

**BEFORE THE
POSTAL RATE COMMISSION
WASHINGTON DC 20268-0001**

Rate and Service Changes To Implement)
Functionally Equivalent Negotiated Service) Docket No. MC2004-3
Agreement with Bank One Corporation)

**ANSWERS OF BANK ONE CORPORATION TO
OFFICE OF CONSUMER ADVOCATE INTERROGATORIES
OCA/BOC-T2-1-5
(August 16, 2004)**

Bank One Corporation ("Bank One") hereby provides the answers of witness Lawrence G. Buc to Office of Consumer Advocate interrogatories OCA/BOC-T2-1-5, filed August 4, 2004. Each interrogatory is stated verbatim and is followed by the response.

Respectfully submitted,

/s/

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August 16, 2004

**ANSWER OF BANK ONE WITNESS BUC
TO INTERROGATORY OCA/BOC-T2-1**

OCA/BOC-T2-1. Please refer to your testimony at 2, lines 18-20, where you discuss the construction of a heuristic model based on the fundamental economics of marketing decisions. Please confirm that your model does not project an overall level of mailings but, rather, determines how a given level of mailings could be split between First-Class and Standard Mail based on incentive discounts.

ANSWER:

Generally confirmed. My model shows that for some combinations of lifetime values and response rates, it does not make economic sense to mail at all. For those combinations for which mailing is justified, the model indicates which class of mail would be used both with and without an incentive discount of a given amount.

**ANSWER OF BANK ONE WITNESS BUC
TO INTERROGATORY OCA/BOC-T2-2**

OCA/BOC-T2-2. Outside of information presented in your testimony, have you developed a volume estimate for the combination of Bank One's Standard Mail and First-Class Mail solicitation pieces?

- a. For the first year of the NSA?
- b. For the second year of the NSA?
- c. For the third year of the NSA?
- d. If you have developed the requested estimates (a. through c.), please provide them. Please discuss all factors that drive the projections.
- e. If you have not developed estimates a. through c., please explain why not.
- f. To your knowledge, has any individual developed estimates a. through c. If so, who is the individual (or individuals)? Please obtain such estimates from the identified individual(s) and provide them. (Part f. of this interrogatory may be redirected to witness Rappaport, if appropriate).

ANSWER:

- a. No.
- b. No.
- c. No.
- d. Not applicable.
- e. I was not asked to provide these estimates

f. Yes. Bank One's volume forecast for 2004 is one billion pieces of Standard Mail solicitations. Rappaport direct testimony (BOC-T-1) at page 3, line 11. Adding these to the 83 million First-Class Mail solicitations estimated by witness Rappaport for the first year of the NSA yields an estimated total volume of 1.083 billion Bank One solicitations in the first year of the NSA. To my knowledge, no one has estimated Standard Mail for Years 2 and 3 of the NSA. However, given Bank One's historical solicitation volumes (see response to OCA/BOC-T1-1), it seems reasonable to

**ANSWER OF BANK ONE WITNESS BUC
TO INTERROGATORY OCA/BOC-T2-2**

assume that Bank One will mail approximately one billion solicitations in Years 2 and 3 of the NSA.

**ANSWER OF BANK ONE WITNESS BUC
TO INTERROGATORY OCA/BOC-T2-3**

OCA/BOC-T2-3. Please refer to your testimony at page 3, lines 20 through 22. You project response rates for Standard Mail between 0.1 percent and 0.7 percent, with 0.4 percent as the average response rate for credit card solicitation.

- a. What is the response rate specifically applicable for Bank One?
- b. What is the lift specifically applicable for Bank One?

ANSWER (This interrogatory has also been partially redirected to USPS witness Plunkett):

Bank One has objected to this question on the grounds that it seeks proprietary information. Without waiving this objection, however, Bank One answers the question as follows:

a. I do not know the specific response rates that Bank One actually achieves from its solicitation mailings. Bank One regards this information as highly proprietary, and has not disclosed it to me. Instead, Bank One asked me to use publicly available data as inputs to my model. Nevertheless, I can make several statements with confidence about Bank One's actual response rates.

