -X_i\beta\right) \\ &= \Pr ob\left(\varepsilon_i / \sigma > -X_i\beta / \sigma\right) \end{aligned}$$

The distribution is symmetrical in the case of the Logit model, so

$$\Pr ob\left(\varepsilon_i / \sigma > -X_i\beta / \sigma\right) = \Pr ob\left(\varepsilon_i / \sigma < X_i\beta\right) = \Pr ob\left(PERCEPT_i = 0\right)$$

$$\Pr ob\left(PERCEPT_i = 0\right) = 1 - \Pr ob\left(PERCEPT_i = 1\right)$$

The logistic distribution function $G(z)$ is according Wooldridge (2002):

$$G(z) = \Lambda(z) = \frac{\exp(z)}{1 + \exp(z)}$$

4. Results, analysis and discussions

4.1. Descriptive Analysis

To perform the descriptive analysis, we base ourselves on the dependent variable and the independent variables by using the database obtained after processing the administered questionnaire. From the sample size considered (390 individuals), 373 questionnaires were entered in the database due to the response rate which is 96% (95.64%).

Table 2 shows the essential about the characteristics of the variables

Table 2: Descriptive Statistical

Variables	Average	Minimum	Maximum
PERCEPT	0.9061662	0	1
SEX	0.4718499	0	1
AGE	34.68365	15	65
OCPTRO	0.8230563	0	1
DOT	12.39946	4	20
FOC	0.5978552	0	1
NIVCTB	1.067024	1	2
GENP	0.2573727	0	1
PART	0.9785523	0	1
NPPOL	0.9182306	0	8
TPAL	4.967024	0.02	44
NIVINS2	0.3646113	0	1
NIVINS3	0.0991957	0	1
NIVINS4	0.2949062	0	1

Source: Author's results

In light of the information in Table 2, approximately 91% of the sample recognized the sidewalk as a public good. The sample consists of 58.52% women and 47.18% men. The age of these individuals is between 15 and 65 with an average of 35 years (34.68 years). The individuals of the sample are of different instruction levels. The most numerous are of the secondary level (36.46%), those of the higher level are about 10%, those with no level are 29.49%, and the remaining are of the primary level. Statistics show that 20.91% of those with primary level said that the sidewalk is a public good; 34.58% of those with high school said the same. Respectively 9.65% and 25.47% of those with higher level and no level said that the sidewalk is a public good.

Regarding the OCPTRO variable that reflects the occupation of the sidewalk by the individual's activity, it's noted that 82.31% recognize that they actually occupy the sidewalk, against 17.69% who think the opposite. Most of these (16.35%) say that the sidewalk is a public good. For those who are aware that they occupy the sidewalk (82.31%), most (74.26%) recognize the sidewalk as a public good. In that case, the occupation of the sidewalk excludes pedestrians from the use of that part of the sidewalk.

Regarding the DOT variable that expresses the daily duration of sidewalk occupation, the average daily duration of individuals' activities is approximately twelve (12) hours; but based on those who are aware that they occupy the sidewalk, the daily duration of sidewalk occupation is about ten (10) hours. Throughout the period during which the individual occupies the sidewalk, the other users of that good are excluded from its use; then one of the characteristics of public good is no longer complied with. The average time during which individuals have settled on the edge of sidewalks for their activities (TPAL) is about five (5) years; this time varies between 0.02 year and 44 years, and the modal time is one (01) year. The majority of respondents already spent a year at the edge of sidewalks and on average each of them spent 5 years; this implies that individuals have had time to see that the sidewalk should be considered as a public good. Those who have spent a year at the edge of sidewalks represent 14.74% of those who stated the sidewalk as a public good. Those who have spent two years represent approximately 10%.

The number of police or municipal authorities' controls per month (NPPOL) for a call to order about sidewalk occupation varies from zero to eight with an average of about one (01) control. In other words, in a month, police or municipal authorities intervene once to warn users who occupy the sidewalks. This periodicity of intervention may be insufficient to make individuals aware of the public nature of the sidewalk.

As for the variable NIVCTB, a scenario is described to assess individuals' understanding of the types of property (private and public). Considering the results, about 93% of people have a good understanding of the types of property against almost 7% who have a bad understanding. Indeed, the first category selected the item 1 (private good) in the situation 1, and the item 2 (public good) in the situation 2; others have choice combination different from the "private good, public good" combination. With this strong understanding rate (93%), we find that about 85% of them had perceived the sidewalk as a public good.

This rate difference could be explained by the fact that the scenario described made the identification of the types of goods easier for them. By contrast, most (about 6%) of those who have a bad understanding had perceived the sidewalk as a public good.

