Household switching behavior at depository institutions: evidence from survey data

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I. Introduction

Because customer substitution across products and services influences market competition, an understanding of household relationships to deposit account providers is important in guiding bank merger policy. This study looks to new survey data to elicit information on household switching behavior at depository institutions. While other surveys have investigated deposit relationship durations, this survey is unique in that it asks deposit account holders explicitly about specific reasons for changing banks or remaining with a bank. The information reveals the relationship dynamics between households and their depository institutions and explores the importance of location, mobility, bank characteristics and prices in deposit markets.

Anecdotal evidence indicates that for some banking customers, the act of establishing or closing a deposit account may

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involve spending time or tying up needed funds. Economic research suggests that such switching costs reduce consumer price response and increase the cost of entry by firms by increasing the change in prices or quality that would be necessary to induce a customer to change banks.[1] The empirical literature on retail deposits has shown deposit supply to be relatively price inelastic; switching costs may partly explain this weak price response.[2] Another explanation for deposit supply inelasticity is the multi-dimensional nature of deposit services. If customers have preferences for such characteristics as office locations or hours, then the bundle of banking services constitutes a differentiated product, relaxing the degree of direct price competition across firms.[3] The survey data provide considerable information on both customer switching behavior and the degree of product differentiation for retail deposit services at the household level.

The results show that median deposit tenure is 10 years, and that the most frequently cited motivation for changing banks is a household relocation. In addition, customer service and location are the most frequently reported reasons for remaining with a bank. The importance of relocation in bank switches corroborates earlier studies that find greater competitive pressures on banks in markets with high population turnover, as competition may be more intense for new customers moving into a market who do not

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[1] *See* P. Klemperer, *Competition when Consumers Have Switching Costs: An Overview with Applications to Industrial Organization, Macroeconomics, and International Trade*, 62 REV. ECON. STUD. 515 (Oct. 1995), as well as M. Zephirin, *Switching Costs in the Deposit Market*, 104 ECON. J. 455 (March 1994); S. Sharpe, *The Effect of Consumer Switching Costs on Prices: A Theory and Its Application to the Bank Deposit Market*, 12 REV. INDUS. ORG. 79 (Feb. 1997); and M. KIM ET AL., ESTIMATING SWITCHING COSTS AND OLIGOPOLISTIC BEHAVIOR (Working Paper, U. of Haifa and Norges Bank (2001)).

[2] *See* D. Amel & T. Hannan, *Establishing Banking Market Definitions Through Estimation of Residual Deposit Supply Equations*, 23 J. BANKING & FIN. 1667 (Nov. 1999).

[3] *See* B. Eaton & R. Lipsey, *Product Differentiation*, *in* 1 HANDBOOK OF INDUSTRIAL ORGANIZATION 725 (R. Schmalensee & R. Willig, eds., 1996).

face switching costs. Furthermore, the findings on the importance of location (and relocation) are consistent with the current use of the local market as the relevant geographic market for analyzing bank mergers. Finally, the specific reasons for changing banks or for staying with a bank suggest that basic deposit services exhibit a high degree of product differentiation—namely, through bank location and customer service—which may help explain low deposit rate elasticities estimated in previous research.

II. Data and descriptive findings

The data set comes from the Michigan Surveys of Consumers, an ongoing monthly telephone survey of a rotating panel of 500 U.S. households administered by the Michigan Survey Research Center.[4] A module on household banking behavior was sponsored by the Federal Reserve Board to obtain information on household switching among depository institutions. This group of questions was administered in the June, July, and August 1999 surveys, resulting in a sample of 1500 distinct households. Sampling weights are applied to scale the data to a nationally representative sample.

Respondents were first asked whether any member of the household has a checking or savings account with a depository institution.[5] Households with at least one checking or savings account were asked to designate the depository institution where they hold their most frequently used checking account (or savings account, if they have no checking account) as their "main bank." Households with a checking or savings account were then asked questions on the details of their relationship with their bank, such

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[4] Each month, an independent random cross-section is drawn using random-digit telephone dialing. This set of households is re-interviewed 6 months later. The interviews are conducted so that in any given month, approximately 60% of households in the sample are new respondents, and 40% are households being interviewed for a second time.

