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Preferred Mode of Payments for Community Based Health Care Financing Scheme among Households in Osun State, Southwestern Nigeria

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Abstract

Community Based Health Care Financing(CBHF) schemes are usually organized in such a manner as to encourage community participation whereby community members have a stake in the election of scheme managers and also in the oversight of the scheme. The local communities play a great role in the determination of benefit packages in a CBHF based on needs, priorities and community member's ability to pay. The objectives of this study are to determine the preferred mode(s) of payment for community based health care financing scheme in rural and urban areas and to determine the premium that rural and urban households are willing to pay for community based health care financing scheme in the study areas. This is a descriptive, cross-sectional study among 450 rural households and an equal number in urban households in Osun State using multistage sampling method. Research instruments were semi structured interviewer administered questionnaires. Data were analysed using STATA 10 software. The findings from this research showed that for the use of cash, urban households were willing to pay ₦1798.90k per year while rural ones were willing to pay ₦ 721.70k. For payment in kinds, urban households were willing to pay ₦1387.40k against ₦ 1910.60k by rural households per year. . The preffered mode of payment in rural households was payment in kinds while urban households preferred the use of cash. To design a feasible and attainable community based health care financing scheme for the people of Osun State government should create modalities that will ensure the use of payment methods/ medium that can eliminate the constraint implied by income in accessing health care.

Keywords: mode of payments, CBHF, households, Osun State, Nigeria

1. Introduction

In recent times interest in the development of CBHF scheme in low income countries such as Nigeria has become inevitable for the following reasons; the wide spread introduction of user fees for public health services in many developing countries particularly of sub-Saharan Africa which occurred in the 1980s and 1990s a typical example is that following the Structural Adjustment Program (SAP) introduced in Nigeria in 1988(PATH 2004); the virtual collapse of government health care services witnessed especially in poverty and war stricken countries of sub-Saharan Africa; the increasing role of private health care providers towards bridging health care gap consequent upon the collapse of public health services, even in rural communities and the obvious difficulty likely to be encountered in the expansion of formal health insurance to the informal sector(Ekwempu et al 1990). CBHF enables an increase in financial access, utilization of health services, resource mobilization and quality of health care services through community effort. It reduces the out-of- pocket expenses payable by people seeking health care thereby leading to more frequent utilization of health care services and less delay in seeking care((Ekwempu et al 1990). The local communities play a great role in the determination of benefit packages in a CBHF based on needs, priorities and community member's ability to pay. Payments of premium to schemes can be adjusted to suit community members; for example, annual payment which may be carried out at a time following harvest and sale of farm produce as may occur in a predominantly farming community. Financial access can also be increased in a CBHF through the negotiation of lower rates for services by providers thereby enabling members to get more services for their money.

CBHF schemes are usually organized in such a manner as to encourage community participation whereby community members have a stake in the election of scheme managers and also in the oversight of the scheme. Government and other higher level bodies can usually play an important role towards the successful outcome of a CBHF. This can be in the form of coordinating and facilitating technical assistance to scheme, training scheme managers and financial controllers, advocacy and dissemination of best practices as well as monitoring and evaluation of the scheme. It can also accredit and oversee CBHF schemes and develop legislation towards the schemes sustainability. Government can also co-finance CBHF through contributions in personnel, equipments, and infrastructure. In general the unlikelihood of a rural or informal sector health financing scheme to have enough funds to sustain it in low income countries has been highlighted. Such CBHF schemes should therefore supplement government health care budget rather than standing alone (Adinma 2004). Sustainability has been a major concern regarding CBHF scheme. Sustainability refers to the ability of the scheme to continue operation over time. It has many dimensions to it which includes social, managerial, political and financial. Amongst major drawbacks to sustainability includes inexperience management, specific scheme design flaw, inadequate dues collection and the lack of institutional development. It is now thought that reinsurance (that is insuring the CBHF scheme by larger insurance scheme) could be a way of obviating the problem of un-sustainability of the CBHF scheme (Adinma 2010). The objectives of this study are to determine the preferred mode(s) of

payment for community based health care financing scheme in rural and urban areas and to determine the premium that rural and urban households are willing to pay for community based health care financing scheme in the study areas.

