ON RESUMPTION

ROBERT McCAULEY (s.u.o.)

CHAIRMAN: You may continue. --- So to summarise thus far in the huge global market for foreign exchange the Rand market is not big but big enough. If you would be so kind as to turn to slide 28, the rest of the presentation is structured first of all discussion of market norm and that will bring us to the end of largely descriptive material and then things get more difficult as we talk about the economics of exchange rates a bit and peculiarities of contagion as it is called and finally talk about policy question in managing the exchange rate. But here this is the last largely descriptive section on market norms for behaviour in the market place and again this is in direct response to the enquiry. I certainly have not made a systematic study of such matters, I will report to you what I can. The foreign exchange market despite the electronic brokering still is basically a sort of telephone market, a decentralised market, different in that respect for a stock exchange where you get a sort of centralisation of transactions and information and so on. So it is a decentralised market place and it is not really regulated per se as a market. Most of the participants in it are some how regulated, many of them regulated in multiple fashion but the market itself is not a regulated market but nevertheless the market place has developed its own norms of behaviour and (inaudible) those norms and I will report that to you. And then on top of that coming out of the crises of 1997 and 1998 there were complaints about how some market participants were acting and these complaints were considered in a new institutional environment and some results came from that that in turn are to go back into the market codes with which I will start. So there is then two players that I need to introduce you to here if you can turn to slide 29, the first of the who's who is something called the ACI, the Associacion Cambaest Internasional(?), a sort of foreign exchange dealers association in English and its membership is the feeling(?)

community and it has pulled together a model code that is intended to be adopted by the foreign exchange communities in each centre where foreign exchange is traded. Now this code covers lots of things and I am going to dwell on very selected items but for instance it has suggestions about how management should control the behaviour of individual traders, but it also has common definitions for use by market players and it also has general principles of risk management within banking enterprise. So there are lots of things in this code. Now a key thing, a lawyer's question is okay where is the enforcement and basically this is sort of a codification of best practises and there is nothing like a sort of a bar committee where you know if you misbehave you can lose your license. That is important.

MR POTGIETER: Mr McCauley in the expert bundle on page 100 you included an extract from the model code, table of content and a few further pages is that correct? --- Yes. So if we pass to slide 30 the second who's who is the Financial Stability Forum known as the FSF and it really gathers together in this forum. Finance ministers, central bankers, and financial supervisors and it has been getting together now for several years. Again it was the crisis of 1997/1998 the Asian crisis, the Russian crisis and so on that led to calls in a somewhat overworked metaphor for a new international financial architecture and the response on the part of the G7 nations, the larger industrialised economies was to create something called the Financial Stability Forum and the notion was that it would not be a new institution with its own building and current staff, that sort of thing, but instead a co-ordinating body to make sure that when issues concerning the financial stability had been identified that there would be some co-ordination among the different bodies assessing them and there would be no kind of underlaps, that is aspects of the problem that no one was working on and that there would be at least an attempt to limit the overlaps that is different bodies piling on the same issue and really doing double or triple work. This body the

Financial Stability Forum meets twice a year and it is currently headed in his personal capacity by my boss the general manager of the Bank for International Settlements, Andrew Crocket but his term is coming to a conclusion and this Financial Stability Forum took up three themes and created three working groups to deal with them in the first instance. It would look into highly leveraged institutions sort of term of art that would include both what I described to you as called hedge funds and proprietary trading desk and other institutions as well. Capital flow and off-shore centres, so these were in different ways identified as the sources of challenges to financial stability that should be looked at in a co-ordinated way by the various bodies around the world and the Financial Stability Forum sought to do that. Now let me take you back then to the ACI on charge - sorry slide 31. I have some ... (intervenes).

Mr McCauley before you continue under the heading market norms for behaviour you are going to discuss the ACI and the ACI's model code, that is the one thing, and then secondly you are also going to talk about the Financial Stability Forum out of which forum the so-called trade principles originated, is that correct? --- That is correct.

And in so far as would it also be correct to say that the trade principles that you are going to refer to originated, if you look at slide 30 the last bullet point, you mentioned three committees, working committees. --- Working committees.

HLI's, the capital flow, and the off-shore centre working groups. Would it also be correct to say that the trade principles originated from the work of the HLI working group? --- Yes.

Good. --- Yes, essentially we started off with sort of where are the industry was as sort of captured in this ACI code and then I am going to take you through a process by which officials and market participants interacted in response to complaints about a kind of aggressive trading practises and then that will give rise to some additional principles that I have described that in turn should be incorporated into the ACI code in its next revision.

The way I understood you is that in both cases what one has here is in a sense a codification of market laws. In the one case in the form of the ACI code, in the second place in the form of the trade principles which I think you expect will eventually be taken up in the ACI code, is that correct? --- Yes.

