

WORLD BANK HISTORY PROJECT

Brookings Institution

Transcript of interview with

JEAN-FRANCOIS RISCHARD

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Interview by: Richard Webb and Devesh Kapur

*Jean-Francois Rischard
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[The tape recording was made while Mr. Rischard showed a slide show to the interviewers. Copies of the slides have not been located by the World Bank Group Archives.]¹

[Begin Tape 1, Side A]

RISCHARD: Answer these four questions as to what do we do in this department which is very different the rest of the asset side of the Bank. It's a very insular department which is not well known in the Bank but is very well known in Wall Street, and so the slide show is a little bit designed to remedy that. So I give it to the Executive Directors or visitors or foreign central banks, our own traders when they come in and so forth.

KAPUR: *[inaudible]*

RISCHARD: Yes, and then for historians like you guys.

[Interruption]

RISCHARD: The main question is therefore what do we do. The second one is how are we organized to do this; more correctly, how do we run something that is so private-sector-like inside a bureaucracy like the Bank. The third question is how do we know whether we're doing a good job or a bad job; and what is interesting in this area is that we can measure this every day, whereas in the rest of the Bank you take 15 years to know whether the dam will silt up or not! And then the last section is on what sort of special problems do we face in running this.

So, on the first question, what do we do, it's best seen with this history again, balance sheet of a year ago and x years and y years ago. On the asset side, "L" stands for developing country loans. "I" stands for investments or liquid assets or liquid portfolios *[inaudible]* It represents about 15% of total assets *[inaudible]* 10 years ago. In the old days it was almost 30% of total assets. Here in the middle it was about a quarter. We are becoming proportionately less liquid over time, but we're still very liquid by comparison to most corporations in the world. And on this side is the borrowing, paid-in capital, our reserves. The sum of *[inaudible]* paid-in capital is 20 billion. Often people believe that this matches this [most of this section is barely audible] but that's not what we do. In essence the whole thing has been engineered such that we have a large portion here of assets for which we have been created—these are the high risk, low liquidity assets of the Bank. And what we do here is the opposite: we go for low risk, highly liquid assets. And we sort of link these 2 types of assets into the balance sheet and it becomes a safer balance sheet overall. The . . .

KAPUR: That's really helpful.

¹ Original transcript by Brookings Institution World Bank history project; original insertions are in []. Insertions added by World Bank Group Archives are in *italics* in [].

RISCHARD: So the people that work here—there are some 5000 people working in this part that are completely developing-country-oriented, in this part are completely developed-country-oriented. So we observe Japan, the U.S., France, and we are deeply into those markets rather than the developing countries. So the whole approach is the opposite one. The business and total net income of the Bank is 1.2 billion for the last two or three years. It used to be half a billion 10 years ago and 200 million was a great number 20 years ago.

Many people believe that we are contributing the whole net income. The reason goes like, “Well, you guys made roughly 8% on 20 billion, that’s 1.6 billion, so therefore the whole net income comes from there.” That, of course, is not correct because we may make 1.6 billion of income, which is roughly the figure that we make, but the money had to come from this side somewhere, and it had a cost. So the net contribution as opposed to the gross 1.6 billion is something on the order of 100 million dollars, 200 million in a good year.

WEBB: Excuse me, do you have a printed version of this?

RISCHARD: Yes, I can give you a . . . [both speaking at once] Do you want them now so that you can scribble on them?

WEBB: Yeah, if they are handy.

RISCHARD: Okay. So the question is why do we hold that much of our assets in these short-term, relatively short-term very liquid holdings. What's the idea behind it? It's all driven by this formula which we talked about, this liquidity policy, which means there are in essence 70s in that form, but it is up to 40 percent or 45 percent of the borrowing requirements of the next 36 months. So some fellow in the Bank calculates how much we need to borrow over the next few years, and we try to keep roughly 45% of that figure in this department in that very liquid portfolio.

The next question, of course, is [*inaudible*] what's behind this policy. And what's behind it is a calibration--which is not scientific, but it's sort of best-judgment calibration--that says something like we want to be able to survive roughly a year without borrowing anything in case of a very dramatic scenario. One scenario would be where there is turmoil in all the financial markets in the world, and we cannot borrow. Another scenario is where we have been hit by such loan losses or even debt repudiation--that would be a very dramatic scenario--by very large borrowers and we are unable to go and place our bonds with the very conservative investors that usually buy them. And we have to abstain from going to the market.

So this was--the 45 percent gives us about a year to a year and a half of autonomy without borrowing anything. And why a year to a year and a half because in such a predicament--there is a very low probability, a disastrous scenario but a low probability--we would probably need a year to a year and a half to mount a rescue action [*inaudible*]

So it's buying ourselves time to support the whole place in case of a very negative scenario. Why do we need to buy ourselves time is because being a super-national bank we cannot go and refinance ourselves in case of need as the Banque de France or the Federal Reserve or Bank of England. And (A) there is no such agreement and (B) we're not one of the national banks so that we don't have access to their—this kind of financing mechanisms.

KAPUR: So the Bank has the so-called central bank . . .

RISCHARD: Oh, that's just paper that we sell to the central banks.

KAPUR: Oh, I see.

RISCHARD: No, we sell bonds to large investors and Swiss investors and mutual funds. We also sell bonds to central banks, and they buy them because it's a commercial proposition. It's a small way of borrowing. It's a small part of our borrowing.

WEBB: It would be, however, the first line of defense probably in face of such a shutout . . .

RISCHARD: To go to central banks?

WEBB: Yeah, I know *[inaudible]*

RISCHARD: No, the first line of defense would be to draw our money down.

WEBB: No, I realize that. That's for [both speaking at once] I mean apart from that.

RISCHARD: Well, first we would draw it down. As we draw it down, we would have sort of a year of survival time during which we would do all kinds of things. Yes, we may go to central banks. We may get more paid-in capital. We may get a capital increase, we may get *[inaudible]* capital or whatever. But there is absolutely no agreement under which we can go today and ask for 4 or 5 billion of credit lines from the central banks.

Also, if we're going to go and ask for reinforcements, we're going to do it with the ministries of finance to ask for more share capital. At the same time, if we're hitting their central banks, we're doing a little bit too much for the Bank. So this is all theoretical in the sense we never had this scenario, but we still have to have this in case that scenario exists.

KAPUR: But people have sort of said over time that, look, this is such a—I mean, a liquidity policy, such a low risk *[inaudible]* that it, it was very conservative . . .

RISCHARD: It is, but your—I buy life insurance, but I assume my probability of dying is relatively small in the next 20 years. But I still buy it. So it's a low-probability

scenario, but you have to be prepared for it because the World Bank is a very risky lender, and if it doesn't have ultra-conservative buffers--this is one of the buffers--it wouldn't be there after all these years. The other buffer is the high level of reserves and capital that we have. But this is the first important buffer.

Also, our bondholders have now seen this liquidity for years. The rating agencies calculate the liquidity ratio. Ours is actually the smallest of all the development banks, and they don't like that. And so we also have to show this to our bondholders. Again, we are the riskiest lender on earth, probably. At the same time we're sort of constantly--we sell our bonds to the most conservative people on earth. If you get these two complete extreme opposites together, you have to have things like that even though one could argue, yes, the probability is small, and there could be all kind of reasoning like this. Of course it's compensating insurance. I know that I'd rather have insurance if I'm going to run a bond-raising machine that basically is the last resort lender for the developing world. So I think . . .

WEBB: Is this a big selling point with selling bonds?