2. Review of Literatures

A study by (Atagbua 2008) showed that the estimated mean and median WTP amounts for the use of cash are 392 Naira, 200 per quarter respectively. For use of commodities the mean and median WTP are 788 Naira and 550 Naira per quarter respectively. For Ordinary Least Square on the valid specification, the median and mean WTP for the use of cash are 421 Naira and 505 Naira respectively. It was observed that using cash as the medium of payment, the amount available for the scheme could only cover 30% of the annual cost of health care.

The use of commodities provides an amount that covers over 60% of household's annual health care expenditure in rural communities in Nsukka (Atagbua 2008). The use of commodities proved to generate higher amounts than did the use of cash as the medium of payment. This was one of the first application of CVM to value the willingness of rural households to pay for community based health insurance using commodities has therefore proven to be very helpful.

A study carried out in Philipines stated that for Pesos health community scheme,when people fall sick or for members who could not pay premiums,they could monetarize agricultural produce such as chicken into cash in the hospitals and were able to pay for health care(Toonen 2003).Another study in India found that membership payment were accepted in the form of rice and sorghum.In kind contributions,were accepted as payment for prepayment insurance scheme membership and not as an on going payment option RAHA scheme(rice), SEWA gram(sorghum), Goal-para(community labour) to ensure the poor are not excluded.Schemes such as SEWAgram employ community health worker to collect the contribution once a year, usually at harvest time(Dave 1995).

A study took place in Anambra and Enugu states, south-east Nigeria (Onwujekwe 2010).It involved a rural, an urban and a semi-urban community in each of the two states. A pre-tested interviewer-administered questionnaire was used to collect information from a total of 3070 households selected by simple random sampling. Contingent valuation was used to elicit willingness to pay (WTP) using the bidding game format. Data were examined for correlation between SES and geographic locations with WTP. Log ordinary least squares (OLS) was used to examine the construct validity of elicited WTP.
Generally, less than 40% of the respondents were willing to pay for CBHI membership for themselves or other household members. The proportions of people who were willing to pay were much lower in the rural communities, at less than 7%. The average that respondents were willing to pay as a monthly premium for themselves ranged from 250 Naira (US$1.7) in a rural community to 343 Naira (US$2.9) in an urban community. The higher the SES group, the high

3. Methodology

3.1. Study Design: This is a comparative descriptive cross-sectional study.

3.2. Study Population: Four hundred and fifty head of households in the selected urban areas and an equal number in the rural communities in Osun State formed the study population.
3.3. Inclusion Criteria: All head of households that are adults (>18 years) and are permanent resident of the areas.In case the head of household is not around any adult that is >18 years and permanent resident were interviewed.
3.4. Exclusion Criteria: All head of households who are less than 18years and are not permanent resident of the areas.

3.5. Sampling Technique: Multistage sampling technique was used.

Stage1: A simple random sampling by balloting method was used to select a local government area from each of the three senatorial districts.
Stage2: One rural and one urban community each was selected using simple random sampling (by balloting) from each selected local government i.e. three urban and three rural communities.
Stage3: A sampling frame of all enumeration areas in each community were drawn using Federal Office of Statistics listing of 2006. Two enumeration areas (EAs) were selected from each of the selected rural and urban communities using simple random sampling utilizing ballot method. Proportional allocation of the sample size was done on each selected communities.
Stage 4: The houses in each selected enumeration areas were counted and the number of houses needed was selected by simple random sampling by balloting without replacement in each community based on number of respondents needed in each community. The list of all households in each house (where there are more than one household living in a building) was generated and one of them was selected from the list by simple random sampling for questionnaire administration. A household is a group of persons who live together and eat from the same pot. The household head is the person responsible for leadership and financial decisions in the house.

3.6. Study Instruments

This was a pre-coded, semi structured questionnaires with close and open ended questions.Six visits to each of the rural and urban setting were made.The interviewer administered structured questionnaire which was divided into four section to collect relevant information were administered by ten trained research assistants.

3.7. Statistical Analysis

Questionnaires were checked for errors and omissions at the end of each day. Data were entered into the computer and analyzed with STATA10.0.[42] Data error were checked for and corrected. The econometric model (Tobit model) of contingent valuation method for willingness to pay was adopted in this study for the multivariate analysis. Relevant frequencies, percentages, means and appropriate graphs and diagram was generated.

