

APPENDIX A.

Survey Methodology

The data source for this report is the Small Business Lending Survey (SBLS), a newly-designed, large-scale, nationally-representative survey of small business lending practices in the banking industry. The Federal Deposit Insurance Corporation (FDIC) undertook this survey of banks in order to provide new insights into many aspects of small business lending for which information is not already collected, including how banks define small businesses, interact with their small business customers, perceive their competition, view the dimensions on which they compete for small business loans, and underwrite their loans, including loans to startups. Additionally, the SBLS was intended to cover small business lending at all banks and to explore differences across small and large banks.

The SBLS was developed by the FDIC in consultation with survey experts at the U.S. Census Bureau. Throughout 2015, the FDIC and the Census Bureau conducted three rounds of interviews with 40 banking institutions of various sizes in both rural and urban areas in ten states during the survey development phase. The interviews were conducted to ensure that the survey questions were understood by bank personnel, that the information gleaned from the questions matched the intent of the researchers, and to ensure that the requested information could be provided by the respondents using a reasonable amount of bank resources. The survey was estimated to take 3 to 6 hours to complete, depending on the size and complexity of the respondent bank. In the first half of 2016, the Census Bureau tested the usability of the web interface used to administer the survey to ensure that it functioned as intended.

Data collection for the SBLS was conducted by Census Bureau between June 2016 and January 2017. The data collection was conducted entirely online through the Census Bureau's Centurion data

collection website. The survey instrument can be found in Appendix C.

A.1 Sample Selection

The universe of banks covered by the SBLS was constructed using the December 2015 Report of Condition and Income (Call Report) and the June 2014 Summary of Deposits (SOD) data. All banks that met the following criteria were included in the universe:

1. Present in both the December 2015 Call Report and the June 2014 SOD data.
2. Had at least one branch in a U.S. state or in the District of Columbia.⁶⁵
3. Had positive total net outstanding loans.
4. Was a FDIC-insured institution.
5. Had positive core deposits.
6. Was a commercial bank, consumer bank, mutual savings bank, stock savings bank, mutual savings & loan, stock savings & loan, cooperative bank, credit card company, finance company, commercial credit company, agricultural credit company, or a leasing company.⁶⁶

This resulted in a universe of 6,018 banks out of the 6,182 banks extant in the December 2015 Call Report. The universe was then stratified along two dimensions: 1. Total asset size, and 2. Whether the majority of the institution's deposits were in branches located within a metropolitan statistical area (MSA). Combining these two dimensions created eight strata, the characteristics of which are summarized in Columns (1) through (3) of Table A.1. Column (4) gives the number of banks in the universe of each stratum.

⁶⁵ Some banks included in the Call Report and Summary of Deposits exclusively have branches in U.S. territories.

⁶⁶ The sixteen "banker's banks" existing at the time were excluded from the universe.

Table A.1: Frame and Initial Sample, by Stratum

Stratum	Assets	Deposits held in MSA	Universe	Initial Sample Size	Percent of Stratum in Sample	Adjusted Sample Size	Number of Respondents	Stratum Response rate
1	Less than \$250M	Over 50%	1,499	397	26.5%	388	227	58.5%
2		Under 50%	2,061	413	20.0%	407	253	62.2%
3	\$250M to Less Than \$1B	Over 50%	1,104	376	34.1%	369	214	58.0%
4		Under 50%	693	336	48.5%	333	194	58.3%
5	\$1B to Less Than \$10B	Over 50%	483	301	62.3%	291	181	62.2%
6		Under 50%	85	84	98.8%	83	53	63.9%
7	\$10B to Less Than \$50B	Any	60	60	100%	58	34	58.6%
8	\$50B or More	Any	33	33	100%	32	18	56.3%
Total			6,018	2,000	33.2%	1,961	1,174	59.9%

The sampling methodology drew a disproportionate stratified random sample for Strata 1 through 6 (covering all banks with less than \$10 billion in assets) and a “certainty” sample for Strata 7 and 8, which contain all the largest banks.⁶⁷ This methodology was employed in order to ensure that the SBLS could produce accurate estimates for large banks. The sample sizes for Strata 1 through 6 were assigned based on power calculations conducted by the U.S. Census Bureau.⁶⁸ The distribution of the initial sample of 2,000 banks is given in Column (5) of Table A.1. While the survey was conducted, 39 banks that were initially included in the sample had closed, were uncontactable, or were found to be out of the scope of the survey because they had no branches in a state or in the District of Columbia. These institutions were removed from the sample for a final sample of 1,961 banks, as shown in Column (7) of Table A.1.

