

**Appendix for**  
**“Effects of Bank Branch/ATM Consolidations on Cash**  
**Demand:**  
**Evidence from Bank Account Transaction Data in**  
**Japan”**

Kozo Ueda

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## A Fraction of Users Who Did Not Withdraw Cash at All

Table 1 shows the fraction of users who did not withdraw cash for a certain period. The users are the same as those used for Section 2. We select the accounts that record at least six outflows during 2019 and the last account use date is 2020 or later. In addition, we select the accounts that have a registered address in Chiba Prefecture (a prefecture adjacent to Tokyo).

Table 1: Fraction of Users Who Did Not Withdraw Cash

	15–29	30–44	45–59	60–74	75–99
Jun 2018 to Mar 2020	0.013	0.055	0.093	0.131	0.179
Apr 2020 to Mar 2021	0.026	0.080	0.118	0.164	0.208

## B Effect of Bank Branch Consolidation

Table 2 provides the descriptive statistics of the data used for estimation. Figure 1 shows the website that announces the consolidation of bank branches. Figure 2 shows the distribution of the timing of branch consolidation and the distance to the consolidation destination. Tables 3 to 5 provide the estimation results.

Table 2: Descriptive Statistics: Data Used for Estimation on the Effect of Bank Branch Consolidation

Statistic	N	Mean	St. Dev.	Pctl(25)	Median	Pctl(75)
No. of ATM use	737,785	19.188	30.991	0	8	25
Amount of outflows	737,785	2,973,970	25,030,935	230,832	1,060,211	2,630,636
Amount of ATM withdrawals	737,785	769,923	2,039,574	0	325,000	1,075,000
Amount of inflows	737,785	3,075,693	23,569,333	232,630	1,106,958	2,813,886
Amount of salaries	737,785	531,190	1,182,210	0	0	652,700
Ratio of ATM to outflows	671,391	0.452	0.374	0.061	0.411	0.820
No. of ATM use of consolidated one	737,785	14.098	38.658	3	6	15
Distance to a consolidating bank	737,785	7.340	11.655	0.810	2.240	5.590
Age	724,886	51.097	18.170	37.000	51.000	65.000
Log wealth	729,586	5.266	2.932	3.258	5.663	7.522
Log income	729,586	4.818	2.853	2.639	5.247	6.974

Note: As of 2019. Wealth and income are the total deposits and yearly income of account holders recorded as of December 2019. The unit is yen for the amount of outflows, withdrawals, and salaries, while it is thousand yen for wealth and income.

MIZUHO みずほ銀行

店舗移転のお知らせ

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移転日	移転店	移転後住所・電話番号
2022年3月14日 月曜日 (予定)	● 飯塚支店	〒104-0061 東京都中央区銀座4-2-11 (飯塚支店内) TEL 03-3563-6661
	● 小塚支店	〒350-0043 埼玉県川越市高野町2-10-5 TEL 049-225-2211 (電話番号は変更ございません)
2022年3月7日 月曜日 (予定)	● 飯塚中央支店	〒104-0061 東京都中央区銀座4-2-11 (飯塚支店内) TEL 03-3561-3171 (電話番号は変更ございません)
2022年2月21日 月曜日 (予定)	● 岩槻支店	〒373-0849 群馬県高崎市内八島町265 TEL 027-322-2291 (電話番号は変更ございません)
2022年2月14日 月曜日 (予定)	● 池田新行支店	〒101-0052 東京都千代田区神田小川町1-1 (神田支店内) TEL 03-3293-6021
	● 稲荷町支店	〒110-0005 東京都台東区上野9-16-5 (上野支店内) TEL 03-3832-0251
	● 赤池支店	〒107-0061 東京都港区北青山0-6-12 (青山支店内)

Figure 1: Information on Bank Branch Consolidation

(Source) Mizuho Website: <https://www.mizuho.co.jp/tenpointo/tougou/index.html>, accessed on October 13, 2021

