NEW YORK CITY TEACHERS' RETIREMENT SYSTEM 1 INVESTMENT MEETING held on Thursday, April 7, 2011 at 55 Water Street 3 New York, New York 4 5 ATTENDEES: 6 MELVYN AARONSON, Chairperson, Trustee 7 SANDRA MARCH, Trustee MONA ROMAIN, Trustee LARRY SCHLOSS, Trustee, Comptroller's Office 8 RANJI NAGASWAMI, Trustee, Finance 9 MR. MILLER MILLER, Comptroller's Office LIZ CALDAS, Comptroller's Office MARTIN GANTZ, Comptroller's Office 10 JOEL GILLER, Comptroller's Office MARC GROSS, Comptroller's Office 11 SEEMA HINGORANI, Comptroller's Office 12 MARC KATZ, TRS KATHY MARTINO, Comptroller's Office JOHN MERSEBURG, Comptroller's Office 13 YVONNE NELSON, Comptroller's Office 14 ROBERT C. NORTH, JR., Actuary CHRIS LYON, Rocaton ROBIN PELISH, Rocaton 15 KAREN SEEMEN, Corporation Counsel ROBERTA UFFORD 16 STEVE BURNS, Townsend SARAH CACHAT, Townsend 17 MARTIN ROSENBERG, Townsend 18 19 20 21 22 23 24 25

1 2 PROCEEDINGS 3 (Time noted: 10:10 a.m.) 4 MR. KATZ: Good morning. Welcome to the 5 April 7, 2011 investment meeting of the Teachers' б Retirement Board. We will start by calling the roll. 7 Melvyn Aaronson? 8 MR. AARONSON: Here. 9 MR. KATZ: Kathleen Grimm. 10 (No response.) Not here. 11 Sandra March? 12 13 MS. MARCH: Present. MR. KATZ: Ranji Nagaswami? 14 MS. NAGASWAMI: Here. 15 MR. KATZ: Lisette Nieves? 16 17 (No response.) Not here. 18 MR. KATZ: Mona Romain? 19 20 MS. ROMAIN: Here. MR. KATZ: Larry Schloss. 21 22 MR. SCHLOSS: Here. MR. KATZ: We have a quorum. 23 24 So, the first order of business is a motion to elect a chairperson for the meeting. 25

1 (Short pause.) 2 MR. AARONSON: I declare the meeting closed. 3 (Laughter.) 4 MS. MARCH: I nominate Melvyn Aaronson. 5 MR. AARONSON: Is there a second? б MS. NAGASAWI: There is. 7 MR. AARONSON: Any discussion? All in favor, say "Aye." 8 9 (A chorus of "Ayes.") 10 All opposed? Motion carries. 11 12 MR. KATZ: Mr. Aaronson is the chair. Before we turn it over to Mr. Aaronson, there is a 13 14 resolution that's required this morning regarding the webcasting of the meeting. I will read the entire 15 resolution and then we're going to seek consensus on it. 16 17 "Whereas, public officers law Section 103 was amended by Chapter 43 of the laws of 2010, 18 19 Chapter 43, to provide that any meeting of a public body is open to the public, shall be open to be photographed, 20 21 broadcast, webcast or otherwise, be recorded and/or 22 transmitted by audio and visual means. 23 "And whereas Chapter 43 provides that a 24 public body may adopt rules consistent with 25 recommendations from the committee on open government

1 reasonably governing the matter by with such recordings are made, to insure that the body's meeting can be 2 3 conducted in an orderly manner. 4 "And whereas the board seeks to promote 5 transparency at public meetings in accordance with 6 Chapter 43, while insuring that meetings continue to be 7 conducted in an orderly manner: "Therefore being resolved that board 8 9 meetings, to the extent open to the public, shall be 10 webcast by staff assigned by the board to perform this 11 task. "And be it further resolved that the webcast 12 of such public board meeting shall be available at an 13 14 internet site made available by the board. 15 "And be it further resolved that the board 16 directs staff to draft proposed rules in accordance with the requirements of Chapter 43 and this resolution for 17 review, and possible adoption by the board at it's next 18 19 regularly scheduled board meeting." CHAIRPERSON AARONSON: Is there any 20 21 discussion of this resolution? 22 Seeing none, we will act on this resolution. 23 MR. KATZ: We seek consensus before we 24 proceed. Do we have consent? 25 MS. MARCH: We have consent.

MR. KATZ: Okay.

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2 CHAIRPERSON AARONSON: Welcome to the April 3 investment meeting of the New York City Teachers' 4 Retirement System. I am Mel Aaronson. I will be 5 chairperson of the meeting. As this is the first 6 webcast of the board proceedings, I would like to 7 welcome you. 8 And first order of business today is going 9 to be a report on the variable programs. 10 MR. LYON: Good morning. Chris Lyon, Rocaton Investment Advisors. I'd like to start by 11 12 reviewing the diversified equity fund performance. This information was previously distributed to the board and 13 14 also handed out this morning. And all the information 15 I'm going to present through the end of February. This 16 is my standard monthly update. We have more detailed quarterly review discussions. 17 18 So, I focus mostly on kind of the 19 incremental information that is new since the last 20 update. If you start on the first page, you can see the 21 total assets in the diversified equity fund, also 22 formerly known as Variable A, where there's 23 approximately \$10.4 billion. 24 At the bottom of the first page, you can see 25 all that was divided between the different investment

1 plans. When we look at the overall asset allocation, 2 the total allocation by broad grouping are relatively 3 close to their targets, will fluctuate due to market 4 performance and rebalancing a cash flow needed, of 5 course. But it has also fluctuated from the target б midterm allocation that were still in effect at this 7 time. But the largest deviations from the target were 8 less than 4 percent of assets.

9 Turning to performance submitted, we have --10 flip ahead two pages to page 3 -- and in the middle of 11 the page, still focusing on the diversified equity 12 funds, which is totally considered total performance for 13 this investment option. And all this information is 14 shown on a net of fees basis.

For the month of February, you can see that the returns were, approximately, 3.4 percent. And this was pretty close to but less than behind the 3.6 percent returns of the broad U.S. equity market, measured by the Russell 3000 right below it. And closer proxy for the fund allocation is a hybrid benchmark, which is 3.46 percent. We're very close to that.

For the month in particular, the strongest performance in absolute terms came from the index composite, which comprises both of the assets and followed by the active U.S. managers composite, while б

1 the defense and international composites had slightly lower returns. But nonetheless, it's pretty reasonable 2 3 absolute returns for one month period. 4 If you move two columns to the right on page 5 3, in the middle of the page, you can see that the б year-to-date returns for the calendar year-to-date was 7 5.6 percent, approximately; and that this compared 8 favorably to the hybrid benchmark, which is 5.5 percent 9 and slightly trailed before our U.S. equity market. 10 Again, the two U.S. equity composites, although, in the reverse order, the active composite 11 first, then the index composite, have a strong absolute 12 performance during this time period. 13 14 And then, that was followed by the other two 15 major composites; the international and the defensive. But again, all were still positive in terms of their 16 contribution during the year-to-date period. 17 18 You can see certainly on this report the 19 longer term report rebuilt as well, and we specifically 20 review those in more detail in the quarterly reports. 21 So, before I move on to other reports, are 22 there any questions? 23 CHAIRPERSON AARONSON: Seeing none, go 24 ahead. 25 MR. LYON: The remaining three options that

1 we plan to review today are the international equity 2 funds, also known as Variable C; the inflation 3 protection fund, also known as Variable B; and the 4 socially responsive equity fund, known as Variable D. 5 And just to note that this table of value fund, known as б Variable B, is reviewed as part of the quarterly 7 reporting process. 8 At the top of this other handout that has

9 Variables B, D and E, you could see the market values,
10 approximately, \$77 million in Variable B,
11 \$18 1/2 million in Variable D, and almost \$19 million in

12 variable E.

And turning to the performance, you can see that the international equity fund for the month of February returned 3.1 percent, about 20 basis points or two-tenths of percent behind the EPA benchmark, which is a good proxy for the international equity market broadly.

19 And for the year-to-date period of funds 20 returned 5.2 percent, which is about a half of a percent 21 behind of a still strong absolute return for a two-month 22 period.

23 Despite being slightly behind for at least 24 the very short time period, this investment option since 25 the inception on any annualized basis net of fees has

1 outperformed by over 5 1/2 percent.

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2 The next investment option is Variable D, 3 and you can see that the investment option return 4 1.4 percent, this is almost 1 percent ahead of it's 5 benchmark for the month of February. The year-to-date б return is about four-tenths of a percent, ahead of the 7 benchmark is 1.9 versus one and a half, roughly. And since inception -- this option on annualized net of fees 8 9 returned almost 3 1/2 percent more than the benchmark. 10 And lastly, the Variable E fund, socially 11 responsive equity fund as it is formally known, this 12 option returned 4.7 percent versus 3.4 percent with the benchmark for the month of February, and outperforming 13 14 the S&P 500 index. For the year-to-date period, it also 15 outperformed by lesser 6.4 percent roughly versus 16 5.9 percent. And since inception, it's outperformed by over 4 1/2 percent net of fees on an annualized basis. 17 18 So, those are the results through the end of 19 February. 20 Any questions? 21 And the last thing I have to present is a 22 performance -- benchmark report, which brings the board more up-to-date -- this information through the end of 23 24 March. And what you can see, as everyone knows, March

was quite a bad the month for the world in general for

1 markets as well. And despite that, the U.S. markets 2 ended up basically flat in terms of the major indices 3 that we worked out before. It's quitely positive with 4 respect to the U.S. Equities. International equities 5 were down about 2 percent.

б An estimate of what the Variable A 7 performance is likely to be like is found by looking at 8 a preliminary version of the Variable A hybrid 9 benchmark, which is essentially flat positive 3 basis 10 points, or 300... for the month of March that we would expect, typically, the Variable A fund results track 11 12 that closely when all that information becomes 13 available.

14 The other variable options, to the extent 15 that they invested primarily in mutual funds, have shown 16 the mutual funds performance -- the underlying funds that are surprising the bulk of investment options and 17 you can see that with respect to the funds used by 18 19 Variable D, that that fund had a modest positive month 20 in March. And the same is true with respect to the 21 funds used in Variable E.

22 Any other questions?

23 CHAIRPERSON AARONSON: That concludes your 24 report?

25 MR. LYON: Yes; thank you.

1 CHAIRPERSON AARONSON: Thank you very much. 2 And now, we will move to Mr. Schloss and the pension 3 fund. 4 MR. SCHLOSS: Thanks, Mel. 5 Does anybody need a performance report? б Since we have PIMCO coming later today, 7 after I'm done, I'm going to through the economics and the markets very fast. We can do this in half an hour 8 9 with the economist. 10 So, just quickly running through the slides, 11 let's start on page 3. You can see that the 12 utilization in the economy leveled off a little bit but 13 in general, it continued to trend upward. 14 Page 4, you can see the manufacturing index 15 continues as well to trend forward. 16 Page 5, nice increasing accelerating rate of 17 unemployment claims going down. So, again, it might spike up every now and then as we talked about 18 19 previously but the trend is clearly going down. You can see on page 6, unemployment rate is 20 21 now 8.8 percent, still too high. But again, the trend 22 is starting to come down. 23 On page 7, consumer sentiment bounces 24 around -- the last picture here went down as a result of 25 the tsunami in March. But again, it might be recovered

1 by now.

2 Going to page 8, architectural billing, the 3 same thing, trending up. Companies starting to increase 4 their capital expenditure, which is the indicator of 5 that.

6 Page 9, existing home sales bounced around 7 down. In March, home sales in the housing industry 8 continues to be extremely depressed, as you can see on 9 page 10. New home construction and the construction 10 industry stay that way, weak.

For the future retail sales on page 11 are 11 12 essentially flat. Auto sales. On the other hand. Are increasing which is very, very good. Particularly, 13 14 since coming out of a recession, General Motors, in 15 particular, has restructured itself. And now, with what's happened in Japan, it's good for the U.S. 16 manufacturers, all of them are going to be affected by 17 the supply chain again, as a result of the tsunami in 18 19 Japan.

20 On page 13, continued strength in leading 21 economic indicators. Again, a big chunk of that is the 22 stock market. Stock markets reflect that in a second, 23 it continues to go up, the U.S. stock market.

And then, page 14, something to keep our eye on is the CPI. The CPI's moved up a little bit with drops of commodity inflation going on. Instead, it's not seemed to be overly worried about it. However -even though, clearly it's going to move up a little but they're not overly concerned about it, yet. But it will work through the economy, particularly the price of oil, as well as other industrial raw materials.

7 If you look on page 16, you can see the euro8 is going to strengthen relative to the dollar.

9 If you go on 17, you can see the 10 dollar weighted index or a weighted index of dollar of other currencies against the dollar. The dollar 11 12 continues to decline. That's clearly a function of the safekeeping interest rate, extremely low. A couple of 13 14 other people think they're increasing it, particularly 15 in Europe -- and again, a weak dollar is a good change for U.S. manufacturers. On one hand -- turning on the 16 other hand, it's sort of what the economy needs right 17 18 about now.

19 Skip page 18.

20 On page 19, the spike in March -- again, it 21 was the tsunami. It's come and gone with little red tag 22 issued on Japan. But from the stock market's 23 perspective, the Vicks has calmed down. I'd tell you, 24 personally, that the Vicks is too calm. For all of the 25 noise going on in the North Africa and the Middle East.

1 For some markets, it seems to ignore almost everything that's bad news for -- at least get over it extremely 2 3 and quickly. That's what we think about that. 4 Page 20, you can see that the Treasury yield 5 curve, the white line in the occurring curve. If I show б you a schematic of this over the last two months, it was a flight to quality after the tsunami. Treasury rates 7 went down and continued in about 320, it's back up to 8 9 350. It had been up to 380. So, expect it to sort of 10 drift up over the foreseeable future, but not 11 dramatically. 12 The Deficit ten year rates on page 21. Page 22, again, is a result of the 13 14 safekeeping interest rates very low, spreads continue to 15 narrow. The debt for yield, if it can't get yield, 16 they'll put the excess cash in the stock market. Again, that's why stock market's going up. The Fed is 17 determined to create wealth so the consumer feels 18 19 better, and therefore spends money. On pages 23 and 24, you can see equity 20 21 multiples. On the first page is the major industries, 22 the Russell versus EPA versus emerging markets. They were all sort of flat. In the last period of time, it 23 24 bounced right a little but in general sense, they're not 25 very high on an absolute basis, relative to historic

norms as well as historic highs. Consequently, you
 could find value in the stock market.