Okay well then continue. --- So we do not need to dwell on elements of the ACI code but just to give you a flavour on slide 31, the management is advised to have rules on the receiving and giving of gifts by traders, restrictions on gambling, importantly on personal account trading. Can traders deal first for the business and then for themselves and if so how. Those kind of rules and then there is questions on money laundering. Confidentiality I think is worth mentioning on slide 32. It says dealers and brokers share responsibility for maintaining confidentiality and without explicit permission from the parties involved should not disclose or discuss any information relating to deals transacted all in the process of being transacted. So that is the sort of market norm on kissing and telling I suppose. There is also a codification of kind of good behaviour with respect to rumour mongering. Dealers and brokers should not relay any information which they know to be false. They should take good care when discussing unsubstantiated information which they suspect to be inaccurate and which could be damaging to a third party.

MR ___: (Inaudible). --- Pardon?

(Inaudible). --- So you are supposed to stop, look and listen before you pass on the report that so and so has died for the fourth time. Slide 33 please. So on to the Financial Stability Forum and its working group on highly leveraged institutions. The Financial Stability Forum is here, the working group is here and the working group (inaudible) a study group, this is where I come into the story ... (intervenes).

Could you just draw that picture on the flip chart there. --- Sort of the big gaps(?) in this. We have the G7 kind of perusing this Financial Stability Forum and then it splonds(?) three working groups. The one of interest is the one on highly leverage institutions which in turn splonds a study group and this study group in 1999 like it does a study as you would expect a study group to do, not an investigation, a study of events in 1998 in Australia, Hong Kong, Malaysia, New Zealand, Singapore and South Africa.

Were you connected to that study group? --- I had the privilege of serving as the BIS representative on said group. Other participants were from the Reserve Bank of Australia, the Banque De France the Hong Kong Monetary authority, the Bank of Japan, the New York Fed, the US Treasury the IMF and the BIS. I might note that the IMF had published a report dealing with the Thai crisis in 1997 and some other events in 1997, that basically said that head funds really did not have anything to do with what happened. That is a kind of an unfair summary but probably that was the conclusion and in some ways the study group was a kind of ground hog day style revisiting this range of territory although the 1998 events rather than the 1997 events, So that was slide 33. If we pass to slide 34 we were specifically commissioned to look into allegations of aggressive trading practises, even manipulative trading practises in some views and these are the sort of things we heard about, without commenting on whether they actually went on or not, this is what we heard about. We heard about trading at quiet hours. So wait until the market has kind of gone off to lunch in order to put through a deal in order to achieve maximum effect was the interpretation that we heard. In the case of Australia there were stories about how people in the market were told that some big money was coming in to short the Aussie dollar and you know stand back was the interpretation. In Hong Kong there was the so-called double play and under the way the

Hong Kong authorities were interpreting the currency board in those days a short spot sale of Hong Kong dollars against the US dollar could essentially wipe out the reserve base in the banking system and send interest rates spiking until somebody essentially did an offsetting transaction bringing exchanging dollars for Hong Kong dollars and these interest rate spikes could be quite dramatic and were quite predictable as well and the allegation was that market players would put on a short position in the stock market either through cash or stock index futures in Hong Kong and then sort of do the hammer trades of shorting the Hong Kong dollar spots so interest rates go up and the stock market would fall. So even if you did not undo the peg of the Hong Kong dollar to the US dollar it was alleged you could make money on this sort of double play. There is also allegations in different markets of what you might call an extreme form of talking your book. Talking your book is just the normal traders habit of describing why the position that he has on is obviously a good one so as to persuade others to do likewise so that he could make money on it and it was said in some markets that large financial firms would take a position and then have their economists kind of go out and write analysis that would draw people into that position and indeed there was a whole congressional hearing last week in the Enron case in the United States about why it was that the analysts, the stock analysts in this case had by buy recommendations on Enron practically up to the day it filed Chapter 11 and there is some suspicion in the mind of some senators that there was this same sort of compromise of the integrity of the economist research. You can imagine. So that is the sort of thing that we heard about in this group. Some of my colleagues were more inclined to take these allegations seriously than others it is fair to say. In slide 35 we get the response of the Financial Stability Forum working group. It cited the risk that market integrity may be compromised by aggressive trading practises and it suggested to the industry in fact that it pulled together some guidelines for this sort of behaviour, essentially add to things like the ACI model code and on slide 36 ... (intervenes).

Mr McCauley did the working group itself not put in place regulations or guidelines after its work, did it leave that to the industry? --- It did. It called on the industry to clean its stable.

When you say industry please define industry? --- Sorry?