[5] In this article, a "household's response" refers to the respondent's reply on behalf of the household.

as the tenure of the deposit relationship and the reasons for changing institutions or staying with the most recent institution. The survey questions focus on deposit accounts rather than other products (such as loans). While empirical research has been conducted on the importance of lending relationships, little work has explored how and why households switch providers of deposit accounts.[6]

A. *Households with a checking or savings account*

Table 1 summarizes responses to the questions on checking and savings account ownership. Eighty-nine percent of households reported having either a checking or a savings account with a depository institution.[7] Those households reporting no such account tended to have lower income and education levels relative to other households, and were more likely to report a minority ethnicity.[8] These findings are consistent with results from other sources.[9]

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[6] For evidence on lending relationships, *see* M. Petersen & R. Rajan, *The Benefits of Lending Relationships: Evidence From Small Business Data*, 49 J. FIN. 3 (Mar. 1994); A. Berger & G. Udell, *Relationship Lending and Lines of Credit in Small Firm Finance*, 68 J. BUS. 351 (July 1995); and S. Ongena & D. Smith, *The Duration of Bank Relationships*, 61 J. FIN. ECON. 26 (Sept. 2001).

[7] To check whether some households could be using a money market mutual fund held outside a bank as a substitute for a traditional checking account, the number of households in the sample were tallied that (1) reported having no checking or savings account and (2) held a money market mutual fund. Three of the 1500 households in the data set satisfied these criteria. Thus, it appears unlikely that money market mutual funds are widely used as substitutes for checking accounts.

[8] About 69% of households with no bank account reported total income less than $20,000, as compared to 20% overall, and only 9% of households with no bank account had a college degree, as compared with 39% overall. About 54% of respondents with no bank account were of minority ethnicity, as compared with 20% overall.

[9] The 1998 Survey of Consumer Finances shows 89.5% of households to hold a transaction (checking, savings or money market) account of some type. For a full description of findings in this survey, *see*

Table 1
Checking or Savings Account Ownership

Account ownership status	*Percent of households with this account*
Has either a checking or savings account at a depository institution	89.4
Has a checking account	85.9
Has a savings (but no checking) account	3.6

Number of observations: 1496

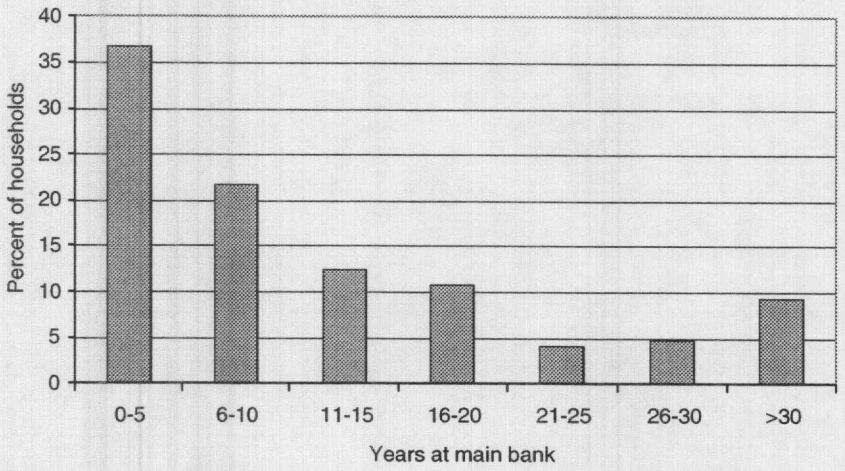
B. Tenure at depository institutions

Each household with a depository institution was asked the number of years since the household first became a customer at its main bank. Any household whose bank had merged or been acquired was asked to report tenure from the beginning of the *initial* relationship. Households' reported tenure is long—the median period of time at the main bank is 10 years. The figure shows the frequency distribution of reported years at the current main bank. While a substantial proportion of households have relatively short tenure (37% gave a tenure of 5 years or fewer), the distribution shows many households with much longer tenure. Eighteen percent of households report tenure greater than 20 years, and 9% report more than 30 years. The maximum reported tenure among households in the sample is 63 years.

