

Responses to Survey of Primary Dealers

Markets Group, Federal Reserve Bank of New York

September 2013

Responses to the Primary Dealer Policy Expectations Survey

Distributed: 9/5/2013 – Received by: 9/9/2013

For most questions, median responses across dealers, along with the 25th and 75th percentiles, are reported. For questions that ask respondents to give a probability distribution, the average response across dealers for each potential outcome is reported.¹ For multiple choice questions, the number of responses for each option is reported. Brief summaries of the comments received in free response form have also been provided.

Except where noted, all primary dealers responded to each question. In some cases, dealers may not have forecasts extending to the same time horizon as requested in the survey. In these instances, the number of respondents who fully answered all parts of the question is provided.

Monetary Policy Expectations

1. a) **The July FOMC statement contained information outlining the Committee's view on the economy as well as discussion of policy actions with regard to asset purchases and forward rate guidance. Provide below your expectations for changes, if any, to the language referencing each of these topics in the September FOMC statement. Limit your responses to changes you consider most likely.**

Current economic conditions and the economic outlook:

Several dealers anticipated language referencing a generally less optimistic economic outlook, while several others specifically cited expectations for the statement to make note of weakening housing- and payroll-related data. Several other dealers noted they did not expect significant changes to language referencing current economic conditions and the economic outlook.

Communication on the overall size, pace, and composition of asset purchases, and factors influencing them:

Many dealers expected the FOMC to announce a reduction in the pace of asset purchases, and expected revised language to this effect in the statement. Several other dealers noted they expected no change to the purchase pace.

Communication on the expected path of policy rates and forward guidance on the target federal funds rate:

Some dealers thought that the Committee could clarify or strengthen the forward guidance on the target rate as soon as the September FOMC meeting, with several stating that this was their base case scenario. Specifically, further conditioning the first target rate hike on the rate of inflation being above a certain level was noted by several dealers. Lowering the 6.5 percent unemployment rate threshold was also noted as a possibility by several dealers.

Other: (5 primary dealer responses)

Dealers did not provide substantial commentary in this section.

¹ Answers may not sum to 100 percent due to rounding.

b) What are your expectations for the release of FOMC participants' projections in the advanced materials of the Summary of Economic Projections (SEP)?

Many dealers expected downgrades to FOMC participants' projections for GDP growth in 2013. Some dealers also expected lower unemployment rate projections. Several dealers discussed the possibility that 2013 inflation projections could be raised. Several dealers noted the possibility of changes to FOMC participants' projections for the appropriate level of the federal funds target rate. Several expected that participants' 2016 target rate projections would suggest a slower pace of increases in the target rate compared to prior tightening cycles.

2. a) Of the possible outcomes below, please indicate the percent chance you attach to the timing of the first federal funds target rate increase.

	H2 2013	H1 2014	H2 2014	H1 2015	H2 2015	H1 2016	H2 2016	H1 2017	≥ H2 2017
Average	0%	3%	10%	26%	28%	17%	8%	4%	3%

Most likely quarter and year of first target rate increase:

25th Pctl	Q2 2015
Median	Q3 2015
75th Pctl	Q3 2015

b) If you made any changes to your expectations for the most likely timing of the first target rate increase since the last survey on July 22, explain the factors that motivated you to make the change(s).

(18 primary dealer responses)

Many dealers noted that they made no changes to their expected timing of the first target rate increase. Several noted a higher risk of a later liftoff in the federal funds target rate.

3) Provide your estimate of the most likely outcome (i.e., the mode) for the federal funds target rate or range at the end of each half-year period and over the longer run:

	H2 2013	H1 2014	H2 2014	H1 2015	H2 2015	H1 2016	H2 2016	H1 2017	H2 2017	Longer Run
25th Pctl	0-.25%	0-.25%	0-.25%	0-.25%	0.50%	1.00%	1.50%	2.00%	2.50%	3.50%
Median	0-.25%	0-.25%	0-.25%	0-.25%	1.00%	1.50%	2.50%	3.00%	3.50%	4.00%
75th Pctl	0-.25%	0-.25%	0-.25%	0.50%	1.00%	2.00%	3.00%	3.50%	4.00%	4.00%

- 4) a) Provide your estimate of the most likely joint outcome for the unemployment rate and headline 12-month PCE inflation at the time of the first federal funds target rate increase.