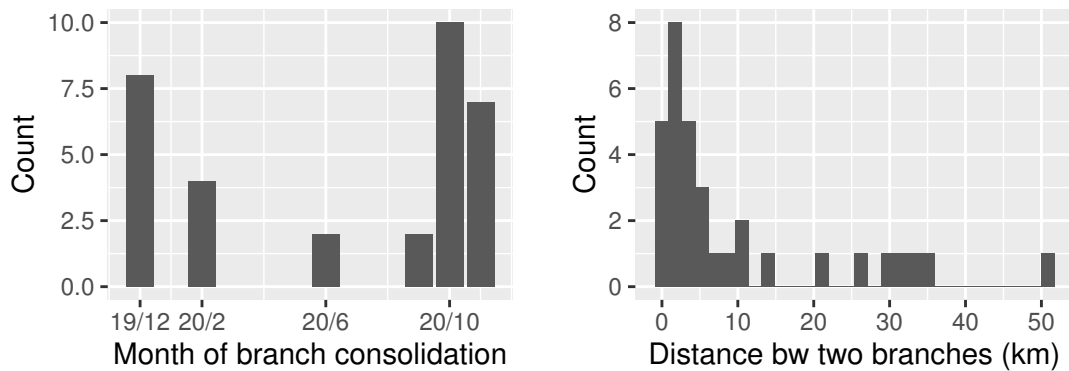


Figure 2: Distribution of Consolidated Branches

Note: The left panel shows the distribution of the number of consolidate branches by the month of consolidation, whereas the right panel shows the distribution of the distance between consolidated and consolidating branches.

Table 3: Estimation Results on the Effect of Bank Branch Consolidation (1)

Explanatory variables	Dependent variables							
	(1) ATM withdrawals	(2) ATM withdrawals	(3) Outflows	(4) Inflows	(5) ATM withdrawals ratio	(6) No. of ATM use	(7) Salaries	(8) Transaction dummy
	Dummy	Dummy×distance	Dummy×distance	Dummy×distance	Dummy×distance	Dummy×distance	Dummy×distance	Dummy×distance
4 months prior	0.236 (0.158)	0.002 (0.004)	0.003 (0.004)	0.004 (0.005)	-0.001 (0.001)	0.001 (0.001)	0.000 (0.002)	0.0000 (0.0001)
3 months prior	0.083 (0.176)	0.005 (0.004)	0.012 (0.005)	0.000 (0.004)	-0.007 (0.001)	0.001 (0.001)	-0.001 (0.002)	0.0000 (0.0000)
2 months prior	0.229 (0.192)	0.009 (0.003)	0.015 (0.003)	0.005 (0.003)	-0.006 (0.002)	0.001 (0.001)	0.000 (0.001)	-0.0001 (0.0001)
1 month prior	0.297 (0.215)	0.013 (0.003)	0.022 (0.005)	0.011 (0.004)	-0.009 (0.003)	0.002 (0.000)	0.001 (0.002)	-0.0002 (0.0001)
Month of consolidation	0.077 (0.167)	0.003 (0.003)	-0.001 (0.003)	-0.009 (0.003)	0.004 (0.001)	0.001 (0.000)	-0.002 (0.001)	-0.0007 (0.0001)
1 month after	-0.121 (0.104)	-0.001 (0.002)	-0.014 (0.004)	-0.014 (0.004)	0.013 (0.002)	0.001 (0.000)	-0.002 (0.001)	-0.0008 (0.0001)
2 months after	-0.146 (0.076)	-0.002 (0.002)	-0.015 (0.003)	-0.018 (0.003)	0.013 (0.002)	0.001 (0.000)	-0.003 (0.001)	-0.0012 (0.0002)
3 months after	-0.173 (0.069)	0.000 (0.002)	-0.014 (0.003)	-0.015 (0.003)	0.014 (0.002)	0.001 (0.000)	-0.003 (0.001)	-0.0010 (0.0002)
4 months after	-0.172 (0.061)	-0.001 (0.001)	-0.015 (0.003)	-0.018 (0.003)	0.014 (0.002)	0.001 (0.000)	-0.003 (0.001)	-0.0011 (0.0002)
5 months after	-0.198 (0.069)	-0.003 (0.001)	-0.017 (0.003)	-0.018 (0.003)	0.014 (0.002)	0.000 (0.000)	-0.003 (0.001)	-0.0010 (0.0002)
6 months after	-0.224 (0.106)	-0.029 (0.005)	-0.054 (0.006)	-0.065 (0.006)	0.025 (0.004)	-0.002 (0.001)	-0.008 (0.001)	-0.0029 (0.0002)
7 months after	-0.233 (0.128)	-0.037 (0.005)	-0.067 (0.005)	-0.073 (0.006)	0.030 (0.003)	-0.003 (0.001)	-0.007 (0.001)	-0.0030 (0.0002)
8 months after	-0.271 (0.134)	-0.039 (0.006)	-0.071 (0.005)	-0.065 (0.005)	0.032 (0.003)	-0.003 (0.001)	-0.009 (0.001)	-0.0034 (0.0002)
9 months after	-0.267 (0.130)	-0.028 (0.008)	-0.060 (0.006)	-0.051 (0.007)	0.032 (0.003)	-0.002 (0.001)	-0.007 (0.002)	-0.0025 (0.0001)
10 months after	-0.307 (0.135)	-0.035 (0.005)	-0.069 (0.005)	-0.055 (0.004)	0.034 (0.002)	-0.003 (0.001)	-0.007 (0.002)	-0.0028 (0.0002)
11 months after	-0.328 (0.101)	-0.029 (0.006)	-0.066 (0.005)	-0.047 (0.004)	0.037 (0.003)	-0.002 (0.001)	-0.006 (0.002)	-0.0027 (0.0002)
12 months after	-0.213 (0.091)	-0.014 (0.005)	-0.039 (0.004)	-0.024 (0.004)	0.025 (0.004)	-0.001 (0.001)	-0.006 (0.001)	-0.0013 (0.0002)
Month FE	yes	yes	yes	yes	yes	yes	yes	yes
No. of observations	16,231,270	16,231,270	16,231,270	16,231,270	16,231,270	16,231,270	14,228,808	16,231,270
months	22	22	22	22	22	22	22	22
accounts	737,785	737,785	737,785	737,785	737,785	737,785	646,764	737,785
R <sup>2</sup>	0.207	0.206	0.401	0.346	0.062	0.182	0.144	0.013
No. of ATM use prior	2 or more	2 or more	2 or more	2 or more	2 or more	2 or more	2 or more	2 or more