3 The next page, it's similarly faced the U.S. 4 market split into large cap, mid cap, then, small cap. 5 You might comment on that in case we talk about our 6 equity managers.

7 On page 25, again, you can see the indices 8 since the beginning of the year, they trended up. You 9 can see the crack in March -- again, tsunami-related, 10 and has now come back and is seen to continue to go back 11 up.

Page 26, MNA activity; corporations are very flush with cash. The bigger guys are starting acquisitions. That's good for the stock market, which shows that CEOs are confident again. Again, leading indicator, that's a good thing when MNA activity picks up.

18 On page 27, you can see the history of the 19 market value, the Teachers' Pension Fund is at an all 20 time high at \$42 billion. Congratulations.

21 And again, it shows it's completely 22 rebounded from the market collapse of fiscal 2008 when 23 it hit about \$35 billion. So, highest ever, very good. 24 And similarly, on page 28, you can see the 25 trail is 12 months and it's basically gone up, straight up. If you look on page 29, you can see the asset mix of the \$42 billion. Subsequent to February 28, we have sold about 2 percent of U.S. Equity so it looks over here, we sold it. We sold the 2 percent, basically, to de-risk the portfolio. It is in cash. We're deciding what to do with it. What the portfolio's strategic cash relative that acts as allocation for now.

8 Partly because -- you can see, if I jump to 9 page 31, you can see in the third column in the middle, 10 our fiscal year-to-date returns or plus 21 percent. We're extremely anxious about the political situation in 11 12 the Middle East and North Africa. All the regime change 13 going on there as much as the stock market seems to 14 ignore it, the Fed is at zero interest rates, short term 15 with great gains and we like to protect the gains. 16 They go over the profit off the table which is what we did by selling Russell 3000 indices last 17

18 month. Moving over to the left, to the one month return 19 in February was 2.4 percent.

And again, the fiscal year started July 1, the returns are just spectacular. If you look at the far right column, the 3-year return, the 3.74 percent, that includes the dip in '08 so we made up for that. And again, the positive territory trended up. We think the stock market will continue to go up even though that

the glitches, ups and downs and lots of volatility. And again, they try to be a little bit defensive but we're making as much as money as possible which is why we reduced our equity exposure.

5 The fear is as much as the market is б accepting as much risk is inflate takes right now, there 7 is -- an event can happen any minute of any day. Everybody will three is our fear are you sure our 8 9 profits little profit off the table good conservative way to do things in you look on page 32 you can see the 10 February indices -- again, as Chris mentioned all the 11 12 markets go up very, very well, there was volatility in 13 March, just a glimpse ahead.

14 If you look at the market value today, the 15 volatility came and went and we're above where we are. 16 As of yesterday, we were above where we were at the end 17 of February. So, all things considered, we're north of 18 \$42 billion. Now, everything is looking good.

Again, if you look on 33, you can see where the profits came from, where the assets are allocated. We're smack on 70/30 equities versus debt. With that, let me turn over to Seema to make a few comments about equities.

24 Seema?

25 MS. HINGORANI: Thanks, Larry.

1 So, just a few updates. As Larry mentioned already, the Russell 3000, in particular, has had a 2 3 strong run year-to-date through just yesterday. The 4 Russell 3000 has been up close to 7 percent. During 5 that time, we did have it close in March, where the б Russell 3000 was down 5 percent in a short term 7 direction, with all the events going on in the Middle East and what happened in Japan. But it actually ended 8 9 in the month of March up about 45 basis points. 10 So, it's not that strongly until we did take some profits off the table, as Larry mentioned. 11 12 I wanted to point to one thing on page 35, which is to compare how the Russell 3000 has been doing 13 14 versus the S&P MidCap as we might remember. Whatever 15 strategies have we implemented a couple of months ago was to take money out of the Russell 3000 and put it 16 into the S&P MidCap to focus on the fact that, 17 historically, the MidCap passive index outperformed the 18 19 LargeCap piece of the Russell 3000 for long periods of 20 time. 21 And so, if you look on page 35, you can see 22 the differential continues. Russell 3000 being up in the month of February, 3.4 percent. And if you scroll 23 24 down more -- towards the bottom of page 35, our S&P for

25 Midcap index is up 4.65 percent. So, 10 point

difference in there in year-to-date. And through yesterday, the S&P MidCap is up 10.3 percent and the Russell 3000 is up 6.82 percent, so we're doing well on that transitioning of equities that we did a couple of months ago.

And then, I just ask you to flip to page 37, towards the bottom of the page -- it's actually at the bottom of the page, you'll see emerging markets there close to a billion dollars to BlackRock. It will show up in returns next month. But I wanted to give you an update there that we put that money to work in towards the latter part of February into part of March.

13 And just to let you know, again, year-to-date through yesterday, the MSCI emerging 14 15 markets index is up close to 4 percent. We actually 16 have execution on our piece up more than that because we actually caught the dip. But it's lucky timing, I would 17 say. So, we're doing well on that piece of emerging 18 19 markets, equities that we put in place for the last 20 couple of months. And that's it for us. 21 MR. SCHLOSS: Thanks, Seema. 22 There's really nothing to report in fixed

23 income for the month, since we have a big quarterly 24 report next month. So, we're going to skip fixed income 25 similarly in private equity and real estate, not very 1 much to report that happened the last month. We're 2 going to talk about some new investments in the 3 executive session. I'd like to point you, however, in 4 your books to page 59.

5 If you look on page 59, on the far right б hand corner, you can see the quarter ending December. 7 The system made 6.63 percent. It was in the 20th percentile, top quartile. And if you roll your eyes 8 9 over to the 6th column for the year ending December, 10 2010, again, 20th percentile -- so, you're in the top quartile for the year. I think that's the first time 11 12 the fund is in the top quartile in the last ten years. So, congratulations. 13

14 CHAIRPERSON AARONSON: Congratulations to 15 the staff at BAM.

16 MR. SCHLOSS: Are there any questions on the 17 month? Things are working too good?

18 (Laughter.)

19 End the year now, would be the right time,20 but we'll see.

MS. NAGASWAMI: My one question is with the tactical shift out of equities: Is cash the best place to be defensive, or should we think about commodities? In other words, find something that might go up if equity goes down, rather than something that does 1 nothing if equities go down?

2 MR. SCHLOSS: The shift to cash is 3 temporary, A. B, we have no commodity managers -- can't 4 shift to commodities other than through a manager that 5 would direct only invested commodity and publicly 6 traded. We don't have such a manager. So, we can't 7 tell somebody to do that. 8 MS. NAGASWAMI: Would you need an RFP for 9 something like that? 10 MR. SCHLOSS: Yes. So, we're a little 11 strange in what we can do. So, the answer was, take the 12 profits out, throw on the sideline. We've picked 13 around, putting in convertibles or we talked to our 14 managers, REITs are fairly valued. Reverse potentially, 15 fixed income was not. We took our money at a high yield, spot on. So, our list of options are a little 16 tight. 17 18 We are about to have an RFP for emerging 19 market equities against equities, but if you believe a 20 longer term, that might have been placed or put it but it's not getting at directly. 21 22 MS. NAGASWAMI: There's no way to use an 23 opportunistic bucket and just work with the manager on 24 the design? 25 MR. SCHLOSS: We're about to have -- as you

1 know, we're working on this fixed income bucket. And if 2 we had such a bucket and we had managers, we would give 3 it to them, absolutely. So, that's where it goes. But 4 again, we're totally strained as to how to make money 5 whether we try to be a little defensive, and we have no б one that's on the other side of equities that 7 aggressively positions.

8 So, the office in fixed income bucket, with 9 our strategic partners who used to work in Rocaton, I'd 10 like to think we'll be done with it in 60 days. Come to the board with a selection of managers and we'll have 11 12 some very, very interesting place to put it. So, come 13 in process.

14 CHAIRPERSON AARONSON: Anybody else with a 15 question?

16 MR. SCHLOSS: The next thing on the agenda 17 is PIMCO. You know, once a quarter, we bring in one of our managers, economists to come and talk about the 18 19 economy in general so they have a good foundation and 20 make investment decisions. Martin will bring in the 21 people from PIMCO. PIMCO has done a great job for us as 22 a manager of several allocations of fixed income. 23 (The PIMCO people entered room.) 24 The presentation books are going around. CHAIRPERSON AARONSON: Can we ask, if you

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can introduce yourself. The board is on this direction
 and so we can have it recorded and the board members are
 sitting in this direction, too. So, when you make the
 remarks, they can write them down here.

5 MS. PHILLIPS: Great; will do. Well, thank б you as always for the opportunity to speak with you this 7 morning and provide you with an economic update, our 8 view of the world. I'm Louise Phillips. I have worked 9 with the New York City retirement plan now for about two 10 years. I have been with PIMCO for roughly 14, most of it from the West Coast, the last four and a half in New 11 12 York.

To my left, I'm proud to introduce my 13 colleague, Chuck Water, who is a portfolio manager on 14 15 our equity team. As you may recall, we launched our 16 active equity platform in December of 2009, integrating 17 our equity teams into our process; and Chuck was one of the members of the inaugural team and is now the 18 19 portfolio manager for the PIMCO Pathfinder Fund, a 20 global deep value equity fund which we can talk about. 21 As I've mentioned to all of you before, at 22 PIMCO, we do not have a chief economist. We formulate 23 our economic forecast and views by way of very a 24 democratic process where we meet with all investment 25 professionals from around the globe to debate the world

1 providing our secular long term view, three to five 2 years. And we couple that with our view over the next 3 several quarters which we kind of market the next three 4 to four. As such, we do not have one person to penalize 5 if things don't go well and one person -- we don't have б one person that gets to share the glory when things do. 7 So, again, we call that both a burden and 8 glory sharing but it's a result. Chuck and I both 9 participate in that process as I mentioned earlier as we 10 have expanded our platform, both across fixed income 11 sectors and into active equity. Again, that process has 12 served us very well and again, we all participate. 13 In terms of today's agenda, and again, this is your meeting and as always, we encourage you to ask 14 15 questions along the way. We thought we would do is sort of start with kind of state of affairs and how we got 16 here. And then, importantly, our view going forward. 17 And Chuck's going to start with that and, then, we can 18 19 end up with some of the most current views given what's 20 going on in the markets on a day-to-day basis both with 21 geopolitical as well as the situation in Japan. 22 So, again, we ask you to please interrupt us 23 as you wish along the way to ask questions and we look 24 forward to making this a dialog.

25 MR. WATER: Thank you, Louise. And thank

1 you everyone, for your attention. Let me just kick off 2 slide number 3, which is really a graphical representing 3 where we are today. After coming through a relatively 4 globally economic financial crisis in 2008, there has 5 been a strong cyclical recovery around the world but in 6 two different speeds -- multi-speed world where, 7 essentially, developed markets are lagging emerging 8 markets.

9 But nevertheless, there has been a 10 relatively strong rebound from a crisis on a cyclical 11 standpoint. A lot of the options, however, that were 12 available to policy makers and just at overall economy 13 through the last recession at an earlier part of the 14 2000's aren't available this time around.

15 Specifically, the consumers stepped in 16 rather strongly back in 2001 and 2002, consumer balance 17 sheets and developed markets are stretched where we are today. Again, and most developed markets -- emerging 18 19 markets are a bit different story and that's a debating 20 point on how much the emerging market consumer can 21 actually grow demand in the future. But nevertheless, I 22 think the theme here is that even though we've seen a substantial decline on the chart on the rights followed 23 24 by a substantial rebound, the future is somewhat 25 uncertain and the decisions the policy makers actually

make will be key in dictating how the economy continues
 to progress.

3 So, slide 4 -- and again, talking about 4 emerging economies, this is really been a substantial 5 change in the trend, is that emerging markets are 6 leading the multi-speed recovery that we're seeing in 7 the world today.

8 Upper left hand corner, we see that emerging 9 economies are doing better in employment. Upper right 10 hand corner, better industrial production. Lower right 11 hand corner, better in terms of retail sales in terms of 12 growth. All of these things are engines actually 13 driving the global economy at this point and it's a 14 market departure from the economy of the past.

15 Slide 5, however, with growth, sometime 16 comes particular risks. As the growth has rebounded, 17 inflation has emerged into the vernacular, not only in developed markets we're hearing and discussed here, but 18 19 in emerging markets in particular. For those following emerging markets equities, you've seen our substantial 20 21 sell-off over the last few months. Predominantly, on 22 the concerns about inflation, capital controls, risks to 23 those economies that they're overheating.

24 It is becoming more and more an issue in25 developed markets, as well. The Fed minutes that were

1 released earlier this week -- we do a lot of things at PIMCO but one of the things is actually watching what 2 3 central banks do. And there is an extensive internal 4 dialog about going through these minutes. And you 5 actually look at the times that inflation was mentioned 6 in this series of Fed minutes is escalating quite 7 rapidly. So, inflation is a risk that we see and we'll have to deal with in terms of the future and in 8 9 investment decision.

10 Slide 6, this is a slide where, I think, 11 perhaps, we best capture the details about where we were 12 and where we are today because looking at economic 13 growth is one item. But really, what created almost the 14 moment of no return in the last crisis was the breakdown 15 in the financial transmission system in our mediation 16 system.

And this is where programs like TARP and other tools used by policy makers and governments. I think we can say, in hindsights, successfully brought us back from the brink. Taking a look at some of the charts here, you can see the market changes in financial markets. Upper left hand corner, the two-year interest rates swap spread.

24 MS. MARCH: Would you say that government 25 saved the market?

1 MR. WATER: I think lots of actors were involved but the government actions, certainly, they 2 3 were the lender of last resort in this crisis. 4 MS. MARCH: I guess, it is important to keep 5 government functioning. б MR. WATER: I can't disagree. Certainly in a crisis. 7 8 MS. MARCH: They shouldn't close it down. 9 Do you think PIMCO could send a message? 10 (Laughter.) MS. NAGASWAMI: They don't own many these 11 12 days. (Laughter.) 13 MR. WATER: We do have a view on the 14 15 government shutdown. The human cost aside, as an equity portfolio manager, I'd tell, if you look back to the 16 last shutdown in 1995 and '96, from an investment 17 18 standpoint, it actually presents interesting 19 opportunities in the equity market. The government will reopen. They don't get 20 21 sorted out. And again, hopefully, at minimum human cost 22 but as an equity manager, we focus on individual 23 situations. There are some stocks that are going to be 24 sold for the wrong reasons. And I have a shopping list 25 that whenever the market goes on sale, it can be a good

1 opportunity to buy some good investments for the long 2 term so --3 MR. SCHLOSS: Like a Wall Streeter. 4 (Laughter.) 5 MR. WATE: Cost and benefits with the б shutdown. Other charts here, again, you can say, the 7 actions by government and the actions by central banks -- we'll talk a little bit more about the central 8 9 bank actions in particular, have really led the way into 10 recovery because these -- again, are the actors of last resort when private industry didn't have the resources 11 12 to resolve the issues. MS. MARCH: I have a question and it is a 13 14 political question. If that's what a firm like yourself 15 believes, why isn't the message out there? What you 16 just said was that it is government that saved the

market. And I know I made my statements before. Someone or somebody has got to start doing that. MR. WATER: I'd say that PIMCO has. In PIMCO's defense. For example, we hired Neil Josharry [sic] who was the assistant Treasury secretary that actually developed the TARP program. Bill Mohammed

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23 worked intimately with the Treasury department during the crisis, actually, proposing solutions for the 24 25 financial crisis. Some were accepted, some weren't.