The banks selected in the sampling process were sent an advance contact letter and an initial survey request by mail, which introduced the study and outlined the procedures for logging on to the Census Bureau’s data collection website to respond to the survey. Sampled banks which did not respond within 45 days of the beginning of the response period received follow-up letters and telephone calls.

A.2 Survey Response Rate

Of the 1,961 banks present in the adjusted sample, 1,174 (59.9 percent) responded to the survey.⁶⁹ This response rate meets the Census Bureau’s standards for quality control.⁷⁰ The response rates varied slightly between strata, ranging from 56.3 percent for Stratum 8 to 63.9 percent for Stratum 6 (see column 9 of Table A.1). However, none of the differences in response rates between strata were statistically significant at the 10 percent confidence level.

⁶⁷ “Disproportionate” indicates that probability of selection into the sample is different for banks in different stratum.

⁶⁸ Power calculations estimate how many banks are required to sample in each strata in order to yield a desired level of precision.

⁶⁹ A bank was considered to have responded to the survey if it gave a response to question 2, the first non-qualitative question in the main survey. See below for an analysis of question-by-question response rates.

⁷⁰ See Sub-requirement F1-6.2b of U.S. Census Bureau Statistical Quality Standards.

The overall incidence of survey nonresponse meets the Census Bureau standards for quality control. While the response rate meets the Census Bureau's standards, there may still be some concern about nonresponse bias. To address this concern, the banks in the adjusted sample were compared to the subset of banks that responded to the survey, based on information available in the Call Report and the SOD. Table A.2 shows how sample banks differed from respondent banks within each stratum based on 20 relevant characteristics.

Overall, directly testing for significant differences between respondent and non-respondent banks in each stratum finds that only 22 out of 160 tests (13.8 percent) were significant at the 10 percent confidence level, only slightly greater than would be expected to be found by random chance. The most notable difference is that, in Strata 7 and 8, banks with more employees per \$100 million in assets and that were specialized in commercial lending were more likely to respond to the survey.

Table A.2: Mean Values for Sample and Respondent Banks, by Stratum

Characteristics	Stratum 1			Stratum 2			Stratum 3			Stratum 4		
	Resp	Sample	Sig									
Ln(assets)	4.7	4.7		4.5	4.5		6.1	6.1	+	6.1	6	
Employees per \$100M assets	24.2	24.5		24.1	24.5		22.4	24.8		24.1	24	
Branches per \$100M assets	2.4	2.4		3	2.9		1.5	1.5		1.9	1.9	
Asset growth rate, 3yr annualized	3.2	3		2.5	2.7		7.6	7.2		4.5	4.8	
Asset allocation (%)												
...C&I loans	8.1	7.9		6.7	6.9		8.7	8.9		7.7	7.5	
...CRE loans	17.7	17		8.6	9.1		23.5	22.7		16.2	16.1	
... C&I and CRE loans	25.8	24.9		15.2	16	+	32.2	31.5		23.9	23.6	
Market area population (%)												
... in MSA	95.5	95		13.6	13.5		94.6	94		31.4	33.1	
... in LMI census tract	24	25.4		16.1	16.3		27.3	26.6		19.5	18.8	
... black non-Hispanic	9.1	9.4		6.7	6.3		9.6	10.2		7.6	7.5	
... Hispanic	9.2	9.6		5.6	6.9	**	13.3	12.9		6.9	7.6	
... minority	23.9	24.6		15.5	16.5		30.2	30.1		18.5	19.3	
% of deposits in MSA branches	97.2	96.7		3.7	3.8		93.3	92.8		12.3	12.2	
Specialization (%)												
Agriculture	18.9	18.6		52.6	50.9		4.2	3.8		26.3	27.3	
Commercial	56.8	53.9		20.2	21.9		75.7	75.3		52.1	51.7	
Mortgage	9.7	9.8		9.1	7.1	*	9.8	9.8		6.2	4.8	
Headquarter location (%)												
Midwest	8.8	9.3		2	2		21	20.6		10.8	9.6	
Northeast	48	46.6		58.5	55	+	26.6	28.2		43.8	42	
South	32.2	32.2		32.4	35.1		39.3	40.7		37.6	39.6	
West	11	11.9		7.1	7.9		13.1	10.6	+	7.7	8.7	