Note: The dependent variable is the logarithm of the explained variable after adding one except for the ATM withdrawals ratio and transaction dummy. Figures in parentheses indicate standard errors, which are clustered at the branch level. The transaction dummy takes  $-1$  if both inflows and outflows are zero and either inflows or outflows are positive in the same month of the previous year, and zero otherwise.

Table 4: Estimation Results on the Effect of Bank Branch Consolidation (2): Heterogeneity

	Dependent variables: ATM withdrawals													
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
Explanatory variables: dummy×distance														
4 months prior	0.000 (0.005)	0.001 (0.004)	-0.001 (0.005)	0.002 (0.005)	0.000 (0.007)	0.000 (0.005)	-0.001 (0.003)	0.004 (0.003)	0.001 (0.006)	0.000 (0.005)	0.000 (0.004)	0.003 (0.003)	-0.003 (0.004)	0.001 (0.004)
3 months prior	0.006 (0.005)	0.000 (0.004)	-0.001 (0.005)	0.007 (0.005)	0.000 (0.007)	-0.001 (0.004)	0.001 (0.003)	0.011 (0.003)	0.001 (0.006)	0.000 (0.004)	0.003 (0.003)	0.009 (0.003)	-0.002 (0.004)	0.003 (0.004)
2 months prior	0.012 (0.004)	0.003 (0.003)	0.004 (0.003)	0.010 (0.003)	0.005 (0.005)	0.004 (0.003)	0.006 (0.003)	0.014 (0.002)	0.006 (0.004)	0.004 (0.003)	0.006 (0.002)	0.012 (0.003)	0.003 (0.003)	0.008 (0.003)
1 month prior	0.017 (0.003)	0.006 (0.003)	0.008 (0.002)	0.014 (0.004)	0.006 (0.003)	0.007 (0.003)	0.010 (0.004)	0.019 (0.004)	0.008 (0.003)	0.008 (0.003)	0.011 (0.003)	0.018 (0.004)	0.004 (0.002)	0.011 (0.003)
Month of consolidation	0.004 (0.003)	-0.002 (0.002)	-0.001 (0.003)	0.002 (0.003)	0.000 (0.004)	0.000 (0.002)	-0.001 (0.002)	0.004 (0.002)	0.001 (0.004)	0.000 (0.002)	-0.001 (0.002)	0.002 (0.002)	0.002 (0.003)	0.003 (0.003)
1 month after	-0.003 (0.003)	-0.003 (0.002)	-0.004 (0.002)	-0.003 (0.002)	-0.001 (0.003)	-0.003 (0.002)	-0.005 (0.002)	-0.003 (0.002)	-0.001 (0.003)	-0.003 (0.002)	-0.004 (0.002)	-0.005 (0.002)	0.003 (0.002)	0.000 (0.002)
2 months after	-0.005 (0.002)	-0.003 (0.002)	-0.004 (0.002)	-0.005 (0.002)	-0.002 (0.003)	-0.005 (0.002)	-0.006 (0.001)	-0.004 (0.001)	-0.001 (0.003)	-0.004 (0.002)	-0.006 (0.001)	-0.006 (0.001)	0.003 (0.001)	-0.001 (0.002)
3 months after	-0.003 (0.002)	-0.001 (0.002)	-0.003 (0.002)	-0.001 (0.001)	-0.003 (0.003)	-0.003 (0.002)	-0.001 (0.001)	-0.001 (0.002)	-0.003 (0.003)	-0.003 (0.002)	-0.001 (0.001)	-0.003 (0.001)	0.004 (0.001)	0.002 (0.001)
4 months after	-0.003 (0.002)	-0.004 (0.002)	-0.003 (0.002)	-0.002 (0.001)	-0.001 (0.003)	-0.004 (0.002)	-0.006 (0.001)	-0.002 (0.002)	-0.001 (0.003)	-0.004 (0.002)	-0.004 (0.001)	-0.004 (0.001)	0.004 (0.001)	0.000 (0.001)