Could you define industry? --- Well we will see who responded in a couple of slides if I could ask you to wait. So the industry response on slide 36. They are describing themselves as major commercial and investments banks. The collaborated in drawing up these guidelines. The collaboration was facilitated by some central banks they confess and the guidelines have been discussed and endorsed by the bodies which are responsible for foreign exchange market standards in the main financial centres. So indicating that they are speaking for themselves but there are some acceptance of these new forms by say the foreign exchange committees in London, New York, Singapore, Hong Kong and so on. Trading principles on slide 37, I am not sure I need to go through them all but I guess it is - this is one that is kind of interesting in this context. Foreign exchange managers have a particular number 2 here. Responsibility in the execution of orders at volatile times. Intermediaries should take care to discuss with customers the risk of operating in these environments and the possible scrutiny of actions. Market makers may reserve the right to refuse customer transactions that they feel may further disrupt or have the intent to disrupt the market. Of course they are stating the obvious at some level you may refuse to do a transaction. On slide 38 more trading principles. There is, at the end of this slide it says. In particular caution should be taken so that customers's interest are not exploited when financial intermediaries trade on their own account. This is known in the business as front running. You get an order and before you execute it for the client if you suspect it is going to move the market against the client maybe you get yourself there first and this is not appreciated by the customers as you might imagine. Slide 39 we are talking about research. Principle number 5. Institutions and other trading organisations should be attentive t all times to ensure the independence and integrity of any market related research that they publish. And something more on rumour mongering. Slide 40 addresses manipulative practises without defining it and there is a particular principle with respect to some games that can be played with these new electronic brokering. Slide 41 answers the earlier question about well who is the industry, in this case you will see the institutions that signed on to these trading principles, including one major institution headquartered in this market. So let me try to summarise this section in slide 42. What we have got here is an interaction of market participants and officials to in some sense set rules for govern, well grandly perhaps, financial markets and it is not a kind of securities exchange commission style response it is much more light handed. The long standing industry associations define good practise with no power of enforcement but what we have seen in the last few years is a slight development of this model where you get this sort of official body drawing the industry's attention to perceived weaknesses in the rules and inviting the industry to define rules where there had not been defined rules before.

Mr McCauley the lawyer's question, all of this sounds very nice, these codes but what about enforcement? I have spoken to a trader recently who will later testify and he tells me that as far as he is aware when traders are appointed they put the ACI code before them and they have a look at it and they sign and they never see it again, that is the end of the story. Do you have knowledge of the implication, the enforcement of these trading principles in the financial markets? --- Well it certainly varies. It would be a very strange financial firm which does not have pretty well defined rules on personal account trading for instance, but you know as for the strictures against things like front running or having your research conveniently support your positions or the like you know I suspect that this is still work in training.

Would it be fair to say that the enforcement part of these codes is a process that is still incomplete and insufficient in many respects? --- I guess that is one view. You could say in lurking behind this sort of process is the implicit thought that if the - if events continue to generate seemingly well founded reports of aggressive trading practises and if the view gains weight that this sort of process has not done the job then the implicit thought is that there is something else back - behind this sort of process that it could kick in.

MS QUNTA: But right now you know my impression is from what you are saying is that this is actually a voluntary code, there is no sanction, there are no sanctions that have been written in and it really depends on the goodwill of the institutions that have signed it. So there is not even a question of a reporting mechanism is there? So it is something very loose and perhaps ineffectual therefore? --- I will not join you in that final judgment but I agree with your characterisation madam commissioner.

MR POTGIETER: Yes you can continue. --- Perhaps it is hard to imagine but responsible parties in the industry have sort of recognised that there are limits and even if the green trader does not have much of an appreciation of those limits the more experienced people on a trading desk I think are aware that some kinds of behaviour could end up putting them in the glare of some unwanted publicity.