Notes: A "+" denotes statistical significance at 10 percent; "*" at 5 percent; "***" at 1 percent. Hypothesis tests compare differences between respondents and non-respondents.

Table A.2 (cont): Mean Values for Sample and Respondent Banks, by Stratum

Characteristics	Strata 5			Strata 6			Strata 7			Strata 8		
	Resp	Sample	Sig									
Ln(assets)	7.8	7.7		7.5	7.5		9.9	10		11.9	12.1	
Employees per \$100M assets	17.5	18.7	+	21.3	21.7		14.9	12.9	*	12.5	10.9	*
Branches per \$100M assets	1.1	1.2	*	1.6	1.7	*	0.8	0.7	+	0.6	0.5	
Asset growth rate, 3yr annualized	10.9	10.8		8	8.3		14.5	13.4		7.9	6.6	
Asset allocation (%)												
... C&I loans	11.7	11.1		8.6	8.9		14.9	14		16.3	15.9	
... CRE loans	22.3	21.6		18.5	18.9		15.7	14		8.5	6.8	*
... C&I and CRE loans	34	32.7	+	27.1	27.9		30.5	28	+	24.9	22.7	
Market area population (%)												
... in MSA	93.5	93.5		58.9	58.1		93.3	94.6	+	94.7	95.8	+
... in LMI census tract	26.1	26.2		22.8	22.2		28.6	28.2		30.6	31.8	
... black non-Hispanic	9.5	9.7		6.2	7.5		11.7	10.5		11.1	11.1	
... Hispanic	14.3	14.9		8.8	7.8		17	16.4		17	16.4	
... minority	33.3	33.5		20.3	20.3		40	39.1		39	38.1	
% of deposits in MSA branches	91.5	91.3		28.3	28.1		90.5	92.4		95.2	96.5	*
Specialization (%)												
Agriculture	1.7	1		17	19.3		0	1.7		0	0	
Commercial	85.1	84.9		69.8	68.7		85.3	70.7	**	77.8	62.5	*
Mortgage	6.6	6.9		3.8	2.4		5.9	10.3		0	0	
Headquarter location (%)												
Midwest	27.6	24.7		26.9	22		21.2	24.6		11.1	18.8	
Northeast	27.1	28.2		34.6	35.4		24.2	21.1		22.2	28.1	
South	26.5	31.6	*	26.9	32.9		30.3	31.6		44.4	34.4	
West	18.8	15.5	*	11.5	9.8		24.2	22.8		22.2	18.8	

Notes: A "+" denotes statistical significance at 10 percent; "*" at 5 percent; "***" at 1 percent. Hypothesis tests compare differences between respondents and non-respondents.

A.3 Item Response Rate

In addition to the high survey response rate, most questions also exhibited a high item response rate, where item response rate is defined as the proportion of banks that were asked the question that actually answered the question. Figure A.1 shows the overall unweighted item response rate by question.^{71,72} Item response rates were high across the board, with most questions having a response rate above 85 percent, meeting Census Bureau standards for quality control.^{73,74}

The exceptions are Question 14 (with response rates between roughly 40 and 60 percent, depending on sub-question), and Questions 25 and 26 (with response rates around 37 and 39 percent). Question 14 is a relatively labor-intensive question requiring banks to be able to report outstanding loan balances by both loan balance and business size, and it is

possible that banks overestimated their capability to do so while answering screener Questions 6 and 7. The low response rates for Questions 25 and 26, which are the last two questions of the survey, could reflect survey fatigue, or other unknown issues. Regardless, analysis of Questions 25 and 26 are not included in this report due to the low response rate.