3.8.Ethical Consideration

A written approval from LAUTECH Teaching Hospital Research Ethical Review Committee was obtained.Introductory letters were sent to Osun State Ministry of Health,and to the selected local government authorities through their respective Medical Officers of Health.

The purpose and benefits of the research were highlighted during a written informed consent obtained from each of the community heads on community entry. During data collection,the objectives of the study were verbally explained to each respondent,and their cooperation and consent sought for before commencing the administration of the questionnaires during the course of this study.

4.0. Results

Table 1: Socio-demographic Characteristics of Respondents by Place of Residence

More than half (256, 56.9%) of household heads that responded to the questionnaires in the rural communities had primary education or below as compared to 79(17.5%) in the urban communities, about a third (137,139: 30.4, 30.9%) had secondary education in urban and rural communities respectively. while others attended tertiary institutions. The main occupation of the respondents in the rural households was farming (241, 53.6%) while civil service job (165, 36.7%) was the main occupation in the urban households..

Table2: Socio-economic Status of respondents by place of location

Fifty-eight (13.7%) of urban households were earning ≤ ₦5000 compared to one hundred and thirty-four (31.2%) of rural households . Forty (9.5%) of urban households were earning 5001-10000 compared to one hundred and twenty-eight (29.8%) of rural households while 19.7 %(83) of urban households were earning between₦10,001-15000 as monthly income compared to 22.9 %(95) of rural earnings. More than one-fourth (26.1%) of the urban households were earning between ₦15000-20000 as compared with one-tenth (11.1%) of the rural households. One hundred and thirty-one urban households were earning ₦20000 and above as compared to twenty-four(5.6%) of rural households.

Table 3: Average Family Size per Households by Place of Residence

Two hundred and thirty seven (52.7%) of urban households had between 4-6 members with mean household size of 4± 2.2 while one hundred and eight four(40.9%) of rural households had between 7-9 members with mean household size of 5± 3.2.

Table 4: Preferred Mode of Payments by Place of Location

Table 4 shows: preffered mode of payments by place of location..Three hundred and three(81.2%) of rural households were willing to pay in kind while seventy(18.8%) were willing to pay in cash.One hundred and forty (60.3%) 0f urban households were willing to pay with cash while 92 (39.7%) were willing to pay in kinds

Figure i: Premium respondents were WTP for CBHF per person per year using cash

Figure i shows: Premium respondents were WTP for CBHF per person per year using cash. Thirty-eight (54.0%) of rural respondents were WTP ≤ ₦500 as compared to 14(10.0%) of the urban respondents. Similarly, 17(24.0%) of rural respondents were WTP between ₦500-1000 compared to 17(12.0%) in the urban, households. Fifteen (32.0%) of rural respondents were willing to pay between ₦1,000-1,500 compared to52 (37.0%) in the urban respondents. 57(41.0%) of urban respondents were WTP ₦1,501 and more while rural respondents were not willing to pay up to this amount.

` **Figure ii: Premium respondents were WTP for CBHF Per person per year in kinds**

Figure ii shows: Premium respondents were WTP for CBHF per person per year in kinds. Thirteen (4.3%) of rural households were WTP ≤500 as compared to eight (8.6%) of urban households. Twenty-eight (9.2%) of rural households were WTP between ₦501-1,000 while 12 (13.1%) were willing to pay this amount. Also, 63 (20.8%) were WTP ₦1,001-1,500 in the rural household as compared to 34 (37.0%) of urban households .Similarly, 72 (23.8%) were WTP ₦1,501-2,000 in the rural households and 25 (27.2%) were WTP this amount in the urban households. One hundred and twenty seven (42.0%) were WTP > ₦2,000for rural households as compared to 13 (14.1%) in the urban households

Table 5: Distribution of Respondents according to Amount Willing to pay using Cash and kinds in Urban Households

Table 5 shows: Distribution of respondents according to amount willing to pay using cash and kinds in urban households. The mean WTP for the use of cash for urban households was ₦1,798.90k per person per year, the minimum WTP was ₦500.00k and the maximum WTP was ₦ 3,500.00k. For the payment in kinds the mean WTP was ₦1,387.40k with minimum WTP of ₦300.00k and maximum WTP of ₦2,000.00k.

Table 6: Distribution of respondents according to Amount Willing to Pay using Cash and Commodities in Rural Households.