First, Bank One, like other credit card issuers, observes a range of response rates for its solicitations. As I noted in my prefiled testimony, response rates depend on the income and other demographic characteristics of the potential customer. See BOC-T-2 at 4. For this reason, credit card issuers like Bank One base their mailing and marketing decisions on response rates disaggregated by customer segment rather than a single company-average response rate.

Second, average response rates for Bank One's credit card solicitations cannot be far different than industry averages. If Bank One experienced response rates that

**ANSWER OF BANK ONE WITNESS BUC
TO INTERROGATORY OCA/BOC-T2-3**

were markedly higher or lower than the rest of the industry overall, Bank One would experience a noticeable gain or loss of market share. Since this is not the case, Bank One's response rates must be fairly close to industry averages. In 2003, the average response rate for all solicitations by credit card issuers was approximately 0.4 percent. See USPS-T-2 at 3-4. I believe that 0.4 percent is therefore a reasonable estimate of the overall average response rate for Bank One as well.

b. I do not know the average lift (*i.e.*, the percentage increase in response rate caused by entering solicitations as First-Class Mail rather than Standard Mail) actually achieved by Bank One. That information is highly confidential, and Bank One has not disclosed it to me. Given that Bank One does mail a percentage of its solicitations as First-Class Mail, however, there must be some lift: If there were no lift, Bank One would not use First-Class Mail at all.

There are also strong reasons to believe that Bank One's average lift exceeds five percent. When I ran my model with no discounts and a 5 percent input for lift, the results showed that in none of the 32 cells would the value of the resulting lift justify the added cost of First-Class Mail. Using the normal distribution of population into the segments also yielded the same result: at a 5 percent lift there would be no First-Class Mail solicitations. Because we know that Bank One has historically mailed some solicitations as First-Class Mail, it is reasonable to conclude that a lift of 5 percent understates Bank One's actual average lift.

For similar reasons, it is also reasonable to conclude that Bank One's average lift is less than 10 percent. When I ran my model and assumed a lift of 10 percent and a uniform distribution, the model indicated that of the 32 cells that mailed, 9 would mail as

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First-Class Mail (28 percent of the cells). When I assumed a lift of 10 percent and a normal distribution, the results showed that almost 20 percent of the mail would be First-Class Mail. Because Bank One actually enters a much lower percentage of solicitations as First-Class Mail, it is reasonable to conclude that Bank One's average lift is below 10 percent.

I obtained similar results with an assumed average lifetime value of \$102.43 and segments defined in increments of \$20.00 above and below that average value (please recall that in my original testimony I used an average lifetime value of \$150 and segments defined in increments of \$25 above and below that average value). Attachment OCA-BOC-T2-3(b) presents the results of running the model with lifts ranging from 0 to 10 percent and average lifetime values of \$150 and \$102.43 for both uniform and normal distributions.

ATTACHMENT OCA-BOC-T2-3(b)

source: Buc_Direct--Att_3errata.xls

NO DISCOUNT

AVERAGE LIFETIME VALUE OF \$150

ACCOUNTING OF 45 SEGMENTS/POPULATION*								
LIFT	UNIFORM				NORMAL			
	STANDARD MAIL	FIRST-CLASS MAIL	NO MAIL	Total	STANDARD MAIL	FIRST-CLASS MAIL	NO MAIL	Total
0%	32	0	13	45	80%	0%	20%	100%
1%	32	0	13	45	80%	0%	20%	100%
2%	32	0	13	45	80%	0%	20%	100%
3%	32	0	13	45	80%	0%	20%	100%
4%	32	0	13	45	80%	0%	20%	100%
5%	32	0	13	45	80%	0%	20%	100%
6%	31	1	13	45	79%	1%	20%	100%
7%	30	2	13	45	78%	2%	20%	100%
8%	28	4	13	45	75%	5%	20%	100%
9%	26	6	13	45	71%	9%	20%	100%
10%	23	9	13	45	64%	15%	20%	99%

*45 segments based upon combinations of 9 lifetime values and 5 response rates.