Question response rates were generally stable across strata. Table A.3 gives the question response rate by both question and stratum. For Questions 1 through 9 and 15 through 26, which were asked of all strata, the average question response rate ranged from 91 to 95 percent across strata. For Questions 10 through 14 response rates declined from around 70 percent for Strata 5 and 6 to 42 percent for Stratum 8. Question 14 had a very low response rate among Strata 7 and 8. For this reason, the extrapolations based on Question 14 are not calculated for these banks (see Section 2 and Appendix B).

⁷¹ Note that not all banks were asked every question, as certain questions were triggered based on the bank's stratum or its responses to other questions. See the survey instrument (Appendix C) for the skip patterns.

⁷² Based on their answers to the screener questions, many banks were only asked a subset of Questions 7 through 14.

⁷³ Note that Questions 2 and 14b have 100 percent question response rates by construction, the former because failing to answer Question 2 meant that the bank was considered to be a survey non-respondent, and the latter because the information was filled in automatically from the Call Report.

⁷⁴ See Sub-requirement F1-6.2b of U.S. Census Bureau Statistical Quality Standards.

Figure A.1: Response Rates, by Survey Question

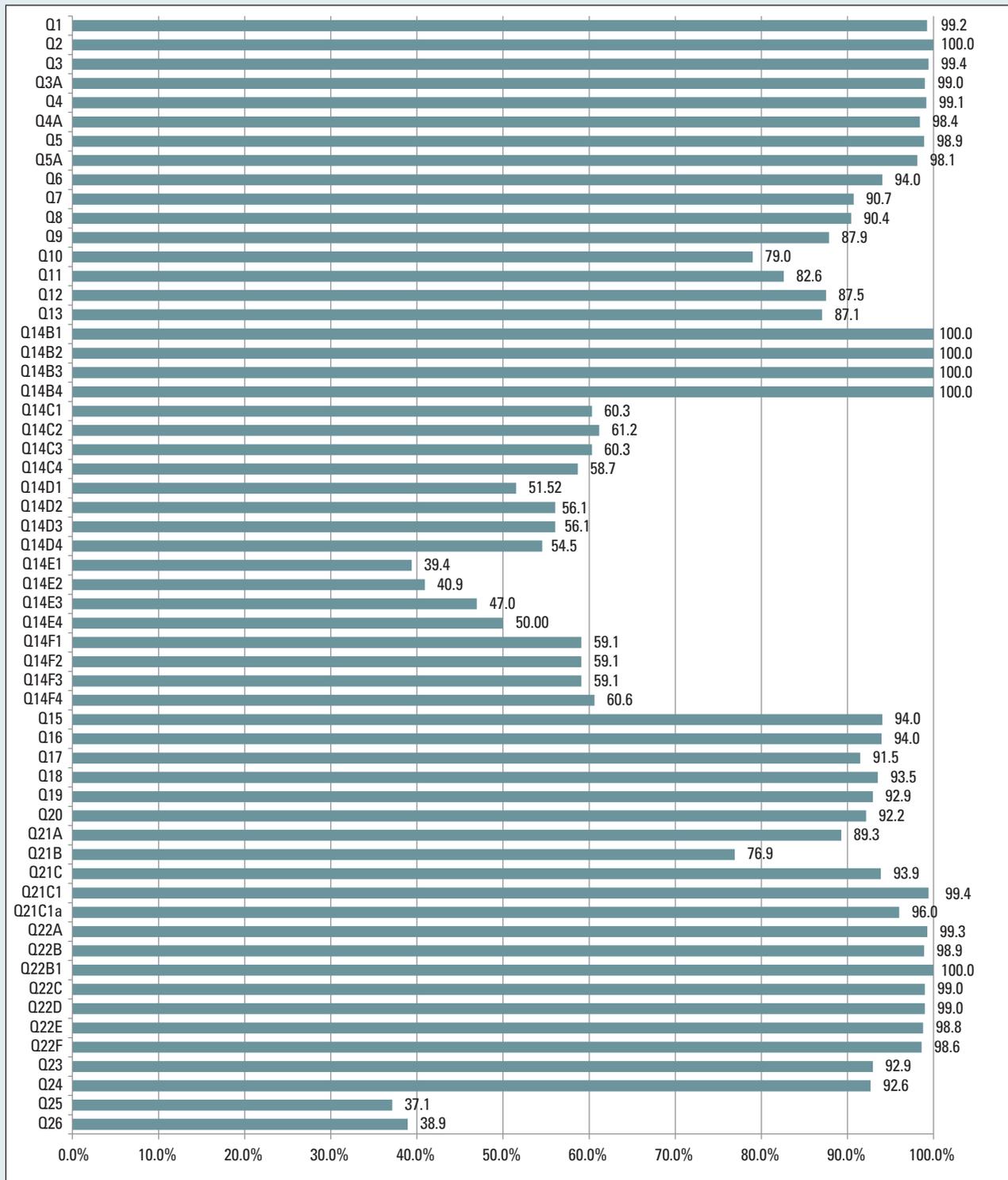


Table A.3: Response Rates, by Survey Question and Stratum

Survey Question	Stratum							
	1	2	3	4	5	6	7	8
Q1	98.2%	99.6%	99.1%	99.0%	100.0%	100.0%	100.0%	100.0%
Q2	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Q3	98.7%	99.2%	100.0%	99.0%	100.0%	100.0%	100.0%	100.0%
Q3A	94.9%	96.4%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Q4	98.2%	100.0%	98.6%	99.0%	100.0%	100.0%	97.1%	100.0%