1 So, PIMCO for many years, it's not a 2 revolving door, but many individuals that come from 3 government had come to PIMCO. Rich Clairedelf [sic] who 4 is also a former assistant treasury secretary. I'd say 5 that PIMCO, perhaps, has been at the forefront of б actually working with the government and certainly in 7 the crisis in moving things forward. 8 MS. MARCH: Thank you. 9 MR. WATER: Slide 7. This will actually give us a view of, again, where we've been and where we 10 are today and a little bit about where we are going. 11 12 So, we have a series here of all the central banks around the world. And you can see, again, back in 2008, 13 14 substantial cuts and rates from central banks around the 15 world as the financial crisis escalated. 16 Now, interestingly, as we come out of this 17 crisis, you can know the few things. First, we have the European Central Bank hiking rates today. A number of 18 19 central banks around the world, Canada, as well as 20 Sweden, other countries have actually hiked their rates, 21 Australia as inflation pressures have emerged. 22 The Federal Reserve hasn't done so yet nor has the Bank of Japan. Now, when we talk about rates 23 24 and rate policy, this is often what we talk about as 25 Plan A. This is the primary instrument, the primary

tool that central banks used to stimulate the economy.
 It is interesting to think about what the response will
 be from here but our core position is that the fed, at
 some point, will hike rates.

5 But it is entirely premature to say it's 6 going to happen into a near turn, even despite the 7 debate. So, on slide 8, what you see here is actually 8 what happened correspondingly to central bank balance 9 sheets.

10 MR. SCHLOSS: Can we go back to 7 percent? 11 Why do you think that they'd keep their rate where it 12 is? Because I don't agree with it. Everyone else's 13 raise's raised. Where does the dollar go?

14 MR. WATER: I think our core view on the 15 dollar is the non-secular time frame. It continues to 16 weaken and you see it in many different asset classes, gold, for instance, commodities, they are all 17 denominated in dollars and you see ongoing strength in 18 19 those commodities. Our long term view is that the 20 dollar is in a state of decline because of all the money 21 printing that's been done by the Federal Reserve. 22 Again, with the ECB tightening today, this is given us the euro, that I think on the technical 23 basis is a bit over done, \$1.42 or \$1.43. So, perhaps 24

25 you can expect a correction. I think purchasing power

1 parities around \$1.15. I wouldn't expect that much of 2 retrenchment. But we think the long term path for the 3 dollar is one of decline.

MS. PHILLIPS: In mostly against some of the emerging economy currencies, because when we start looking -- when the dust settles here -- and when we get beyond, sort of, monetary policy is, checks going to talk about, there has to be the view toward what deficits look like. Not just ours, but developed economy deficits.

And as such it's hard to find who takes the place of the dollar as the reserve currency. But from a depreciation perspective, where we feel the greatest movement is, is relative to the emerging currencies.

15 MR. WATER: So, Slide 8, we can just spend very little time on this. But this is a graph that's 16 actually showing you how much central bank balance 17 sheets have expanded. And what this slide shows you is, 18 19 again, the amount of money that has been injected into 20 the system. And one of the key tools that the federal 21 reserve in the U.S. has used is something called 22 "quantitative easing" -- QE. QE2 is what we talked 23 about right now, because there was a QE1.

24 So, on Slide 9 -- and when it comes to QE, 25 when I talk about rates being cut as Plan A, QE is what we would call Plan B. QE2 in particular is a program that was announced by the Federal Reserve to actually use open market operations and other transactions to actually buy various instruments in the fixed income market.

б And since we had the implementation of QE2 7 last fall, a number of things have happened. In 8 particular, equity markets responded very positively to 9 this. And you can say that also the economy has 10 followed in tandem or perhaps trailing behind the equity 11 market, somewhat. So, you see a number of different expansions here and actual reinvesting of proceeds with 12 QE2. 13

And slide 10. So, marrying Plan A and Plan B, where are we at right now -- and let me talk first about the title here. What we have in the graph is actual fed funds rate in the U.S. and then what we call "the Taylor rule."

And just a few quick words on that. It's a formula created by an economist, John Taylor, who uses different variables to actually forecast where the fed funds rate should be. And what you see is something very interesting here. In the crisis, the Taylor rule would have advocated negative fed funds rates and it's currently between zero and 25 basis points, hence, the notion of Plan B or the QE Programs as an additional
 tool.

What we have right now, if we see current trends continuing, an optimistic scenario is that, in fact, the Taylor rule -- and that's on the far right-hand side of the chart with the dashed line -- is showing that there should be a substantial hike in the fed funds rate in the near future.

9 Again, that's not our core view because
10 there are other things that have to happen still -- and
11 that's on the slide 11. First QE2 has to end -12 starting on the far right-hand side.

And then really steps two and three would be 13 14 the action of draining this excess liquidity from the 15 economy through a number of open market operations, 16 reverse repurchased operations, different tools that the 17 federal reserve uses to pull money out of the system. Only after that point, and that's really targeted around 18 19 June of this year, do we expect after that and after 20 actually seeing how the economy reacts, will the federal 21 reserve actually go about hiking rates.

Now, you may have seen some of the research coming out of PIMCO but we think the second quarter and the end of the second quarter, in particular, will be a very interesting time for asset markets. Because just 1 as the markets and equities, in particular, went up with 2 implementation of QE2, what happens when you withdraw 3 all this liquidity? Not only in equity markets, the 4 fixed income markets, perhaps, in the economy as well 5 because the economic recovery over the last six months 6 is coincided with QE2 quite a bit.

7 So, we expect the Fed to kind of go on pause 8 and take a wait-and-see attitude towards -- once this 9 withdrawal is done, is there a QE3 -- I would say 10 probably so, if things worsen substantially. If not, 11 then I would expect an eventual gradual hiking of the 12 fed funds rate, perhaps, in early 2012.

And then Slide 12 -- actually, slides 12 and
13. I'll talk about really what the consensus view is
15 for economic growth and inflation.

MS. NAGASWAMI: Can we go back to the Feds for a minute. So, a lot of the stability of the economy, then, depends on a very short term on a very disciplined withdrawal of liquidity. How are you handicapping the odds that we'll actually get this right or if the Feds will get this right and the market growth?

23 MR. WATER: I tend to think that in terms of 24 the economy, the short term cyclical recovery is 25 relatively self-sustaining, in terms of different 1 investment markets, I expect substantial volatility. 2 So, I think, after an adjustment period -- because all 3 these money will be pulled out and that adjustment 4 period will coincide with -- which isn't an anomaly and 5 "the summer blues" and different asset markets, I would б expect pretty robust debate at the fed but ultimately a 7 continuation on the glide path moving into the third and 8 fourth quarters.

9 MS. NAGASWAMI: Can you please elaborate a 10 little bit on, where is the draining happening? Who is 11 it affecting? Who's on the other side of that drain? 12 Who now has left liquidity? Is it the financial system? 13 Is it mortgage backed securities investors? The central 14 bank?

15 MR. WATER: So, when the fed actually 16 implemented QE2 and injected liquidity into the market, there are number of the key money central banks, as well 17 as foreign central banks and foreign players that 18 19 actually transact in these fixed income markets. PIMCO 20 as well is a player in these fixed income markets. And 21 when the fed injects liquidity, actually bidding up the 22 securities to that much changes hands to the players. 23 I expect that, actually, how the Fed 24 actually goes about exiting this, will be in terms of, 25 actually, withdrawing those funds in the fashion of
securities in the different repurchase transactions that
 repose, term deposits, increasing the reserve rate that
 the federal reserve actually pays to banks for
 depositing cash at the fed would be another key tool
 used.

6 That's actually an interesting economic 7 series to look at, is that the banks aren't lending yet, 8 they're lending a little bit when it comes to different 9 types of C&I Loans, business loans. But many banks are 10 depositing a lot of this liquidity that they've got 11 at -- they're keeping it on their balance sheet.

So, by actually paying more, the hope is, first of all, that, that money will be injected into the economy in the form of loans but by paying more at the federal reserve, that would be an incentive. So again, the Feds hope that this works and the banks start lending and the excess liquidity will get mopped up by paying a higher rate at the Federal Reserve.

19 So, slides 12 and 13. The key point here, I 20 think, looking at the real GDP growth outlook chart on 21 the right-hand side, you see an optimistic scenario or 22 consensus scenario and a pessimistic scenario. The 23 point is, there's a significant amount of disparity and 24 debate over where the economy goes from here. Again, on 25 cyclical basis, when I say "cyclical," let's call it 12

months. I think were very supportive, perhaps, a little
 bit biased to the optimistic scenario.

3 On the secular basis, we, again, go back to 4 the fact that there are real pressures in terms of 5 fiscal balance sheets, the debt ceiling, difficulties б and, actually, borrowing to grow your way out of the 7 issues, difficulties in municipal budgets. Difficulties 8 in many parts of the world that make a clear case for a 9 continuation of the optimistic trend beyond 12 months, 10 would be entirely unlikely, and that's what we often call the new "normal" at PIMCO, a volatile path in terms 11 12 of growth in the future.

And then on slide 13, inflation as well. 13 Again, a very volatile series here and I'd probably say 14 15 there is even more than upward bias to this than there 16 was when this analysis was first done, a little bit less 17 than a month ago. Because inflation really is creeping into our world much more so than I think originally 18 19 expected. If you look at rents and housing related 20 items in the CPI basket, that is a substantial part of 21 it.

Again, different ways of reporting inflation, excluding food and energy is one way of doing it but typically over a 12-month period, that increase in commodity markets, that's actually in the core CPI

1 tends to leak into the rest of the CPI basket as well. 2 So, when we look at this inflation outlook, there's a 3 probably an upward bias to it. 4 And so, let me turn it over to Louise. 5 MR. SCHLOSS: It's really, the trend is up б but not really cataclysmic. Is it? 7 MR. WATER: No, we don't think so. And 8 again, from an equity standpoint, the equity market, 9 when we look at the long term series, really begins to 10 care at level about 4 percent, so -- we're a ways off from that. We would -- I think, generally consider 11 12 equities amongst the number of different options. 13 Maybe the least challenging option, in terms of the fact they have an economic recovery, you have 14 15 some inflation that isn't too severe yet, but the trend is up. The question is if the Federal Reserve can 16 17 actually manage this and prevent it from getting out of control. 18 19 MR. SCHLOSS: But these are not what the Fed 20 likes? I like a little bit of inflation. 21 MR. WATER: A little bit, yes. Because it wasn't too long ago when you're talking about deflation 22 23 and that's less of a threat that's very difficult to 24 deal with. Japan has learned that and dealt with it.

25 So, you can say that this is almost a benevolent outcome

1 for now, but too much escalation would, in fact, be a
2 risk.

MS. PHILLIPS: Again, picking up on page 14 3 4 and continuing where Chuck left off. And, as he 5 mentioned, we sort of changed our view away from more of б the pessimistic camp to the optimistic camp at the end 7 of 2010, on the heels of what was really continued view toward the positive elements of the stimulus effect, as 8 9 well as some positive surprises to that end with some of 10 the passages at the end of 2010.

And that's really the biggest driver in terms of where we are, in terms of our current or cyclical forecast for GDP, in the U.S. in particular, relative to what we view as the negative or headwind, if you will, on the secular basis in terms of growth. And we'll talk about both of those.

But, in aggregate, at this point -- and we've been here before -- we do have some different reviews on the short term versus the long term. We mentioned the positive cyclical tailwind and certainly on the heels of government stimulus both on the monetary, as well as the fiscal side, being really the biggest driver.

Now, certainly, we've seen some strength insome of the personal consumption numbers, expansion

1 across the manufacturing and the service sector

2 predominantly manufacturing so far, and then industrial 3 production and some improvement in that capacity 4 utilization number. So, certainly, it'll show that 5 there is still some slack in the system.

6 On the secular basis, the longer term where 7 we find the headwinds -- and, again, this is the element 8 that we described previously as the new normal, the U.S. 9 fiscal deficit, not just the U.S. but the developed 10 market in terms of where deficits have risen to, as 11 these governments have been "all in," if you will, to 12 stimulate their economy.

13 A negative savings rate, still savings rate 14 improving but negative, if you will, and then leverage 15 that going to be the continue place too rely on for 16 growth, which we will talk about, is still to be 17 hindered, given whether it has occurred in the former 18 shadow banking system as well as lending standards and 19 still the tightness of credit currently.

20 We circled here on the bottom, then, the 21 forecast, again, closer to the optimistic scenario, 3 to 22 3 1/2 percent over the cyclical time frame. Can you see 23 muted growth throughout the developed world Japan? 24 Again, these are updated though we would probably shave 25 some of that forecast number just given the disaster and

tragedy there over the cyclical time frame. China and the rim countries are where we see areas of growth, likewise, where we see the biggest drivers of inflation. And now, China, a provider of inflation, instead of a provider of disinflation, where we were nearly a decade ago.

7 We love charts. I won't go through every 8 one of them, but on the next couple of pages, you see 9 the fiscal and monetary stimulus side has been the big 10 driver of growth in the economy and we are, again, 11 really what hinged our view more to the positive side, 12 as we look out at the next couple of quarters.

We talked about this, and as you mentioned, we felt that stimulus has and will continue to be necessary to achieve growth in the economy and certainly has prevented us from falling into a further brink. The question is, what happens when that starts to be pulled away or dissipated in terms to this effect?

19 Let's talk about the headwinds to a 20 self-sustaining rebound. Number one, not surprising 21 unemployment rate. Nobody is happy with 8 1/2, 8 --22 8.7, 8.9 percent. And more importantly, structural 23 element of unemployment, as we see the duration of that 24 increasing and the number of unemployed, marginally 25 employed, underemployed and aggregate really twice that headline number -- the biggest concern for us in terms
 of where the headwinds are.