Yes, could you move on to the fourth section on page 43, slide 43? --- This is 43? So the impossible task of distilling for you 300 years worth of thinking on exchange rates in 18 minutes, I should not waste your time. Let me say I am going to talk about inflation, I am going to talk about export prices, I am going to talk about interest rates and I am going to talk about portfolio shifts including leads and lags. Slide 44 please. So exchange rates and inflation. Okay what is inflation it is the general rise in prices, everything is going up or the other way of thinking about it, it is a particular fall in the value of the currency in purchasing power terms those are just different ways of looking at the same phenomenon. Now cutting to the quick. The internal purchasing power of a currency and its external value, that is its exchange rate are broadly related and they tend to move over time together. So for instance the observation that South Africa looking at it historically has had a faster than average inflation rate and that the Rand has had a declining trend against say the dollar or against weighted average basket of trading partners currencies or whatever, those two observations are consistent with the view that the internal purchasing power of a currency is related to its external purchasing power and one of the ways this happens is what economists calls the law of one price and what that means is that absent some government intervention prevents it you will typically find that the price say of a bushel of maize in Chicago is different from the price of a bushel of maize in Johannesburg by something less than the cost of shipping that bushel of maize from mid-west to South Africa or vice versa. That is the law of one price is essentially sort of an arbitrage notion that if you say that the law of one price does not hold and you can prove it by going out and making some money, taking things from place A to place B. You have to recognise that there are limits to this and economists distinguish between traded and non-traded goods. Things that are kind of impossible to transport from A to B as opposed to things that are difficult or impossible to transport. And the haircut that I bought a block from here on Saturday falls into the category typically of non-traded goods. That is to say sitting in Hong Kong as I usually am it is impossible for me to benefit from the lower price of a haircut in Sandton than in Hong Kong and just out of interest you may wish to know what the purchasing power difference is as between Hong Kong and Sandton. More or less you know equivalent sort of haircut, same sort of place, same sort of music and the difference is about one to three and I did another experiment this morning by going across the street and buying a cappuccino so I can report to you that a cappuccino purchasing power of the Rand and the cappuccino runs R8,00 and let us say the cappuccino in New York or Hong Kong is equivalent to US$2, so I conclude from that that the sort of cappuccino purchasing power of the Rand is R4,00 to the dollar. That is the exchange rate I need to go back and fourth and have the cappuccino, if that is the plural, cost the same thing. And of course you know that the market exchange rate is different from the purchasing power exchange rate for haircuts or cappuccino and the market rate is 11.3 so that is more or less the three to one. So I observe based on N equals 2 careful empirical analysis that while the law of one price may hold in traded goods or there may be a strong tendency for it in traded goods that in non-traded goods like haircuts and coffee it does not hold and there are substantial differences in levels and I dare say in changes as well. So let me pass on to slide 46, exchange rates and interest rates, and give you a similarly hitchhikers guide to the literature on this and again the currency with a higher than average inflation ... (intervenes).

May I interrupt Mr McCauley, did you deal with slide 45? --- Excuse me, okay excuse me let me deal with exchange rates and export prices, not to short change. Slide 45 please, excuse me. Okay here is the proposition. Better prices for a country's exports will tend to strengthen the currency. Not just any export, like the important exports of a country and why is that. Well I think it is, this is true particularly of commodity exporters whether you are talking about Canada, Australia, New Zealand or South Africa and so what you find is if you put together an index of the commodities that these countries sell, for New Zealand it is wool and timber and for Australia it is coal and meat and anyway different baskets mind you appropriately constructed, that these exchange rates over time have tended to rise and fall with their major export prices and I think that is because the variation in the amount exported from year to year is kind of small relative to the variation in the prices at which these commodities are exported. So the prices go up, there is generally more export value and that means that the producers are eventually spending more in foreign currency to buy the domestic currency which will tend to push up the currency on a simple supply and demand sort of basis.

Would it be correct to say that the enhancement of the exchange rate is really linked to the total volume of the exports in a sense. Total amount of your exports, rather than the rising in prices? --- The rising prices is the driving force behind the greater revenue given that the quantum tends to evolve more stably over time.