Q4A	96.3%	95.2%	92.9%	100.0%	100.0%	100.0%	100.0%	100.0%
Q5	98.7%	99.2%	98.1%	99.0%	99.4%	100.0%	97.1%	100.0%
Q5A	100.0%	100.0%	93.1%	100.0%	100.0%	100.0%	100.0%	91.7%
Q6	93.4%	92.5%	93.0%	95.4%	95.6%	98.1%	N/A	N/A
Q7	89.4%	88.9%	91.6%	91.8%	92.8%	88.7%	97.1%	83.3%
Q8	87.7%	90.5%	91.2%	91.2%	91.8%	89.7%	96.4%	78.6%
Q9	84.5%	88.1%	88.1%	87.8%	90.4%	87.2%	96.4%	78.6%
Q10	N/A	N/A	N/A	N/A	78.7%	89.5%	76.5%	62.5%
Q11	N/A	N/A	N/A	N/A	100.0%	100.0%	66.7%	66.7%
Q12	N/A	N/A	N/A	N/A	90.2%	82.1%	89.7%	69.2%
Q13	N/A	N/A	N/A	N/A	89.5%	82.1%	86.2%	76.9%
Q14B1	N/A	N/A	N/A	N/A	100.0%	100.0%	100.0%	100.0%
Q14B2	N/A	N/A	N/A	N/A	100.0%	100.0%	100.0%	100.0%
Q14B3	N/A	N/A	N/A	N/A	100.0%	100.0%	100.0%	100.0%
Q14B4	N/A	N/A	N/A	N/A	100.0%	100.0%	100.0%	100.0%
Q14C1	N/A	N/A	N/A	N/A	64.5%	65.0%	55.6%	14.3%
Q14C2	N/A	N/A	N/A	N/A	65.8%	65.0%	55.6%	14.3%
Q14C3	N/A	N/A	N/A	N/A	64.5%	65.0%	55.6%	14.3%
Q14C4	N/A	N/A	N/A	N/A	61.8%	65.0%	55.6%	14.3%
Q14D1	N/A	N/A	N/A	N/A	57.1%	60.0%	37.5%	16.7%
Q14D2	N/A	N/A	N/A	N/A	64.3%	60.0%	37.5%	16.7%
Q14D3	N/A	N/A	N/A	N/A	64.3%	60.0%	37.5%	16.7%
Q14D4	N/A	N/A	N/A	N/A	61.9%	60.0%	37.5%	16.7%
Q14E1	N/A	N/A	N/A	N/A	42.9%	40.0%	37.5%	16.7%
Q14E2	N/A	N/A	N/A	N/A	45.2%	40.0%	37.5%	16.7%
Q14E3	N/A	N/A	N/A	N/A	52.4%	50.0%	37.5%	16.7%
Q14E4	N/A	N/A	N/A	N/A	57.1%	50.0%	37.5%	16.7%
Q14F1	N/A	N/A	N/A	N/A	66.7%	60.0%	37.5%	33.3%
Q14F2	N/A	N/A	N/A	N/A	66.7%	60.0%	37.5%	33.3%
Q14F3	N/A	N/A	N/A	N/A	66.7%	60.0%	37.5%	33.3%
Q14F4	N/A	N/A	N/A	N/A	69.0%	60.0%	37.5%	33.3%
Q15	91.6%	92.9%	96.3%	94.8%	93.9%	98.1%	91.2%	100.0%
Q16	91.6%	92.5%	96.3%	94.8%	93.9%	98.1%	91.2%	100.0%
Q17	90.3%	88.9%	93.9%	92.3%	91.2%	94.3%	91.2%	100.0%
Q18	92.1%	91.7%	95.8%	94.3%	93.4%	96.2%	91.2%	100.0%
Q19	91.2%	90.9%	95.3%	94.8%	92.3%	96.2%	91.2%	94.4%
Q20	89.9%	90.1%	94.9%	94.3%	91.2%	96.2%	88.2%	100.0%
Q21A	84.6%	86.6%	93.0%	92.3%	89.5%	92.5%	88.2%	100.0%