5 months after	-0.005 (0.001)	-0.003 (0.001)	-0.004 (0.001)	-0.005 (0.002)	-0.002 (0.002)	-0.005 (0.002)	-0.007 (0.001)	-0.005 (0.001)	-0.002 (0.002)	-0.005 (0.002)	-0.006 (0.001)	-0.006 (0.001)	0.003 (0.001)	-0.001 (0.001)
6 months after	-0.031 (0.004)	-0.022 (0.007)	-0.026 (0.005)	-0.025 (0.006)	-0.039 (0.006)	-0.018 (0.006)	-0.019 (0.005)	-0.018 (0.005)	-0.039 (0.006)	-0.015 (0.006)	-0.023 (0.005)	-0.018 (0.005)	-0.010 (0.005)	-0.024 (0.005)
7 months after	-0.043 (0.005)	-0.028 (0.007)	-0.030 (0.004)	-0.036 (0.006)	-0.045 (0.006)	-0.029 (0.004)	-0.024 (0.005)	-0.028 (0.006)	-0.045 (0.006)	-0.025 (0.005)	-0.030 (0.005)	-0.026 (0.007)	-0.010 (0.005)	-0.029 (0.005)
8 months after	-0.045 (0.005)	-0.028 (0.007)	-0.033 (0.004)	-0.037 (0.006)	-0.047 (0.006)	-0.024 (0.006)	-0.028 (0.004)	-0.035 (0.008)	-0.048 (0.006)	-0.021 (0.005)	-0.028 (0.004)	-0.038 (0.007)	-0.012 (0.005)	-0.032 (0.005)
9 months after	-0.030 (0.006)	-0.021 (0.006)	-0.021 (0.006)	-0.027 (0.007)	-0.037 (0.008)	-0.019 (0.006)	-0.019 (0.006)	-0.014 (0.009)	-0.038 (0.008)	-0.017 (0.006)	-0.017 (0.005)	-0.016 (0.010)	-0.007 (0.006)	-0.022 (0.007)
10 months after	-0.037 (0.005)	-0.030 (0.006)	-0.027 (0.003)	-0.035 (0.007)	-0.038 (0.006)	-0.023 (0.004)	-0.023 (0.003)	-0.033 (0.005)	-0.039 (0.006)	-0.022 (0.005)	-0.026 (0.004)	-0.029 (0.004)	-0.006 (0.004)	-0.027 (0.005)
11 months after	-0.033 (0.004)	-0.027 (0.007)	-0.021 (0.004)	-0.026 (0.007)	-0.030 (0.006)	-0.016 (0.004)	-0.021 (0.006)	-0.033 (0.008)	-0.033 (0.006)	-0.015 (0.004)	-0.016 (0.006)	-0.034 (0.008)	-0.011 (0.006)	-0.024 (0.005)
12 months after	-0.009 (0.007)	-0.019 (0.007)	-0.010 (0.006)	-0.006 (0.005)	-0.010 (0.004)	-0.011 (0.005)	-0.010 (0.008)	-0.008 (0.011)	-0.011 (0.004)	-0.008 (0.005)	-0.011 (0.007)	-0.009 (0.011)	-0.001 (0.005)	-0.010 (0.005)
Month FE	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
No. of observations	5,275,842	4,288,460	9,089,674	6,266,194	4,000,260	4,022,018	4,015,660	4,012,954	3,957,448	4,063,554	4,015,396	4,014,494	6,835,884	23,067,154
	months	22	22	22	22	22	22	22	22	22	22	22	22	22
	accounts	239,811	194,930	413,167	284,827	181,830	182,819	182,530	182,407	179,884	184,707	182,518	182,477	1,048,507
R <sup>2</sup>		0.160	0.261	0.241	0.180	0.143	0.246	0.262	0.208	0.143	0.231	0.268	0.216	0.209
No. of ATM use prior	2 or more	2 or more	2 or more	2 or more	2 or more	2 or more	2 or more	2 or more	2 or more	2 or more	2 or more	2 or more	1.000	1 or more
Age	60 or older	15 to 39												
Gender			Male	Female										
Wealth					Below 25%	25 to 50%	50 to 75%	Above 75%						
Income									Below 25%	25 to 50%	50 to 75%	Above 75%		

Note: The dependent variable is the logarithm of the explained variable after adding one. Figures in parentheses indicate standard errors, which are clustered at the branch level.