Table 6 shows: Distribution of respondents according to amount willing to pay using cash and kinds in rural households. The mean WTP for the use of cash for rural households was ₦721.70k per person per year, the minimum WTP was ₦50.00k and the maximum WTP was ₦ 1,000.00k. For the payment in kinds the mean WTP was ₦1,910.60k with minimum WTP of ₦500.00k and maximum WTP of ₦3,500.00k.

5.0. Discussion

The socio-demographic characteristics of respondents shows that the mean age of heads of household was 42 ± 12.2years and 47 ± 10.2 years for urban and rural households respectively. Two-third of head of households in both settings were male which is characteristics of most African settings (Ataguba 2008). This is also in line with Nigeria demographic and health survey 2008(NDHS 2008).

More than two-third of the household heads from both communities were married, while more than one-tenth were separated and about six percent were single and others were widow(er) in both communities. Fifty-two percent of the urban heads of households had tertiary education as compared to twelve percent in the rural households, this shows there is high level of literacy in the urban communities which is characteristics of many urban communities in Nigeria. Only about half (57.0%) of rural household respondents had primary education or below as compared to one tenth in the urban households, this also shows low level of literacy in the rural communities which is also characteristics of rural communities in Nigeria and this also in line with Nigeria demographic survey 2008 which had 48.9% of rural population of Nigeria with no education compared with urban of 22%.[9] Majority of urban household heads were civil servants (36.7%) while farming was the major occupation in the rural households (53.6%).Almost all the household heads were earning income monthly with mean income for urban heads to be ₦ 42± 5,200 and ₦10± 5,300 for rural heads as compared with a study in Enugu where majority of household heads were employed in Local Government jobs and others were into farming and the average household income was ₦10,141.20k per month for rural households (Ataguba 2008).

Eight-one percent of rural households were WTP with commodities as compared to thirty-nine percent of the urban households while sixty –one percent of the urban households were WTP with cash as compared to eighteen percent of the rural households. Thus, the preferred mode of payment in the rural communities was the use of commodities while in the urban the preferred mode was cash. This is as a result of urbanization and increase economic activities in the urban areas where there may not be enough land for farming or other Agricultural practices while in the rural areas the mainstay of their economy is agriculture.

The mean WTP per person per annum was found out to be ₦ 1,798.9± 134.7 (11.24± 0.84US dollars) for urban households with the usage of cash while in the rural households it was found to be ₦721 ± 250.5 (4.51± 1.57USD). In Eastern Nigeria, Onwujekwe et al [8] found a WTP of 250 naira per month per person in rural communities for community health insurance (CHI) this is equivalent to 3,000 naira per person per year. This disparity may be because of the differences in geo-political area and cost of living in both locations. (Ichoku et al 2010) found a WTP of 1.5 USD per household per month.[10] On the other hand(Onwujekwe et al 2010) in a Nigerian survey found WTP of 1.7 USD per person per month in a rural community while he found a WTP of 2.9 USD per person per month in the urban area.[10] Another similar survey by (Babatunde et al 2012)in Ilorin, Kwara state reported mean WTP of 3.48 + 1.78 US dollars person per annum for CHI in a community with average household size of 6 members. This is also similar to the finding from this study which revealed a mean of 4.51± 1.57US dollars for rural households.

In a similar study on WTP for a school based chemotherapy program in Tanzania (Lwambo , Siza and Mwenda 2005), greater than seventy percent had WTP greater than 1.25 US dollars per person per year while the median WTP was 1.25 US dollars.[11] This is much lower compared to the finding in this study. The difference might be because the health package in this Tanzania study is limited to school based chemotherapy program only and not complete basic health package as was done in this study.

For the use of commodities the WTP for urban households was ₦1.387.4 ± 1,76.1 (8.67± 1.10) US dollars and ₦1,910±102.9 (11.94± 0.64) US dollars for the rural households. A study by Atagbua showed that the estimated mean for use of commodities was 788 Naira per quarter respectively which translates to ₦2,364 per year in rural communities in Nsukka, Nigeria. There is disparity between this result and the one from this study and this may be as result of more farming activities in the Eastern part of the country thereby leading to increase willingness The use of commodities as the option of payment gave a valuable insight to the importance of making context specific contributions to any form of community based health care financing schemes, which need not necessarily be health insurance related. This has proved to increase community participation through ownership and willingness to participate.