RISCHARD: Oh, yes. Absolutely.

WEBB: When they see this . . .

RISCHARD: Well, it impresses them. It's one of the things they look forward to when they buy a bond. When you sell--you have to buy bonds of several development banks, and one has a big cushion of liquidity and one has none, which one would you rather buy? Would you rather buy the one which has economy?

WEBB: I would think that there are two aspects: one is that this is like a guarantee of instant convertibility and a ready market. The Bank will always buy back--to guarantee the existence a very liquid market for the bonds by having all this *[inaudible]*

RISCHARD: Particularly guarantee a year of survival time without borrowing. That's what this is all about.

WEBB: The other aspect is in your loans, the risk that *[inaudible]* back.

RISCHARD: Back for what?

WEBB: The government guarantee.

RISCHARD: Oh, the riskiest countries on earth, yes. Triple B or Single B countries, and on the other side I'm selling Triple A bonds.

WEBB: And you guarantee *[inaudible]*

RISCHARD: Oh, the callable capital.

KAPUR: The callable capital.

RISCHARD: Yeah, but the callable capital is the money that's not shown here. It's the capital we can call in in the case of need, but we can only call that one under circumstances specified in the Articles and that is basically when we cannot pay our bonds back. Okay. So not being able to pay our bonds back is an extreme scenario, whereas with this liquidity we could survive a year or a year and a half without borrowing, but we still keep disbursing our loans. In other words, the machine is an ongoing machine. The callable capital is what you only call in when you're almost bankrupt and you can't pay back the debentures. You cannot call it back before that. So this thing here enables you to survive a year as a going concern because when they calculate the net cash requirements for the next few years, the biggest items in there are the disbursements that we're committed to make under already-committed loans.

WEBB: I guess what I'm groping for is that it seems to me there are 2 different risks involved although they are related. One is the loss of the value of the bond, but the other risk, which is the one that you're emphasizing in terms of more operational--your machine breaks down . . .

RISCHARD: Yes. If the machine is unable to borrow--and it's a machine that gobbles up 12 billion of borrowings every year, and a lot can go wrong. In '75 we were forbidden to borrow in the U.S. by the U.S. government, and had we not had this big cushion, I mean, that would have been a very serious blow. And this year there is a withholding tax change in the parliament in Germany right now which makes us unable to borrow a single deutschemark, and we have been unable to borrow it now for months. So we are shut out of the deutschemark market for the time being. And those are huge sums for us which are involved. So this machine here is there to prevent incidents like this from slowing us down, to give us flexibility, but it also prepares us for the terrible accident where we can't borrow anywhere for quite awhile. And if we are the riskiest lender on earth, we may--it may be low probability, but it's certainly higher for us than for anyone else. And so we have to be prepared.

So the reason people like to argue the thing is they think that carrying this liquidity has a cost. If it doesn't have a cost, you don't care whether we have 45, 35. But for years people have been running around this concept of cost of carrying liquidity, that there is a cost of carrying liquidity. In true fact there is no cost of carrying liquidity. If we were allowed to borrow what we have in this portfolio, if we have LIBOR [*London Inter-Bank Offered Rate*] in this portfolio we borrow LIBOR against it. If we have fixed-rate bonds of the U.S. treasury we would issue fixed-rate dollar bonds on the other side. If we match-funded this we would make a little money rather than lose the little money which we have. But there is no major cost in carrying liquidity.

Now when it comes to insurance, maybe for low probability where it's (A) very important for the whole safety of the machine, it's important for the bondholder, then it doesn't cost much, if anything. So the arguments for saying, "Oh, you can get by with 25%," yes, I

can't prove it has to be 45%. It could be 37.2%. But all I'm sure of is that it had better be there.

WEBB: Has there been much debate on that forecasting system?

RISCHARD: There was much debate in the early '80s, as I remember.

WEBB: Who was pushing for lower rates?

RISCHARD: It was a time when this happened here, when this plateaued, and it plateaued because the Bank's net disbursements slowed down. This was the [Robert S.] McNamara period. And then there was a—as the disbursements slowed down on a net basis, the liquidity tended to overshoot a little at 55%, 52%, 50%. We could never get it down to 45%. And this was purely the hydraulics of the fact of the slowdown in disbursement. The whole thing had a lot of momentum. And now we're sort of easily at this level, as you know, as a whole. As the CIS [Commonwealth of Independent States] countries, beginning with three, four, five billion of lending a year, that disbursing [inaudible] will be the other way. We will have an acceleration here, and we will follow. We will be at 38, and people will say, "Why aren't you at 45%?" and you'll have the opposite debate. You'll have an acceleration related to [inaudible] and here we had deceleration. So the Board would get very excited about this in this sort of period, yes, '84, '86.

WEBB: The debate was about how to reach the target rather than [both speaking at once]

RISCHARD: Well, how to--the debate was how to bring the target, the actual down from 55 to 45. The thinking was when you do that, you truncate the borrowing program in that year. So you have a borrowing program that's 9 billion, 9 billion, 10 billion, 11 billion at a time. If you want to go down in one crack from 55 to 45, you have to go 9 billion, 9 billion, 6 billion, 10 billion. And that is absurd. If you are a big borrower, you don't yank around your borrowing volume by 4 or 5 billion. So it was difficult for the [Eugene] Rotberg people to actually produce this 45 percent quickly as the Bank decelerated and we had to move to become smaller. In this way it will be easier because it's easy to step up their borrowing program; it's harder to bring it down.

These debates would be--there would be Board members and Gene Rotberg on the other side and [Moeen] Qureshi [inaudible] And the Board members fell into two categories: there were those that knew roughly what they were talking about, and then there were those that took a very—there were those that had a sort of policy in their mind which said something like, "Why do you guys need more capital? All you need to do is spend your 20 billion," which is a turkey argument, but, you know, it's emotionally very strong. So these are people that mix up capital, liquidity. They don't realize that liquidity is borrowed. There were some of these populist arguments involved in it, too, and it was very hard to sort of take--distinguish all these things because this is complex material.

KAPUR: Also in those years the Bank was tying its GCI [*general capital increase*] to the debate.

RISCHARD: That's right.

KAPUR: So people would say, "Why did you need a big GCI? You have all this cash lying around."

RISCHARD: It's a complete fallacy but emotionally a very strong one. So that was the nature of the debate. I think of those departments in here, I haven't heard a single debate on this nor on the cost of carrying liquidity. I mean, all this is better understood now-- maybe because they've come to the slide show. [all speaking at once]

WEBB: It really helped one person.

RISCHARD: And when they come with the populist arguments, I'd tear them apart, because it's far more effective than writing a Board paper, if you ever have tried that.

In this, the other part, the currency composition of this thing has changed quite a lot. In the old days, actually, it was further down, the dollar was very important--it was almost 65% of the whole and the rest would be these high, high nominal currencies [inaudible] and French francs. What you see here is a sort of re-engineering of this liquidity into something that increasingly would be sort of a third Japan, a third [inaudible] or deutschemarks or something and a third dollars. That re-engineering is just the mirror image of what has happened on the loan side as we discussed. So the loan side has been re-engineered into this predictable one-third, one-third, one-third cocktail. As that has happened, the borrowing side has begun to look like that. And we, as the residual of the whole machine, we are beginning to look like that, too.