But what you are saying is based on the assumption that the volume of exports would remain consistent from year to year in general. --- Yes and you can think of exceptions for instance a killer frost in Brazil wipes out half of the coffee crop while the price of the coffee beans may rise quite a bit but may not rise enough to off set the effect of the frost in Brazil, it would help El Salvador but not the Brazilian Real in those circumstances. So if I may pass to slide 46, exchange rates and interest rates. Again a currency that has higher inflation than average and therefore is showing a depreciating trend over time, how does a currency like this earn and keep friends. Friends in the investment world that is and the answer is it does that by offering a higher interest rate, and the logic of this is that why would I want to hold a currency that is pending to depreciate if I am a non-resident. Well the answer is you would be happy to do it if the interest rate sort of, a wedge, if the interest rate spread is wide enough. So you may figure that over time you may well lose as the currency depreciates but you are sort of compensated for that up front in the form of a higher interest yield. We can then talk a bit about what is meant by monetary tightening and that in the case of South Africa would mean that the purchase rate at the short end of the yield curve, the sort of very short term money is raised, that would be termed a monetary tightening and the thought is that that would tend to support the exchange rate. This is you might say a central banker's common place and I will talk about qualifications to it in a bit but the notion is if your currency is under attack or is falling and you do not like that one of the things that you can do is hike the interest rates and that will make your currency more attractive for people to hold. They may still worry about the depreciation possibility but at least they are getting more yield up front and another way of looking at that is by raising the short term interest rate, you are going to make it more expensive for somebody to borrow the currency and sell it in the market or that is to say short the currency, it will be more expensive to do that with the higher interest rate. So whether you look at making the currency more attractive to hold or making it more expensive to short you get to the same place which is an interest rate rise sort of in principle generally thought to support the value of a currency. Now let me come to exchange rates and portfolio shifts on slide 47. I have to tell you that there are some people who poo poo the importance of portfolio shifts. You will find out that I am not among them but I have to warn you that the profession is far from united in this matter and I may not even represent the sort of the average view of economists on this one and the basic proposition her is that the - if either non-residents or residents suddenly decide that they want a higher fraction of assets denominated in a given currency then the tendency will be for that wish to be satisfied by that currency gaining in value or the underlying assets gaining in value or both. So the thought is that if suddenly the rest of the world decides it wants to have more Rand assets then the way that demand will be satisfied will be largely through a reappraising of assets that already exist and in particular higher Rand and perhaps higher stock market or bond market values as well. And so that is the proposition and you know it has lots of variations and you need to be able to sort of recognise the argument when you hear it. So how can a portfolio shift away from the Rand happen. Well it could be, what would be the underlying transactions, you might see they give evidence of this sort of portfolio shift. You might see for instance outright sales of equities on the JSE by non-residents or they might sell government bonds here that they hold or they might sell the Rand forward against the dollar. Of course the thing is you can generally see, you get some reporting on whether the foreigners are buying or selling on the stock market but there is no sort of centralised exchange where you learn about whether foreigners are selling the Rand short. So it can happen in various ways. Now I think at the risk of belabouring a point I think it is useful to sort of acquaint you with the broad facts of the matter in terms of two portfolios on slide 48. And these are not drawn to scale. In particular the small circle would probably be smaller in relation to the large circle. But what you should understand I think as you consider what happened to the exchange rate here, you should have in mind two portfolios and you should think about what people are telling you in terms of what is happening in terms of the desired allocation of these portfolios as between Rand assets and assets dominated in all other currencies. And on the left here we have the, sort of the rest of the world's portfolio and that thing must be measured in the tens or perhaps even hundreds of trillions of dollars US, that is a big pile of financial and non-financial wealth that is out there in the world and in that portfolio there is an allocation, not centralised, but just abstract for a moment from all the different players and all the different countries and financial institutions as opposed to direct holdings and all the rest of that. Just to abstract from that for a moment. In that portfolio there is a tiny allocation to this country. That allocation has got to be less than 1% of the portfolio. So the GDP share of South Africa in the world might be something like a ? of a percentage point, so you might think of that allocation as being perhaps not far from that sort of percentage. So basically when you think about what the non-residents are doing and you will hear statements about you know how they can tell one country from another and you hear that and you think that is a God awful thing to imagine that the people responsible in part for the value of our currency could not find us on the map, a scary thought but - and I am not offering an apology for such ignorance but you recognise what you are sort of up against here is these are people who by the time they get to deciding how much money to put here have really made all their important decisions already. You know the decisions how much to put in stocks versus bonds, how much they think the text stocks are worth as opposed to railroads and all those myriad of sort of considerations that happen all before and then sort of down to you know the emerging markets and then they are down to Eastern Europe, middle east Africa and then they are down within that to this country allocation and you know at that point yes it could be frightening how the decisions may be well or not well informed but understand it in the context. Now over here on the right-hand side if sort of the South African portfolio. Now if you belief the exchange controls have had any effect at all and I think there is evidence that they have, what they have done over time I think is to constrain that green slice there which is the foreign asset holdings of the sort of abstracted South African portfolio. So that share is full, I am not sure what the number is, there are certainly people better informed than I am, that share might be say 10% of the overall portfolio has been allocated to foreign assets and that may be against the desired share that is some multiple of that. So these are sort of the two portfolios that you need to keep in mind as you think about the portfolio shifts and how they affect the Rand . If you turn to slide 49 I want to introduce you to something that really is a portfolio shift but does not seem like one. It turns out to be a rather important one and this is a portfolio shift that comes, may seem kind of incidental to some other activity. Exporters from South Africa or any country have to decide when to sell the foreign exchange for domestic currency and importers have to decide at what point they sort of nail down the costs of their foreign exchange in the pursuit of making a buck and both of these categories of traders in real goods are operating on credit to some extent and they can basically bring back the money sooner or later if you are an exporter or lay down the cost of your foreign exchanger sooner or later if you are an importer and what you have to think about is the the importance that just a change in these financing terms, the rate at which these transactions are made, how big a difference that can make. Basically if something happens where the exporters decide well let me just leave those dollars as dollars for a while and not convert them into Rand and at the same time the importers are thinking gee I better nail down the cost of dollars sooner than later, let me go get a forward contract with my bank. A lot of money can move on that sort of decision, so it does not sound like a portfolio shift, it does not have the aspect of some investment manager sitting in front of a screen or something but it has that same effect and that is an insight that is perhaps not obvious. What that means in a certain sense is that your usual way of thinking about some people as being involved in goods transactions and other people being involved in financial transactions that is actually, that distinction is a little more slippery than you may have thought. So with that come to the close of a necessarily highly selective and rushed view and there are many other views that would be useful to know about exchange rates but I think all of those propositions and I should - that higher inflation other things equal means more likely depreciation of the currency than higher export prices are good for the currency that interest rates have to be higher to reflect expectations of currency depreciation and that portfolio shifts can make a substantial difference to the value of a currency especially in the short term. I think those are all thoughts that (inaudible), please.