3 On housing, we started to see now the 4 prices, home price levels turn south, again. Really on 5 the heels of despite low mortgage rates and inability to б get financing and reeling inventory story. One that we 7 still feel, takes another year or two to correct as we 8 wind these down and together, these provide pretty 9 strong impediments to sharply higher interest rates 10 going forward.

And then the second piece of core -- third 11 12 piece rather is that continued deleveraging. Again, not of a bank-friendly -- lending-friendly market on behalf 13 14 of banks in this environment, not only the desire for 15 consumers to clean up and continue to clean up their 16 balance sheets, but likewise, the ability to re lever and to continue to support the economy in the way that 17 it was done in the previous decade is really where we 18 19 see the biggest hurdles.

We talked about inflation -- commodity inflation not necessarily feeding yet into that CPI number both -- because it is a small percentage of the headline number, but what you see on the bottom there is that the CPI numbers have risen pretty significantly up to 5.8 percent from where we were year ago, at 1 4.4 percent.

Again, where we would become concerned is that there is the ability to pass on those higher input prices into higher output prices and where we would see that CPI number increase.

MS. NAGASWAMI: So, right now, they're justbeing absorbed in margins which are very high anyway?

8 MS. PHILLIPS: They're being absorbed in 9 margins but also some of the commodity impact it's just 10 notably not a big story in the number and the 11 calculation of the number itself.

12 So, it is into margins. It provides a tax on consumers importantly and so we expected to feed into 13 14 some of the consumption number, though the CPI number 15 may not capture it to the greatest degree that is present. We mentioned early, Plan B. The government 16 all-in, in terms of how that impact balance sheets. And 17 we're walking through here on the bottom chart of 18, 18 19 what occurred across the crisis.

20 We're now at the level in terms of developed 21 market, debt levels and deficit levels that provide more 22 of a concern where many of these economies and their 23 debt really was more of an interest rate story. We now 24 fear that it's now more of a credit story, given where 25 these levels are. We saw -- announced today that Portugal has now raised their hand for rescue packages to add to what has been provided to Greece and Ireland. And the size of that, while still yet to be determined, is still concerning in terms of what is both required, given their current deficit levels, as well as what austerity will be required in return for that and what that means for European growth.

8 So, let's look, then, on page 19, and this 9 is where we provide a little bit of our status report 10 card on the basis of the things that Chuck has talked 11 about. Quantitative Easing 2, ending at the end of 12 June. Big question mark, then, will QE3 be on the 13 horizon?

14 And, again, given the headwinds, we suspect 15 that there maybe something in the cards. Fiscal 16 stimulus are waning, not a lot of appetite, of course, 17 and we see that very much evidence as we speak in terms of continued fiscal stimulus going forward. Austerity, 18 19 again, increasing but the requirement there, as we look to get a handle on debt, is also one that hinders growth 20 21 and the ability to pay for it going forward.

This idea of "escape velocity" and this is the word that we talked about a lot of PIMCO. When do we stop relying on the hand of the government where things sort of take off and we achieve a sustainable growth rate? And that's where really the biggest question mark is right now. As we see much of the stimulus on the horizon to go away, with not a lot of appetite for additional stimulus, again, the ability to sustain that growth rate going forward is where we think over the longer term, we move more into that new normal scenario and growth becomes muted.

8 Looking at the framework then, and I'll sort 9 of summarize here, on the secular basis, again, we would 10 circle that grading the economy, the global economy and on ABC or D level, on a secular basis looking out three 11 to five years given the headwinds that I've talked 12 13 about, we probably put things in the camp of around, 14 sort of "D grade," a partial recovery where we move into 15 a scenario of -- of new normal growth, growth that is 16 very different from where we have been this last decade. Again, on the cyclical basis, the next 17 several quarter still being driven by growth that's 18

19 driven from stimulus in the economy, both by way on 20 monetary and fiscal policy.

Page 21, we've talked about by way of process. We will be revisiting our longer term view in another month or so. I don't anticipate the things will change too significantly but this idea of what's left and how do we stimulate the global economy, particularly

in the developed world becomes the question and where we
 turn our eyes from a growth perspective, from a
 demographic perspective and more to the emerging economy
 to prop-up things globally.

5 We again, define the new normal the 6 leveraging, desynchronized growth, this multi-speed 7 world that we talked about, and re regulation while 8 required and likely necessary as an impediment to growth 9 going forward.

10 And simply what that means from the investment perspective, looking at the things 11 12 graphically on page 23, is that, the tail risk in this environment, whether it's inflation, whether it's a 13 14 downturn in the market more broadly, the risk on the 15 tail, we think become wider. The old normal where that 16 tail risk was muted and a rising tide had the ability to lift all both, we think becomes a little more dispersed 17 on the going forward basis. 18

19 Investment implication just -- then finally, 20 and I do promise I'll end here on page 26. In this new 21 normal environment, again, being forward-looking is 22 required. Looking at things more on a global basis, 23 taking into account demographics that in the developed 24 world we know where in an aging economy and the U.S. is 25 hardly in the worst position relative to Japan and Germany and a number of others, but how that will impact
 with corresponding in consumption?

3 Maintaining liquidity and looking at risk 4 factors really across asset allocations to determine 5 where the big drivers are and, of course, looking at 6 where some of the systemic issues may come from in terms 7 of inflation, shocks, re regulation and as we speak from 8 the geopolitical environment as well.

9 We talked for a while. I will stop there. 10 In terms of questions, as I mentioned at the outset --11 certainly the environment, as always but in particular 12 to speak remains fluid and we're happy to talk about 13 things that may be we didn't address on the pages if --14 if, in fact, you have questions.

15 CHAIRPERSON AARONSON: Can you tell me, have 16 you guys developed an opinion on the Ryan proposed 17 budget for the next ten years? And whether you think 18 that's going to be good?

MR. WATER: As of yet, that there is no formal opinion coming out, I think, as we go through the analysis and, actually, go through the work of thinking about it and modeling it out, I can almost lead with the conclusion that we find it politically almost unfeasible for it to be adopted, obviously.

25 I know internally, there were number of

discussions about the president's debt commission and their proposal from some months ago being relatively positive and that had a number of things -- really a complete overhaul of the U.S. tax code, reducing the mortgage interest, deduction of number of other things but again it was viewed positively.

7 The Ryan proposal has some elements of that, 8 but some elements, otherwise, that don't necessarily fit 9 with that. So, we haven't completed the analysis yet 10 but, again, I think the conclusion is that is political 11 unfeasible.

12 CHAIRPERSON AARONSON: And you haven't decide yet whether or not it's economically feasible or 13 14 not feasible. When you have completed that study, do 15 you think you can share it with us, please? MR. WATER: Sure. We'll come back 16 17 with that, yes. 18 CHAIRPERSON AARONSON: Thank you very much. 19 THE SPEAKER: I'm just wondering what level -- in your opinion, what level of real GDP growth 20 21 would actually reverse the unemployment number if it's 22 not 3 to 3 1/2 percent and --23 I was just asking what level of real GDP 24 growth would actually reverse the unemployment numbers, 25 if it's not 3 to 3 1/2 percent. And your analysis also

1 talks about bank recapitalizing and that process of 2 recapitalizing may be being a potential source of -- or 3 not a potential source of stimulus for the economy. 4 I think we also read about companies not 5 hoarding cash. And how does that also -- if they stop б doing that -- is that factored into this or could that 7 be a potential way to also decrease unemployment? MS. PHILLIPS: Your first questions, in 8 9 terms of what levels do we see, kind of reversing the 10 unemployment and we certainly see the unemployment rate kick down on the heels of -- in a stimulus and the 11 economy and this 3 to 3 1/2 percent number which is for 12 13 us, was up nearly a percent from where we started. 14 So, we have seen improvement. In order for 15 that, though, to be sustainable and it -- this goes, 16 then, to your questions two and three -- is we have to 17 see both corporations in particular stop sitting on cash and to see return on investment, so the horizon for the 18 19 return on investment positive enough such that they are 20 willing to spend on what we would call sort of 21 productivity-enhancing activity, which would involve, of 22 course, hiring workers and bringing that unemployment 23 rate down.

With respect to bank balance sheets, therehas been a lot of discussion both in the U.S. and Europe

1 in particular. And the emerging markets really didn't 2 have this problem because they didn't get them the type 3 of trouble. Well, we see that as an opportunity from an 4 investment side. As this bank look to rid some of those 5 assets that are still on their books. It also has the б ability from a capital requirement perspective that 7 until they do -- there somewhat saddled in terms of the type of lending activity that they can undertake. 8

9 And so, the environment that we were in the 10 growth is very much reliant on the formal banking economy as well as that outside of it, again, what we 11 call the shadow banks in terms of the mortgage lenders. 12 13 It is still going through the process of cleaning things 14 up and until they do, we don't see this spurt of lending 15 that's going to either allow consumers to relever to 16 spend.

And what has changed is that there are still the desire on the personal side to clean up personal balance sheets. So, again, it's something that's still being worked through the system.

21 MR. WATER: Let me just add, on GDP side, it 22 literally is a multivariable question because GDP is the 23 sum of consumption and the investment of what the 24 government spends and then net exports. If we think 25 back to the days when we had 4 or 5 percent unemployment

rates, housing was booming. You had a lot of jobs in
 construction. You had that sector creating to a
 substantial amount of jobs.

4 So, kind of part of the new normal, I think, 5 is that we've had this huge structural shift as housing б has declined and those jobs, they don't look like they 7 are coming back any time soon. So, for me the hazard, I guess, 3, 4, 5 percent of the GDP side. I still don't 8 9 think, I could say with any conviction that, that's the 10 number that will really give us tangible improvements 11 the way it used to be.

12 It's really more of a structural question of what industry steps in to create jobs. And that's the 13 type of thing where the policy on the dollar, the policy 14 15 with our trade with China, number of different factors 16 that need to be addressed to actually come to a 17 conclusion on what can be that next engine for job growth. Those are very difficult questions that we 18 19 don't see any answers forthcoming anytime soon on. 20 MS. MARCH: What goal do you think income 21 disparity plays in our United States of America, in 22 terms of what is happening in the economy today? 23 MR. WATER: You certainly see it by going to 24 the stock market. When we think of equity that had been 25 done particularly well, the high end consumers have been

1 in very robust shape. For instance, the Swiss watch 2 industry almost suffered its death in 2008 and early 3 2009. It was always thought that items like that would 4 always sell, but the severity of the crisis was such 5 that many of those businesses almost went under. Then, 6 it came back with quite a bit of strength; you see a lot 7 of luxury buying. On the lower end, obviously, there is 8 a challenge there. That's where the unemployment issue 9 actually resides.

10 MS. MARCH: You started your presentation by 11 saying that "the emerging market will do much better in 12 time." Well, my prediction -- and I'm not an economist -- is that, we're not going to have to worry, 13 14 because over the course of the next 20 or 30 years, we 15 are going to become an emerging market and we will do 16 very well. Could you comment on what I just said? MR. WATER: Well, you don't have to be 17 economist to make prediction so --18 19 MS MARCH: Well, then, I predict that. I do 20 predict that. 21 MR. WATER: Almost anyone can be an 22 economist too but, specifically, in Europe -- I would 23 say, talking with people internally and how we were 24 approaching Europe in terms of Greece, Ireland, Portugal

is the emerging market's playbook. For instance, when I

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1 look at the banks in those countries, I could come up 2 with a compelling case to say "you should buy today 3 because they are very cheap." But in reality is, this 4 is a completely different paradigm, what's happening in 5 Europe, and it goes back to former emerging market б crisis and the playbook is to wait for the default. 7 Now, the U.S. has certain advantages that Europe doesn't, specifically, it can print it's own 8 9 currency. Use of change over the last -- certainly over 10 the last 36 months -- 24 months the strength of the current cyclical recovery, I think is leading us away 11 12 from the belief that we'll be in the emerging market, 20 13 to 30 years from now. 14 But for certain -- I can say it with 15 certainty, the set of other emerging markets implies 16 that 20 or 30 years from now there will be a relative wealth shift away from the U.S. into the emerging 17 18 markets. 19 MS. MARCH: Is this "relative wealth shift" 20 happening right here in our country? And I think it is 21 time for some of the individuals to take a look at the 22 economy to realize that. A person cannot purchase what

24 will costs more.

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The reason why we became what we are today

they need every day if they are earning less and things

1 in this country, is because there was a huge development 2 of middle class. It is disappearing. Go out into the 3 world and away from the textbooks and maybe then we will 4 come up with how we will moved the country in the 5 direction of lowering unemployment. б MR. WATER: Absolutely. 7 CHAIRPERSON AARONSON: Any board member want 8 to ask a question? 9 MS. NAGASWAMI: I just had one question, I 10 will get this quick. With inflation in China, policy mistakes, global impact, any worries from a certain 11 12 perspective that the surprise does not come from the developed world? It comes structurally but it actually 13 14 comes from the emerging market. We're starting to look, I think, more from 15 -- with respect to China, specifically, on that story, 16 if you will, and the inflation impact -- we look to 17 China right now. And, again, going back to this 18 19 question, as to growth in the middle class and the emerging economy, is more broadly to see that there are 20 21 hundreds of millions of people moving into that 22 particular realm as the big driver where we see growth 23 going forward. So, again, they've always had better 24

25 demographics but for quite some time we have had better

1 demographics than we had. They didn't have the

financial system or the income to put that to work. And what we are seeing now is we're now seeing that's put to work. With respect to -- it's more of a policy mistakes or a surprise impact -- again, what we are seeing from the emerging economy is that inflation is also a big part of that story.

8 And so, from a policy perspective, cutting 9 that off or hoarding that or focusing on that, could 10 provide a damper to the other side of that growth 11 equation. The way that we view things now though is 12 that most of that is still coming online and it's less 13 in up here.

14 CHAIRPERSON AARONSON: Any other questions? 15 May I thank you very much for your 16 thoughtful presentation. We look forward to hearing 17 from you again and when you form that study on the 18 budget. Thank you.

19 MR. SCHLOSS: Thank you.

20 Next, we have a presentation from the GMO. 21 It talks about asset allocation, which is the process 22 we're going through. We've been doing it for six 23 months.

24 (The PIMCO people left the room.)

25 (Recess taken.)

1 (The GMO people entered the room.) 2 MR. SCHLOSS: Now, as part of our 3 continually asset allocation dialog, we brought the GMO, 4 which are experts in asset allocation, to tell us their 5 perspective on how it works and what we should think 6 about.

CHAIRPERSON AARONSON: And may I ask you to
address your remarks down here to the stenographer and
the board members are also on this side. Thank you.