Joint Outcome for First Fed Funds Hike	
25th Pctl	6.20%
Unemployment Rate: Median	6.20%
75th Pctl	6.30%
25th Pctl	1.80%
Headline 12-month PCE Inflation: Median	2.00%
75th Pctl	2.00%

- b) Of the possible outcomes below, provide the probability you attach to the timing of the 6.5 percent unemployment rate threshold being reached. Please assume that inflation between one and two years ahead is projected to be no more than 2.5 percent and longer-term inflation expectations continue to be well anchored.

	Q3 2013	Q4 2013	Q1 2014	Q2 2014	Q3 2014	Q4 2014	Q1 2015	Q2 2015	≥ Q3 2015
Average	0%	1%	4%	8%	14%	24%	21%	16%	12%

- c) Provide the probability you assign to the unemployment rate falling within the following ranges at the time of the first increase in the federal funds target rate. Please assume that the rate of inflation between one and two years ahead remains below 2.5 percent and longer-term inflation expectations remain well anchored prior to the first increase. Consider all possible conditions that may be associated with these scenarios in formulating your responses.

	< 6.0%	6.0 - 6.5%	> 6.5%
Average	26%	66%	8%

- 5) The minutes of the July 2013 meeting noted that the Committee discussed "the potential for clarifying or strengthening the Committee's forward guidance for the federal funds rate." Provide the probability you assign to the Committee clarifying or strengthening its current forward guidance for the federal funds target rate at some point in the future?

	Clarification or Strengthening of Forward Guidance
25th Pctl	50%
Median	60%
75th Pctl	90%

If you see any possibility of changes to the forward guidance as described above, explain the specific changes you believe most likely and the most likely timing of those changes:

Many dealers discussed the possibility of the unemployment threshold being lowered, with several of those specifying that the threshold could be lowered to 6 percent from the current 6.5 percent. Some dealers noted that there may be

additional guidance regarding the inflation rate at the time of the first increase in the federal funds target rate, and several specifically noted that 1.5 percent could be a lower bound below which the Committee would not increase the target rate. Several dealers also noted that there may be more explicit reference to indicators of labor-market health apart from the unemployment rate.

- 6) Of the possible outcomes below, indicate the percent chance you attach to the 10-year Treasury yield falling in each of the following ranges at the end of 2014 and 2015.

		Year End 2014						
		< 1.50%	1.50 - 2.00%	2.01 - 2.50%	2.51 - 3.00%	3.01 - 3.50%	3.51 - 4.00%	> 4.00%
Average		2%	5%	11%	17%	26%	25%	14%

		Year End 2015						
		< 2.00%	2.00 - 2.50%	2.51 - 3.00%	3.01 - 3.50%	3.51 - 4.00%	4.01 - 4.50%	> 4.50%
Average		3%	6%	13%	20%	23%	20%	15%

- 7) As of September 5th, the 10-year Treasury yield increased approximately 40 basis points since the release of the July FOMC statement. Rate the importance of the factors below in explaining these moves (5 = very important, 1 = not important)

Factors Influencing the Increase in the 10-year Treasury yield (number of respondents):					
	1 - not important	2	3	4	5 - very important
Change in economic outlook	3	6	9	2	1
Uncertainty over Federal Reserve leadership succession	1	5	4	6	5
Change in market perception of appropriate policy rate path	0	3	6	8	4
Change in market perception of appropriate asset purchase path	1	4	8	4	4
Uncertainty over monetary policy	1	5	4	6	5
Other / technical factors	15	0	1	2	3

(20 primary dealer responses)

Some dealers noted uncertainty regarding the Federal Reserve's leadership succession as a contributor to higher Treasury yields, with several of those dealers also noting the change in composition of FOMC voting members next year as another factor. Several dealers discussed improving economic data since the July FOMC meeting as a reason for higher yields. Several others pointed to general uncertainty around monetary policy as well as heightened expectations for an earlier increase in the target rate and a more rapid normalization of policy rates. A growing expectation for a reduction in the pace of asset purchases was also noted by several dealers as contributing to higher

yields. In explaining their responses to the 'Other / technical factors' category, several dealers noted sales of Treasury securities by foreign central banks.