Note that 74.26% of the individuals state that pedestrians do not cause them discomfort. Among them, 66.22% recognize the sidewalk as a public good; against about 26% who think that they cause them discomfort. Within those, 24.4% chose the sidewalk as a public good. Talking about the fact that they share the sidewalk with pedestrians, the surveyed individuals who agree are about 98%, of which 89.54% choose the sidewalk as a public good. Those who do not agree represent about 2% and half of them recognized the sidewalk as a public good.

4.2. The determinants of the perception of the sidewalk as a public good

The analysis of the determinants of the perception of people whose activities take place around the sidewalks is done in accordance with the methodology described above. By estimating the Logit model selected, results are shown in Table 3.

Table 3: Results of Logit model estimation

Variables	Coefficients	P>|z|
SEX	0.3263054	0.399
AGE	0.0101287	0.696
OCPTRO	0.0031587	0.995
DOET	-0.0662596	0.375
FOC	1.439367***	0.001
NIVCTB	-0.5222047	0.422
TPAL	0.026204	0.433
GENP	0.7328014	0.173
PART	2.493649***	0.002
NPPOL	-0.2723529	0.135
NIVINS2	0.9033535*	0.064
NIVINS3	1.709082	0.152
NIVINS4	-0.0067247	0.988
Sample size retained = 373 Wald chi2(13) = 37,97 Prob> chi2 = 0,0003 Pseudo R2 = 0,1676		

***significance to 1 %;**significance to 5%; *significance to 10 %

Source: Logit model estimation with Stata

With regard to the Wald test, the variables included in the explanation of the dependent variable are overall significant to 1% [chi2 (13) = 37.97; Prob> chi2 = 0.0003]. In other words, perceiving the sidewalk as a public good is significantly explained by the variables of the model. Regarding the results, three variables are crucial. Two are significant to 1% and the third is significant to 10%. First, the variable FOC which reflects the payment of space occupancy costs significantly explains (Prob> chi2 = 0.001) the perception of sidewalk as public good. Thus, more the individual pays a public space occupation fee, more the probability of perceiving the sidewalk as public good increases. This shows that the individual, who works on the edge of sidewalks and pays a space occupation fee, tends to occupy the sidewalk. This agent behavior appears to result from the non-satiety assumption in microeconomic theory.

Then the significance (Prob> chi2 = 0.002) of the variable PART which represents the fact that agent believes the pedestrian should have access to the sidewalk, shows how agents consider the good. Thus, more they recognize that the use of the sidewalk must be shared between them and pedestrians, more the probability that this good be recognized as public increases. This clearly justifies the non-exclusion characteristic that such good should have. For agents, pedestrians should not be excluded from the use of the sidewalk.

Finally, the education level is a significant variable (Prob> chi2 = 0.064). Specifically, the secondary level of education explains the probability of perceiving the sidewalk as a public good. Indeed, the agent with a secondary level of education is more likely to perceive the sidewalk as a public good than one with a primary level of education.

From the analysis of the results, it appears that the likelihood of perceiving the sidewalk as a public good is explained by a number of key variables. It seems clear that all public goods are characterized by the non-exclusion and non-rivalry. The key variables identified in this work are: the educational level, the feeling that the use of the sidewalk should be left to pedestrians and the payment of space occupation costs. The agents that work on the edge of sidewalks recognize that pedestrians must pass on the sidewalk and should not be prevented from doing so. Despite this, these agents occupy a part of the sidewalk and even all this space, forcing pedestrians to pass on the road. The fact that these workers pay a space fee for their shops seems to justify their behavior. In reality, paying such fee gives them no right to expand their activities on the sidewalk. We can understand that this behavior is consistent with the assumption of no satiety in microeconomic theory.

Although these determinants explain the public nature of the sidewalk, the use thereof leads to think that the sidewalk is not a pure public good as defined by Desjeux et al. (2011).

Conclusion

The behavior of some agents of the city of Cotonou leads to think that some parts of public spaces are private properties. Indeed, the agents whose activities take place on the edge of sidewalks occupy these spaces and prevent pedestrians from using it. So, pedestrians are excluded from the use of the sidewalk. The fact that they do not perceive the sidewalk as a public good could justify this behavior. To understand this phenomenon, this paper analyzes the determinants of the perception of the sidewalk as a public good in Cotonou. To do this, thirteen districts in the city are considered and a survey was carried out on 373 individuals. From both the descriptive and the econometric analysis using the Logit model, it appears that many individuals consider the sidewalk as a public good. This confirms the economic theory because people recognize the non-exclusion (shared use between all agents) and non-rivalry characters of the good. But the non-exclusion character is not total, and the sidewalk is not a pure public good. The main determinants of the "perception of the sidewalk as public good" are: (i) the education level of agents, (ii) the payment of space occupancy fees and (iii) sharing the use of the sidewalk with pedestrians.

The non-significance of the NPPOL variable (average number of police or municipal authorities' controls) shows that this variable will not really contribute to a good management of the sidewalk. For the sidewalk to become a pure public good, an optimal management model should be developed.

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