It is clear from this distribution that for many households, no switch has been undertaken recently. However, the underlying reasons for these lengthy relationships with depository institutions are unclear—the patterns could be driven by customer preference for institutions that provide favorable products, service or prices, inertia caused by barriers to switching, or both. The following dis-

A. Kennickell et al., *Recent Changes in U.S. Family Finances: Results From the 1998 Survey of Consumer Finances*, 86 FED. RESERVE BULL. 1 (Jan. 2000).

Figure
Frequency Distribution of Years at Main Bank



Number of observations: 1333.

The distribution shown above displays all values greater than 30 years as a single mass point; the actual distribution in the data set is not top-coded. The maximum tenure recorded in the sample is 63 years. Frequencies are calculated using sampling weights.

cussion of reasons for changing or staying with the main bank provides some insight into the factors driving household tenure.

C. *Households at their first bank ever*

After establishing a household's tenure at its main bank, the survey asked whether the current bank is the household's (or the respondent's) first ever. Thirty-two percent of households with bank accounts reported that their current main bank is the first depository institution where they have ever had an account. Because the tendency of households to change or remain with a bank impacts competition, it is useful to investigate whether households that have never switched differ systematically from households that have changed banks at least once. For example, if households at their first bank ever have short tenure, they may be

at least as likely as other households to change banks in response to changes in prices or service. However, if these households have been with their banks for longer periods of time, they may have revealed themselves to be less likely than other households to change banks for any reason.

Table 2 shows the percentage of households at their first bank ever, conditional on the age of the respondent. Remarkably, households in the oldest age category are as likely as households in the youngest age category to be at their first bank ever. Households in the middle two age categories are less likely than households in the youngest or oldest categories never to have changed banks. These conditional probabilities suggest a cohort effect rather than an age effect in switching behavior. Specifically, households in the middle age categories can never become as likely as older households *never* to have switched banks. It is not clear from this analysis what underlies the greater likelihood for the older cohort never to have changed banks.[10] This phenomenon

Table 2
Percent of Households at "First Bank Ever" by Age Category

Age category	*Percent of households at first bank ever*	*Number of observations*
Age < 35	40.2	344
Age 35-49	23.9	488
Age 50-64	26.9	310
Age 65+	40.7	208
All households*	32.3	1359

* Percentages are calculated among households with a checking or savings account. Sampling weights are applied to calculate percentages. The number of observations across age categories does not sum to the number among all households because of the nonresponse of nine households to the age question.

[10] This cohort effect is confirmed in a multivariate analysis of households at their first bank in E. Kiser, *Predicting Household Switching Behavior and Switching Costs at Depository Institutions*, 20 REV. INDUS. ORG. 349 (June 2002).

suggests that the propensity to switch may be increasing over generations. Such a change could cause competitive pressures on banks to strengthen over time, all else equal, as customers become more mobile or price sensitive.

D. Reasons for changing banks

The 964 households that had changed banks at least once were asked the primary reason for their most recent (active) bank change.[11] This question was posed with three mutually exclusive categorical responses: because of a move from one town to another, because of a move or job change within the same town, or some other reason. Table 3 summarizes the responses to this question. Thirty-six percent of households that had changed banks reported the most recent change was due to a move from one town to another, and 15% reported the change was due to a local move or a local job change. The remainder responded that some other reason had led them to change banks. Thus, about half the households that had changed banks at some time reported that their most recent bank change was due to a relocation of some type.[12] This finding strongly suggests that a substantial number of households find a local presence important for a deposit relationship.

The 469 households that reported "some other reason" (i.e., not a household relocation) as the primary motivation for the most recent bank change were asked more specific information about the change. Five nonmutually exclusive factors were offered as possible important reasons for the bank change, presented as yes/no questions.

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[11] The households not at their first bank ever are assumed to have actively changed banks—that is, closed their deposit account(s) and opened another at a different institution—at least once. All questions that referenced a bank change explicitly were phrased to imply that the household had actively moved accounts from one institution to another.