Table 5: Estimation Results on the Effect of Bank Branch Consolidation (3): Distance to a Competitor Bank's Branch

Dependent variable: ATM withdrawals			
Explanatory variables		Explanatory variables	
Dummy $\times$ distance		Dummy $\times$ (distance*-distance)	
4 months prior	0.021 (0.013)	4 months prior	0.025 (0.017)
3 months prior	0.020 (0.008)	3 months prior	0.021 (0.012)
2 months prior	0.025 (0.011)	2 months prior	0.022 (0.014)
1 month prior	0.032 (0.017)	1 month prior	0.026 (0.019)
Month of consolidation	0.013 (0.007)	Month of consolidation	0.014 (0.008)
1 month after	0.003 (0.003)	1 month after	0.005 (0.004)
2 months after	0.001 (0.003)	2 months after	0.004 (0.003)
3 months after	0.002 (0.003)	3 months after	0.002 (0.004)
4 months after	0.000 (0.003)	4 months after	0.001 (0.004)
5 months after	-0.001 (0.003)	5 months after	0.003 (0.003)
6 months after	-0.094 (0.040)	6 months after	-0.068 (0.039)
7 months after	-0.106 (0.022)	7 months after	-0.073 (0.020)
8 months after	-0.116 (0.030)	8 months after	-0.081 (0.028)
9 months after	-0.094 (0.030)	9 months after	-0.069 (0.028)
10 months after	-0.087 (0.027)	10 months after	-0.055 (0.025)
11 months after	-0.109 (0.025)	11 months after	-0.084 (0.024)
12 months after	-0.028 (0.025)	12 months after	-0.015 (0.023)
Month FE		yes	
No. of observations		16,231,270	
months		22	
accounts		737,785	
R <sup>2</sup>		0.207	
No. of ATM use prior		2 or more	

Note: The dependent variable is the logarithm of the explained variable after adding one. Figures in parentheses indicate standard errors, which are clustered at the branch level. Distance represents the straight line distance from the branch of Mizuho Bank to be consolidated to the branch to be consolidating and by Mizuho Bank, while distance\* represents the straight line distance from the branch of Mizuho Bank to be consolidated to the nearest competitor branch of the other two major banks.

## C Effect of ATM Discontinuation

Figure 3 shows the distribution of the timing of ATM discontinuation. Table 6 provides the descriptive statistics of the data used for estimation. Tables 7 and 8 show the estimation results.

Table 6: Descriptive Statistics: Data Used for Estimation on the Effect of ATM Discontinuation

Statistic	N	Mean	St. Dev.	Pctl(25)	Median	Pctl(75)
No. of ATM use	615,428	22.574	31.444	3	12	30
Amount of outflows	615,428	2,624,711.000	29,689,950.000	334,833.8	1,174,672	2,543,746.0
Amount of ATM withdrawals	615,428	795,331.000	1,625,947.000	55,438	427,436	1,130,000
Amount of inflows	615,428	2,763,989.000	27,315,447.000	348,297	1,254,987	2,770,152.0
Amount of salaries	615,428	643,286.200	1,187,344.000	0	0	1,169,573.0
Ratio of ATM to outflows	602,704	0.487	0.368	0.123	0.465	0.861
No. of ATM use of consolidated one	615,428	4.258	6.973	2	2	4
Age	612,575	46.460	16.866	33.000	46.000	58.000
Log wealth	615,277	5.171	2.770	3.332	5.501	7.235
Log income	615,277	4.820	2.726	2.890	5.198	6.852

Note: As of 2019. Wealth and income are the total deposits and yearly income of account holders recorded as of December 2019. The unit is yen for the amount of outflows, withdrawals, and salaries, while it is thousand yen for wealth and income.