The important thing is that from our standpoint we don't make these decisions. So we're unique amongst--we're one of the biggest investors in the world in the bond area, but we're fairly unique in being fully--we cannot decide on which currency we have. So that makes our job in a way easier because when you run a big sum like this and you trade it, you have two decisions to make every morning. The first decision is "Should I be in deutschemarks or in French francs this morning?" The currency decision. The second decision is, having decided to be two-thirds in French francs and one-third in deutschemarks, "Am I in the 10-year bond area or in the 7-year bond area in francs?" That's the bond-trading decision. In our case we don't make that first decision. We're told how many French francs and deutschemarks we have by the system, and we don't tinker with it. So all we do is to try to find the best bond market trades using those allotted currencies. And our whole mental energy goes into that, and we don't waste any time trying to forecast exchange rates, which is very difficult to do.

So I think one reason we're doing decently well here is that we have this huge emphasis on understanding the bond markets, the yield curves, the interest rate plays. We don't have this paralyzing anxiety that point exchange traders have.

These 20 billion being there for this very rainy day, to help us survive a year without borrowing. By the way, this is the case for all our clients, IFC [*International Finance Corporation*] (we manage decisions for them), the trust funds are a little bit different, and IDA [*International Development Association*] we manage [*inaudible*]. In total we manage 25, 26, some days 28 billion dollars.

KAPUR: Are there conflicts in the IDA? There you are—I mean, the U.S. might say that we gave X billion but you [*inaudible*] money with the yen [*inaudible*] IDA.

RISCHARD: Oh, well. It is very complex, but this complexity we don't know about. We just know what we are given every day.

Take the trust funds: they get disbursed by some other people. All we need to know, and the only link to this department in the Bank, the only thing we need to know is when they'll need money from us, and how much money will come in for us. We could sit--the whole department is self-contained. We could sit, for instance, in the Bahamas; all we would need to know is what's going in and out, and we need to know a little bit in advance [*inaudible*] enough for the interest rates.

KAPUR: What is the time horizon you have? About a month or a week or . . .

RISCHARD: Now, a few weeks is enough, and even a few days would be enough if there's a crisis. So since this money is there as a sort of cash hoard to help us survive a very rainy day, we have to be prepared for that rainy day. So we have to preserve the capital. What we do is--we are given 20 billion, and we have to be able to supply it to the Bank when they want to draw it down. At the same time since it's a low probability event that we will be drawn down--we will probably have it for a long time--so we might as well make as much money on it as we can.

So there is a preservation-of-capital objective and a making-as-much-money-as-you-can objective which are contradictory, but those are still the two objectives we have to work on. So the way we square this circle with these two different objectives, contrary objectives, is that, first, we are very active managers. We could be passive, but we're very active when in trying to make money--but we're very highly risk controlled because of the whole *raison d'être* of the liquidity. The activity level is something like 127,000 transactions per year or 500 or 600 a day which--a lot of those transactions are rolling over of overnight deposits. But a lot of it is futures trades, bond trades, going into the 17-year bond in the U.S., 17 minutes later going out. There's a lot of [*inaudible*] trading going on. The trading level is high, but it was higher in '85 or '84—it was an even higher number of transactions. In volume terms the sum of all the buys and sells in the year would be 2.5 trillion dollars. In the mid-'80s it was up to 5 trillion or so, so we're half as active as we were.

Now, together with this activity, which is geared to making money, is a high degree of risk control. To give you a flavor of what that means, if we put the whole 20 billion for

the IBRD [*International Bank for Reconstruction and Development*] into 30-year U.S. bonds, which is something we could theoretically do, perhaps. We're not going to do it. If interest rates went up 1% tonight, we would lose 11% percent of the 20 billion in one night. And, of course, we would lose 2.2 billion tonight. And if we lost 2.2 billion, we [*inaudible*] the market every day; but we cannot, even in unrealized losses, recognize enough [*inaudible*] We would basically ruin the whole profit of the Bank which is only 1.2 billion. So we cannot do that. We have to have the whole thing managed in a band that's not plus or minus 2 billion but more or less plus or minus 200 million, that's how we manage it.

WEBB: All the rest is hedge.

RISCHARD: Well, all we do is—as I explained, we keep away--we do have--we can buy 30-year bonds, but we'll buy on the future and we'll keep the whole average life of the portfolio down to a number that is more like one year. What we can buy is only fixed-income instruments, stocks are forbidden, commodities are forbidden [*inaudible*]. Within that class, which are basically instruments with an interest rate [*inaudible*], you have two types. We have half the portfolio roughly in sovereign bonds and the other half in commercial bank deposits. That's more or less the ratio, 50-50. In the sovereign class, it's really government bills, which are short-term paper, notes which go from 2 to 10 years, and bonds that are from 10 years to, well, there are some at 60 years. And its governments, can be agencies of governments, like Fannie Mae in the U.S. or AAS(?) in France; but they always have to be Triple A. And we can buy the other banks' paper, which we do.

On the commercial bank deposit side, which is the other half, there we have to be far more conservative because here we have to deal with governments, and here we have to deal with central banks which are covered for the governments somehow but not completely. So we keep these all short. So most of it is overnight. The bulk, besides the overnight, the rest are mostly term deposits to 1 month. We keep to 3 months, and if we go beyond 3 months, we have to go into CDs, which are negotiable. We can't go beyond 6 months maturity at all.

KAPUR: So these are self-imposed.

RISCHARD: There are--all these are self-imposed rules to keep the risk within an acceptable loss. The commercial banks are tremendously selective. There are 14,000 banks. We deal with 120. And the 120 that have been selected are Triple A, Double A, a few are Single A plus if they are very strong, nothing under Single A plus. And they tend to be a very large, well-capitalized banks.

KAPUR: Has it ever been that anyone on the Board has sort of said, "Why not more in my country?"

RISCHARD: No, because they wouldn't--in fact they wouldn't make the credit criteria which would be Single A plus minimum, which is a very high hurdle, and there is a whole

system for establishing for each bank what its credit line will be from us, what exposure [inaudible]. And all this system is--cannot be tinkered with. As I said, if a credit is coming to you, there are rules that are published, and there is no way a Board member would [inaudible]

So basically we then buy and sell these things and those we place and then we do three more arcane things. The repurchase agreements we do a lot in the U.S. market.

WEBB: [inaudible]

RISCHARD: Well, what we do is, if I have a 10-year bond, I can do two things with it. I can either sit on it until I sell it. If I sit on it I'll get the interest every day. Or I can put it to work, and that's what you do with repurchase agreements. So if I put it to work, I'll take my bond and I will lend to you for one night. But you are a broker, so I don't trust you. I will therefore get cash collateral against my lending you that bond in the same amount. And on that cash collateral I'll pay you 4% for one night. The cash I will then take, this cash collateral, I will place it with you at Chase Manhattan for one night at four and one-eighth percent for one night. The next day I will get back the deposit from you, and I will give you the cash collateral back, and I'll take my bond back. And so in this whole thing you needed to borrow the bond, and we did it in such a way that I will earn one-eighth of a percent for one night [inaudible] And if you did that on lots of paper over time, that's worth millions of dollars. And that is a very—that is part of any very liquid capital market like the U.S. The reason he needed to borrow my bond is that he had gone short. He had sold the bond to [inaudible] and when the settlement day came he had to borrow it from me to be able to deliver. Why did he go short? Well, maybe he thought it was a good move to go short.