8) In the July FOMC statement, the Committee announced it will continue purchasing additional agency mortgage-backed securities at a pace of \$40 billion per month and longer-term Treasury securities at a pace of \$45 billion per month, and also stated that it would take appropriate account of the likely efficacy and costs of such purchases as well as the extent of progress toward its economic objectives in determining the size, pace, and composition of its asset purchases.

a) Provide your most likely expectation for the monthly pace of purchases that will be in effect after each of the below FOMC meetings.

		Monthly Pace of Longer-Term Security Purchases (\$Billions)		
			Treasuries	Agency MBS
2013	September 17-18:	25th Pctl	35	35
		Median	40	35
		75th Pctl	40	40
	October 29-30:	25th Pctl	35	30
		Median	35	35
		75th Pctl	40	40
	December 17-18:	25th Pctl	25	25
		Median	30	25
		75th Pctl	35	30
2014	January 28-29:	25th Pctl	25	20
		Median	25	25
		75th Pctl	30	30
	March 18-19:	25th Pctl	15	10
		Median	15	15
		75th Pctl	20	20
	April 29-30:	25th Pctl	10	10
		Median	15	10
		75th Pctl	15	15
	June 17-18:	25th Pctl	0	0
		Median	0	0
		75th Pctl	0	0
	July 29-30:	25th Pctl	0	0
		Median	0	0
		75th Pctl	0	0
September 16-17: (1 year ahead)	25th Pctl	0	0	
	Median	0	0	
	75th Pctl	0	0	

Please explain any changes to your assumptions behind the increments of pace reduction and any changes in the composition of Treasury and agency MBS purchases since the last survey on July 22.

(19 primary dealer responses)

Some dealers mentioned that they made no changes to their assumptions since the last survey, while some others noted that they either slowed the pace of reductions or decreased the size of their initial expected reduction in purchase pace. Several dealers also mentioned that they either expected or placed a higher probability on the initial

reduction being skewed towards a larger cut in Treasury purchases relative to agency MBS. Of those dealers, several cited the recent rise in interest rates as influencing this view.

b) Provide your distribution of probabilities for the timing of the announcement of the first reduction in pace, given the FOMC meetings below.

	Sep 2013	Oct 2013	Dec 2013	> 2013
Treasuries, average :	58%	12%	21%	9%
Agency MBS, average :	52%	12%	26%	10%

c) Provide your most likely expectation for the change in the amount of domestic securities held in the SOMA portfolio during each of the periods below. In the case of purchases, please include settled and unsettled amounts.²

(18 complete primary dealer responses)

		2014 H2	2015 H1	2015 H2	2016 CY*	2017 CY*	2018 CY*
		\$Billions					
Change in the estimated amount of Treasuries:	25th Pctl portfolio	0	-14	0	-211	-220	-375
	Median portfolio	0	-5	0	-210	-201	-328
	75th Pctl portfolio	0	1	0	-201	-218	-251
Change in the estimated amount of agency debt and MBS:	25th Pctl portfolio	0	-84	-73	-163	-247	-107
	Median portfolio	-5	-72	-91	-108	-135	-110
	75th Pctl portfolio	-10	-4	-13	-230	-88	-98

*Calendar Year

Please explain your assumptions behind your projections for the timing, size, and pace of redemptions and sales of securities, if applicable. Please note if your assumptions have changed since the last survey:

(20 primary dealer responses)

Many dealers provided details regarding their assumptions for the timing of the end of Treasury and agency MBS reinvestments and their assumptions behind the magnitude of portfolio declines. Several noted that they made no changes to their previous assumptions for future declines in the SOMA portfolio. Some dealers mentioned that they did not expect asset sales to occur within the given timeframe. Several dealers also provided details regarding their most likely path of asset purchases.

² Respondents provided their expected change in the SOMA portfolio of Treasuries and agency debt and MBS at each time horizon. The above data is constructed by creating a portfolio level for each respondent at each time horizon based upon their responses. The 25th percentile, median, and 75th percentile portfolio level are then sampled at each time horizon. The above data represent the changes in these portfolios at each time horizon.

- 9) a) The FOMC's June 2013 Summary of Economic Projections shows the expected central tendency for the unemployment rate at the end of 2013 falling between 7.2 and 7.3 percent. Please indicate the percent chance you attach to the unemployment rate corresponding to the following hypothetical scenarios at year-end 2013: 1) it declines to less than 7.2 percent; 2) it falls within the 7.2 to 7.3 percent range; and 3) it rises above 7.3 percent. Consider all possible conditions that may be associated with these scenarios in providing your responses.