Mr McCauley you revert to slide 43, you were talking for the last 15 minutes or so on factors that could influence exchange rates. Now the first one that you have dealt with is inflation and you have dealt with a number of others and I am sure there may be others. Now in so far as - would it be prudent to target inflation and only inflation when it comes to exchange rates? --- I represent an organisation whose basic MO is to bring together policy makers who have different views on questions like that and let them learn from one another, so the spirit of the organisation that I represent makes it very difficult for me to answer a question like that to tell you the truth. I will say that in a discussion as recently as last month in Hong Kong there was no central banker present who would say that I do not care about the exchange rate. That even the most hands off of the central bankers represented would not say that. But I will come in the last section on exchange rate management to the relationship between inflation targeting or concern about inflation more generally and concern about the exchange rate. I thin suffice it to say that in practise, in the part of the world I am watching carefully the inflation targeters do have a concern about the exchange rate. Those two things are not necessarily ... (intervenes).

Exclusive. --- Antithetically, they are mutually exclusive. Exchange rates and contagions slide 50, again in response to your request, what is contagions, how does it affect a country like South Africa. I am not the best evidence on sort of how the thing has affected this economy or its currency in particular but I can give you some general thoughts on contagion from a number of contacts. Now contagions is one of these terms that economists will and market participants will use that sort of make it sound like they know what they are talking about, because they pull the words from somewhere else and yet maybe you do not know what they are talking about. In particular this is a medical term right and in medicine with exceptions I suppose generally there is not action at a distance. That if you are going to catch something from somebody you need somehow to have come into contact with that person or that bug or whatever, so the imagine of contagion suggests you know things kind of coming together in time and space and that is how contagions work but in - as people use it in financial markets it is not like that. It can be a very loose analogy and where there is no contact in effect. So slide 51 will distinguish between contagion based on trade links contagion based on similarity and contagion based on a funny concept of sort of who owns the security, who owns the financial instrument and the profit and loss of that investor. So before explaining each of those I will just comment that the first is clearly observable, the trade flows between two countries or those countries to a third country can be measured, this whole thesis have been done on that sort of contagion. There is the second on similarity is really a much loser sort of notion of contagion and there it is sort of in the minds of the market participants, what makes one situation similar to another. I mean not to suggest that it is you know necessarily unfounded but it is not necessarily kind of a hard fact the way trade flow is and then the final one is profit or loss of other investors. They sort of teach you in the finance schools that the risk in an investment comes from whoever has issued that investment. So the risk of investing in a particular company depends on that company's business, its competitors, its management, you know all of the standard things but what I mean to suggest here is that there is another risk here that comes from investing in a security - in an instrument that comes really from who else holds that instrument and what is happening to them. Because there are things that can happen to them that leave them unable to buy or sell or force them to buy and sell as I will discuss. On slide 52 the contagions through trade links, so it is very simple. If country A and country B compete in world markets say selling the same item then if the currency of country B depreciates then there is going to be some kind of pressure on A. In particular A will lose what we call competitiveness and to give an example of that for instance think of Australia versus South Africa, both are exporters of coal say to the world market. What happens if suddenly the Australian dollar falls by 10%, in that case the Australian coal producer can accept a lower dollar value for his coal exports than he could before and still make a profit. So essentially the Australian coal producer by virtue of cheaper Australian dollar is now in a position to undercut the South African coal producer and so that may make it harder for the South African coal producer to sell the coal or may force the producer here, the miner here to cut the price as well and to cut price in either case you are talking about lower export revenue for South Africa which can put pressure on the currency. Now you can think of this as happening in political terms like the miners you know asking whoever has influence over the exchange rate to help them out or you can think of this as a market process and it is generally a market process. So that is kind of contagion through trade and people understand this so well that they do not sort of wait for it to actually happen. If one currency falls they can kind of telescope all of that and process and think well gee it is a good idea to sell this competitor currency immediately. You know you do not make money in the financial markets by waiting for reality to set in, you make money by anticipating that reality and so then we pass from that which is pretty straight forward and pretty well grounded to contagion through similarity and that is on slide 53 and I can distinguish at least three kinds probably more economic circumstances. So something happens say the Mexican Peso tanks and people sitting in New York and London asks themselves why did the Peso tank and they come to some conclusion. Maybe the right answer, the wrong answer, but they come to a conclusion they say the Mexican Peso tanked because the Mexican authorities were trying to keep its value against the US dollar stable and that was a mistake or untenable at least and also Mexico ended up with a very wide current account deficit. It was importing a lot more than it was exporting and these two things they conclude are why the Mexican Peso tanked. Now who else around the world is maintaining a currency stable against the US dollar and running a big current account deficit. You know they just sort of run this and you know your research assistant comes back and says well it is Thailand that fits the circumstance and you say well okay let us take our money out of Thailand or let us short the Thai Baht and either of those transactions one perhaps a hedging transaction, the other a naked short have the same effect of bringing pressure to bear on the Thai Baht so that is economic circumstances. You basically think you know what just happened to country A and you look around for countries that are like country A in some fashion. Now an asset class, this is a tricky business, I already eluded to sort of where South Africa is. It is a very weird collection of economy. The eastern Europe, middle east and Africa, but that is an EMEA, you know that is sort of where you are in the asset classes, equity managers and you know that sort of lends. Now what can happen. Well somebody can say well I do not like emerging markets so much, so they withdraw from all the merging markets including some of the money they have in South Africa or they can say well gee I like Lat Am, Latin America better than EMEA so I am just going to just reallocate money from one you know, two, three continents over to one continent. Or you know something can happen in Latin America, that makes somebody conclude that you know all emerging markets are more risky than I understood, for instance and then they withdraw you know proportionally from all of them. I am not saying this is the exclusive way things work but your economy is in a bucket and people act on buckets as well as countries is the thought. And then finally there is the policy or regime so that in 1997 when the Thai Baht came under pressure the same time the Czech Crown came under pressure you ask yourself well wait a minute there is no trade between Czech Republic and Thailand to speak of, you know there is no trade link here, they do not - they export the same thing what is the connection at all. It turns out that both of them were sort of running a basket peg the Thai largely against the dollar and the Czech Republic more against than the Deutsch Mark but it was sort of the similarity of the way they were operating their exchange rate policy sort of was the thing that people acted on or similarly Argentina is in the tank people worry about Hong Kong. It is a very different place mind you but they both have currency boards so they share a characteristic in terms of policy. So those are all different ways that similarity can work contagiously and finally the contagion through profit or loss. Now one way of looking at this is if you lightened up on your holdings in Finland in late 1991 before they devalued the Markka or you sured the Markka before they devalued the Markka then you have got some extra money from that one and then you think to yourself well who is next, and you say well Sweden has got to be next that is trade links. But you have got a little more to play with at this time than you had when you went sured on Finland because you made money on Finland. In fact what you often see in sort of strings of devaluations is that it sort of starts at the outer edges of a system and then sort of works into the middle. You start with Finland, through Sweden, UK, Italy and then the attack comes on the French Franc sort of dead centre in Europe and all the way around the spiral there are people making money on this - on these kind of short transactions who have got more money to bring to bear on the next one. So it can work that way. It can work even more that way if you are doing it with borrowed money to some extent. Now to be more concrete here what we heard in about the 1998 experience was that there were big funds that had taken short positions on the Yen and in 1997 and the Yen had been falling in 1998 and so they had been making money on that so-called Yen carry trade basically shorting the Yen against the dollar and these same fund managers we were told then put on further trade, some of them like to just short all the commodity currencies so they shorted the Canadian Dollar, shorted the New Zealand Dollar, Australian Dollar and the Rand and - but they had sort of to play with in that because they had already made the money on the Yen we were told.