Such context specific payments include resources that are locally generated within the populaton of interest such as use of agriculutural commodities in agrarian communities, the use of hand-craft materials and labour hours where these resources are more abundant. The use of commodities therefore proved to generate higher amounts than did the use of cash medium because it is specific to the community and most likely to be acceptable. In most community based health insurance schemes however, payment in kind are rarely allowed(Edoh and Brenya 2002) and these authors have been sceptical about the possibilty of generating adequate and sufficient resources to cover treatment.

Among few studies investigating into use of in-kind payments is the one in Bolivia where rural prepayment schemes and plans allow membership dues in the form of contribution of seed potatoes to community organization and membership base was greatly increased(Toonen 2003). In this arrangement, at least a family member has to work on the community lot for the production of potatoes. Proceeds from the sales of potatoes are used for the purchase of drugs, pay a bonus of an auxillary nurse and also in renovating and refurbishing health centers (Toonen2003).

6. Conclusion

To design a feasible and attainable community based health care financing scheme for the people of Osun State government should create modalities that will ensure the use of payment methods/ medium that can eliminate the constraint implied by income in accessing health care.

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Table 1: Socio-demographic Characteristics of Respondents by Place of Residence

	URBAN HOUSEHOLDS		RURAL HOUSEHOLDS	
Age(yrs)	*Frequency (n=450)*	%	Frequency (n=450)	%
20-29	64	14.2	44	9.7
30-30	168	37.3	82	18.2
40-49	81	18.0	100	22.2
50-59	62	13.8	163	36.2
≥ 60	75	16.7	61	13.6
Mean age	42±12.2yrs		47±10.2yrs	
Gender				
Male	304	67.7	352	78.2
Female	146	32.3	98	21.8
Marital Status				
Single	29	6.5	26	5.8
Married	320	71.7	313	69.6
Seperated	55	12.2	48	10.7
Widow(er)	46	10.2	6.3	14.0
Educational status				
≤ primary	79	17.5	256	56.9
Secondary	137	30.5	139	30.9
Tertiary	234	52.0	55	12.2
Occupation				
Students	39	8.7	18	4.0
Artisan	72	16.0	48	10.6
Civil Servants	165	36.7	32	7.1
Traders	124	27.6	90	20.0
Farmers	22	4.8	241	53.6
Unemployed	28	6.2	21	4.7

Table2: Socio-economic Status of respondents by place of location

	URBAN HOUSEHOLDS		RURAL HOUSEHOLDS	
Amount	Frequency(n= 422)	%	Frequency(n=429)	%
Monthly Income(in Naira)				
≤5000	**58**	**13.7**	**134**	**31.2**
5001 - 10000	**40**	**9.5**	**128**	**29.8**
10001 – 15000	**83**	**19.7**	**95**	**22.2**
15001 – 20000	**110**	**26.1**	**48**	**11.2**
>20000	**131**	**31.0**	**24**	**5.6**
Mean	**42± 5,200**			**10± 5,300**

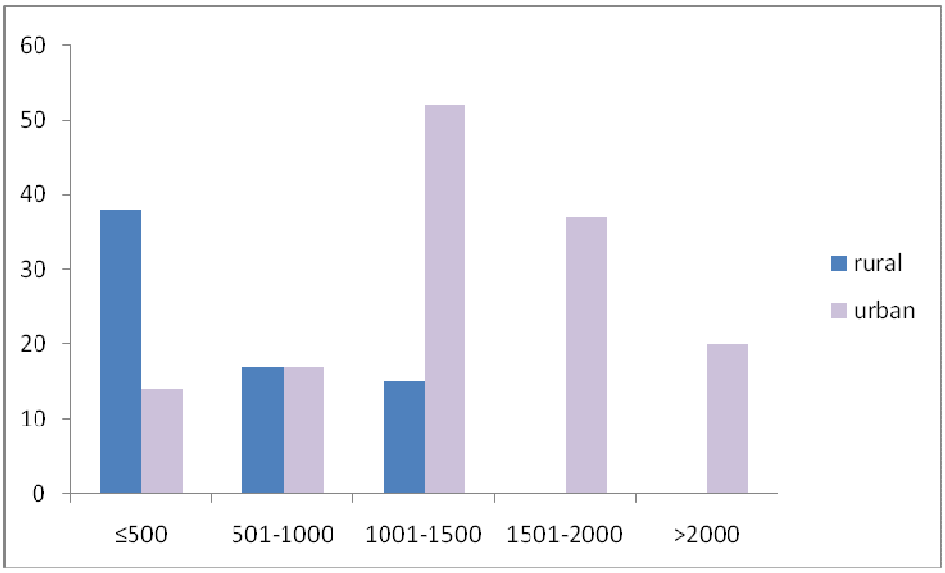
Table 3: Average Family Size per Households by Place of Residence