Table A.3: Response Rates, by Survey Question and Stratum (con't)

Survey Question	Stratum							
	1	2	3	4	5	6	7	8
Q21B	73.1%	71.1%	79.9%	81.4%	77.3%	90.6%	70.6%	88.9%
Q21C	92.5%	92.1%	96.3%	94.8%	93.4%	96.2%	91.2%	100.0%
Q21C1	100.0%	98.5%	100.0%	99.4%	100.0%	100.0%	100.0%	90.9%
Q21C1A	94.4%	91.8%	96.5%	95.8%	99.1%	97.3%	100.0%	100.0%
Q22A	99.0%	99.6%	99.0%	100.0%	98.8%	100.0%	100.0%	94.1%
Q22B	98.0%	99.1%	99.0%	100.0%	98.8%	100.0%	96.8%	94.1%
Q22B1	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Q22C	99.0%	99.1%	98.5%	99.5%	98.8%	100.0%	100.0%	94.1%
Q22D	99.0%	99.1%	98.5%	99.5%	98.8%	100.0%	100.0%	94.1%
Q22E	98.5%	99.1%	98.0%	99.5%	98.8%	100.0%	100.0%	94.1%
Q22F	98.0%	99.1%	98.0%	98.9%	98.8%	100.0%	100.0%	94.1%
Q23	91.2%	92.1%	95.3%	94.3%	91.2%	96.2%	91.2%	94.4%
Q24	90.7%	91.3%	94.9%	94.8%	91.2%	96.2%	91.2%	94.4%
Q25	34.8%	32.0%	34.1%	38.1%	35.9%	58.5%	55.9%	77.8%
Q26	38.3%	35.2%	34.6%	39.2%	37.0%	58.5%	55.9%	77.8%
<i>Average question response rate</i>	90.5%	90.7%	92.2%	92.8%	83.8%	84.5%	78.3%	72.2%
<i>...excluding Survey Sections III and IV</i>	90.5%	90.7%	92.2%	92.8%	92.1%	95.0%	93.0%	94.4%
<i>...Survey Sections III and IV only</i>	NA	NA	NA	NA	72.1%	69.7%	58.0%	41.6%

A.4 Analysis and Statistical Precision

In line with standard Census Bureau methodology for stratified random sampling, banks were assigned weights based on the inverse probability of selection in to the sample (with a slight correction due to the 39 banks excluded from the sample), which were then adjusted for nonresponse. All results in this report use these weights in order to produce accurate estimates that reflect the universe of banks in each stratum.

Estimated differences discussed in this report are significant at the 10 percent level or greater. This indicates that, if small and large banks were in fact equally likely to respond in the same way to a given question, the probability of obtaining estimates with an observed difference or a larger difference would be no more than 10 percent. In many cases, differences were actually statistically significant at much higher levels of precision than 10 percent.