[12] While about half of households' most recent bank changes were caused by a move, one cannot infer what proportion of moves induces a bank change. Because the survey does not ask whether the household has moved recently, it is not possible to calculate the proportion of households that changed banks *among* households that moved recently.

Table 3
Primary Reason for Most Recent Bank Change

Primary reason for most recent bank change	*Percent frequency*
Moved towns	36.4
Moved or changed jobs within town	14.9
Some other reason	48.8

Number of observations: 961.

Only the 964 households that were not at their first bank ever were asked the primary reason for the most recent bank change. These categorical responses are mutually exclusive. Three households did not respond to the question. Frequencies are calculated using sampling weights.

The affirmative response rates for questions on specific reasons for the most recent bank change are reported in table 4. The leftmost numeric column displays the percent frequencies among households that were asked this set of questions. The reason receiving the most affirmative responses (56%) was better customer service. Prices (interest rates, maintenance fees, or minimum balance requirements), location of the bank's ATMs or offices, and access to electronic services (such as direct deposit, electronic bill payment, or PC banking) had affirmative response rates of 49%, 37% and 27%, respectively. Twenty-three percent reported that they changed banks most recently because their previous bank merged with another firm. Eleven percent of the households that were asked these questions did not respond affirmatively to any of the listed reasons. The two right columns of table 4 show the affirmative response rates to these questions expressed as a percentage of all households that have ever changed banks and as a percentage of all households with a bank account.

Note that households were asked the specific reasons for changing banks only if they listed "some other reason" rather than a move or a job change as their primary reason for their most recent bank change. Thus, although location was cited by only 37% of households that initiated for reasons *other* than a move,

Table 4
Reasons for Most Recent Bank Change, if Not for a Move or Job Change

Specific reasons for most recent bank change (other than a move or job change)	*Percent of households responding "yes," as a percentage of households that . . .*		
	changed banks most recently for some reason other than a move	*have changed banks at some time**	*have a checking or savings account**
Interest rates, maintenance fees, or minimum balance requirements	48.8	22.0	15.3
Location of ATMs or offices	37.3	16.8	11.7
Customer service	56.1	25.3	17.6
Access to electronic banking services	27.0	12.2	8.5
Previous bank merged with another	22.6	10.2	7.1
Did not respond "yes" to any specific reason for switching	10.8	4.7	3.3
Number of observations	469	964	1378

These questions are not mutually exclusive. Frequencies are calculated using sampling weights.

* Only those households that had changed banks for some reason other than a relocation were asked the specific reasons for changing banks.

location (or relocation) is arguably by far the most frequently cited reason for a bank change, since it is implicit in a move or job change.

Households' reported consideration of price factors reveals some information about customer response to prices relative to other bank characteristics. For households that have initiated a bank change for some reason other than a move, prices appear to be an important factor in changing banks. However, the households reporting prices as a primary reason for a change represent only 22% of households that report having ever changed banks,

and only 15% of all households with bank accounts. The high affirmative response rate for customer service also underscores the importance of nonprice characteristics in the decision to change banks.

The affirmative response rate to a merger as a reason for the most recent bank change is equal to about 7% of all households with bank accounts. Although the questions on tenure imply that a merger or name change does not constitute the household's having changed banks, it is possible that some respondents interpreted a bank name change as a change of bank. To explore this possibility, the frequencies of responses to the merger question were tabulated conditional on responses to the other specific reasons for changing banks. If the respondent interpreted a name change as a bank change, then the merger should constitute the household's *only* specific reason for having changed banks, since all other reasons imply that a difference between the characteristics of distinct banks induced a bank change.

Of the households responding yes to the merger question, 23% responded affirmatively to no other reason for changing banks. Thus, if this proportion represents the maximum possible affirmative response due to an incorrect interpretation of the question, then the remaining 77% of these households have actively undertaken a bank change in response to a merger. This implies that a minimum of 5.6% of households with bank accounts have actively changed banks in response to a merger (as opposed to the 7.1% that responded affirmatively to the merger question, shown in table 4). Note that because the survey instrument does not ask households whether or how long ago they experienced a bank merger, we cannot conclude what proportion of households in this sample that have actually experienced a bank merger also switched banks in response.[13]

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[13] For evidence on deposit runoff in the wake of bank mergers, *see* J. BURKE, DIVESTITURE AS AN ANTITRUST REMEDY IN BANK MERGERS (Federal Reserve Board Finance & Economics Discussion Series (FEDS) Discussion Paper 1998-14); and S. PILLOFF, WHAT'S HAPPENED AT DIVESTED BANK OFFICES? AN EMPIRICAL ANALYSIS OF ANTITRUST DIVESTITURES IN BANK MERGERS (Working Paper, Federal Reserve Board, 2001).