AVERAGE LIFETIME VALUE OF \$102.43

ACCOUNTING OF 45 SEGMENTS/POPULATION								
LIFT	UNIFORM				NORMAL			
	STANDARD MAIL	FIRST-CLASS MAIL	NO MAIL	Total	STANDARD MAIL	FIRST-CLASS MAIL	NO MAIL	Total
0%	26	0	19	45	75%	0%	25%	100%
1%	26	0	19	45	75%	0%	25%	100%
2%	26	0	19	45	75%	0%	25%	100%
3%	26	0	19	45	75%	0%	25%	100%
4%	26	0	19	45	75%	0%	25%	100%
5%	26	0	19	45	75%	0%	25%	100%
6%	26	0	19	45	75%	0%	25%	100%
7%	26	0	19	45	75%	0%	25%	100%
8%	25	1	19	45	73%	2%	25%	100%
9%	24	2	19	45	71%	4%	25%	100%
10%	23	3	19	45	68%	7%	25%	100%

**ANSWER OF BANK ONE WITNESS BUC
TO INTERROGATORY OCA/BOC-T2-4**

OCA/BOC-T2-4. On page 4, you discuss the lifetime value of a customer.

- a. Please confirm that in your Attachment 1, line 9, you have provided the “Net Present Value – Lifetime Value,” for Bank One, of \$102.43. If you do not confirm, please explain why not and give the correct figure.
- b. Also confirm that \$102.43 is the lifetime value of a Bank One customer, as discussed on page 4 of your testimony. If you do not confirm, then explain why not.
- c. Assuming that the lifetime value is \$102.43, please incorporate the appropriate lift and response rates specifically applicable to Bank One (not generic) into your model. Use your model to project a specific First-Class Mail solicitation letter estimate of the number of additional First-Class mail pieces that Bank One will mail. Please provide these estimates for both the simple version and for the subsequent normal and uniform distribution cases.
- d. Please provide simulations and/or projections as applicable.
- e. Please identify in your model (or use your model to estimate) the gross increase in revenue to the Postal Service; the decrease in Standard Mail revenue; and the net increase in revenue to the Postal Service. Please provide these figures for both the simple version and for the subsequent normal and uniform distribution cases.
- f. Please discuss in detail any exogenous factors to your model that would cause these projections to vary substantially in their results.

ANSWER (Subpart b of this interrogatory has also been partially redirected to USPS witness Plunkett):

Bank One has objected to this question on the grounds that it seeks proprietary information. Without waiving this objection, however, Bank One answers the question as follows:

- a. Confirmed that in Attachment 1, line 9, in the row “Net Present Value – Lifetime Value” under the Bank One column, the amount of \$102.43 appears. Please

**ANSWER OF BANK ONE WITNESS BUC
TO INTERROGATORY OCA/BOC-T2-4**

note that in Attachment 1, line 8, in the row “Annuitized Method – Lifetime Value” under the Bank One column, the amount of \$239.18 appears.

b. I cannot confirm that \$102.43 is the exact average lifetime value of a Bank One customer. Like information on response rates and lift, information about lifetime values is highly proprietary, and Bank One has not disclosed it to me. I derived the value of \$102.43 for Bank One as follows: First, I grossed up Bank One’s net income for 2003 reported in its annual report by adding back in an estimate of marketing expenses derived from the assumptions detailed in Attachment 1 to my testimony. Then I divided the resulting sum by the estimated number of accounts (also derived as detailed in the Attachment 1). The resulting value is an estimate of the one-year flow of net incremental revenue of an average account for 2003. To estimate a lifetime value, I found the present value of that annual flow, based on reasonable assumptions as to discount rates and the number of years the firm might receive the income. I also calculated an upper bound to this estimate by calculating the present value as an annuity.

In the runs of my model included in my testimony, I used an average lifetime value of \$150, rather than \$102.43. The \$150 lifetime value of an average customer is based on the simple arithmetic average of the lifetime values that I calculated in Attachment 1, using publicly available data on net income and accounts from the annual reports of a sample of four banks, J. P. Morgan Chase, Capital One, MBNA, and Bank One. I used the average of the larger sample of four banks rather than the value calculated for Bank One for greater reliability. Please note that (1) the net income value is based on data for only one year: (2), net income was adjusted to net out estimated

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TO INTERROGATORY OCA/BOC-T2-4**

marketing costs; and (3) for Bank One, it was necessary to estimate the number of accounts.