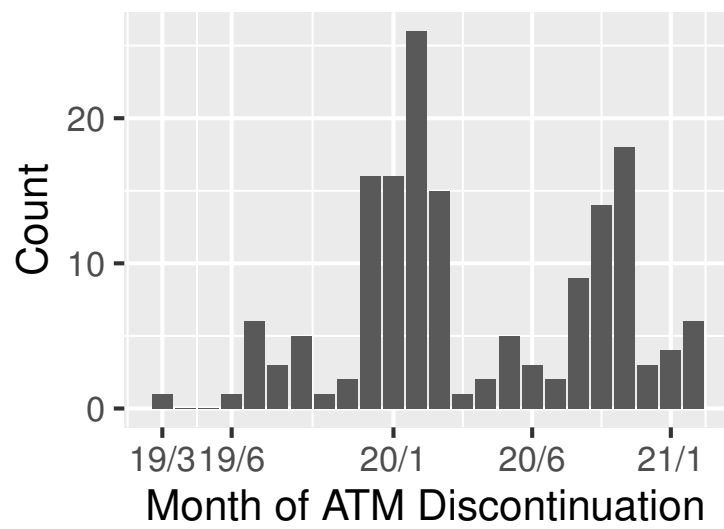


Figure 3: Distribution of Discontinued ATMs

Note: The figure shows the distribution of the number of discontinued ATMs by months.

Table 7: Estimation Results on the Effect of ATM Discontinuation (1)

	Dependent variables							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	ATM withdrawals	Outflows	Inflows	ATM withdrawals ratio	No. of ATM use	Salaries	Transaction dummy	
Explanatory variables: dummy								
4 months prior	0.402 (0.085)	0.095 (0.084)	0.103 (0.084)	0.308 (0.049)	0.085 (0.016)	0.372 (0.073)	-1.42E-05 (9.99E-06)	
3 months prior	0.311 (0.097)	0.059 (0.100)	0.040 (0.093)	0.252 (0.049)	0.070 (0.017)	0.299 (0.080)	1.01E-05 (8.34E-06)	
2 months prior	0.221 (0.094)	0.048 (0.109)	0.005 (0.105)	0.173 (0.055)	0.052 (0.017)	0.216 (0.074)	6.00E-06 (9.47E-06)	
1 month prior	0.128 (0.086)	0.048 (0.098)	0.009 (0.093)	0.080 (0.044)	0.032 (0.015)	0.131 (0.068)	1.32E-05 (1.11E-05)	
Month of consolidation	-0.084 (0.063)	-0.108 (0.071)	-0.160 (0.074)	0.025 (0.035)	-0.004 (0.012)	0.031 (0.050)	1.07E-06 (1.29E-05)	
1 month after	-0.186 (0.052)	-0.155 (0.054)	-0.163 (0.057)	-0.031 (0.029)	-0.026 (0.009)	0.021 (0.040)	3.26E-06 (1.27E-05)	
2 months after	-0.265 (0.070)	-0.208 (0.070)	-0.224 (0.073)	-0.057 (0.030)	-0.046 (0.012)	0.011 (0.037)	-1.07E-05 (1.17E-05)	
3 months after	-0.320 (0.075)	-0.257 (0.074)	-0.267 (0.077)	-0.063 (0.027)	-0.055 (0.012)	-0.011 (0.035)	-6.11E-06 (1.38E-05)	
4 months after	-0.321 (0.080)	-0.293 (0.078)	-0.291 (0.078)	-0.028 (0.024)	-0.053 (0.013)	-0.010 (0.036)	1.27E-05 (1.01E-05)	
5 months after	-0.375 (0.091)	-0.362 (0.086)	-0.373 (0.083)	-0.013 (0.027)	-0.060 (0.016)	-0.011 (0.041)	1.61E-05 (1.55E-05)	
6 months after	-0.430 (0.096)	-0.427 (0.089)	-0.430 (0.085)	-0.003 (0.031)	-0.065 (0.017)	-0.007 (0.046)	3.49E-05 (1.29E-05)	
7 months after	-0.448 (0.097)	-0.451 (0.095)	-0.455 (0.089)	0.003 (0.031)	-0.069 (0.017)	-0.001 (0.047)	3.62E-05 (1.44E-05)	
8 months after	-0.447 (0.092)	-0.472 (0.097)	-0.457 (0.091)	0.025 (0.031)	-0.071 (0.016)	0.004 (0.044)	1.89E-05 (1.63E-05)	
9 months after	-0.489 (0.088)	-0.496 (0.097)	-0.467 (0.094)	0.006 (0.032)	-0.080 (0.015)	-0.001 (0.040)	3.65E-05 (1.36E-05)	
10 months after	-0.570 (0.082)	-0.519 (0.092)	-0.488 (0.091)	-0.051 (0.033)	-0.094 (0.014)	-0.020 (0.035)	3.40E-05 (1.30E-05)	
11 months after	-0.578 (0.083)	-0.507 (0.088)	-0.482 (0.086)	-0.071 (0.034)	-0.100 (0.013)	-0.031 (0.031)	2.11E-05 (1.47E-05)	
12 months after	-0.484 (0.074)	-0.430 (0.079)	-0.396 (0.078)	-0.054 (0.025)	-0.085 (0.012)	-0.043 (0.027)	2.50E-05 (1.58E-05)	
Month FE	yes	yes	yes	yes	yes	yes	yes	
No. of observations	11,824,215	11,824,215	11,824,215	11,824,215	11,824,215	10,925,820	11,824,215	
months	22	22	22	22	22	22	22	
accounts	537,464	537,464	537,464	537,464	537,464	496,628	537,464	
R <sup>2</sup>	0.271	0.557	0.452	0.051	0.234	0.188	0.000	
No. of ATM use prior	2 or more	2 or more	2 or more	2 or more	2 or more	2 or more	2 or more	