While the format of asking multiple yes/no questions implies that the reasons for changing banks cannot be ranked in importance, it has the advantage that the respondent may list multiple reasons for changing. The correlations for the reasons for changing banks are presented in table 5. Most of the specific reasons for changing banks are positively correlated; an exception is the negative correlation between prices and a merger as reasons for changing banks. This relationship suggests that merger-related switches were initiated because of dissatisfaction with *nonprice* factors associated with the merger. Indeed, the merger response is positively correlated with customer service and electronic services as reasons for changing.[14]

E. Reasons for staying at the current bank

All 1341 households that had been with their current bank for at least 1 year were presented with a set of yes/no questions about why they had stayed with their current bank. (Note that some, but not all, households were asked both the "staying" and the "switching" questions.) These questions were structured to resemble the questions on changing banks; the responses appear in table 6. Customer service received the greatest proportion of affirmative responses (75%). Location, prices and electronic banking services received 74%, 59% and 58% affirmatives, respectively. Thirty-four percent reported that they have stayed with their bank so far "because it would be too much trouble" to close their account and open a new one elsewhere. Three percent of households did not respond affirmatively to any of these questions.

The fraction responding affirmatively to each staying question was considerably larger than the fraction responding affirmatively to the comparable switching question.[15] Customer service received

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[14] Note that empirical evidence suggests that mergers result in lower deposit rates; *see* R. Prager & T. Hannan, *Do Substantial Horizontal Mergers Generate Significant Price Effects? Evidence from the Banking Industry*, 46 J. INDUS. ECON. 433 (Dec. 1998).

[15] Comparing tables 3 and 5, it is not immediately clear why the affirmative response rate is so much greater for the questions on staying

Table 5
Correlations of Reasons for Most Recent Bank Change, if Not for a Move or Job Change

	Prices	*Location*	*Customer service*	*Electronic services*	*Merger*
Prices	1	0.031 (0.498)	0.067 (0.145)	0.124 (0.007)	-0.074 (0.110)
Location	0.031 (0.498)	1	0.118 (0.010)	0.247 (0.0001)	0.017 (0.717)
Customer service	0.067 (0.145)	0.118 (0.010)	1	0.210 (0.0001)	0.146 (0.002)
Electronic services	0.124 (0.007)	0.247 (0.0001)	0.210 (0.0001)	1	0.111 (0.016)
Merger	-0.074 (0.110)	0.017 (0.717)	0.146 (0.002)	0.111 (0.016)	1

Number of observations: 469.

Includes only those households that responded to all the questions above; households were asked these questions if they had changed banks most recently for some reason other than a household move or job change.

P-values for chi-squared test that the correlation coefficient is different from zero are given in parentheses.

the highest rate of affirmative responses relative to other reasons for both switching and staying. Location, however, appears relatively more important for staying than for switching (conditional on the household's having changed for some reason other than a move or job change). Specifically, location ranks on the same scale as customer service in the staying questions, surpassing the price variable in its affirmative response rate. This is perhaps

than for the questions on switching. The rate of affirmative response may be higher because the reasons offered better address the decision to stay with the current bank than the decision to switch from a previous bank. However, in contrast to switching banks, which is a deliberate action, staying with the current bank is generally passive. It is possible that respondents may be less clear about their specific reasons for staying, and may be more suggestible when presented with a set of yes/no reasons.