	< 7.2%	7.2% - 7.3%	> 7.3%
Average	46%	36%	19%

- b) Indicate the percent chance you attach to the dollar level of the SOMA portfolio falling within the following ranges at year-end 2014 for each of three hypothetical unemployment rate scenarios described in part a). For your reference, the level of the SOMA portfolio including inflation accretion and settled and unsettled agency MBS according to the January 3, 2013 H.4.1 release was \$2,785 billion (the H.4.1 closest to the start of 2013).

Unemployment rate at year-end 2013		Year End 2014 (\$Billions)						
		<2500	2500-3000	3000-3500	3500-4000	4000-4500	4500-5000	>5000
Less than 7.2 percent	Average	0%	1%	9%	58%	29%	3%	1%
Between 7.2 and 7.3 percent	Average	0%	0%	5%	51%	38%	5%	1%
Greater than 7.3 percent	Average	0%	0%	3%	44%	43%	8%	2%

- c) Of the possible outcomes below, indicate the percent chance you attach to the SOMA portfolio level falling in each of the following ranges at year-end 2013. Probabilities for the year-end 2014 level of the SOMA portfolio are automatically calculated using the responses you provided in parts a) and b) and the rules of conditional probability. These probabilities should be consistent with your views; if they are not, verify your responses from parts a) and b).

		Year End 2013						
		<3000	3000-3250	3250-3500	3500-3750	3750-4000	4000-4250	>4250
Average		0%	0%	2%	46%	47%	4%	1%

		Year End 2014						
		<2500	2500-3000	3000-3500	3500-4000	4000-4500	4500-5000	>5000
Average		0%	0%	6%	53%	35%	4%	1%

10) Provide your estimate of the most likely outcome (i.e., the mode) for output, inflation, and unemployment. Are the risks to output, inflation, and unemployment skewed to the downside, balanced, or skewed to the upside relative to your forecast?

(15 complete primary dealer responses)

	Q4/Q4 2013	Q4/Q4 2014	Q4/Q4 2015	Longer Run
25th Pctl	1.90%	2.50%	2.60%	2.25%
GDP: Median	2.00%	2.75%	3.00%	2.35%
75th Pctl	2.20%	3.00%	3.10%	2.50%
25th Pctl	1.30%	1.60%	1.80%	
Core PCE: Median	1.40%	1.70%	1.90%	
75th Pctl	1.40%	1.90%	2.00%	
25th Pctl	1.30%	1.50%	1.78%	2.00%
Headline PCE: Median	1.30%	1.80%	1.90%	2.00%
75th Pctl	1.50%	2.00%	2.00%	2.20%
25th Pctl	7.10%	6.50%	5.90%	5.50%
Unemployment Rate*: Median	7.20%	6.60%	6.10%	5.90%
75th Pctl	7.20%	6.70%	6.20%	6.00%

*Average level over Q4 in the case of the unemployment rate.

2013 Forecasts*

Number of Respondents Citing:

	Downside Risk	Balanced Risk	Upside Risk
GDP:	8	12	1
Core PCE:	4	16	1
Headline PCE:	2	15	4
Unemployment Rate:	2	12	7

2014 Forecasts*

Number of Respondents Citing:

	Downside Risk	Balanced Risk	Upside Risk
GDP:	3	18	0
Core PCE:	4	14	3
Headline PCE:	2	15	4
Unemployment Rate:	3	12	6

2015 Forecasts*

Number of Respondents Citing:

	Downside Risk	Balanced Risk	Upside Risk
GDP:	1	16	0
Core PCE:	1	12	3
Headline PCE:	1	11	4
Unemployment Rate:	3	12	2

*Upside risk is a risk towards higher GDP growth, a higher inflation rate, and a lower unemployment rate. Downside risk is a risk towards lower GDP growth, a lower inflation rate, and a higher unemployment rate.

11) For the outcomes below, please indicate the percent chance you attach to the annual average CPI inflation rate from 2018-2023. Please also indicate your point estimate for the most likely outcome.

	$\leq 1.0\%$	1.01-1.5%	1.51-2.0%	2.01-2.5%	2.51-3.0%	$\geq 3.01\%$
Average	3%	11%	25%	33%	18%	10%

	<u>Point Estimate</u>
25th Pctl	2.00%
Median	2.20%
75th Pctl	2.40%

12) a and b) What percent chance do you attach to the US economy currently being in a recession (NBER-defined)? What percent chance would you attach to the US economy being in a recession in 6 months (NBER-defined)?