Information on lifetime values of customers is considered highly confidential by all financial institutions, not just Bank One; accordingly, it is difficult to find authoritative data on lifetime value in the public domain. I confirmed the reasonableness of the \$150 value, however, with a marketing expert and consultant who teaches a course in “Direct Marketing Math and Finance” for the Direct Marketing Association.

Further, it should be noted that banks base marketing and mailing decisions on the lifetime values of a particular customer segment, not the average lifetime value of all customer accounts.

Finally, I note that the conclusion indicated by the model — that the proposed NSA discounts will induce a substantial migration of Bank One solicitation volume from Standard Mail to First-Class Mail — holds regardless of whether the average lifetime value used as an input to the model is \$102.43 or \$150.

c. I have run the model using an average lifetime value of \$102.43 (with the segments defined as described in my answer to OCA/BOC-T2-3(b) above), and the lifts and response rates used in my testimony. The following exhibits provide the results. The results for the segments are the same as the results of the uniform distribution of individuals. As the results show, the model is fairly stable to changes in the input assumptions. Large volumes of mail still switch from Standard Mail to First-Class Mail.

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**Modified BOC-T-2 Exhibit 1: Spreadsheet Model Output: Percentage Of Segments
Using First-Class Mail**

	Lift					
	5%		7.5%		10%	
Discount	Before Rates	After Rates	Before Rates	After Rates	Before Rates	After Rates
2.5 Cents	0%	0%	0%	12%	12%	27%
5 Cents	0%	12%	0%	38%	12%	54%

**Modified BOC-T-2 Exhibit 4: Spreadsheet Model Output: Percentage Of Mail
Using First-Class Mail (Using Normal Distributions Of Individuals)**

	Lift					
	5%		7.5%		10%	
Discount	Before Rates	After Rates	Before Rates	After Rates	Before Rates	After Rates
2.5 Cents	0%	0%	0%	10%	10%	25%
5 Cents	0%	10%	0%	37%	10%	55%

d. I performed a Monte Carlo simulation using the assumptions detailed in subpart c of this interrogatory. The following exhibit provides the results. The simulation indicates that in approximately two out of every three trials, the volume shift from Standard Mail to First-Class Mail is greater than 100 million pieces.

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TO INTERROGATORY OCA/BOC-T2-4**

**Modified BOC-T-2 Exhibit 5: Monte Carlo Output: Percentage of Trials With
Volume Shifts Greater Than or Equal to the Selected Volume Shift**

Volume Shift	Percentage of Trials
50 million	68%
100 million	66%
150 million	66%

e. Since I do not know whether the interrogatory asks for revenue estimates associated with an average lifetime value of \$102.43 or \$150, I have provided both sets of estimates. In each case, I used the model and the assumptions in my response to subpart c of this interrogatory to estimate the requested figures for the simple version, the uniform distribution case, and the normal distribution case. Because the discounts create an incentive to switch mail from Standard Mail to First-Class Mail, net increases in revenue logically follow.

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**Exhibit E1: Revenue Estimates (Simple Version and Uniform Distribution of
Individuals)**

	Lift		
Discount	5%	7.5%	10%
Average Lifetime Value of \$102.43			
Increase in First-Class Mail Revenue (millions) ¹			
2.5 Cents	\$0	\$32.0	\$40.1
5 Cents	\$29.0	\$92.0	\$101.6
Decrease in Standard Mail Revenue (millions) ²			
2.5 Cents	\$0	\$21.2	\$26.6
5 Cents	\$21.2	\$67.3	\$74.3
Net Increase in Revenue (millions) ³			
2.5 Cents	\$0	\$10.8	\$13.5
5 Cents	\$7.8	\$24.7	\$27.3
Average Lifetime Value of \$150			
Increase in First-Class Mail Revenue (millions) ¹			
2.5 Cents	\$16.0	\$42.7	\$42.7
5 Cents	\$67.8	\$99.2	\$113.7
Decrease in Standard Mail Revenue (millions) ²			
2.5 Cents	\$10.6	\$28.3	\$28.3
5 Cents	\$49.6	\$72.6	\$83.2
Net Increase in Revenue (millions) ³			
2.5 Cents	\$5.4	\$14.4	\$14.4
5 Cents	\$18.2	\$26.7	\$30.6
¹ Increase in percent using First-Class Mail (see BOC-T-2 Exhibit 1 and response to subpart c of this interrogatory) times the number of Standard Mail solicitations (see response to OCA/BOC-T2-2f) times the average First-Class Mail revenue per piece less the discount (see USPS-T-1 Appendix A, page 10 REVISED).			
² Increase in percent using First-Class Mail times the number of Standard Mail solicitations times the average Standard Mail revenue per piece (see USPS-T-1 Appendix A, page 10 REVISED).			
³ Increase in First-Class Mail revenue minus the decrease in Standard Mail revenue.			