Futures and options: we do a lot of futures. Basically, what futures are, you can buy a 10-year bond, or you can buy a future on a 10-year bond. In terms of the impact on the riskiness of the portfolio, it's exactly the same thing. People always think futures are far more risky. They think that because you only make a small down payment so you're leveraged out. But the impact on our interest rate profile here is the same between buying a 10-year bond or buying a future on a 10-year bond. So we are quite indifferent. And we take futures a lot because they are very, very safe in terms of--the exchanges are safe on which they are traded. It's anonymous. The transaction costs are very low, and you can move big amounts very quickly without disturbing the market. Options is the same thing as a future, but there is a lottery element in it; and it's also no more unsafe than anything else as long as you know how to measure the impact of these tools on your interest rate activity. They're all equivalent ways of expressing the market [inaudible].

And covered calls is something we do. We're forbidden from converting one currency into another, as I said earlier. And this is a sort of swap, in a sense. I will convert deutschemarks into French francs, but I immediately line up the forward foreign exchange contract to come back from French francs to deutschemarks. And if I do both the spot transaction into French francs and the forward back into deutschemarks, I can actually--I haven't taken any foreign currency position. We do lots of those. We do them

to move money from one portfolio to the other. We are not breaching the non-conversion--the part of the Article that says we can't convert anything is actually a little more flexible than that, but it has always been applied in the Bank as being a prohibition to converting.

KAPUR: But on the borrowing side this is not true. Is that right? You have swaps going on a lot.

RISCHARD: But a swap is the same thing. A swap is where you've covered forward except it's longer distance. You have one leg going into this new currency and you have the other leg going out several years later. So it is net net--there is no . . .

This is done with some 80-some people. We have two types of *[inaudible]* traders and *[inaudible]* people. The traders are organized in 4 groups of 7 each. *[inaudible]* These people do the bond trading in the U.S. and Canada. These people do the bond trading everywhere else, Europe and Japan. These people do all the deposits, you know, since half of the portfolio is deposits that what they can do, and they do that worldwide. And these people are traders, but they're more researcher types. They trade new instruments. They try computer *[inaudible]* trading. They are delivering technical assistance to foreign central banks in Zaire, Czechoslovakia *[inaudible]*

They are also doing something very important. That is the division that sets the benchmark against which we measure these guys' performance. Because they are slightly independent and therefore they can do a good job at creating benchmarks that those guys find very hard to beat. *[inaudible]*

So these people trade on the telephone mostly. The biggest share is through brokers. The only case where we go directly to the issuers is in the launch, otherwise they go through brokers. So they pick up the phone and they say, "I'll buy 100 million 10-year bonds at 98," and they put that into their computer, and their computer prints a so-called trade ticket. The ticket is then given to these people, and these people then do all the sort of checking and logistics following that trade. A trader will forget that trade. He'll know he has *[inaudible]* but he may sell that paper 15 minutes later.

But even on the first buy when he bought this paper, there are 12 steps these people have to go through. They have to call the broker and confirm that the trade did take place and that the price was right and that there is no disagreement on the terms of the sale. They then have to check that the interest accrual has been calculated correctly in the price. They have to take delivery of the bond somewhere in New York, and they have to pay for it that day. So there is a lot of paperwork involved. If you made 127 transactions here per year, these people would do a million and some. And then we have a huge systems group or *[inaudible]* because we have to keep track of everything, not only of all we have in the portfolio, but all the transactions that were made, all the payments that have to be made, the settlements, everything that's pending. You require very vast systems. The core system is in a machine that has almost a million lines of Fortran code. And so you need systems developers, which is one group. You need people that run the systems--

some of them are on that line. And you need facilities people that if the hardware goes, the air conditioning, this machine which we need for the trading strategies . . .

WEBB: Are those systems all developed here, by in-house . . .

RISCHARD: A lot of it is developed here, and a lot of it is purchased outside. But even what you purchase outside, you always have to adapt it. For instance, this big one-million-line machine, we basically helped get it going 10 years ago, and all that's in it, all the interest rate formulas for all the bonds in the world, we actually put in ourselves. But the system is now commercial, and they're selling it to other groups. So we're often involved in the birth of these things because we are sort of established international *[inaudible]* But there is always a crew of at least 10 people doing development work on something.

All these systems all have a risk-management purpose somehow. They catch commercial bank exposures. They catch over-exposures. They catch the interest rates in the portfolios, the payments flow. So it's also interesting that this is an internal group. We don't rely on other systems because this is a very specialized group.

This here is an interesting unit. This is independent from us. Those are under the Treasury. Those people are--make sure that we don't breach the so-called credit. There are two risks when you have a portfolio. The first risk is that the value of your portfolio goes down because interest rates did something. That's the so-called interest rate risk or market risk. The other risk is the risk that interest rates do absolutely nothing, but still your portfolio goes down. If that happens it would be because the financial health of the issuers of the paper was perceived to go down. So if New Zealand goes from Triple A to Double A, the value of its paper will go down even though nothing has happened to interest rates. Those people are the ones that watch for that risk, because as profit maximizers we will tend to go to the riskiest papers to make more yield, and they're the ones to make sure this doesn't happen. That's why they are independent. They're also the ones to screen the commercial banks, tell us which paper we can buy and not buy and so forth.

The people that populate this are mostly World Bank people that come from irrigation, we have a lot of highway engineers *[inaudible]* There are industrial projects officers. I was one, and I got several more. There are agronomists. There are country economists, the repo traders *[inaudible]* They are people who are not natural traders, but their fondness for the World Bank *[inaudible]* and for some reason they have an interest in capital markets. And so in mid-career or after a few years in the Bank they then come here. And then we train them on the job, and we start them in this *[inaudible]* area here where they can't do much damage. And then, as they move up, they can rotate from job to job. All the traders rotate every 12 months. They all have to move over time, from job to job.

KAPUR: Do you have a lot of turnover?

RISCHARD: Yes, I'll talk about that. We have a lot of turnover, and rotating people has something to do with training, but it also has something to do with fighting turnover problems. There are a lot of women in the Bank. In the Bank the *[inaudible]* percentage of women at high levels is 20 percent. In this area it is 50 percent. So we have--like here we have 6 division chiefs; half of them are women; and a year ago 4 of them were women. And in the high level women at large, it's 50 percent. The whole department is 52 percent women. It is quite, quite different culturally from the rest of the Bank.

KAPUR: *[inaudible]* at the Bank or any particular . . .

RISCHARD: I asked the *[inaudible]* to these women's issues in the Bank and said, "Why don't you study and tell us why, why did this happen. Was there a technical reason like non-travel, they don't want to travel, is it because they're the wives of husbands who are in the Bank--which is not the case, actually--what is it?" I don't know. Is it something that happened early and then has been self-sustaining?

All I know is that there are good reasons for me to have women managers here because in trading there is always the risk of ego inflation and deflation, and women have a lesser tendency to that than the average male. When it comes to running a team, you want the managers to be sort of unflappable and not prone to trying to go for home runs. And so women do have better qualities as trading managers. They are also more industrious in terms of housekeeping and being organized. All these people live in a submarine atmosphere, in one room. So women are also better at the inter-personal atmosphere. There are lots of things that probably cause us to have this, but I can't put my finger on them.

WEBB: Another kind of trading, outside in Wall Street, is that true also?

RISCHARD: You will find a great number of women on the floors. They tend to be in sales rather than in trading, whereas in our case this is all trading, and you have a high proportion of women.

WEBB: Is there a special dialogue to this job *[inaudible]* very good at verbal skills?

RISCHARD: It's all verbal. Nothing gets written here. Everything is talking, listening, getting information from brokers.

WEBB: Quick calculations?

RISCHARD: Quick calculation, yes, is important. It's . . .