	<u>Currently in NBER Recession</u>		<u>NBER Recession in 6 Months</u>
25th Pctl	1%	25th Pctl	10%
Median	5%	Median	10%
75th Pctl	10%	75th Pctl	20%

13) Please comment on any changes to your macroeconomic assessments and risks to your forecast since the last FOMC meeting.

(20 primary dealer responses)

Several dealers downgraded their near-term growth forecasts, with most of those dealers noting the possibility of weaker housing data going forward. Several dealers also commented on increased downside risks to their outlook, with a subset of those noting the risks posed by higher interest rates as well as ongoing fiscal and geopolitical issues. Some dealers commented that they made no significant changes to their forecasts.

Appendix: Updates to the Survey

Updated as of September 23, 2013

Following the September FOMC Meeting (September 17-18), primary dealers were asked to update their responses to questions 2, 3, 4c, 6, 8, and 9.

2) a) Estimate for most likely quarter and year of first target rate increase:

	Most likely quarter and year of first target rate increase:
25th Pctl	Q3 2015
Median	Q3 2015
75th Pctl	Q4 2015

b) If you made any changes to your expectations for the most likely timing of the first target rate increase since the last survey on July 22, explain the factors that motivated you to make the change(s).

(19 primary dealer responses)

The FOMC's decision not to reduce the pace of asset purchases, and the release of SEP projections of the appropriate target rate, were each cited by several dealers as factors behind changes to their expectations for the timing of the first target rate increase. Some other dealers cited no change to their expectations for the timing of liftoff.

3) Provide your estimate of the most likely outcome (i.e., the mode) for the federal funds target rate or range at the end of each half-year period and over the longer run:

	H2 2013	H1 2014	H2 2014	H1 2015	H2 2015	H1 2016	H2 2016	H1 2017	H2 2017	Longer Run
25th Pctl	0-.25%	0-.25%	0-.25%	0-.25%	0.50%	1.00%	1.50%	2.00%	2.50%	3.50%
Median	0-.25%	0-.25%	0-.25%	0-.25%	0.75%	1.50%	2.25%	2.75%	3.00%	4.00%
75th Pctl	0-.25%	0-.25%	0-.25%	0-.25%	1.00%	1.75%	2.50%	3.25%	4.00%	4.00%

4) c) Provide the probability you assign to the unemployment rate falling within the following ranges at the time of the first increase in the federal funds target rate. Please assume that the rate of inflation between one and two years ahead remains below 2.5 percent and longer-term inflation expectations remain well anchored prior to the first increase. Consider all possible conditions that may be associated with these scenarios in formulating your responses.

	< 6.0%	6.0 - 6.5%	> 6.5%
Average	28%	64%	8%

6) Of the possible outcomes below, indicate the percent chance you attach to the 10-year Treasury yield falling in each of the following ranges at the end of 2014 and 2015.

		Year End 2014						
		< 1.50%	1.50 - 2.00%	2.01 - 2.50%	2.51 - 3.00%	3.01 - 3.50%	3.51 - 4.00%	> 4.00%
Average		2%	5%	11%	18%	26%	23%	13%

		Year End 2015						
		< 2.00%	2.00 - 2.50%	2.51 - 3.00%	3.01 - 3.50%	3.51 - 4.00%	4.01 - 4.50%	> 4.50%
Average		3%	6%	13%	20%	23%	21%	13%

8) In the July FOMC statement, the Committee announced it will continue purchasing additional agency mortgage-backed securities at a pace of \$40 billion per month and longer-term Treasury securities at a pace of \$45 billion per month, and also stated that it would take appropriate account of the likely efficacy and costs of such purchases as well as the extent of progress toward its economic objectives in determining the size, pace, and composition of its asset purchases.

a) Provide your most likely expectation for the monthly pace of purchases that will be in effect after each of the below FOMC meetings.