Table 6
Reasons for Staying at Current Main Bank

Reasons for staying at current main bank	*Percent responding "yes"*	*Number of observations*
Interest rates, maintenance fees, or minimum balance requirements	59.4	1316
Location of ATMs or offices	73.8	1317
Customer service	75.2	1316
Access to electronic banking services	58.0	1315
Too much trouble to switch	34.4	1313
Did not respond "yes" to any specific reason for staying	2.7	1317

All households that had been at their main bank for at least 1 year were asked these questions. These questions are not mutually exclusive. Frequencies are calculated using sampling weights. The number of observations for each question excludes nonrespondents.

unsurprising, given the nature of the choice of financial institution. The locations of bank offices and branches change seldom relative to an individual's home or workplace. If a household is geographically stable, we expect location to be an unlikely reason to change institutions, but to be a prominent reason for retaining an institution.

The affirmative rate for electronic banking services is higher relative to other reasons for staying than for switching. This finding is consistent with switching costs or loyalty resulting from a complex arrangement of direct deposit and automatic debit relationships, or a reliance on PC or Internet banking. Also, it is possible that some households interpreted the question on electronic banking services to include access to ATM networks, in which case households could again be expressing a preference for location. In fact, the positive correlation between location and electronic services as reasons for staying (see table 7) is consistent with households having interpreted electronic banking services to include access to ATMs.

Table 7
Correlations of Reasons for Staying at Current Main Bank

	Prices	*Location*	*Customer service*	*Electronic services*	*Too much trouble*
Prices	1	0.107 (0.0001)	0.212 (0.0001)	0.263 (0.0001)	-0.182 (0.0001)
Location	0.107 (0.0001)	1	0.222 (0.0001)	0.241 (0.0001)	0.061 (0.026)
Customer service	0.212 (0.0001)	0.222 (0.0001)	1	0.231 (0.0001)	-0.231 (0.0001)
Electronic services	0.263 (0.0001)	0.241 (0.0001)	0.231 (0.0001)	1	-0.035 (0.211)
Too much trouble	-0.182 (0.0001)	0.061 (0.026)	-0.231 (0.0001)	-0.035 (0.211)	1

Number of observations: 1312.

Includes only those households that responded to all the questions above; households were asked these questions if they had been at their main bank for at least 1 year.

P-values for chi-squared test that the correlation coefficient is different from zero are given in parentheses.

The question whether it would be "too much trouble to close your account and open a new one elsewhere" allows us to begin to distinguish switching costs from a customer preference for the bank's prices and characteristics.[16] If bank customers perceive that their current bank is not their optimal choice, yet do not switch because of the inconvenience, then switching costs are likely endowing institutions with at least some degree of market power

[16] A household's response to this question is not necessarily a perfect indicator of switching costs. Not all costs of changing banks (e.g., the cost of new checks) are captured by the question, which refers to convenience rather than price. The question does not elicit information on search costs. Finally, respondents do not necessarily distinguish the cost from the benefits of switching. Specifically, some customers may perceive some inconvenience to switching but respond negatively to the question because the inconvenience was not substantial enough to prevent them from switching.

over their own customers. The 34% of households with a checking or savings account report they have not switched banks at least in part because it would be too inconvenient appear to find switching costs important.

As is shown in table 7, most of the correlations among reported reasons for staying are positive. However, prices, customer service and electronic services are negatively correlated with "too much trouble." The negative relationship between prices and "too much trouble" is consistent with the theoretical prediction that switching costs increase the price increase that would be necessary to induce a customer to switch. The negative relationship between "too much trouble" and the other two variables (customer service and electronic services) suggests that households reporting it to be too inconvenient to switch may be less satisfied than other households with the characteristics or services of their bank. The next survey question deals with customer satisfaction directly.

F. Customer satisfaction

Respondents were asked a categorical question on the household's level of satisfaction with their main bank. The frequency distribution for this variable is presented in the first column of table 8. A large proportion of households—53%—reported they are "very satisfied" with their main bank. Thirty-four percent reported being "moderately satisfied," and 7% reported being "neither satisfied nor dissatisfied." Five percent of households reported being "moderately dissatisfied," and only 2% reported being "very dissatisfied" with their main bank. While the responses show little dissatisfaction, the reported level of satisfaction reveals no information about how the household would compare the characteristics of its bank with those of alternative institutions. Furthermore, respondents certainly apply no uniform method of translating preferences into corresponding satisfaction levels that would be comparable across households.