[End of Tape 1, Side A]

[Begin Tape 1, Side B]

RISCHARD: . . . personal attention except a lot of, lots of parties. Tomorrow we have a big party here. On Halloween they run around in costumes. And traders from Wall

Street and here, they trade practical jokes all the time. There is a sort of release of the tension. We also do certain things. For instance, the people that stay in this box all day, we bring them—we pay for lunch every day. They get--lunch is brought to them, and *[inaudible]*

KAPUR: It sounds quite different from the culture of the rest of the Bank.

RISCHARD: Yes, it is, it is quite different. It's verbal. Vaguely kind of plastic. And again completely directed to next fiscal package in Japan or the U.S. budget amendment and things like that. It's directed another way. They're very--they follow the news a lot, of course. They're very, very--you take any trader. He knows everything about Maastricht and about the latest thing. They watch TV a lot. They have Court TV and C-Span and CNN, and they often watch it in their room. But it's a very short-term horizon. Everything sort of is a week away.

KAPUR: I guess they must be the best informed people in the Bank on politics *[inaudible]*

RISCHARD: Oh, on things like that, by far, yes. But in a short-term projection horizon, not for the long-term.

This is an impressionistic view of the day of a trader in that there's 24 hours there in a way. The U.S. trading would be roughly from 7:30 'til 5:00 p.m. There are lots of things besides trading. They have to check computer runs over night, the prices that have been given to their pieces of paper are correct. They have little meetings to discuss what has happened during night in the other markets. They trade--around noontime they have a meeting to recap what has happened in European markets which are then closed. There's a little bit of a strategy meeting for the next day. Some do research in the afternoon, particularly those whose markets are closed, the European traders. And so about 2:00 to 4:00 p.m. that peters out. But even though the U.S. traders are finished at five, they will often sell or buy U.S. paper in Japan during the night. So it sometimes goes on until midnight or so. These two people here, they trade in the middle of the night. They start at 8:00 p.m. and they finish at 2:00 or 3:00 in the morning. And then they come to the office around noontime to participate in that recap meeting.

The systems are run by night shift at the point where we have all the prices from the *[inaudible]* And then European traders start at 3:00, 4:00, 5:00 in the morning, trade until about 8 o'clock, come to the Bank, continue until noontime. Half of them have the same stations at home as they have here. They have FAXes, special phone lines, Reuters, Telerate, the whole thing. They can do it from home. But the most *[inaudible]* stations are of course for those people *[inaudible]* The working hours are not very important. The U.S. traders can go home at 3:00 or 4:00 or 5:00—it's really their business. They tend to live with this anyhow, and even if they go home at 3:00, they may still be trading at 11 p.m. without anyone knowing because they are *[inaudible]* markets.

KAPUR: Do you place any limits on how much the traders can trade in a day or

amount?

RISCHARD: Well, there is a sort of 1984-like scrutiny system here that measures every trader's performance every day. So that's the sort of thing that they feel watched by. It's not--well, there are risk management systems. Whenever they do a trade the system in front of them tells them what their risk profile is, their P and L [*profit and loss*]. And it's updateable so they know what the risk is, but they also know the next day how well they did compared to a benchmark that is very hard to beat. So that is sort of controlling the whole thing.

The job of a trader is actually quite hard in the sense that they have 3 things to do. They have to buy and sell which this verbal telephone call [*inaudible*] They have to--which is very unusual here--we get them to trade, but we also turn them into strategy decision-makers every Monday morning in this room. And the traders here then become economists, and they are the ones to say what they want to do in each country and sort of target the markets. And when you hear them do that, they sound like Wall Street economists. When you hear them trade, they sound like Wall Street traders. In Wall Street they would compete. Here it's the same person that will do both. Why? Because presumably in each case, it's this Ph.D. in economics anyhow and is perfectly able to do this and to analyze it and project what will happen in the Japanese market next week.

They also have to do housekeeping, which is very important. Behind that buy and sell decision is a host, an enormous amount of information: mounds of publications, all the electronic screens, complex analytical packages where you can do all kinds of interesting calculations. They have to keep in mind where they stand in the reporting of risk, talk to the others. They have to keep with the strategy that was decided on the Monday for one week, and they have limits on the credit [*inaudible*] So there's a lot of input into something that looks like, "Oh, 100 million dollars I'm buying now." There's a lot of information coming in.

The batting average of a good trader is maybe 55 percent wins, 45 percent misses. That would be an excellent trader who's going to make a lot of money over time. But that means that even a very good trader has 45 percent of failures. And that's why they're a little tense. Every day, even if they traded beautifully for 3 days, the next day is disaster. 'Disaster' meaning that they lose the performance they have made in the previous days. So that's why in general there is—this is a crew that is 35-ish to 40-ish. There are relatively few 40-year-olds.

KAPUR: [*inaudible*] Theoretically if everyone in the world is sort of reasonably good [*inaudible*] it should wash out.

RISCHARD: Well, it should wash out except that the whole market may move up. You see, there is something to that. Yes, there is a--if you go short the bond and the other guy is going to win or lose.

The reason one can still trade despite this [*inaudible*] is that there are a lot of

inefficiencies in the market, contrary to economic theory, and a lot of what the traders do is to find those inefficiencies. For instance, you rarely find them going and buying tons of bonds in the U.S., but you'll find them buying the 4-year bond and selling short the 3-year and 5-year around it so that net overall they didn't take a position, but they know that the 4-year bond was especially expensive and the other ones were cheap--or the other way around, as my example was. And that's the sort of stuff they will get some use out of it. Or you'll find them, rather than going long Europe, they'll be long the 10-year bond in France, short the 10-year bond in Germany. So net/net there is no big position on Europe, but they'll bank on the interest rates in France coming closer to the German ones. A lot of the older traders will bet like that.

The risk management is enshrined in two documents. One is the investment authority from the Board. That's only 2 or 3 pages, and it has the basic do's and don'ts. Then there are guidelines which run to 12 pages which have the technical do's and don'ts. This is issued by the Board and rarely changed. This is issued by *[inaudible]* and will be changed more often. And the content of these is like the constitution and the laws. The content is always these three things: whose paper you can buy, which brokers you can go to, what the maximum interest rate is here and what the maximum expenditure is, and it explains how we manage this one.

I assume you know this is an insulting slide for most people. The yield curve and how bond prices move--the yield curve means that if I get 4% for overnight money in the U.S., I will probably get something like 8% for 30-year bonds. And then the yield curve is normal. In true fact it wobbles around, and it's right now inverted still in Germany. You get a little more money here than you do in *[inaudible]*

WEBB: Not in the U.S.?

RISCHARD: The U.S. is the cheapest in *[inaudible]* fantastically cheap. You have the short-term which is at 3.75%, and you are always at 8% on the bonds, which is unheard of. There is this—very importantly what has been done here is the Fed [*U.S. Federal Reserve Board*] pushed these rates down, enabling the banks to buy this *[inaudible]* The banks are making a killing on their margin. If they get an 8% yield on the bond and they paid 3.75, and it has helped the banks improving its earning in the sense of [all speaking at once] in sense of P & L.