Now it seems to me some of the strongest evidence we actually saw, although it is entirely circumstantial Mr Chairman was on the flip side of that trade, in late 1998 so at the bottom of slide 54 when the Yen recovered sharply in the end of August about the same time the Malaysians had imposed capital control, the Hong Kong government waded into the stock market to buy and rush into - you now lots of things going on at that point but one of the things that went on importantly is that the Yen started to rise after having fallen and fallen and fallen and it rose again in early October, 7, 8th October, some of the biggest moves were seen in exchange markets and what is remarkable is that if you look at the charts then for any of the commodity currencies you see on those days that the Yen was rising and inflicting losses on those who had been just riding the short Yen position to (inaudible) that on those days you get a pop in Euro currency, the Australian currency and so on. Let me take you to slide 55 one of the funds which we just happen to find information on ... (intervenes).

Mr McCauley are you talking here about the situation where investors would have taken a short position on the Yen, now they are all of a sudden, they expected the Yen to depreciate? --- No there is two ways of making money on that. One is the Yen interest rates are very low so if you think of like borrowing Yen and buying dollars then you are making money just on the interest rate differential and there is a lot of gravy in this even if the Yen is just stable. The Yen as to appreciate in order to take the juice out of this trade and if the Yen depreciates then that is even better. Yes.

And what then happened is it went the opposite way? --- It went the opposite way.

It actually appreciated. --- That is right and ... (intervenes).