		Monthly Pace of Longer-Term Security Purchases (\$Billions)		
			Treasuries	Agency MBS
2013	September 17-18:	25th Pctl		
		Median		
		75th Pctl		
	October 29-30:	25th Pctl	45	40
		Median	45	40
		75th Pctl	45	40
	December 17-18:	25th Pctl	35	35
		Median	40	35
		75th Pctl	45	40
2014	January 28-29:	25th Pctl	30	30
		Median	35	35
		75th Pctl	40	37
	March 18-19:	25th Pctl	25	21
		Median	25	25
		75th Pctl	35	32
	April 29-30:	25th Pctl	15	15
		Median	20	20
		75th Pctl	30	28
June 17-18:	25th Pctl	0	0	
	Median	10	13	
	75th Pctl	23	20	
July 29-30:	25th Pctl	0	0	
	Median	0	0	
	75th Pctl	16	17	
September 16-17: (1 year ahead)	25th Pctl	0	0	
	Median	0	0	
	75th Pctl	8	7	

Please explain any changes to your assumptions behind the increments of pace reduction and any changes in the composition of Treasury and agency MBS purchases since the last survey on July 22.

Some dealers noted that they pushed back their expected timing of the first reduction in the pace of asset purchases. Several dealers noted heightened uncertainty around the expected path of the balance sheet. Several also cited fiscal risks as a factor that would influence the timing of the first pace reduction.

- b) Provide your distribution of probabilities for the timing of the announcement of the first reduction in pace, given the FOMC meetings below.**

	<u>Sep 2013</u>	<u>Oct 2013</u>	<u>Dec 2013</u>	<u>> 2013</u>
Treasuries, average :		15%	42%	43%
Agency MBS, average :		12%	41%	47%

- c) Provide your most likely expectation for the change in the amount of domestic securities held in the SOMA portfolio during each of the periods below. In the case of purchases, please include settled and unsettled amounts.**

(17 complete primary dealer responses)

		<u>2014</u>	<u>2015</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>
		<u>H2</u>	<u>H1</u>	<u>H2</u>	<u>CY*</u>	<u>CY*</u>	<u>CY*</u>
		<u>\$Billions</u>					
Change in the estimated amount of Treasuries:	25th Pctl portfolio	0	-1	-3	-212	-233	-311
	Median portfolio	5	-3	-1	-216	-200	-300
	75th Pctl portfolio	85	-28	-8	-176	-213	-324
Change in the estimated amount of agency debt and MBS:	25th Pctl portfolio	0	-36	-64	-230	-209	-108
	Median portfolio	20	-51	-54	-140	-108	-130
	75th Pctl portfolio	65	-30	-21	-151	-143	-91

**Calendar Year*

- 9) a) The FOMC's June 2013 Summary of Economic Projections shows the expected central tendency for the unemployment rate at the end of 2013 falling between 7.2 and 7.3 percent. Please indicate the percent chance you attach to the unemployment rate corresponding to the following hypothetical scenarios at year-end 2013: 1) it declines to less than 7.2 percent; 2) it falls within the 7.2 to 7.3 percent range; and 3) it rises above 7.3 percent. Consider all possible conditions that may be associated with these scenarios in providing your responses.**

	<u>< 7.2%</u>	<u>7.2% - 7.3%</u>	<u>> 7.3%</u>
Average	46%	35%	19%

b) Indicate the percent chance you attach to the dollar level of the SOMA portfolio falling within the following ranges at year-end 2014 for each of three hypothetical unemployment rate scenarios described in part a). For your reference, the level of the SOMA portfolio including inflation accretion and settled and unsettled agency MBS according to the January 3, 2013 H.4.1 release was \$2,785 billion (the H.4.1 closest to the start of 2013).

Unemployment rate at year-end 2013		Year End 2014 (\$Billions)						
		<2500	2500-3000	3000-3500	3500-4000	4000-4500	4500-5000	>5000
Less than 7.2 percent	Average	0%	0%	4%	31%	53%	10%	2%
Between 7.2 and 7.3 percent	Average	0%	0%	3%	26%	55%	14%	2%
Greater than 7.3 percent	Average	0%	0%	2%	20%	58%	18%	3%

c) Probabilities for the year-end 2014 level of the SOMA portfolio are automatically calculated using the responses you provided in parts a) and b) and the rules of conditional probability. These probabilities should be consistent with your views; if they are not, verify your responses from parts a) and b).

		Year End 2014						
		<2500	2500-3000	3000-3500	3500-4000	4000-4500	4500-5000	>5000
Average		0%	0%	3%	27%	55%	13%	2%