The other one is prices of bonds going to the opposite direction of interest rate movements. This is the thing, a 5-year note, for example, the U.S. 5-year note, I buy it for a thousand bucks from the government. It has 8% interest rate attached to it, and the market for all 5-year notes that day is demanding an 8% yield. So that's where I start from. If interest rates in that 10-year--that 5-year note market go up to 9% tonight and if I tried to sell my 5-year note tomorrow, the market requires 9% and mine carries just 8% interest rate, I will have to discount it down 40 bucks to even get rid of it because whoever buys it at that discounted price with an 8% interest will then get that yield that the market requires them to get. If that yield that the market requires goes down to 6.5%, I'll be able to mark it up actually from where I bought it because if the market only

requires 6.5%, then we can pay that much and my 8% will get that. So what traders do is they try to buy the paper here and sell it there in ever so many combinations, and as I said they only succeed 55% of the time; 45% of the time they'll get it here and then sell it at the worst time.

So this leads me to the question of how do we control the interest rate risk. Well, the 5-year note I just told you, when interest rates went up 1% we had to discount the paper down 40 dollars, so it went down 4%. But the sensitivity of the 5-year note to a 1% increase in interest rates is minus 4%. If you pay an overnight deposit, the sensitivity is zero percent. It doesn't last long enough to be effective. But if you take the 30-year bond, it will have this massive sensitivity. You remember when I said what happens if I put the 20 billion into 30-year bonds? Well, we would lose 11% of the value, which is where that *[inaudible]*

WEBB: I don't understand the duration . . .

RISCHARD: Well, let's forget about it for the time being. Each piece of paper has a reaction to interest rate movements that is very strong here, none here, and somewhere in the middle here.

WEBB: It's proportionate to the terms?

RISCHARD: It's proportionate to--not only to the terms but also to the type of paper. For instance, if you have a 30-year bond that is a normal bond, then you have that sensitivity. If you have a 30-year zero-coupon bond, the ones that don't pay interest until the end, it would have a 30-percent *[inaudible]*. They're both 30-year bonds.

So there is a thing called duration which predicts exactly that sensitivity. And what it is, the duration is for each piece of paper you take all its cash flow, and you calculate its average life based on all its cash flow. And the trick is to use as the weights not the face value of each cash flow but the present value of each cash flow. If you do that, you get a number which is expressed in months or in years and which is called duration which is actually predictable. *[portions of this entire section are not audible]*.

So what we do in the Bank here is we try to have a whole portfolio, whatever it's composed of-- it has overnight deposits, it has 30-year bonds, it has everything--overall we make sure that if it collapses under the aggregate to this level, which is the 1-year bill which has a 1% sensitivity, meaning on my 20 billion, if interest rates go up 1%, tonight I lose 200 million, which is fine because I got one and a half billion of profit. Also, I can make--if interest rates come down, I'll make 200 million and which has a 1-year duration. So if the whole interest risk control consists in capturing the durations of everything we have--options, futures, bonds, bills and others--all the time it is the computers are making sure that we always average out around here. That's 80% or 90% of the whole interest risk control. It's not difficult to do, but you have to have powerful computers that catch all these durations and correct data, correct pricing--everything has to be correct, but then it's not difficult. That's why we don't care whether we buy a 10-year bond in cash or in

futures. It has the same duration, or be called the same way.

WEBB: I'm sorry. Let's see if I've understood this. You deal in 30-year bond but you offset [both speaking at once] have a zero [both speaking at once]

RISCHARD: Yes. [both speaking at once] If I have too many of those, I will have to blend it with these guys here to make sure I come out here. This whole system puts a natural lid on how many of these I can buy. Actually, you'll find us rarely having lots of 30-year bonds. You'll find us a lot in the 5-year and 7-year area. And even if I had a lot of 30-year bonds, I probably would sell some 30-year bond futures against that to max it out.

WEBB: Does each trader have to offset himself?

RISCHARD: No. No, each trader does his own thing, but they all see the collective positions.

WEBB: Wow! [both speaking at once] They see it on the screen.

RISCHARD: Oh, yes. They see their own little thing and sometimes they trade opposite directions. You can have two traders in the same division, one is selling, one is buying.

WEBB: Because one trader might be--each trader might be tempted to go to lower the risk.

RISCHARD: No, each trader has—I mean, we have a 12-month duration target in the U.S. Each trader is allotted one month of duration as a departure from 12. They have limits to do how much they can do, but it's always a duration limit of 12.

KAPUR: At the same time, you have a program which is constantly solving the
[inaudible]

RISCHARD: No, no. I have a program that constantly calculates the duration, and then there is no optimize or nothing. And the managers see the duration and they see whether it compares to the strategy we decided on, and if it doesn't, they go in, say it was the futures market, they will [inaudible]

WEBB: Are the instruments continuing to change things, or would you have to recalculate the formula?

RISCHARD: Yes. We have to recalculate all the time because durations are dependent on the structural characteristics of these figures, but they are also dependent on the particular interest rate level of the day--not in major ways but enough that you need to recalculate. But essentially, I mean, duration is nothing else but just simple elasticity, that's all it is. But it took the finance industry 30-some years to come up with it. Irving

Fisher, the economist, he had proposed duration as a measure way back, he and [*Darko Mercoli?*], and it was just forgotten until the mid-'80s. And even as I speak now we are quite good at these things but you have lots of central banks that don't run it this way at all, that the central bank very often will say, "You can't buy anything beyond 5-year maturity," thinking they're very conservative; but if you buy 4 years, which is far too much. If I had that one I would lose 4% of 20 billion, which would be 800 million on this side, which would be too much. And very few will have the set-up to actually measure the duration live over time.

Now, I said that was 80% of risk control. The remaining 20% is something like this: if you have 10 bucks and you want to have a 1-year target duration like the World Bank, you will have an infinite number of portfolios you can pick. This one, for instance, you could put your 10 bucks entirely in the 1-year bills which then produces [*inaudible*]. You could have this one, which you put 9 dollars overnight deposit and you keep 1 dollar for the 30-year bond. You will use it to [*inaudible*]. That's called actually a bullet and this is called a barbell because traders talk like that. But this one has 9 bucks at zero duration which is overnight deposit [*inaudible*] and \$1 at 10.6 years of duration, so it averages out to one year as well. So these two portfolios have the same duration, meaning if all interest rates in the world go up 1%, in which case I would lose 10 cents.

Now, of course, the difference between the two is: suppose the interest rates only move up in the long bond area, 30-year bond, but they don't move here because the Fed has them under control. In this case nothing will happen to that portfolio, and this one will decrease. I will lose a ton of money on this position. So in that sense duration only measures the sensitivity of the portfolios to parallel shifts in the yield curve. What it doesn't catch is tilt in the yield curve when the long rate goes up and the other one doesn't. That second risk is what we call the yield curve risk. You cannot capture that. You cannot easily capture that. You could, but it is extremely esoteric. And so that risk we manage with our brains but not with a computer. It is a risk that is smaller than the duration risk, if the duration risk is 100, this sort of yield curve which would be [*inaudible*]

The last piece is what, how did they get some sort of strategy. Each week on Monday all the traders come here and we set the duration for the week in each portfolio. I said we had a target of 12, but it doesn't mean we will actually have 12. It's just a target. So if we like--right now this week we don't like the U.S. dollar market, we don't know whether it is going to go up or down. So we have kept the duration at 12. And the yield curve we're in the [*inaudible*] rather than over the curve. We have matched our duration in the area. The deutschemark European market we like a lot despite Maastricht. We have the duration at 20 months, far longer. So we have willingly exposed ourselves to interest rates in Europe because we think interest rates will eventually come down. So we [*inaudible*]. The yield curve there is all short lending [*inaudible*] but some are [*inaudible*]. The yen market we like. We have it at 16 months, and there the position is in the 10-year bonds. So each market we make that decision for one week. Once the decision is made to have Japan at 16 months, the Japanese traders can go up and down two months on each side. It can be either 14 or 18 for that week until we reconsider them

next week. So in our terms, we target at 12 months, but we keep departing from it in order to meet this mythical benchmark that we set.