	URBAN HOUSEHOLDS		RURAL HOUSEHOLDS	
Number in Household	*Frequency (n = 450)*	%	Frequency (n = 450)	%
1-3	**112**	**24.9**	**60**	**13.3**
4 - 6	**237**	**52.7**	**152**	**33.8**
7 - 9	**86**	**19.1**	**184**	**40.9**
>10	**15**	**3.3**	**54**	**12.0**
Mean Household Size	**4± 2.2**		**5± 3.2**	

Table 4: Preferred Mode of Payments by Place of Location

Mode of payments	Rural	%	Urban	%
Payment in cash	70	18.8	140	60.3
Payment in kind	303	81.2	92	39.7
Total	**373**		**232**	

Figure i: Premium respondents were WTP for CBHF per person per year using cash



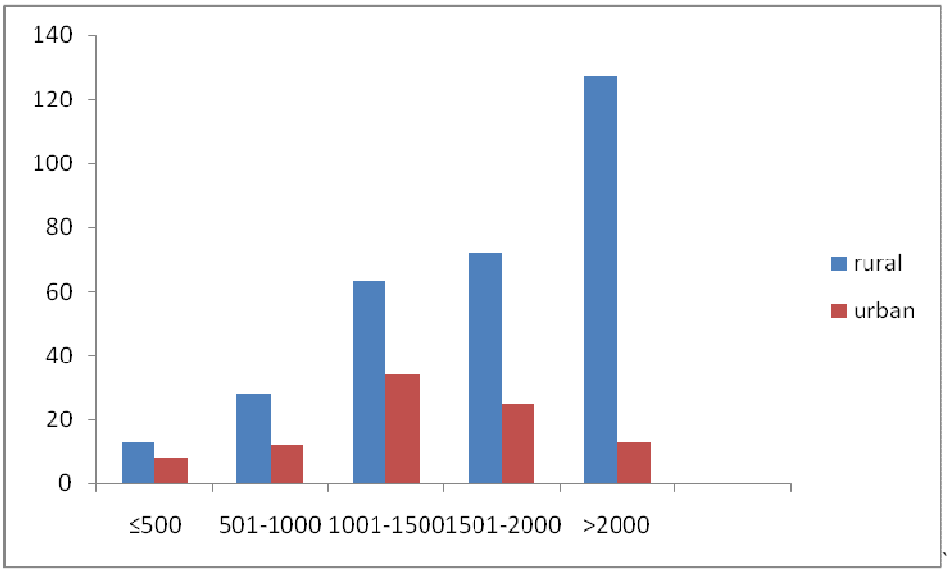


Figure ii: Premium respondents were WTP for CBHF Per person per year in kinds

Table 5: Distribution of Respondents according to Amount Willing to pay using Cash and Commodities in Urban Households

Measures	Cash (in Naira)	Commodities (in Naira)
Minimum	500.00	300.00
Mean	1,798.90	1,387.40
Median	1,200.00	1,000.00
Mode	1,500.00	1,000.00
Standard deviation	134.50	176.10
Maximum	3,500.00	2,000.00
Range	3,000.00	1,700.00
Range WTP	**134.50-1,933.40**	**176.10-1,463.50**

Table 6: Distribution of respondents according to Amount Willing to Pay using Cash and Commodities in Rural Households.

Measures	Cash (in Naira)	Commodities (in Naira)
Minimum	50.00	500.00
Mean	721.70	1,910.60
Median	500.00	1,500.00
Mode	300.00	1,200.00
Standard deviation	250.50	102.90
Maximum	1,000.00	3,500.00
Range	950.00	3,000.00
Range WTP	**250.50 -972.20**	**102.90 -2,013.50**

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