10 MS. FERRARA: Thank you very much. My name 11 is Lisa Ferrara. I'm the relationship manager for the 12 Teacher Retirement System of the City of New York. I 13 have been working with the investment staff since we 14 began investing with GMO in 2005. Thank you very much 15 for inviting us in today.

With me, to my left is Mark Mayer -- and you 16 should all have his photo in front of you -- he's the 17 18 Chief Executive Officer of GMO. And to my left also is 19 James Montier. James is a senior member of our asset allocation team, GMO. He is well known widely regarded 20 21 figure in the behavioral investing. He's the author of 22 a book entitled "Value Investing" as well as the little 23 book of "Behavioral Investing."

24 So, our agenda and our objectives today are 25 very straightforward. One, is to talk to you about how

1 we take a valuation and long term approach to asset 2 allocation. And the second objective we have is for all 3 of you to walk away with feeling today that your time 4 here was well spend. So, I'm going to ask you, as we go 5 through the material, to please interrupt and ask б questions because this is your time and we want you to feel that it is very productive. 7 8 So, at this time, I'll turn things over to 9 James. 10 MR. MONTIER: Thank you very much and good morning everybody. I'm also slightly nervous now in 11 12 presenting in front of teachers. 13 (Laughter.) 14 I happened to be doing jury service a few 15 years ago. And it so happened that one of my former 16 teachers was on the same jury panel as myself. And when I was at school, whenever a master entered the room, we 17 had to stand up and say "Good morning" and so at the 18 19 jury service, I stood up and said, "Good morning, sir." He said, "James, it's been 25 years since I 20 21 taught you. You don't have to stand up and say 'good 22 morning.'" So, if I suddenly stand up and say "good morning, everybody" you'll understand why. 23 24 (Laughter.) 25 MS. MARCH: But I wanted to warn you, there

1 are only three teachers in the room.

2 (Laughter.) 3 MR. MONTIER: I feel much more relaxed now. 4 MS. MARCH: But we are three formidable. 5 (Laughter.) б MR. MONTIER: Very formidable. 7 MS. MARCH: Very formidable. I figured 8 someone else should say that. 9 MR. MONTIER: I wish could promise to 10 you that today's presentation is going to be full of happiness and joy. Unfortunately, I can't. We are GMO. 11 12 (Laughter.) And we don't have to do happiness in 13 14 dealing. Personally, I suspected that GMO stands for 15 "Generally Miserable Observers." The one good news is 16 there is a study in psychology which shows that there is 17 one group of people who generally see the world the 18 way it really it is, and that is the clinically 19 depressed. The reason, of course, they are clinically 20 depressed is they know they are pretty useless at 21 everything, which is why they're clinically depressed. 22 The rest of the world is unfortunately happy 23 and deluded. So, I think there is unfortunately a tradeoff one is forced to make -- and I reckon being 24 25 clinically depressed at work and happy and deluded at

home is probably the right balance. So, forgive me in
 my own coming to clinical depression.

3 Now, let's start you on page 3, if I may, 4 because this talks about the way that we feel the market 5 works. And that's a pretty important place to start.

6 Right at the top of that diagram that is the 7 circle, around which is probably the biggest single 8 impediment to sense of investing -- which is career 9 risk. That is the fact that people do not like taking 10 on risk that leaves them out on their own. John Maynard 11 Keynes say, "it is better for reputation to fail 12 conventionally than to succeed unconventionally."

Unfortunately, the vast majority of the 13 14 investment management industry is driven by that image. 15 Nobody wants to take on risk. Once funds are gathered, the easiest way of avoiding being fired is to look very 16 close to a benchmark. So, there are huge amount of 17 career risk. That career risk leads to herding and 18 19 momentum -- a non-willingness to be different. 20 Everybody is doing exactly the same thing. 21 Allied with that is a tendency to

extrapolate, projects the recent past into the foreseeable future. That itself creates a market inefficiency and that inefficiency, of course, represented by prices deviating from fair value. The good news is that there is an anchor to the market's behavior and that is replacement cost. There is a points that which you say -- actually it is easier to go on building a new plant than it is to go and buy one in the stock market.

б So, you have an anchor to valuation. The 7 existence of that anchor means the main reversion of 8 cost. Prices eventually get dragged back to some degree 9 of sanity check. The problem with that, of course, is 10 timing uncertainty. We never know how long it will take for a price deviation away from fair value to come back 11 12 to normal. And that's times back into clients patience. 13 They're not particularly able to take long-horizon 14 decisions and, of course, that takes as all the way back 15 to career risk. And so, the merry-go-round continues ad 16 nauseam.

So, the challenge I think for anyone 17 thinking about investing is how you break the stages of 18 19 that path of disaster in terms of investment performance. On page 4, I tried to provide what I think 20 21 are the seven immutable laws of investing. These are 22 things that one should always try and seek to do. Every time investment is made, I think, this is a check list 23 24 of the one that should run through. I do spend a fair 25 bit of the time today by taking you through the various

1 elements of this, trying to make sure that everybody 2 understand what they entail and the difficulties that 3 exist in, actually, implementing them.

4 So, start with the first one, always insist 5 with the margin of safety. Valuation is the closest б thing that we had in finance to a law of gravity. It is 7 the one thing that we know works. And it seems madness not to want to put that at the very heart of your 8 9 investment approach. And yet, time and time again, that 10 is exactly what we witness, people ignoring the margin of safety, reaching for return, doing silly things in 11 12 order to squeeze out another few percent of return. So, having a margin was safety and absolute 13 14 standard of value is critical to sensible investing. 15 When we send -- when we look at that 16 today -- well, page 5, begins to answer that by showing 17 you what happens if you ignore the margin of safety. And the answer is you expose yourself to the probability 18 19 of a permanent impairment of capital. 20 Now, the exhibit on page 5 -- I've been 21 waiting over a decade to use, it's torn from a magazine 22 article that is written in August 2000, Fortune Magazine. Publisher listed stocks that they described 23 24 as ten to last of the decade, a "buy-and-forget portfolio." Well, had you bought this stocks, you

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almost certainly would have wished you've forgotten
 about them.

3 (Laughter.)

4 Tragically, this group of ten stocks:
5 Nokia, Nortel, Enron, Oracle, Broadcom, Viacom,
6 Univision, Schwab, Morgan Stanley and Genentech, have
7 you put a \$100 in those ten and you waited. Today, you
8 would be left with just \$30. That's a compound annual
9 loss of 11 percent per annum for a decade. That is the
10 permanent impairment of capital.

11 And the reason, of course, the capital 12 became so impaired was the fact that those ten stocks 13 were trading on an average fee per purchase of 347 14 times. So, enormously expensive equities.

15 That is the risk you run when you invest in 16 no margin of safety. These stocks have discounted not 17 only over the possible life to come but pretty much the 18 here after as well. They were priced for absolute an 19 utter perfection. Now, how does that look today when we 20 look at markets.

Well, page 6 is one way of doing that kind of very simple, valuation-based approach. This is what we call the Grayman-built PA [sic]. So, this takes the current price and divides it by ten year moving average of earnings. Now, the reason for doing that is a ten

1 year moving average of earnings smooths out the business 2 cycles. So, we just taking out a cyclically adjusted 3 look at valuations. On what you can see, is actually 4 U.S. equities are really real expensive on this measure. 5 If you can imagine this chart without the Dot-Com б Bubble, which is enormous spike up to 50 times, we are 7 almost of expensive as we have been anytime since 1929. 8 And you don't hear too many people telling 9 to buy it because it's just like 1929. They worked out 10 that wouldn't be a remarkably good sales pitch. But that is the realty. We are investing with a very, very 11 12 small margin of safety, in fact, almost no margin safety 13 at all.

14 Now, one of the tools that we used inside to 15 evaluate markets , it's what we call our seven year 16 forecasts. And they are constructed on a very similar way to that kind of grind and dog measure of valuation. 17 18 On page 7, lays out an example. We say 19 there are several components, in fact, four components 20 that make up your return when you invest in an equity. 21 The first is any changed in valuation that occurs. The 22 second is any change in profit margin, so, where the earnings are in the business cycle. Real growth and the 23 24 dividend deal.

Now, if everything was in equilibrium and

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the world is a very happy, nice place, the first two elements would effectively be zero because -- that the earnings would be normal and the P on those earnings would be normal. So, the return you would get would be growth plus yield.

б But when we run those numbers today, what we 7 find is, unfortunately, both the multiples of above 8 average and the margins are above average. So, we are 9 the pretty high point in the business cycle which sounds 10 very strange, given the bounce back that we've seen in the wake of the global financial crisis. Not only those 11 margins high, but within putting -- putting high 12 13 multiples on those margins and those two factors drag 14 down over your return. Hence, those two negative bars. 15 And you end up with the statements that U.S. equities -at least in terms of the S&P 500 -- unlikely to generate 16 a return of effectively zero, per annum in real terms 17 for the next seven years. 18

19MR. SCHLOSS: All right. You got me20depressed.

(Laughter.)

21

22 MR. MONTIER: Oh this is the good news. 23 Depressing stuff, it comes later. So, at the moment, 24 owning the S&P 500 is pretty much entertainment 25 business. You're doing it for fun, not for return. 1 That's never-stop-music, great rationale for investment.

Now the challenge for us allocators is -unfortunately this isn't just true of the S&P 500. It's true in a much broader context as well. And I feel that this is a buy products of the federal reserve current policies.

7 Ben Bernanke is quite possibly the world's
8 worst economist -- a very fiercely contested title.

9 One of the things he has done is set the 10 cash rates to zero. Now, when the cash rates is at 11 zero, you have a choice. You can either go out and spend or you can save an assets that have a higher 12 return than zero. Now, presumably the fed would like 13 14 you to go out and spend, which means they have to 15 encourage the return on all other assets down toward 16 zero. So, part of the process of quantitative easing involves driving the future returns on all assets down 17 to zero. Perfectly, consistent in what we are currently 18 19 see on page 7 of the S&P 500.

20 One of the tools of quantitative easing is 21 the fed outright buying government bonds. That 22 historically has been a very dangerous thing to do. But 23 even to a very simple valuation perspective, we can say 24 that is no margin of safety in government bonds either. 25 Page 8 shows the way we're trying to think about this

asset class. We say that bonds really have three
 elements to their return. There is a real yield, some
 expected inflation and then a risk premium. The
 compensation for the fact that inflation may well turn
 out to be different from expected inflation.

б Now, you could use the real yield from the 7 market. There are real bonds were we can buy 8 effectively CPI-protected yields. I have a hard time 9 doing that in some countries. The U.S. isn't too bad. 10 The real yield on ten-year bonds in U.S. is about 1 percent. But in the U.K., we have unfortunately an 11 12 obsession with liability driven investing and that is distorting of real yield market; such that there is, in 13 14 fact, a 45-year maturity bond. That is real. That is 15 yielding 0.67 percent per annum.

Now, I wouldn't led U.K. government to 600 16 basis points real per annum for 45 years. Let alone 60 17 basis points per annum. So, instead of taking the 18 19 market yield, I'd imposed an assumption, an equilibrium 20 yield. To that, I need to add inflation. Now, we are 21 not in the business of macro forecasting. Anyone who 22 has had a misfortune to read any of the books I have 23 written, who discovered the liability that macro 24 forecasting is an exercise in absolute futility. Nobody 25 has any ability to predict that economic cycles. We

1 just can't do it.

2 So, I used the consensus number here. The 3 consensus says "Inflation is likely to be 2 1/2 percent 4 per annum for the next ten years." Now, I don't believe 5 the consensus because we know that the consensus is б useless of forecasting. Because of that, I'm going to 7 need that risk premium. I'm given the uncertainty over 8 the fed's behavior. I think you need a, probably, 9 larger than average risk premium right now. When you 10 sum those elements up, you get a fair value bond yield for ten years of somewhere around 5 percent. We can 11 compare that with the yield that's available from the 12 13 U.S. government bond market today. It's somewhere 14 around about 3 1/2 percent. So, there is no margin of 15 safety in government fixed income, as well as equities. 16 So, we are struggling. This is not a nice world to live in as asset allocates these. Two of the 17 very biggest assets, frankly, suck. This is not 18 19 compelling opportunity set for you. MS. MARCH: Are you making a case for me to 20 21 put it in my mattress? 22 MR. MONTIER: I will happily say within the 23 fund that I'm responsible for, we have 50 percent in 24 cash; which is pretty much like putting it in your 25 mattress.

MS. MARCH: Only half.

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2 MR. MONTIER: I will suggest some things you 3 might be able to do, that it's slightly more attractive 4 than mattresses. 5 MS. MARCH: Twenty and a half billion in my б mattress. 7 MR. MONTIER: It's a very, very comfortable 8 mattress. 9 Page 9 just shows you the kind of risk you 10 run in terms of permanent impairment of capital if you invest in bonds when they have very low yields. The 11 last time bonds were down of these kind of levels for 12 any sustained period was actually the 1940s. And the 13 14 1940s ushered in a 40-year bond market in real 15 government bond returns, such as you loss nearly 2 percent real per annum for 40 years in so called "safe 16 securities." 17 18 I did tell you this would be a depressing 19 presentation. 20 So, let's turn your attention to the second 21 rule of the seven immutable for the time being, which is 22 a reminder that this time is never different. So, 23 John Templeton, one of the legendary investors of all 24 time, once said that this time is different on the four 25 most dangerous words in the entire English language.

1 And evidence is born him out. History is littered with 2 the corpuses and those who had proclaimed new eras and 3 new normals. The one thing we know to be true is so 4 far, none of them have ever had any validity. It's 5 never been different this time. б Every extraordinary bubble we have witnessed 7 has been far more than it should have been according to 8 believers in efficient markets. Every one of our 9 bubbles has inflated and then deflated. Now, we define the bubble on page 10 as a two standard deviation moved 10 11 away from a trend line. 12 Are there any math teachers in the room? MS. ROMAIN: Me. 13 MR. MONTIER: Excellent. You can tell me if 14 15 statistics is wrong here. I'm really hoping it's not. A two standard deviation event on a normal 16 17 distribution should occur once every 44 years. Now, not only did we see a two standard deviation event up, but 18 19 every one of those two standard deviation event up has 20 been followed by two standard deviation event down. 21 Now, the chances you have seen a two standard deviation 22 event followed by another two standard deviation event or, roughly, one every 1,600 years. 23 24 So, it just shouldn't happened. And yet,

history gives us a plethora of examples of exactly this

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1 problem.