KAPUR: In theory, if the Bank had an inside track on, say [*inaudible*] the market, you could . . .

RISCHARD: But (A) we're not part of the G-7 meeting, and (B) the people that would be sent there would be politicals who would be unable to come here and express their own [*inaudible*] views, just give them a big speech on coordination and cooperation. Read the communiqués of G-7 and extract a drop of wisdom. They're completely mechanical. They're written weeks in advance, and you can almost guess them, they are so devoid of—they have no sort of conflict of interest at all.

There is a part of the house in PRE [*Policy, Research and External Affairs*] that does these long-term projections. We have never been able to extract anything from them, nor have they been able to extract anything from us. Their vision is for a much longer-term thing, for the '90s. And our world is not the '90s; it's this week. Or does anyone see anything at the Fed on the 30th of June? That's all--and that information will be of interest to us but it's of no interest whatsoever to the people that produce all the long term projections.

WEBB: Is the IMF [*International Monetary Fund*] any better?

RISCHARD: The IMF is a little bit like the projections people. They wouldn't be as closely involved in the [*inaudible*] In the whole of Bretton Woods we're probably the ones that are most short-term, [*inaudible*] but in a trading sense, not in a [*inaudible*]

KAPUR: Does the Fund have its own portfolio?

RISCHARD: Well, it has something but nothing like this. Also, this whole game, the game is not necessarily to correctly analyze economic fundamentals. That is not going to do any good. We have to guess what other traders will see in these pieces of information. So you can have a piece of information coming out saying the budget amendment legislation has not gone through. From the point of view of fundamentals it doesn't matter who, but this may impact the psyche of a lot of traders and therefore the market. So a lot of it is actually guessing economic announcements ahead of time, but then also guessing what will happen once they come out. So a few weeks ago we correctly guessed several times that the employment number would be very high, and we were completely at variance with [*Paul*] Volcker, and we were right. It was 164,000 and we had guessed 165, and we were [*inaudible*] But we lost a lot of money that day because the market, which should have gone down that day, didn't. So we had guessed the announcement right by doing all kinds of seasonal complications, very advanced ones, but we completely misjudged the market's reaction to it.

KAPUR: I'm curious. Do you have--you manage the IDA and IFC. Is that all a pool then, or . . .

RISCHARD: No, it's separate pools, but it's managed in the same way. It's under the same benchmark, the same technique, the liquidity positions for IBRD are the same as IDA, but it's a messy thing. We have to have separate agreements, separate accounts that our custodians need. It's very complicated.

KAPUR: Does that trader, does he know when he is trading with IBRD or IDA?

RISCHARD: No, the trader will say this is for IBRD and buy another 20 for IFC and 10 for IDA.

KAPUR: Oh, I see.

RISCHARD: The credit risk, I will skip over that. But that comes here.

Those people are an independent unit. Their main job is to seek commercial bank loans. And so they are entirely—also, they're an intelligence agency. Well, first of all they restrain us by giving us all kinds of limits to which bank to support, but they are a useful intelligence unit. They're trying to hear whether anything will happen to any of the banks we work with. They talk to the rating agencies. They read all the newspapers in the world, waiting, looking out for anything that could happen that would be unsettling.

Now, the next question is how do we know whether we're doing a good job or not, and that is basically this. It is all done here through a so-called benchmark portfolio. In other terms, for each currency we have defined a theoretical portfolio but a very realistic one that is basically the portfolio we would adopt if we went passive, if we stopped trading that currency. So it's the best feasible passive strategy in each market. And it's defined very realistically. It says exactly which bond *[inaudible]* we have in this *[inaudible]*. And it is defined at 12 months duration and basically not only are they homemade but they get improved over time. There is this shop that tries to make them harder and harder to beat so they *[inaudible]*. And so this is the way we work. Right now we are improving next year's, and we're doing things that will make it harder for investors by 10 million dollars, that is 10 million of the existing performance will be pulled into the benchmark because we are trying to trick *[inaudible]* on the part of the benchmark.

So that's the basic system. It's a neat system because it serves as a sort of anchor for the whole Bank. It's a frame of reference for the strategy we use, but it's primarily a way to measure everything from the performance every day. This would be the U.S. one. It's roughly a third overnight, 50 percent buying and holding 2-year [I can't hear him well enough to be sure he is saying "two"] notes, *[inaudible]* and 20% in basic securities. The 20% in basic securities are distributed at equal duration, the contribution of the 2-year note is triple rated. If you ask me why, it's just because when we analyzed this thing 10 years back, there was a lot of value in triple rated *[inaudible]*. And then there are a lot of those similar questions here, whether you keep the current bond or the bond that's one or two auctions old, and there is a lot of fine-tuning in this.

If you look at the overall performance, the way we think about it is that we make a total return every year. That return is the sum of the market return that anyone would get, whatever that means, plus the value added to get *[inaudible]* our benchmark, plus the value added we get from trading intelligently around that benchmark so that these are the three sort of things that make up the whole return.

This chart drives economists nuts! You can't have a benchmark that's smarter than the market. If you do have it, the market will catch up with you, it will find a benchmark, and there won't be a difference between this line and this line. And then the ultra-purist economists say you won't even get this. No one can. You tried that on me *[inaudible]* this side loses, you win and then *[inaudible]*

KAPUR: *[inaudible]*

RISCHARD: Yes. It's 7 years.

KAPUR: Right.

RISCHARD: But Larry *[Lawrence H.]* Summers has written many articles on the inefficiency of markets and on the fact that this really exists. And we know this one exists, too, because we more or less *[inaudible]* So it matters, except we have a hard time measuring what the market is. What is the market? So what we do is we compare it to money managers in the U.S. *[inaudible]* So the money managers in the U.S.--there are lots of them--but in the fixed-income class there are lots of them *[inaudible]* the 1-month, there are the money market funds, and there is a 24-month which is particularly in *[inaudible]* with bond market. If you average these 2 classes out, you'll get something that is 12-month duration. Basically you look at this versus this other. And if we do that, then we need to average here by 100 basis points by 40 basis points and by something *[inaudible]*

KAPUR: *[inaudible]* the stock market?

RISCHARD: I don't know. I wasn't there, and there were no statistics [both speaking at once] for comparison. And also it's hard to tell because the last two years were market to market, so the return we have is the real thing. It's the return including a *[inaudible]* In the old days--that's why your historical series isn't worth much--you have book returns, and book return has no relationship to the actual return; they have--unrealized losses are ignored; unrealized gains are ignored. You cannot really tell what the performance was.

KAPUR: What *[inaudible]* gain and loss?

RISCHARD: Well, if you buy this piece for a thousand bucks and it falls to 960 the next day, under our system this 40 dollars will be a loss even though I haven't sold it. In the old system you would not declare that 40 dollar loss because you hadn't sold the paper yet. And then you hang onto it and it goes to 1063 and we then sell it, then you declare a gain. But the loss that came in between you would never show up.

WEBB: It's all on the purchase value rather than . . .

RISCHARD: Yes, the purchase value and the sales value will then determine a loss or gain. In our case we run the whole portfolio at market values of the day and even though we haven't sold that piece of paper, we will declare a loss of 40 dollars. But this system doesn't lie at all. The old data are—they're not meaningless but they don't mean much.

