Summary of Panel Discussion from the "Workshop on the Counterparty Risk Management and Application of CVA"

The Bank of Japan held a "Workshop on the Counterparty Risk Management and Application of CVA" on June 14, 2010. Below is a summary of the panel discussion from the workshop.

Note: The Purpose of the panel discussion was to freely discuss Counterparty Risk Management and Application of CVA. The views expressed by the panelists do not necessarily reflect the views of their respective organizations.

Panelists:	Ms. Kayoko Yamanishi, Senior Vice President, Financial Market Credit Group, DBS Bank Mr. Bart Piron, Principal Consultant, Algorithmics Mr. Hiroki Tomiyasu, Executive Director, Counterparty Portfolio Management Group, Morgan Stanley MUFG Securities Mr. James Lee, Director, Head of CVA trading Asia Pacific, Citigroup Mr. Nathanaël Benjamin, FRB of New York Ms. Tomoko Morita, Policy Director and Head of Tokyo Office, ISDA
Moderator:	Mr. Hiroshi Ugai, Head of Center for Advanced Financial Technology, Financial Systems and Bank Examination Department, Bank of Japan

○ Debate on application of CVA by Japanese financial institutions

(Mr. Ugai)

I would like the panel discussion to consider what stance Japanese financial institutions should take on CVA in the future. When we investigate how to reflect CVA in transaction prices and to use it to manage earnings and risks, there appears to be deep-seated opposition to CVA among Japanese financial institutions, primarily because of the costs of introduction as compared to the perceived business benefits. I would therefore like to begin asking the representatives from private financial institutions if they could describe what they think are the main benefits of introducing CVA at Japanese financial institutions and what issues they think need to be addressed before CVA can be introduced effectively.

(Ms. Yamanishi)

Engaging in OTC derivatives trading without calculating CVA seems to me to be like walking around with a blindfold, as if the trader were to begin trading on the Tokyo market without knowing the previous day's closing prices in overseas markets. If, for example, you are active in derivatives trading through overseas branches, or if you have lots of dealings with hedge funds and foreign banks even on the Tokyo market, it can be particularly dangerous to engage in trading without making use of CVA information which tells you how others price the credit risk. Even if you choose not to actively manage CVA risk, one of the benefits to measuring CVA is, in my opinion, the ability to eliminate such danger.

Sooner or later you will have to explain the benefits of introducing CVA to the senior management and convince them. The implementation of CVA would require initial investments and ongoing costs, as well as consideration to potential impacts from a new way of thinking toward profit to the business strategy, actual business environment you are in, and how your profitability (performance) will be evaluated. The most difficult part of introducing CVA is therefore explaining why you should introduce it and convincing, but this is an essential process, and we could reduce the difficulties to some extent by lowering the hurdles of introduction,. One effective approach may be to adopt a phased-in strategy and shift towards full fledged introduction later on. Different banks and institutions will have different sizes of derivatives business and different types of transactions in their portfolios, and it may not be absolutely necessary to be able to calculate precise CVA for all instruments from the beginning. Perhaps, for example, exotic derivatives can be excluded at first. One realistic approach might be to limit the scope to selected types of instruments to create success stories early on from which you can gradually expand outwards.

(Mr. Tomiyasu)

The benefits of introduction are that you are able to manage the portfolio from the two perspectives of capturing earnings and absorbing losses (hedging and reserving against potential losses).

We experienced the financial crisis of 2007-2009, but during this period we were actually turning a profit in Tokyo. There were counterparty defaults, but our hedge positions yielded a profit, which gave us a total result that was above water. Up until just a little while ago, the dominant opinion was that, unlike Europe and North America, there would never be defaults in Japan, but when you introduce CVA you must, for example, hedge against deals like Japan Airlines and Aiful. I personally do not think we would have hedged at all had it not been for the CVA concept, and we would have chalked up large losses had we not hedged. The examples of loss absorption during the current financial crisis extend far beyond CDSs; there is a considerable volume of hedging on the commodity and foreign exchange markets, and hedges have significant impact. I think we achieved significant loss absorption thanks to CVA.

There are many reasons to think that the outcome could be awful if you do not introduce CVA. The Basel regulations, IFRS, and tax-oriented earnings recognition discussions all are moving forward on the assumption that CVA will be applied. There are also many transactions where, if you do not know CVA, you can be fooled and the content of the contract can work to your disadvantage. You have a sense of the prices offered by financial institutions. You can also tell whether the financial institutions in the bid are using CVA. And you can identify the quirks and peculiarities in the pricing of individual financial institutions. This kind of pricing that is based on an analysis of the situation is desirable as a means of improving competitiveness. You need to be aware of what is going on around you, not just arrive at your price with blinders on.