2 How can we react to this kind of 3 environment? Well, page 11 is effectively Rule No. 3 of 4 our 7, which is one has to be patient and wait for the 5 fat pitch. That's my attempt to convince you that I б speak American. There is no analogy I could use in that 7 attempt. So, when I'm England, I have to explain what a fat pitch is. Here, I'm going to take it as read, but 8 9 everybody who follows baseball is in love with the 10 concept. The basic argument here is because of that 11 12 uncertainty, because we don't know when bubbles burst, 13 we have to be patient. We can tell when assets 14 mispriced, but we don't know when they're going to 15 correct. So, one has to be patient drag one's feet and wait for the very, very prime opportunities and when 16 they come along, swing hard. Be prepared to take big 17 18 bets at the point in time when the opportunities set is greatest. 19 20 Page 11 shows you a variety of all 21 seven-year forecasts. I showed you the one we did for 22 U.S. equities. This is a variety --23 MR. SCHLOSS: Let's go back to 11. How are

24 we supposed to read page 11?

25 MR. MONTIER: What page 11 does is give you

a variety of forecast as they were in December, 1999.
 Now, in the interest of full disclosure, this is the
 best forecast series we have ever made. But it shows
 the power of this framework. So, we have estimated
 rank. That was the rank based on our forecast, which is
 the next column.

7 So, these were our return numbers. Looking 8 in December, what we thought you would achieve over the 9 next, in this case, ten years, I believe still doing 10 ten-year forecasting in '99, we moved to a 7-year 11 forecast a few years ago.

12 The third column that actually shows you the real return, you actually achieved over that decade. 13 14 And then the final column shows you the rank ordering. 15 And there were a couple of things that stand out. The first is -- actually, all rank ordering was pretty good. 16 17 The chances of picking a rank ordering better or the same as ours by pure chance or one in 550,000, which 18 19 tells you this isn't chance.

And there was some interesting features to this range of forecasts. Things that many people had finance with regard is impossible. For instance, if we look at the very last asset, the S&P 500, December, '99 we thought this would generate a negative return of 2 percent per annum over the next decade. Simply based on
1 that framework that I showed you earlier. The 2 valuations were extraordinarily high. We knew they 3 would mean revert and that would create a drag on 4 returns.

5 But simultaneously, with that very negative б forecast on the S&P, we have a very positive forecast on 7 emerging markets. And anyone in finance would tell you that's impossible. These are two very highly correlated 8 9 markets. These are both global equity markets and yet 10 we have a nearly 10-point differential between the two. 11 And the good news is the valuation, because that was -- this what was driving this, the emerging 12 13 markets are extraordinarily cheap draws correlation. 14 So, the obsession with all of these things move 15 together, just leads you down the wrong path. Valuation 16 is a much more important decision input when it comes to 17 making your asset allocations.

18 And you can see we thought you get just 19 about 8 percent and you actually got just about 8 percent from emerging markets. In the S&P, we thought 20 21 you get minus 2, you actually got minus 3 1/2. 22 So, we were actually a little bit kind, a 23 little bit too optimistic. Hard that is to imagine. 24 That is the power of having a valuation discipline. Having the ability to stick with it. And frankly, like 25

1 an idiot, because that's what we look like in '99. 2 Everybody was saying this is a new era. Tech stocks 3 rule the world. We were saying tech stock is incredibly 4 expensive. This is madness. And we were losing 5 business. People were firing us, because they bought б into the new story, the new era. But as I mentioned earlier, it's never different. The same realities keep 7 8 reasserting themselves.

9 Page 12 gives you the fourth, I think it is, 10 rule of the 7, which is one has to be contrarian. I'm 11 going to give you another quote from Sir John Templeton, 12 which is, "If you buy the same securities as everybody 13 else, you will end up with the same returns as everybody 14 else. So, if you want to get different returns, you're 15 going to have to do something different."

And right now, everybody loves equities. 16 17 The chart on page 12 is the Merrill Lynch survey or Bank of America and Merrill Lynch survey of global funding 18 19 managers. Now, I have only one caveat to this chart 20 which is I never met anyone who feels out this survey. 21 But apparently, somewhere, somebody is filling it out. 22 We are not; somebody is. Whoever is filling it out has 23 never been more bullish about equities. They simply love them. That itself raises red flags to me. That 24 25 degree of homogeneity of view, when everyone is thinking 1 the same, no one is thinking effectively.

2 When you couple that to a degree of extreme 3 optimism with the valuation framework that I showed you 4 earlier, one has became to get really quite cautious. 5 Now, the corollary of everybody loving equities is that б chart on page 13, which is everybody hates cash. And it 7 is not hard to see why people hate cash, who has a zero 8 yield. Particularly here. In our home in Europe, I can 9 get a little bit higher than zero, not much. So, there 10 is a universal loathing of cash.

11 But I think this misunderstands the nature 12 of cash in a portfolio. Cash isn't just there to give 13 you a yield. It's there as dry powder. It's there to 14 serve as a reserve when the opportunity set changes, so 15 that you have the ability to take advantage when you get 16 much higher returns on our valuation-based models. So, cash is what connects today's opportunity sets to 17 tomorrow's opportunity sets. And I have no reason to 18 19 believe those two things were being the same. Markets remain volatile. And as long as they are driven from 20 21 the debts of disparity of irrational exuberant, we will 22 see shifts in the opportunity set.

And therefore, one should hold cash when
assets get expensive. It should be a residual decision.
One doesn't need to be proactive and say, "I'm going to

hold extra cash." It should just be, "Hey, look, 1 nothing is effective. Therefore, I will hold cash." 2 3 So, cash to me is always a residual, but it's very much 4 a by-product valuation driven framework. 5 MS. HINGORANI: You mentioned that in 1999, б you were telling folks, "This is crazy, don't believe in it." So, at the depths of 2008 into early 2009, when 7 8 you're saying "this is crazy," to whom are you saying 9 that? 10 MR. MONTIER: Absolutely. But Jeremy and myself published in March, 2009, my miscalled, "Buy When 11 It's Cheap; If Not Then, When?" And Jeremy's was 12 entitled, "Reinvesting When Terrified." 13 14 (Laughter.) 15 So, it was terrifying in '08 and '09. It 16 was totally unprecedented miserable existence. The world was telling us that no scenario was too bad. And 17 the valuations were incredibly appealing. In fact, I 18 19 think in here I quote, yes.

20 (Indicating.)

Page 21, if I may just move you forward, shows you the evolution of our equity valuation. So, you can see what we were saying in realtime. So, in September of 2007, the yellow bars,

25 we faced a very weird situation. A situation where

1 people actually willing to pay for the pleasure of 2 holding risk. So, the higher the risk asset, the lower 3 the return of this forecast. Makes absolutely no sense. 4 A complete anomaly. By the end of February, 2009, you 5 can see the blue bars, they are all significantly above 6 the equilibrium expected return. And so, our valuation 7 methodology was saying, fine, great, go out there and 8 buy equities.

9 And the green bars effectively represent 10 where we are today somewhere in between. More akin to, 11 unfortunately, the yellow bars than the blue bars. But 12 it shows you the way in which the opportunity set can 13 move and the value that the cash has in that 14 environment.

We were able to deploy capital into 2009 because the opportunity set was just -- frankly, it's evaluating investor's idea -- we are very perverse. But I have to say, we're generally happy when the world is falling apart which is slightly a weird thing to say.

It's interesting that social pain, which is pain going against everybody else. So, that willingness to contrarian is felt in the brain in the same place as real genuine physical pain. So, being a contrarian, being a value guy is a little like having your arm broken on a regular basis. It's really not a tremendous

1 fun. We are essentially pacifists. What we do over the 2 weekends is probably best left outside of this meeting. 3 (Laughter.) 4 Being dungeons and whips, that kind of 5 thing. So, that kind of real investment equipment of б that world. We like pain. 7 Page 14 takes you on to Rule No. 6, which is 8 about an appreciation of the nature, the genuine real 9 nature of risk. Finance has, at its very heart, a fluid 10 definition of risk. That's where finance says, "Volatility or standard deviation is the correct measure 11 12 of risk." And that stems from some work that Harry 13 Markowitz wrote in 1954. And in fairness to Harry, when 14 15 he was writing in 1954, he actually said the deviation 16 was what he was going to use and he used it not because it was correct, but because it was computationally easy. 17 And that's a pretty reasonable constraint to have to 18 19 worry about in 1954, because in 1954 we were still using 20 punch card computers which were really nasty. I used 21 some of them, not fun. Not in 1954; afterwards. 22 Today, we have more computing power in the 23 average mobile phone and Harry had, at his entire 24 disposal, when he was trying to do his analysis of risk.

25 So, I think computational ease is a very poor reason for

1 a fluid definition of risk today.

2 So, I think risk is really the permanent 3 loss of capital. It is the fact that you can invest and 4 never get your money back. And that is what we, as 5 investors, should be worried about. And there are 6 effectively three paths you can take to the permanent 7 impairment of your capital. You can run valuation risk. 8 You can invest in assets when there is no margin of 9 safety.

10 As I have shown you, with both bonds and equities, that results in very low and indeed generally 11 negative low long run returns. So, you have that route 12 to the permanent impairment. You can also run what's 13 14 called fundamental risk. That is the idea that the 15 assets you buy has some general flow. As Ben Bryant 16 quotes there, "It's the danger or loss of quality or earnings power through economic change or deterioration 17 18 of management. It's business risk."

19 And the third route is financing risk, which 20 really means leverage. Leverage is an incredibly 21 dangerous to its -- particularly if you're going to 22 follow a valuation-driven approach. Because leverage 23 can never turn a bad investment into a good one. But it 24 can unfortunately turn a good investment into a bad one. 25 It can force you to sell at just the wrong point in 1 time. So, it can cripple your ability to withstand 2 those periods of time when the market is moving against 3 you. So, as a value investor, you really want to avoid 4 leverage.

5 In fact, I would argue leverage generally be б avoided in pretty much all basis. And the reason for 7 that is the chart on page 16, which is the experience of 8 a company called Long-Term Capital Management. No less 9 than two noble laureates worked at this firm, which 10 tells you something about the work of a noble laureate. One dollar invested in LTCM back in 1994 which was worth 11 12 \$4 by March of 1998. That's a very impressive return. Unfortunately, by March, 1998, LTCM were 13 using 254 times leverage. And when markets went wrong 14 15 for them, they ended up sitting on just 30 cents. 16 That's your \$1 now worth 30 cents by the fall of '98. That is the impact of leverage. It's why you should 17 always think twice before using leverage in a portfolio. 18 19 Now, the final rule gets the page all to 20 itself because I couldn't think of pretty pictures go 21 with it. But it is probably second only to always having a margin of safety, which is simply the 22 23 statement, "You should never invest in something you 24 don't understand." Einstein said, "If you cannot 25 explain it to a 5-year-old, you don't understand it." I pretty much live by that rule... the average intellect
 to the 5-year-old.

3 So, if somebody tries to explain something 4 to me and I don't get it, I simply won't touch it. And 5 I put it down to their failure, not mine. It's not that б I'm stupid, they just badly explained it. But it is a 7 very important rule. Because finance is full of people who have wonderfully complexed sounding instruments, 8 9 wonderfully complexed sounding funds. But if you don't 10 truly understand what was funds are doing, you really shouldn't be investing in them because ultimately you 11 are accountable. 12

So, what can we do to try and improve returns in a world where we get a pretty unappealing picture?

16 And I think there are three things that one has to be prepared to do, assuming you're willing to 17 adopt a valuation-driven approach. The first is to have 18 19 the broadest possible opportunity set. I have shown you 20 the very big major asset classes, U.S. equities, U.S. 21 bonds, are both unattractive. So, if you want to try to 22 get returns, you're going to have to step outside of 23 those particular defined areas.

24 So, you're going to need it. But you're 25 also going to need a willingness to have concentration.

1 Because those great opportunities, those fat pitches, 2 they don't come along that often. So, when they do 3 happen, you want to swing aggressively at them. So, you 4 want to lug a portfolio in those fat pitches. So, 5 you're going to have to be prepared to have an odd б issue-looking portfolio. And probably above and beyond 7 all else, you're going to need the ability to hold cash. 8 Because when all assets all went unattractive, that is 9 the best place to protect capital. And the preservation 10 of capital avoiding the permanent impairment loss, that is something that all investors should take very 11 seriously. 12

Somebody asked me, one of the clients, in 13 fact, asked me the other day, why would they pay me to 14 15 look after portfolio that is 50 percent cash. And I 16 said to them, "To be honest, you're not paying me to sit 17 on cash. You're paying me not to do something stupid and investing in pretty much anything else right now 18 19 would be doing something stupid. And investors have a 20 bad habit of wanting to swing at everything.

Active managers want to be seem to be active. Now, I have been reading Winnie the Pooh to my two-year-old daughter, and I'm pretty sure she has not understood what I've been saying. But I've enjoyed it. And one of the lines I enjoyed most in Winnie the Pooh 1 was, Pooh there saying, "Never underestimate the value 2 of doing nothing." And right now, with a horrible 3 looking opportunity set, the value of doing nothing is 4 really relatively high.

5 So, let me try to round out before I 6 continue too much of your time by telling you how you 7 see the world currently. And I've already given you 8 some depressing phases of this. Page 20 gives you the 9 seven-year forecast for a pretty broad universe of 10 potential assets.

Unfortunately, none of them look appealing. 11 12 There are some places where one can seek relative 13 protection, high quality stands out as an area where one 14 can see some degree of relative protection right now. 15 Again, it's not absolutely cheap. 4.3 real return is 16 not compelling. It's not me jumping up and down saying, You should have all of your portfolio in U.S. high 17 18 quality.

But if you have to own some equities, U.S. high quality looks like a place to hide. Bonds truly look appalling. And that's based on conservative estimates of inflation. If we want to get scary, you can start thinking what happens if the fed lose its control over inflation and then bond returns starts to look really, really bad. So, there isn't a very 1 compelling opportunity set here.

2 MS. HINGORANI: How do you define "high 3 quality"?

4 MR. MONTIER: High quality consist of three 5 characteristics to us. It is companies that have stable 6 earnings, high earnings and low leverage, so low debt to 7 equity ratios. When you look at high quality, it really 8 consists of three sectors of the moment. It is consumer 9 staples, healthcare or pharmaceuticals and large cap 10 technology stocks.

Boring, dull, defenses, the Johnson&Johnson, the Coca-Cola's, the Microsoft's really boring companies. But once that will provide armor plating in event of the crisis, because those are the stocks that will not go bust. The very nature of high quality, it offers you some degree downside protection.

Now, if the equity market falls, high quality will fall as well. This is not an absolutely a compelling opportunity. But in relative performance space, high quality looks like a very sensible place to actually try and protect whatever equities you are forced to on.
MS. NAGASWAMI: This chart has looked this

MS. NAGASWAMI: This chart has looked thisway for some time.