Due to the subjective nature of reported customer satisfaction, it is difficult to interpret the response to this question indepen-

Table 8
Frequency Distribution: Satisfaction With Main Bank

Level of satisfaction with main bank	*All households with accounts (%)*	*Households responding "yes" to "too much trouble" to switch (%)*	*Households responding "no" to "too much trouble" to switch (%)*
Very satisfied	52.6	33.3	62.7
Moderately satisfied	34.4	43.3	30.2
Neither satisfied nor dissatisfied	6.5	10.0	4.5
Moderately dissatisfied	4.7	9.2	2.1
Very dissatisfied	1.8	4.1	0.4
Number of observations	1357	440	851

All 1378 households with a bank account were asked satisfaction levels; 21 households did not respond to the question. Only those households that had been with their main bank for at least 1 year (1291 households) were asked whether it was "too much trouble" to change banks. These categories are mutually exclusive. Frequencies are calculated using sampling weights.

dently. However, we can investigate whether the *distribution* of satisfaction levels varies with the responses to other questions. The right two columns of table 8 show the frequency distributions of customer satisfaction conditional on whether the household answered yes or no to whether it was too inconvenient to switch. The frequency distribution of satisfaction levels for households responding affirmatively to "too much trouble" indicates lower satisfaction than that for households responding negatively. Considering the converse proportions, shown in table 9, only 30% of very or moderately satisfied households reported it was too inconvenient to switch, compared with 63% of households that were neutral or moderately or very dissatisfied.

Table 9
Response Rates to "Too Much Trouble" by Satisfaction Level

Satisfaction with main bank	*Percent that responded "yes" to "too much trouble to switch"*	*Number of observations*
Very or moderately satisfied	30.2	1135
Neutral, moderately or very dissatisfied	62.9	172
Among all households*	34.4	1313

The number of observations across satisfaction levels does not sum to the number of observations in the leftmost column because of the nonresponse of six households to the question on customer satisfaction. Percentages are calculated using sampling weights.

* Households were asked reasons for staying at a bank (which included "too much trouble") if they had a bank account and had been with their current depository institution for at least 1 year. All households with a bank account were asked their satisfaction level with their current bank.

III. Implications for competition among providers of deposit accounts

The findings presented above have implications for competition among providers of deposit accounts. During the bank merger review process at the relevant regulatory authorities, considerable attention is given to local market conditions that may mitigate the potentially anticompetitive effects of mergers. For example, market size, market growth, and commuting patterns that affect the range of depository institutions available to customers have been cited as mitigating factors in bank merger cases. Economic research at the bank and market level has shown some of these variables to be statistically and economically significant predictors of firm entry.[17] However, little research has been conducted at

[17] *See* D. Amel & N. Liang, *Determinants of Entry and Profits in Local Banking Markets*, 12 REV. INDUS. ORG. 59 (Feb. 1997).

the individual level to explain the mechanisms by which these factors influence the cost of entry.

Because households change banks relatively infrequently, and because about a third of households report that it would be too inconvenient to switch banks, we can infer from the data that some inertia exists in household banking relationships. If banking customers tend not to switch except in response to substantial price or service differentials, then large-scale de novo entry into banking markets should be costly. However, entry by acquisition should be relatively less costly (and mergers in such markets could be more profitable, if existing customers of the target firm are unlikely to switch in response to the merger). These implications are, in fact, consistent with observed entry patterns—de novo entry typically occurs on a small scale, while entry by acquisition often occurs on a much larger scale.[18]

In addition, when households do change institutions, the switch is most frequently due to a household relocation. If a move forces a customer to change banks, then the move effectively overwhelms the importance of transaction costs in changing banks. This reasoning suggests that turnover in the population may be an important factor in maintaining competitive pressure on depository institutions—overall response to prices should be stronger in areas where many customers are moving into the market than in those with little population turnover. This consequence is consistent with market-level empirical studies that show deposit and loan interest rates to be more favorable to consumers in markets with high rates of population in-migration.[19]

Retail banking for households and small businesses has traditionally been an industry for which geographic proximity between

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[18] For an analysis of de novo entry in local banking markets, *see* Amel & Liang *supra* note 17; for a summary of bank consolidation, *see* S. Rhoades, *Retail Commercial Banking: An Update on a Period of Extraordinary Change*, 16 Rev. Indus. Org. 357 (June 2000).