(Mr. Lee)

The most important point in the introduction of CVA is how you use it. This comes down to two questions: how you make use of scarce economic capital and what sort of pricing you arrive at based on CVA.

When you introduce CVA, you determine the capital allocation on the basis of counterparty credit risk ("CCR" hereinafter) to maturity for the OTC derivative contract. This idea is extremely important to optimizing the allocation of economic capital. It is a perspective that also feeds directly into the discussions of Basel regulations. When a bank is managed under the Basel rules, it is important to connect and integrate allocated economic capital, reserves against CCR, and regulatory capital requirements. At the current point in time, capital is a scarce management

resource, and there is a considerable amount to be gained from efforts to improve capital efficiency by using CVA to arrive at more precise pricing and by basing your hedging on CVA concepts. This process needs to some extent to move forward in pace with the progress made in the regulatory regime. However, from an economic perspective, we are moving in the direction of treating hedges against CCR on the trading book regardless of any changes in regulation. In a situation where you were unable to trade because you cannot accurately quantify the risks for a transaction that extends 20 or 30 years to maturity, you can use CVA to quantify risks for a 1 year holding period and then hedge against that, which significantly reduces the roadblocks. It also makes it possible to allocate capital more flexibly.

(Mr. Ugai)

I would like to hear a little bit more about the barriers to be overcome in order for Japanese financial institutions to introduce CVA.

(Mr. Tomiyasu)

I think the biggest is still explaining it to the executive officers and convincing them. And I think it will be effective to build up some sort of track record a little bit at a time. We began about 15 years ago just with interest rates and commodities. Initially, we only used CVA for interest-rate swaps, and it has only been rather recently that its application is expanded to more exotic instruments. Even if you start with very small coverage, there are certain to be effects, and once those effects are felt, it is much easier to move the conversation along in your direction. On the other hand, it is difficult to move forward with a major introduction when the effects are still not apparent. Since there are costs involved, the most difficult question to answer when you are trying to convince your management team and supervisors is why this is necessary. But as I said, there are significant benefits to its introduction, and I think the easiest approach to internal explanations and internal consensusbuilding is to begin with a partial introduction so that everyone can see the impact.

The first problem that you will probably encounter is the preparation of a wide variety of necessary data.

(Mr. Lee)

I agree with the opinions of my colleagues. In a phased-in introduction, the biggest point of discussion is how to size your initial coverage. Our research indicates that 80% of the CVAs to be charged are concentrated in 20% of transactions. For example, a foreign-exchange swap with a long term to maturity will have a relatively large CVA charge. CVA should initially be introduced for instruments associated with specific types of risk.

From there, I think it is effective to begin moving CCR to the trading book starting with instruments where effective hedges require only low trading frequency. And even here, you need to move forward gradually, taking one step or one instrument at a time.

○ Issues raised by counterparty risk management at European and American financial institutions

(Mr. Ugai)

Our remaining speakers today come from the supervision and regulation of private financial institutions in Europe and North America, the promotion of market practices, and consulting. I would like to ask them to speak from their professional positions in order to consider how CVA

can be applied to Japanese financial institutions. First, I would like to ask you to identify issues that even financial institutions practicing advanced counterparty risk management need to resolve which you think will be of reference to institutions that have not introduced CVA. Second, I would like to ask you to describe the distinguishing features of the business models and risk management practices of European and North American financial institutions that have yet to introduce CVA and explain what is expected of their risk management.

(Mr. Benjamin)

Something that many large financial institutions have in common is that there is a CVA desk to provide centralized management of the counterparty risks generated by individual business units. Such CVA desks are typically subject to standard market risk controls, like other trading desks.

Whilst normal trading desks have their own trading mandates, it is necessary to consider the particular nature of CVA when deciding on the trading mandate of the CVA desk. CVA is specific to counterparty risk and is not an asset class, or a type of securities. CVA is a credit risk adjustment to the value of underlying assets. As a result the methodology to hedge CVA sensitivities, and the financial instruments used for this purpose, may need to differ from standard hedging techniques, for example in terms of the order in which sensitivities are hedged. In addition, the risk of changes in CVA should be considered together with the risk of changes in the value of the underlying derivatives. Many large European and North American financial institutions are currently actively hedging CVA.