25 MR. MONTIER: Yes.

1 MS. NAGASWAMI: Can you comment on that? MR. MONTIER: I wish I could tell you I this 2 3 guaranteed it's going to change tomorrow. 4 Unfortunately, it has to look like this for some time 5 because of the nature of the fed policies. And as long 6 as you get a fed for this, telling you to go out and speculate, this chart is going to have unappealing 7 8 returns on it.

9 The good news is, as I showed you earlier, 10 that opportunity set does shift. It wasn't that long ago. It was only 2009 when we faced a really, really 11 12 attractive opportunity set. Two years on. We're now facing an unattractive opportunity set. So, we've had 13 14 two years, or at least a year of this kind of 15 environment. And that is why you need to be able to be 16 patient.

17 Because the realty is, I think it would be negligent for me to swing these kind of opportunities 18 19 very hard, because I'd be running the risk of impairing your capital permanently, which I wouldn't be able to 20 21 sleep at night. And I would hope you wouldn't be able 22 to sleep at night either, if I was doing that. 23 MS. ROMAIN: Then what is the relatively 24 high optimistic forecast of timber?

25 MR. MONTIER: Timber, yes, we love timber.

Timber is a really interesting asset class. It's the
 one growth asset that we actually like. Timber is a
 very attractive asset class because it is very stable.
 If I had timber on that previous chart where the other
 levels are going up and down, timber just stays flat at
 Timber generally gives you 6 real through most
 cycles.

8 It is the one asset that we can find that 9 didn't lose value in the Great Depression. It just 10 stayed flat. Incredible performance. When we think 11 about how to forecast timber, there are two elements 12 that go into it. One is called the cap right which is 13 basically the yield on the land on buying.

14 So, how much per acre are trees am I able to 15 collect. And the other is real, genuine biological 16 growth. The nice thing about timber is it grows while you sleep. At least it does if you're on the forests on 17 the other side of the world, which is generally where we 18 19 currently own forests. Most current timber investments in southern hemisphere, Australia, New Zealand, Uruguay. 20 21 Simply because they're getting the best 22 value. We are finding deals that we can do at very reasonable prices. Now, the problem with timber is it 23 24 is a very illiquid asset class. The average life span 25 for timber fund is somewhere between 15 and 20 years.

So, the capital into timber means you have to be
 prepared to be incredibly patient.

MS. ROMAIN: Is it easy to value it? MR. MONTIER: It is not hugely easy to value. In one sense, it's so much the truth like to exercise the value because we can work out how many logs we can get from each acre of forest and what their worth would be if we sold them. But the value of the underlying land, it can change, as well.

10 The nice thing about land over time is, it's 11 very stable. Real estate goes up and down. So, the 12 buildings, that goes all over the show. The land values are actually very, very constant in most places. So, we 13 14 have a constant value of land and then we have a -- if 15 you like the mark-to-market impact from the value of the 16 timber at any given point. The nice thing about the timber is if you don't like today's price, hell, you 17 leave it, come back next year. It will be worth more 18 19 because trees are bigger.

20 So, that is one of the nice things about 21 timber. But it is a very, very long-term, illiquid 22 asset. So, in my role, I worked in a kind of liquid 23 market side of our business. I can't put money into 24 timber in my funds. It's just not an asset I can invest 25 in. We have an operation that does exactly that.

1 But unfortunately, it's not one that I can 2 invest in, because I can't make it liquid enough to most 3 investors to be able to deal with. The pension funds, 4 with long-term horizons absolutely should look at 5 timber. It's the one commodity area where we think you 6 can get good returns and you can value it. Generally, 7 we're pretty skeptic about people's ability to actually 8 value commodities. But timber stands out as the one 9 that we think we can actually value. I probably move to 10 round out by just visiting page 22 which is the 11 portfolio that we currently run for you.

12 And I'm relatively glad to say that it is pretty much entirely consistent with what I've been 13 14 telling you. The equities we own in the U.S. are high 15 quality. So, they are all in the more plated blue chip kind of companies. We are overweight internationally 16 which is relative to the U.S. because the returns on the 17 international forecast market are better than those in 18 19 the U.S.

Fixed income obviously in a world in which I didn't have to own any, I wouldn't. But this is a benchmark. But also I have limit to the amount that I can move here. We have to own some fixed income. For the fixed income, we have is almost entirely real bonds. So, we're not taking nominal risk. We're trying to

1 remove the inflation component here. So, the exposure 2 we have here is almost entirely real bonds plus an 3 international bonds but we can buy them at fair value 4 which is Australia, New Zealand at the moment. So, 5 unfortunately, the opportunity set is tough, it is not б an environment in which it is easy to find good 7 opportunities to invest. 8 We will try to be as patient as our clients 9 allow us to be and wait for the best opportunities 10 knowing that at some point in the future, they will

11 re-emerge, but sadly not knowing when.

12 And if there are any other questions, I would be delighted to take them. 13

MR. MAYER: So, we'll close here with the 14 15 formal remarks. I want to express gratitude again for 16 entrusting us with the assets for which you are responsible. Know that we take that fiduciary 17 responsibility very, very seriously. We're grateful 18 19 that we had chance to talk a little bit about what we do 20 in asset allocation and want to make sure we make it as 21 useful as possible. 22 If there are questions from James' 23 presentation, if there sort of angles about asset

allocation that we haven't touched on properly, we'd 25 like to take the remaining time and make this productive

1 for you.

25

2 MR. SCHLOSS: Can you talk about page 31? 3 MR. MONTIER: Page 31 is a true horrific 4 chance. It's why it doesn't get into the main book. 5 This shows the way in which our positions б have evolved over time. So, this is how the opportunity 7 set has realized, if you like. So, all of the 8 allocation we made and this is in a portfolio that is 9 similar to the one that we run for you, a typical 10 benchmarked, balanced asset allocation fund. This is how we have altered the asset mixed within that from 11 12 over time depending on the environment in which we find 13 ourselves.

14 So, at various points in time, we have owned 15 an enormous amount of bonds when they were very, very 16 attractive. Down to the sage now what we hold just about a smaller bond allocation as we can. You can see 17 the arrival of quality into our universe of investable 18 19 assets and the allocation to that. As it became a more 20 and more attractive asset class. So, yes, that is very 21 much the pattern of distribution of our decisions over 22 time, which generally have been reasonable. And certainly consistent more importantly with our 23 24 seven-year forecasts.

MR. SCHLOSS: So, you have no private equity

1 in here and no real estate.

MR. MONTIER: Not in a fund like this, for 2 3 this fund is a typical 65/35 or 60/40 benchmark fund. 4 Actually in none of our funds do we own infrastructure 5 or private equity. We struggle with how the value of 6 those asset classes, again, exposed to. Private equity 7 often looks very much like public equity. So, it just 8 gives you a very similar return profile. 9 Infrastructure, very difficult to value because it's always -- as an asset class, this is 10 specific on the infrastructure projects you're involved 11 12 in. But for a publicly traded fund like this one, a

13 balanced portfolio, we couldn't access those even if we 14 could value them.

MS. NAGASWAMI: But other than currency, no commodity, that those are liquid?

17 MR. MONTIER: No; commodities for us 18 probably not really an asset class in that they have no 19 cash flow attached to. So, that's very, very hard to 20 value. The majority of commodity investment is done via 21 futures and futures have their own terrible, terrible 22 problems. When you invest in a commodity future, you 23 get three elements to return.

You get spot returns that change in the underlying price of the thing you're actually interested in; a collateral return which is this is a futures contract. So, it is not fully collateralized. You can put the excess cash into an interest rate vehicle. And then the role return, because what you're doing is buying a futures contract so you have a term structure out into the future.

7 Now, historically, that term "structure" was 8 in back relation which means it was downward sloping. 9 So, if you bought a futures contract and it rolled back 10 towards the current, you made money. And the idea was 11 that backward sloping futures curve was that the people who produced the commodities were willing to accept 12 lower future prices because they'd be out of place of 13 14 their product.

15 When you look at commodity markets today, in 29 commodity markets, I looked at 24 of them, are now 16 what's called "contango," they have upward sloping 17 futures curves. Unfortunately, you only have an upward 18 19 sloping futures curve. As you roll back down towards the current point in time, you have a negative return. 20 21 And when we look at the history that 22 negative role return, that contango shape, has more than 23 offset the spot return gains you've made. So, the only 24 benefit people has from investing in commodities in the 25 last decade is bond returns with enormous volatility.

So, not an appearing asset class to last. You can ask
 why the curve went from... to contango, why it have been
 put down with the upward sloping. And the answer, I
 think, is that -- and commodities became seen as an
 asset class.

б So, if you go back to the early 1990s and 7 you look at the futures market and you ask what 8 percentage of the market was accounted for by people 9 with no commercial interest in underlying asset? It's 10 about 25 percent. So, one in four. Today, it's 50 percent. So, roughly half of all commodity futures 11 12 market participants have no interest in the underlying commodity. They're just speculators. They're investors 13 14 in the birth of commerce.

15 So, for us, commodities are generally a 16 difficult asset class to value among where we have 17 trouble funding a way of implementing it that doesn't 18 unfortunately damage the returns still further.

MS. NAGASWAMI: I read that your forecast is for seven years. As trustees, we think in decades. It is hard to move 110 billion, as well. So, we just can't be as nimble as you are.

23 MR. MONTIER: Sure.

24 MS. NAGASWAMI: And then we have a very high 25 hurdled rate of return which doesn't -- it's not

1 volatile but our assets are volatile.

2 So, are there asset classes you would 3 broaden to? Would you look beyond the seven-year period 4 and say this is 30-year horizon and returns are 5 different from a cyclical --

б MR. MONTIER: Generally, you can see the 7 kind of equilibrium returns that we think are fair on page 21, at least for equities. Bear in mind these are 8 9 all real numbers. So, we need to add inflation to get 10 to your target rate. If we were able to ignore valuation and if you had a exceedingly long time 11 12 horizon, you can ignore valuation. But that time horizon need to be probably somewhere like 30 years to 13 14 truly ignore valuation.

15 Then the equilibrium returns are a better 16 guide than our current seven-year numbers. I think what one can do for broadening asset classes -- it's 17 difficult if you just own that many asset classes. It's 18 19 tricky. People keep inventing new ones, but they don't 20 actually really fulfill the criteria of asset class. 21 Volatility is the latest one. Volatility is 22 not an asset. It's a by-product, yet everybody is raving about volatility. So, I think it's very 23 24 difficult to just solve this by expanding the mix. That

25 was very much the kind of... that Harvard and Yale

1 pioneered. But there were also some problems with that, 2 as they discovered in that a lot of that some so called 3 diversification was really just returns chasing. They 4 were chasing after stock that had done well. And it 5 turned out the diversification was in name only. б So, suddenly, all of these assets -- a 7 quotation, it's an asset. Hedge funds aren't asset, they are a vehicle. But hedge funds just ended up, 8 9 unfortunately, giving you exactly the same return in the 10 market as did private equity, as did just about 11 everything else they were invested in. So, diversification, I struggled to believe, 12 13 is genuinely the answer to the problems that we face. I 14 think the best solution that we have is to say you have 15 to be more dynamic. You have to -- I agree you can't be nimble over some of the things you are dealing with. 16 It's just impossible. 17 18 But I think one has to be willing to, at the 19 margin, alter the distribution of your assets based on a shorter time horizon, maybe a decade, which is not so 20 21 dissimilar from the seven-year forecast here. Because

23 are expensive and then you just get zero return. It's 24 what we've seen over the last decade.

if you don't, you can end up owning equities when they

22

25 So, I think the only viable alternative is

1 to say, we have to follow a more dynamic path. Couple that with breadth, if your manager has the best 2 3 opportunity that they can, don't constrain them too 4 tightly so that they have the best chance of adding 5 value to your portfolios. That's to me seems to have б the best hope of meeting the high hurdles that a lot of pension funds faces these days. 7 8 CHAIRPERSON AARONSON: Anybody else with a 9 question? 10 Then let me thank you very much for your 11 presentation. 12 MR. MONTIER: Thank you. (The GMO people left the room.) 13 14 MR. SCHLOSS: We have another agenda item, 15 Review of Corpus. It should be in your book. If anybody wants -- it's not a Treasury handout. 16 17 (Indicating.) 18 And it should be pretty straightforward if 19 you're on a corpus, it's how we fund your asset 20 management. So, let's start with a little history. In 21 2004, the board approved corpus funding to take care of 22 the investment-related results in the investment-related 23 staff in the Bureau of Asset Management of the Comptroller's Office. 24 25 And if you look on page 3, you can see the

organizational chart of BAM. When I arrived last January, corpus had approved 37 positions. When I arrived, there were 18 people in their seats and there were eight vacancies. The vacancies, we have the people in green. So, clearly, we were understaffed at the time. On initial review, we needed to add 17 people.

7 If you look on page 5, you can see up to 17 8 that we decided we needed. At the time, seven have been 9 filled. We met all of these people, Seema, MR. MILLER, 10 Catherine, Amira, Adi, Neil and... all of which have 11 substantial investment experience, I'm happy to point 12 out.

On the next page, page 6, you can see that 13 14 we had about ten open positions. Hopefully, the next 15 short-term, we'll hire two real estate people with lots 16 of investment experience. It would be great. 17 Currently, five open posted positions including some 18 very important positions like director of risk 19 management and we decided not to fill the manager of 20 risk or the two compliance positions until we had head 21 of risk because that would be their boss. And we may 22 change that if we can't fill head of risks in the near 23 term. But, again, these are five posted on the Comptroller's website, open positions. 24

25 In addition, we've identified ten additional

1 positions that we need to create. Those are listed on 2 page 8 and it go very much with the investment changes 3 that we've been making in the last 14 months. Three of 4 the other boards have approved hedge fund. So, we're 5 building out the hedge fund team, the hedge fund team б works for Seema. Ultimately, an additional senior 7 investment officer and additional analyst. We're 8 building out Martin's team.

9 In addition to Adi, who has arrived, we need 10 another person like Adi as well as a junior person 11 building out the private equity teams. Ultimately, we 12 need co-investment people because we have \$12 billion of 13 commitments. We have co-investment rights, but we have 14 no one to analyze these co-investments. And perhaps the 15 infrastructure, as well. We need a junior person in 16 real estate to go with the two senior people that we're 17 hiring.

And then ultimately, we go to our asset allocation, which we're in the process of finalizing in the next 30 or 60 days. To the extent that we decided to get into real asset commodities, we need a team. And that's three additional people. So, this page has ten additional hires to come.