And therefore they expected, they did suffer losses. --- They did suffer losses and right on this chart we have the nett asset value of a particular fund that we have reason to believe was short the Yen and sure enough value of the share in this so-called Jaguar fund dropped sharply. Thank you yes. So go back to the end of August and lots of things going on, are to be sure, but here the nett asset value of the Jaguar fund and here is the Yen, the dotted line and then again 7 and 8 October you get the Yen falling - rising excuse me sharply, this is stronger Yen is in the down direction here. The Yen rallies, appreciates sharply and the fund loses a lot of money. So the fund and the shareholders gets some bad news here basically because the thing was at 1800 and it ends up by October/November it is down here at 1300. So this is for instance an art type. The fund that had shorted the Yen and turn off the Yen rally imposes losses on the fund and its shareholders. Next slide please. So now we turn to the Rand, look for the same days. Yes there we are. Here is end August, here is 7 and 8 October, the scale here has a stronger Rand in the downward direction, few Rand per dollar and what you see is the very days when the Yen is rising inflicting losses on those who had been shorting it for months if not years, those days the Rand rallies and the circumstantial evidence that the managers of such funds had not thought that they were going to lose money on their Yen trade at anything like the speed that they had, you know they had these value at risk models, they have some idea of how much money they might lose, but the Yen movement was sort of way up there, one of these five sigma events that keep happening, one of these very unlikely things the statisticians had told them and so suddenly they get a loss far larger than they could have imagined and what is the reaction, the reaction is gee I am not sure I understand the world and perhaps it is time for me to trim back some of my positions elsewhere and to trim back a short position means to buy Rand, buy Australian Dollars and that contributed I think to the rally in both this currency and in the next slide 57 please, the Australian Dollar perhaps you see it even more ... (intervenes).

Could you just explain this seems to be the mirror effect of the previous slide Mr McCauley. --- Yes I am sorry here the Australian Dollar is quoted in US cents per dollar like the pound is in US dollars per pound so the convention is the opposite, more US cents per Australian Dollar is a strengthening. Higher, going a rise on this chart is a strengthening of the Aussie dollar and you see right there at the end of August 1998 and 7 and 8 October 1998 a pop there and you get a pop in all of these commodity currencies and again circumstantial evidence at best but the notion is that somebody holds crew of people, fund managers who took the losses on the Yen are sort of reducing their positions elsewhere. So that is a very funny form or contagion right, why should the Rand strengthen when the Yen does, I mean you ask yourself that question as sort of a macro economist you come up short again and again and again but maybe there is this connection through the portfolio of people that had positions on in both cases. So mixed blessing of liquidity, then the line is in the global foreign exchange market the market for Rand is not big, or big enough and what is the sense of big enough, is the mixed blessing of liquidity. Liquidity is generally a good thing, we are all in favour of it. I would not say it is like motherhood and apple pie but it is a good thing in general, more liquid markets are better performing markets and they serve economies better.

MR ___: No, no we are on slide 58. I am sorry Mr McCauley carry on. --- But sometimes especially when markets are strained what you see is very hard to sell the things that you want to sell but under those circumstances you may sell the things that you can sell and that will be the more liquid instruments. So it may well be that if you in your asset class are a more liquid market than many that in general that is a good thing but it may mean at a particular time that you get the selling that really was intended for somebody else and they hope - they sell what they can and hope that there is a kind of correlation between what they wanted to sell really and what they did sell.

Simply because South Africa has more liquid currency? --- That means that under strained circumstances you may get selling really ... (intervenes).

What was intended for someone else. --- Reflects the desired portfolio reallocation away from somebody else and so that is the mixed blessing and there is element of this in Hong Kong and Singapore as well. You know Hong Kong is one of the most free and open foreign exchange markets in the Far East and they feel like, so they end up carrying a lot of baggage for their neighbours who have more restraints on non-resident participation in their markets. And there is a further angle to this, South Africa has the benefit of having a deep liquid market for government securities. On world standards it is really quite an achievement, you may or may not appreciate it but for a market of its size it is remarkable that things like the 150 bond can be traded in the sort of volume that it can be. Well that is again a mixed blessing because you are one of the few markets sort of in the emerging basket where - that have longer term bonds, that have any liquidity at all, so that draws extra transactions here. Generally a good thing but sometimes it will work against that bond market and the Rand. It certainly did in 1998. So I close the section on contagion with the suggestion it is a very strange beast when you think about it. Parts make utter sense and well grounded in reality and other parts of it that have a lot to do with perception and then connections that are in some sense not fundamental at all but connections through portfolios that is very hard for people to track and certainly almost impossible to anticipate.

CHAIRMAN: Right shall we adjourn before we get onto chapter 6?

MR POTGIETER: It will probably take you another half an hour or so to conclude? --- You tell me how fast you would like this last section, I will do it.

CHAIRMAN: No, no I think let us adjourn and do it properly. We will adjourn until 14:00

COMMISSION ADJOURNS.