Note: The dependent variable is the logarithm of the explained variable after adding one except for the ATM withdrawals ratio and transaction dummy. Figures in parentheses indicate standard errors, which are clustered at the branch level.

Table 8: Estimation Results on the Effect of ATM Discontinuation (2): Heterogeneity

	Dependent variables: ATM withdrawals													
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
Explanatory variables: dummy														
4 months prior	0.481 (0.101)	0.208 (0.067)	0.394 (0.082)	0.378 (0.092)	0.305 (0.075)	0.366 (0.094)	0.398 (0.094)	0.487 (0.093)	0.327 (0.076)	0.352 (0.094)	0.411 (0.094)	0.470 (0.092)	0.329 (0.083)	0.361 (0.080)
3 months prior	0.345 (0.110)	0.146 (0.083)	0.291 (0.095)	0.301 (0.104)	0.246 (0.086)	0.270 (0.108)	0.300 (0.105)	0.359 (0.106)	0.257 (0.086)	0.260 (0.108)	0.324 (0.107)	0.342 (0.104)	0.222 (0.082)	0.260 (0.085)
2 months prior	0.241 (0.105)	0.082 (0.088)	0.229 (0.092)	0.176 (0.103)	0.139 (0.087)	0.207 (0.106)	0.222 (0.101)	0.241 (0.099)	0.142 (0.088)	0.211 (0.105)	0.220 (0.103)	0.249 (0.099)	0.144 (0.072)	0.176 (0.078)
1 month prior	0.175 (0.089)	-0.003 (0.087)	0.130 (0.083)	0.096 (0.096)	0.052 (0.086)	0.133 (0.103)	0.131 (0.092)	0.115 (0.082)	0.043 (0.085)	0.134 (0.103)	0.154 (0.094)	0.116 (0.083)	0.052 (0.061)	0.084 (0.069)
Month of consolidation	-0.043 (0.071)	-0.200 (0.061)	-0.092 (0.064)	-0.091 (0.067)	-0.146 (0.069)	-0.069 (0.082)	-0.058 (0.064)	-0.117 (0.059)	-0.144 (0.067)	-0.069 (0.081)	-0.052 (0.070)	-0.106 (0.058)	-0.104 (0.049)	-0.093 (0.052)
1 month after	-0.122 (0.049)	-0.290 (0.051)	-0.168 (0.053)	-0.200 (0.051)	-0.249 (0.060)	-0.145 (0.065)	-0.143 (0.051)	-0.215 (0.046)	-0.252 (0.059)	-0.146 (0.065)	-0.131 (0.053)	-0.205 (0.044)	-0.209 (0.044)	-0.196 (0.044)
2 months after	-0.141 (0.043)	-0.381 (0.082)	-0.219 (0.064)	-0.272 (0.063)	-0.353 (0.091)	-0.177 (0.069)	-0.159 (0.052)	-0.267 (0.045)	-0.375 (0.092)	-0.168 (0.071)	-0.149 (0.055)	-0.249 (0.043)	-0.322 (0.067)	-0.295 (0.066)
3 months after	-0.118 (0.043)	-0.451 (0.090)	-0.278 (0.065)	-0.283 (0.067)	-0.440 (0.101)	-0.227 (0.066)	-0.195 (0.047)	-0.258 (0.044)	-0.449 (0.102)	-0.222 (0.044)	-0.188 (0.048)	-0.246 (0.042)	-0.381 (0.067)	-0.352 (0.068)
4 months after	-0.114 (0.043)	-0.453 (0.096)	-0.269 (0.066)	-0.282 (0.072)	-0.450 (0.108)	-0.206 (0.067)	-0.187 (0.049)	-0.250 (0.042)	-0.451 (0.109)	-0.201 (0.067)	-0.186 (0.049)	-0.239 (0.045)	-0.381 (0.073)	-0.353 (0.074)
5 months after	-0.144 (0.052)	-0.515 (0.105)	-0.299 (0.078)	-0.317 (0.082)	-0.515 (0.123)	-0.231 (0.078)	-0.217 (0.054)	-0.279 (0.050)	-0.494 (0.125)	-0.239 (0.079)	-0.202 (0.053)	-0.283 (0.053)	-0.461 (0.080)	-0.423 (0.082)