24 So, if you look on page 9, it's a recap of 25 where we start and where we're ending. Again, the first

1 column -- this is by asset class. In the first column, 2 there's 18 people when I arrived. The next column is 3 the six that we've hired, the ten that are open. And 4 then you can see the ten new hires which will take us up 5 when you add all across the 44 people. The 44 people б manage \$117 billion of assets. If I look back to the 7 beginning, the 117 which at the time was only \$99 billion, 99 billion managed by 18 people would make 8 9 us the most assets under management per person of any 10 public pension fund. About \$6 billion per person, which is on average is about \$3 billion per person. 11

12 So, we're just understaffed. This again is 13 a much better position. But, again, if we build out new 14 asset class to get diversified, we need new teams for 15 that.

16 So, page 10 is how the organizational chart might look. If we build this out a little further and 17 you can see basically there are teams now under the 18 19 heads of all the groups. As head of fixed income run by 20 Martin. As the head of public equities and hedge funds 21 run by Seema, it's a bonds team and real estate. If 22 Barry's team is private equity, ultimately, it's a real 23 asset team and he's the head of risk and a team of 24 people under risk and compliance. This was much more 25 like a team that can handle these assets.

Once you have the front office, you need to add the back of the house, as well, as on page 12. We need four accountants. We need additional person contracting. Some reporting person as well as, ultimately, two clerical people who handle all of these new people.

Page 13 shows the back of the house which is
run by David Jeter. This is only the corpus people.
There's another group of people that are on the city
payroll. They also report to David. These are not
here. They're just the corpus-funded people.

If we go to the last page, page 14, you can 12 see how this work its way through the city budget. 13 14 Again, starting at the top, there are 25 corpus approved 15 positions when I arrived that cost \$2.3 million. And, again, these three columns here, these employees, its 16 total cost and then the Teachers' share and then the 17 18 share is proportionate to your AUM versus total system 19 AUM.

Again, going down the page, there were \$2.3 million of cost when I arrived. We've added six or \$644,000. The total as of now is about 31 people for about \$2.9 million. The posted hires of six people or another \$650,000. So, approved to date, the corpus funding is 37 people for \$3.6 million. The addition to that, I just walked through, is 24 additional spots for
 \$2 million. So, ultimately, corpus funding is 61 people
 per \$5.6 million.

So, if I go through exactly what we're really talking about here, it is realty the third from the bottom line, which is the current 1.3 that you pay now would be increased to about \$2 million. And that will be your share of basically 24 new hires which is building out the team. To a more acceptable size and structure to go with these assets.

So, we're going to all the boards -- with just the numbers, we're going to all the boards with all of the budget process that you're all familiar with from the City and get the boards to approve it, put to this process, get the job postings up and then hopefully continue and interview people so we can build the team and manage these assets.

MS. NAGASWAMI: So, few comments. First,good job filling out the positions that you have openwhen you came.

21 MR. SCHLOSS: Thank you.

22 MS. NAGASWAMI: I think all of us know the 23 reality and how difficult that is to compete for the 24 kind of talent that you have assembled around this 25 table. So, I think for all of us, glad you're able to attract people like Seema and MR. MILLER and understand
 that you need more. And if we are to agree on an asset
 allocation, the people must come before the strategy.
 Totally respect that and agree with that. I think that
 makes a lot of sense.

I guess one question I have, Larry, is
dollars and people. This is a lot of people and it
keeps the rate per person way of thinking about salary.
But in your view, is there more that you would like that
the realty of the current environment doesn't let you do
in terms of attracting people?

Again, you've been able to attract people, but are there structural issues that we should be thinking about even more boldly than we have in this plan?

MR. SCHLOSS: This plan is put together 16 within the budget constraints of the City. Now, you're 17 walking into the City and you inherit a structure and a 18 19 pay scale. And it's difficult to attract talent of 20 investment professionals with this pay scale. We had 17 21 postings, as you have 17 openings, which is ten still 22 out there. It's taken us six months to hire six people. 23 You are correct, it's an ongoing battle. 24 And we'll see what clears the market, and I'll come back 25 to everybody if we can't clear the market with the

1 acceptable team.

25

2 MS. MARCH: In reference to what you just 3 said in terms of the salary scale. When you look at 4 other public funds that are also working in an 5 environment that is, quote/unquote, their city or their б state, or just New York State, are they in the same 7 situation in terms of salary guidelines? 8 MR. SCHLOSS: It is a complicated question. 9 MS. MARCH: How do they handle it right? 10 MR. SCHLOSS: How do they handle it? There's a couple of different ways. I would tell you, 11 12 in general, all public pension funds have a compensation issue relative to competition in the free market. If I 13 14 look at the money that the City spends on its staff 15 versus the money which was spent on outside managers, we 16 spent over 99 percent of our money outside on outside managers and less than 1 percent on our expenses for 17 18 managing money is on inside staff. I would say that's 19 probably not the correct balance, if you spend a little 20 more on the home team. 21 How others public funds have handled it is 22 very dependent of where they live. So, for instance, 23 you can pay your people less if you're in Iowa than if 24 you're in Manhattan. So, I don't really compare us to

Iowa, on the one hand. On the other hand, we're blessed

1 that we're in Manhattan, because this is where Wall Street is. That's the good news. The good news is 2 3 there are lots of investment professionals on this 4 island that live in New York City, in the five boroughs. 5 Problem is they're fiercely competitive for the best 6 talent. So, a simple benchmark would be an entering MBA 7 from a good business school, goes to a large training program, makes 250- to \$300,000. 8 9 I'm the highest paid investment professional 10 in the City. You know, I make \$224,000. I'd like to 11 hire people that are more well-trained than the first 12 entry job MBA. So, I would look at that and say I think we're not going to be as competitive as we need to be. 13 14 I don't know how to solve that. 15 CHAIRPERSON AARONSON: You would say we have \$41 billion in assets at this point? 16 MR. SCHLOSS: Teachers, yes; 42. 17 18 CHAIRPERSON AARONSON: And your projected 19 expenses for us is \$2 million that comes out of the 20 corpus of the fund? 21 MR. SCHLOSS: Yes. 22 CHAIRPERSON AARONSON: I don't know. I'm not a mathematician, but that seems to me like a tiny, 23 24 tiny percent of what we have. 25 And is there any way of -- because of the

1 needs and the competition for quality employees that, since this does not come out of the general City's 2 3 payroll, that it might be something we should look at 4 and get some kind of a waiver on some of these things 5 because of the way we are funding? б MR. SCHLOSS: I'm just happy to continue the 7 conversation. 8 THE SPEAKER: I'd like to be fair. That is 9 eventually paid back with interest; the corpus expense. 10 So, it's paid back the next year as part of the employer 11 contribution. It's not like it just comes from nowhere. CHAIRPERSON AARONSON: The employer pays 12 back about 1/10 of what the expenses are each year, is 13 14 my understanding. 15 Robert? MR. NORTH: First of all, that's just not my 16 understanding of how expenses are. In the 17 appropriations paid each year, there is a line called 18 19 Investment Expenses. It's the investment expenses 20 extended to preceding fiscal years prior, brought up 21 with two years interest. 22 THE SPEAKER: It is coming from the City, so that's -- I think that's not what we got. 23 24 MR. SCHLOSS: We can argue about funding 25 mechanics. It's a fact that's how it works. The

1 reality is if I look at the total budget to what you 2 point out, your \$42 billion paying \$2 million to your 3 team I would say is a little short. 4 CHAIRPERSON AARONSON: Yes. I believe that 5 also. б MS. MARCH: It is short. And I don't think 7 that we need to develop a plan that matches what 8 happened on Wall Street. 9 MR. SCHLOSS: Right. I totally agree. 10 MS. MARCH: But there is a way of developing a plan that might be different than the normal pay plan 11 12 in the City is, because it is a specialized field. This 13 city has hired individuals out of the pay scale of the 14 city because they have believed that these individuals 15 will only be able to be part of the city structure if they offered them a greater compensation. 16 17 Now, the compensation is not outlandish, but it is more than the average commissioner makes in the 18 19 City. So, why can't we just take a look at what we 20 could possibly do and see if we could come up with a 21 plan that might be somewhat different than the normal 22 city pay scale in terms of the titles that we need and 23 see if we can do anything. MS. NAGASWAMI: I would probably endorse 24

25 that, anything that we might do to help you, very happy

1 to do that. And also I ask if we have ever considered 2 incentive compensation where, again, we pay people for 3 doing a good job as a reward? As part same of the same 4 structural --5 MR. SCHLOSS: It's part of the same б question. 7 MS. NAGASWAMI: Has it every come up, is my 8 question? 9 MS. MARCH: I don't know that we should rule 10 it out. We can look at it and see how it fits in to the 11 plan. I just would not want to fit into the category of having the public say that what we are doing is creating 12 a mirror image to what we have criticized going on Wall 13 14 Street. 15 MR. SCHLOSS: Fair enough. MS. NAGASWAMI: Structuring the right way. 16 MS. MARCH: Exactly. 17 MS. NAGASWAMI: But, as you know, other 18 19 public funds have gone in that direction. MS. MARCH: Yes, they have. 20 21 MR. SCHLOSS: That's right. 22 MS. MARCH: They have, and it is limited. MS. NAGASWAMI: It is limited. It's not 23 24 Wall Street. 25 MS. MARCH: Could we just look at that.

1 MR. SCHLOSS: Fair enough. 2 MS. MARCH: And we may or may not be able to 3 accomplish it, but I think we should really try to take 4 a look at it and see. 5 MR. SCHLOSS: I will come back with б something. 7 MS. MARCH: And we thank you for what you have added to the staff at BAM, because it really is 8 9 important that we have people working for the City in 10 the investment area who have the knowledge that we so 11 much need. 12 MS. NAGASWAMI: My last comment, if I may, is to ask you a little bit more about your thinking on 13 14 adding someone, an expert on strategic issues. So, we 15 have a very good plan for people who invest individual 16 asset classes. In almost every day, they work with the consultants outside. So, we sort of outsource part of 17 18 it, I understand. 19 But it seems to me that we don't have

20 someone very focused on asset allocation. And one idea 21 that is around is possibly broadening the risk 22 management mandate to include strategic policy setting. 23 Again, working very closely to our consultants as to all 24 of our heads and all of our asset classes. 25 MR. SCHLOSS: Again, we were in the process

of doing an asset allocation. The City had done one for four or five years that we're doing that. Again, Teachers have been working with Rocaton and a lot is outsourced. But we would spend a lot of time on it. We have an in-house in BAM asset allocation team, it's me and Seema and John Mersburg and Martin. So, we have a team.

8 I would think in the future, again, it's to 9 build out risk components in asset allocation because 10 they're were measuring where you are. That will be a 11 normal place to build it out, but it is a little unclear 12 right now in trying to... get the parts of the body that 13 go with the head.

14 But ultimately, again, for a pool of assets 15 this size, it should have more than a passing interest in asset allocation. It should be a full-time thing. 16 It should be in your -- it's in a monthly reports now, 17 but it should be actively managed, actively discussed. 18 19 And, again, to your point, it's sort of outsourced to 20 Rocaton, and the other funds have all have their own 21 consultants that's been outsourced.

22 So, ultimately, you'd like to bring as much 23 knowledge in-house full-time as you have and this plan 24 is sort of next step. There's multiple steps thereafter 25 to get it so that we've got the right talent with this 1 large amount of assets. Right? Agree?

MS. NAGASWAMI: Yes. 90 percent of our 2 3 returns comes from that. And so, not to have someone on 4 staff that is thinking about the research, obsessing 5 about where we should invest in the future, not just 6 executing on a plan within an asset class, is I think a 7 huge source. And typically, plans have such a person and that tends to be the deputy CIO... from my own 8 9 experience, a very senior role. 10 I would just urge you -- I would do whatever I can to support one more. Because I just think it is a 11 vital role, and that is what drives the performance. 12 MS. MARCH: What I'd like to add to that is, 13 14 we can have all the staff even if the area of asset 15 allocation, but we're not being able to move our assets 16 as quickly as we would like to. The person would give 17 us their information and we will take that to the next 18 time we change asset allocation to do it. So, I would 19 hope we continue to look at how we can become a little 20 bit more nimble. 21 MR. SCHLOSS: While working on the RFP 22 process, as you know, that will help.

MS. MARCH: Well, I think we have to takealso a look at the PPB rules.

25 MR. SCHLOSS: Yes. So, I need a vote or a

1 consensus to move through this.

2 CHAIRPERSON AARONSON: My colleagues --3 MS. NAGASWAMI: The consensus we have asked 4 for -- a lot of support for even more boldness. And so, 5 just, I think, absolute consensus for this, but we urge б you to really -- we will work with you to help give you 7 what you need. 8 MR. SCHLOSS: Perfect. 9 CHAIRPERSON AARONSON: I agree with this so 10 far as far as it goes, and hopefully we do more in the future. 11 MR. SCHLOSS: Okay. Thanks for the support. 12 That ends the public agenda that we have. 13 14 CHAIRPERSON AARONSON: Is there a motion? 15 MS. MARCH: Yes. I'll make a motion that we 16 move pursuant to public officer law, Section 105, to go into executive session to discuss the proposed 17 acquisition or exchange of securities held by the 18 19 Teachers' Retirement System and to discuss the, quote, 20 pending current litigation. 21 CHAIRPERSON AARONSON: Is there a second to 22 that? 23 MR. SCHLOSS: Second. CHAIRPERSON AARONSON: Any discussion? 24 25 All in favor, say "Aye."

1 (A chorus of "Ayes.")

2 Opposed?

3 Abstentions?

4 Motion carries.

(At this time the meeting went into executive session.)

9 CHAIRPERSON AARONSON: So, we're now back in public 10 session. And, Susan, can you give us a summary of what we did 11 in the executive session? 12 MS. STANG: In the executive session for the pension fund update, several investment managers were 13 14 provided; and an overview of the real estate portfolio was received. 15 There were presentations of three investment 16 17 opportunities, and consensus developed, which will be 18 announced at the appropriate time. 19 MS. MARCH: Motion to adjourn. CHAIRPERSON AARONSON: All in favor? 20 (A chorus of "Ayes.") 21 22 Opposed? 23 We're adjourned. 24 (Time noted: 3:45 p.m.) 25

1	CERTIFICATION
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3	I, Jeffrey Shapiro, a Shorthand Reporter and
4	Notary Public, within and for the State of New York, do
5	hereby certify that I reported the proceedings in the
6	within-entitled matter, on Thursday, April 7, 2011, at
7	the offices of the NYC TEACHERS RETIREMENT SYSTEM, 55
8	Water Street, New York, New York, and that this is an
9	accurate transcription of these proceedings.
10	IN WITNESS WHEREOF, I have hereunto set my
11	hand this day of, 2011.
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14	JEFFREY SHAPIRO
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