**ANSWER OF BANK ONE WITNESS BUC
TO INTERROGATORY OCA/BOC-T2-4**

Exhibit E2: Revenue Estimates (Normal Distribution of Individuals)

Discount	Lift		
	5%	7.5%	10%
Average Lifetime Value of \$102.43			
Increase in First-Class Mail Revenue (millions) ¹			
2.5 Cents	\$0	\$26.7	\$40.1
5 Cents	\$24.2	\$89.5	\$108.9
Decrease in Standard Mail Revenue (millions) ²			
2.5 Cents	\$0	\$17.7	\$26.6
5 Cents	\$17.7	\$65.5	\$79.7
Net Increase in Revenue (millions) ³			
2.5 Cents	\$0	\$9.0	\$13.5
5 Cents	\$6.5	\$24.1	\$29.3
Average Lifetime Value of \$150			
Increase in First-Class Mail Revenue (millions) ¹			
2.5 Cents	\$5.3	\$34.7	\$50.7
5 Cents	\$46.0	\$106.5	\$133.1
Decrease in Standard Mail Revenue (millions) ²			
2.5 Cents	\$3.5	\$23.0	\$33.6
5 Cents	\$33.6	\$77.9	\$97.4
Net Increase in Revenue (millions) ³			
2.5 Cents	\$1.8	\$11.7	\$17.1
5 Cents	\$12.4	\$28.6	\$35.8
¹ Increase in percent using First-Class Mail (see BOC-T-2 Exhibit 4 and response to subpart c of this interrogatory) times the number of Standard Mail solicitations (see response to OCA/BOC-T2-2f) times the average First-Class Mail revenue per piece less the discount (see USPS-T-1 Appendix A, page 10 REVISED).			
² Increase in percent using First-Class Mail times the number of Standard Mail solicitations times the average Standard Mail revenue per piece (see USPS-T-1 Appendix A, page 10 REVISED).			
³ Increase in First-Class Mail revenue minus the decrease in Standard Mail revenue.			

**ANSWER OF BANK ONE WITNESS BUC
TO INTERROGATORY OCA/BOC-T2-4**

f. The exogenous variables in the model include lifetime value, response rates, lift, marketing costs, and the size of the discounts. Changes in any of these input variables will affect the outputs of the model to some degree. However, as demonstrated above, model outputs are fairly robust across plausible changes in input variable. Any factors that lead to changes in the exogenous variables will also induce changes in the model outputs.

**ANSWER OF BANK ONE WITNESS RAPPAPORT
TO INTERROGATORY OCA/BOC-T2-5**

OCA/BOC-T2-5. At page 11 of your testimony, you report the results for Monte Carlo simulations for variations in the response-rate lifts and the distribution of individuals across response rates and lifetime values.

- a. On what type of Bank One-imposed credit requirements and standards are these simulations based?
- b. How would the simulations change if Bank One's credit standards changed? Please give examples and discuss.

ANSWER

a. The Monte Carlo analysis I describe in my testimony is not based on any specific credit requirements or standards.

b. Theoretically, if changes in credit standards affected the distribution of populations into the segments of the model, then the exact results could change.

However, I have seen no indication that Bank One's credit standards vary enough from industry average standards to materially affect the results of my Monte Carlo analysis.

As previously noted, my model confirms that the proposed NSA discounts will induce a substantial migration of Bank One solicitation volume from Standard Mail to First-Class Mail under a wide range of assumed response rates, lift percentages, and lifetime customer values.

CERTIFICATE OF SERVICE

I hereby certify that I have today caused the foregoing document to be served in accordance with Section 12 of the Commission's Rules of Practice.

/s/

Joy M. Leong

August 16, 2004