6 months after	-0.213 (0.059)	-0.581 (0.107)	-0.348 (0.080)	-0.350 (0.085)	-0.574 (0.125)	-0.263 (0.082)	-0.235 (0.057)	-0.334 (0.054)	-0.562 (0.128)	-0.257 (0.082)	-0.234 (0.058)	-0.329 (0.055)	-0.527 (0.083)	-0.485 (0.085)
7 months after	-0.208 (0.062)	-0.592 (0.106)	-0.330 (0.081)	-0.384 (0.085)	-0.604 (0.128)	-0.241 (0.086)	-0.269 (0.057)	-0.309 (0.050)	-0.601 (0.132)	-0.235 (0.085)	-0.247 (0.059)	-0.315 (0.051)	-0.539 (0.080)	-0.498 (0.084)
8 months after	-0.213 (0.067)	-0.605 (0.101)	-0.315 (0.078)	-0.393 (0.080)	-0.610 (0.126)	-0.247 (0.078)	-0.216 (0.058)	-0.314 (0.059)	-0.607 (0.130)	-0.232 (0.078)	-0.212 (0.061)	-0.307 (0.056)	-0.561 (0.072)	-0.510 (0.077)
9 months after	-0.207 (0.064)	-0.655 (0.095)	-0.338 (0.074)	-0.444 (0.075)	-0.674 (0.119)	-0.265 (0.070)	-0.270 (0.054)	-0.309 (0.057)	-0.676 (0.125)	-0.246 (0.071)	-0.262 (0.056)	-0.306 (0.052)	-0.581 (0.075)	-0.539 (0.077)
10 months after	-0.309 (0.053)	-0.696 (0.093)	-0.434 (0.070)	-0.489 (0.066)	-0.727 (0.115)	-0.328 (0.063)	-0.333 (0.049)	-0.434 (0.055)	-0.719 (0.119)	-0.327 (0.067)	-0.326 (0.048)	-0.419 (0.053)	-0.642 (0.074)	-0.607 (0.074)
11 months after	-0.315 (0.057)	-0.665 (0.091)	-0.439 (0.072)	-0.500 (0.065)	-0.667 (0.114)	-0.347 (0.059)	-0.366 (0.049)	-0.472 (0.063)	-0.685 (0.118)	-0.317 (0.059)	-0.324 (0.050)	-0.499 (0.062)	-0.668 (0.076)	-0.625 (0.076)
12 months after	-0.270 (0.047)	-0.546 (0.086)	-0.364 (0.059)	-0.413 (0.059)	-0.565 (0.104)	-0.290 (0.048)	-0.288 (0.034)	-0.389 (0.053)	-0.589 (0.108)	-0.254 (0.049)	-0.275 (0.036)	-0.390 (0.047)	-0.578 (0.074)	-0.535 (0.071)
Month FE	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
No. of observations	2,551,619	4,325,458	6,480,181	4,934,635	2,938,509	2,946,794	2,949,826	2,945,726	2,926,527	2,956,068	2,951,706	2,946,554	19,266,654	31,090,869
months	22	22	22	22	22	22	22	22	22	22	22	22	22	22
accounts	115,983	196,612	294,554	224,302	133,569	133,945	134,083	133,897	133,024	134,367	134,168	133,934	875,757	1,413,221
R <sup>2</sup>	0.223	0.298	0.303	0.244	0.209	0.294	0.320	0.282	0.211	0.285	0.323	0.285	0.258	0.263
No. of ATM use prior	2 or more	2 or more	2 or more	2 or more	2 or more	2 or more	2 or more	2 or more	2 or more	2 or more	2 or more	2 or more	1.000	1 or more
Age	60 or older	15 to 39												
Gender			Male	Female										
Wealth					Below 25%	25 to 50%	50 to 75%	Above 75%						
Income									Below 25%	25 to 50%	50 to 75%	Above 75%		

Note: The dependent variable is the logarithm of the explained variable after adding one. Figures in parentheses indicate standard errors, which are clustered at the branch level.