WEBB: You know, I'm sorry, but I should have been--I'm confused about a benchmark of 800 million dollars. I thought a benchmark was a standard.

RISCHARD: Oh, it's a real portfolio. The benchmark is the portfolio we would hold in the U.S., in France, if we just had three people here and we managed this very mechanically. That portfolio is measured every day on the computer as if it existed, and there are people that maintain these portfolios--they are just theoretical, but they maintain them in a very lifelike manner. For instance, they will roll from one paper to the other, and they will price the whole portfolio correctly. And so we calculate the return on that theoretical but very realistic portfolio. Then we calculate the return on the actual dollar portfolio, and we compare the two. Right now the dollar team is 35 to 40 basis points ahead of the return of the passive portfolio. And that is the sort of performance we measure. Yeah, I should have explained that.

And then we break it even down further. We take this big benchmark and we calculate: the deposits are benchmarked, the 2-year notes are benchmarked, the 5- to 7-year notes are benchmarked. And then we have individual traders trying to beat that piece of the benchmark, and their performance gets measured against their subpart of the benchmark. So we even have trader-by-trader readings on performance.

The last piece on the question of how do we know whether we are doing a good job or not is the question of how much does this whole thing cost. The cost is actually not very large. The cost of this whole operation, including building, light, overhead, and *[inaudible]* work in the Bahamas is *[inaudible]* The pure budget number on 3.5 billion dollars, which is very little. We live on the core of about 25 billion, which is a huge figure. That's one of the reasons why it's so low, because you have economies of scale. However, it's much lower. If we went outside we would have to pay market for it and we're not sure the performance would be any better. As a matter of fact, those U.S. data I showed you show our performance is actually better consistently in the U.S. because (A) we are doing a little bit better, but we also have a *[inaudible]* cost advantage which, of course, has to do with no salaries, no profit margin, we've been at this for 20 years so our systems are depreciated, and we do a lot of stuff ourselves.

The settlement and accounting is often farmed out to commercial banks. We do it ourselves for less than 1 million with secretaries. Our settlement division, our ex-World Bank secretaries, some of which have levels 24, 26, and they go very high up in that particular business. They're all very good secretaries. The issues are turnover, which you had asked about and *[inaudible]* The turnover is a sort of natural thing. Citibank always

recruits people, and Citibank people always end up working for the brokers, particularly in Europe. So Citibank, we're a little bit like that. We know these traders are not going to stay forever, and now I lost 5 in the last year. They tend to go to Wall Street or back to their countries or to Europe and so forth.

KAPUR: Is it essentially the salaries, do you think?

RISCHARD: Oh, yes, they get very nice additional salaries. On average they go for two and half to three times the Bank's salaries. We just lost one of our best traders to Goldman Sachs. So it's always in the making. It was slow when Wall Street was in the doldrums, but now that Wall Street is coming out of that period we're losing people again. So what we do to fight this is to do a *[inaudible]* help because by rotating these people around all the time it's more interesting to them to stay longer because they do Japan, Europe, the U.S. in three years, and that makes them even more marketable if they stay this long. So basically the Bank system is this: if the U.K. trader walks tomorrow, I'll have three *[drowned out by cough]* ex-U.K. traders ready to go who know the brokers, who know the paper, the conventions in the U.K. market, and can immediately jump in.

The other advantage is it creates an interesting strategy discussion because when the yen trader talks--current yen traders--three ex-yen traders will argue with him, and it's an interesting debate. The disadvantage is that you have people that go up a learning curve, and then you take them into a position where they have to start again. So there is a learning curve loss. There is a little dent in performance that we don't want, which we can't measure but it really must be there.

The other thing is we have a program where we take 4 or 5 World Bank people from all kinds of places in the Bank as 9-month interns. And these people come here, they work as traders in the money markets, and they have a re-entry guaranteed to wherever they come from. So it creates a small corps of reserve troops at the Bank. And for many of these people who work for the extra earnings; for example, a lot of IFC capital markets people do that and then go back to *[inaudible]* The market is a real live experience rather than an academic. And then we are always prepared by--because we have defined as our benchmark not some sort of index published by J.P. Morgan but a lifelike theoretical passive portfolio so that if we have big problems in turnover, actually when we do this we take our vacations, when a lot people are out, we just go passive, we adopt the benchmark, and the benchmark can be run with three or four people. We also do this sometimes not because of turnover but when we had the Gulf War and we really couldn't tell what the markets would do, rather than sit there and make political bets, we went passive.

So the benchmark also is a fallback strategy, and in that sense it serves--the benchmark serves many purposes at once. It is a reference for decision-making; it is a performance measurement system which acts as a control system at the same time (it is uniquely focused on the things going on); and it is a fallback strategy in case of some turmoil internally.

What we do now is we have started to do technical assistance with two or three people that basically export all these tricks and these practices to the central banks in developing countries. So that's why they're in Czechoslovakia now and there they tell them about trading profitably. A lot of it is about how they should have a central benchmark, how to measure performance, what the backup is like. It's sort of risk management, mostly, that we export as knowledge, practical knowledge. We find a lot of central banks have predicaments where the managers of the central banks don't know much about all the things we've talked about today, but they'll have two or three traders there that have been all hyped up by brokers about options trading--and then these guys sit there and make huge trades sometimes. And the deputy governors and those people wouldn't even know what a risk report looks like.

KAPUR: [both speaking at once] *[inaudible]*

RISCHARD: Where?

KAPUR: Mongolia. They lost their--a few months back the central bank was wiped out.

RISCHARD: I didn't know about Mongolia, but I know about another country in that whole area of the world where they had lost the whole of the country's [all speaking at once] *[inaudible]* It may be the same story as it is in Mongolia. And it was one of our staff that went there with the IMF, as this was part of the membership mission; and when they went there, the IMF couldn't find the reserves. And it was one of our traders who was very good at that who looked and looked and looked and found they had been lost by the deutschemark forward trading. It was 5% of GNP. The people on top of this didn't have any idea about what these traders were doing, but the traders were very crafty guys. And the back office was an old lady with a pencil and some very poor quality paper. But they had gone to courses with brokers, and the brokers had gotten them all excited about these very advanced forms of foreign exchange trading. They had given them Telerate screens, and they had that, but what they didn't have was the whole risk management envelope to make sure they didn't . . .

So that's what we're doing a lot of now but with just two or three people who are also traders that rotate from trading to technical assistance, and then they go back.

KAPUR: Everyone knows the benchmark *[inaudible]*

RISCHARD: A benchmark is not a big secret; it's just a decent passive strategy for us to adopt. It may not be the right one for a central bank with 1 billion dollars because ours is demanding. It requires a crew of 80 people. It has specialized deposits, years, mortgage bag and support. It has all sorts of specialized traders in mind. A small central bank should have a benchmark that is a mixture of short-term deposits and 3-year notes--period. Those are good for one *[inaudible]*. That's what they should have. They should have a very simple trading set-up--until they have all the risk management systems in and they can do something more complex. But in looking for a benchmark, it is not so much a question of let's make it the absolute most capitalist recipe for making money, but let's

make it a very plausible, realistic, passive strategy for the bank. And that's the question.

We actually had a seminar two weeks ago here in the Bank for all the rich central banks-- the U.S., Germany, France, the whole lot--to *[inaudible]* what you get from the benchmark, how to adjust it, all kinds of . . .

[End of Tape 1, Side B]

[End of Interview]