[19] *See* Sharpe *supra* note 1 and P. Calem & G. Carlino, *The Concentration/Conduct Relationship in Bank Deposit Markets*, 73 Rev. Econ. & Stat. 268 (May 1991).

a customer and the depository institution is extremely important. Despite technological changes that theoretically could lengthen the possible distance between customer and bank, recent household and small business surveys show that a very large proportion of households and small businesses are located a very short distance from their main banks.[20] The results presented here on moving as a reason for changing banks and location as a reason for staying with a bank are consistent with previous findings.

Note that local banking markets are not inconsistent with the increasing geographic scope of large banking organizations in the wake of the removal of restrictions on interstate banking and branching. Suppliers of banking services may continue to span ever broader geographic areas. However, the ongoing local nature of banking on the demand side suggests that the relevant market for assessing competition (i.e., for assessing the scope of customer alternatives) continues to be the local area.[21]

In addition to information about geographic market definition, the survey reveals information about households' response to prices as opposed to nonprice factors. Only 15% of all households with checking or savings accounts report that they have changed banks in order to receive better rates or pay lower fees. Furthermore, ranking below relocation, customer service was cited most frequently as a reason for changing banks. These findings underscore that deposit relationships are multidimensional, and that this differentiation likely decreases customer price response.

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[20] *For example, see* M. Kwast et al., *Market Definition and the Analysis of Antitrust in Banking*, 42 ANTITRUST BULL. 973 (1997), in which the authors report that half of households and small businesses hold their primary checking account at a depository institution within 3 miles. For a more recent analysis, *see* D. Amel & M. Starr-McCluer, *Market Definition in Banking: Recent Evidence*, 47 ANTITRUST BULL. 63 (2002), in which the authors confirm the earlier findings for households.

[21] For a discussion of the distinctions between the geographic scope of banks versus the geographic scope of banking markets, *see* E. Heitfield, *What Do Interest Rate Data Say About the Geography of Retail Banking Markets?*, 44 ANTITRUST BULL. 333 (1999).

IV. Conclusion

The survey data show that location continues to be an important factor in households' choice of depository institution, and that relocation is the most frequently cited reason for a change of bank. While price factors are important among the third of households that have initiated a change for reasons other than a relocation, relatively few households overall appear to have initiated a bank change mainly because of price factors. Households show substantial heterogeneity in both the likelihood of switching and in the responsiveness to prices or a preference for specific bank characteristics. The differentiation of banks and banking products as well as the heterogeneity in customer preferences appears to be central to customer behavior.

Mergers appear to have induced the most recent change of banks for between 5% and 7% of all households with bank accounts. Correlation coefficients between a merger and other reasons cited for changing banks indicate that households are more likely to switch after a merger because of nonprice factors, such as customer service, rather than in response to price changes that may have occurred with the merger.

The tendency of households to remain with a bank for many years (the median tenure in the sample is 10 years), along with the third of households that cite the inconvenience of switching as a reason for remaining with their bank, suggest that substantial changes in prices or services may be necessary to induce many households to change institutions. Two phenomena may counteract this inertia in deposit relationships.

First, although tenure is relatively long, the oldest households are as likely as the youngest households never to have changed banks, and households in the middle age groups are less likely than either of these groups to be at their first bank ever. This cohort effect suggests that the tendency to change banks may be increasing over time, which could consequently increase competition in the future.

Second, because a move is the most frequently cited reason for changing banks, population migration across local markets should counteract household inertia and thereby help maintain pressure on depository institutions to offer attractive prices and services. These findings are consistent with previous research on bank pricing and entry. One caveat, however, is that consolidation in banking continues to generate larger banks whose physical presence spans many local banking markets. This, in turn, may mean that increasing numbers of bank customers can move across markets without needing to change banks, decreasing the likelihood of switching and weakening the competitive impact of population turnover.