I am not aware of examples of large European and American financial institutions that do not apply CVA. There are a few large financial institutions that calculate CVA using historical parameters rather than spreads, for example as in the approaches used to calculate credit risks on the banking book. In these cases, the important question is the extent to which available market information is used to determine CVAs.

For financial institutions that do not calculate CVA yet, the importance of CVA can be explained not necessarily in terms of accounting requirements but in terms of the following two points. First, are you able to capture the value of a derivatives portfolio in all its risk dimensions appropriately without using CVA? If counterparty risk materializes and you have not been reflecting that risk dimension in the pricing until then, it is already too late and you may be forced to quickly recognize an extremely large loss. This should be avoided. If something like this happens, this can negatively affect the market perception of your financial strength, and lead to strong reactions from your counterparties or the market. Second, there is the perspective of the market as a whole, in terms of its transparency. Analysts and market players should be able to see clearly where the risks lie in the B/S. There is a negative impact on the bank if analysts are unable to do this.

(Ms. Morita)

I would like to respond to the first point only. If you have a collateral agreement, the CVA calculation reflects the CCR mitigation effect of the collateral. However, in practice, there are cases in which the actual collateral management is not appropriately reflected in its CVA calculations. For example, let's say that you deliver and receive collateral every day under a collateral agreement. Any disputes between the parties regarding exposure or collateral value must be resolved as quickly as possible. If they are not, the risk could keep increasing. However, there are cases that the internal framework for a resolution has not been built (for example, cooperation by front office) or the relevant support system is unable to adequately respond.

On the systems side, it would be desirable if the entire industry had a uniform approach to the nuts and bolts of collateral management, but in actual fact, not all firms use the same system,

which are interoperable. This results in problems just for the simple reason that there are differences in system specifications, so you are unable to make quick margin calls or cannot exchange valuation data on a timely manner. I think there is room for improvement on this front.

(Mr. Piron)

One of the features that distinguishes financial institutions who have successfully introduced CVA is that they already had the capacity to run CCR simulations well before they brought in CVA. With respect to the question of how much work is required in total to introduce CVA, I would say that you have covered 80% if you are able to fully simulate CCR on the basis of all CCR reduction approaches, including the use of credit support annexes (a standard collateral agreement attached to a ISDA master agreement; "CSA" hereinafter). The remaining 20% involves reflecting the probability of default (PD) that is implicit in CDS spreads, etc. In other words, if you are able to automate the simulation for all counterparties and this process functions well, you are already most of the way there. But for many financial institutions, it is difficult to take account of all CCR reduction approaches. The amount of work required to take account of CSA agreements is particularly large, but you must account for them because the exposure reduction impact from CSA agreements is also large. For example, a standard CSA agreement can reduce about 84% of exposure for a typical portfolio. The financial institution that is unable to account for CSA agreements is, from a global perspective, classified as a laggard.

Having said that, the number of banks who have not completed the transition to CVA calculation at the current point in time is in fact higher than the number of banks who have completed it. For banks who have not completed the introduction of CVA, setting limits remains an effective CCR management tool. Setting limits is far better than doing nothing, but far worse than CVA. I would like to make two points regarding limits. The first thing you need to do is to ascertain the counterparty's risk appetite. Unlike CVA, continued monitoring is required because you must reset your own limits in light of changing counterparty risk appetites if there are rapid changes in the market. By contrast, CVA adjusts this automatically. CVA changes to reflect changes in spreads because of changes in market conditions. This is one of the disadvantages of setting limits. One other point is that if all you do is set limits and you do not charge the dealing desk a cost of capital commensurate to CCR, dealers will naturally try to increase their trades up to the limit. They will probably quit trading once the limit is reached, but in that process there are no incentives corresponding to the increase in CCR. There is no distinction between wrong-way and right-way deals, nor is there any differentiation between counterparties with different creditworthiness. So setting limits is a greatly inferior alternative to CVA, but the unfortunate fact is that most banks are still stuck at that stage.

○ Impact of regulatory trends on CVA introduction

(Mr. Ugai)

I would now like to open it up to the floor for opinions regarding the discussion to this point in relation to risk management at Japanese financial institutions. I am looking for opinions on questions such as how Japanese financial institutions manage risk of derivatives trading in actual practice; why they are unenthusiastic about introducing CVA assuming that to be the case; or conversely, if an institution is actively working on or beginning to work on CVA, what were the particular points of view that were emphasized in that decision. You may also feel free to ask questions of anyone on the podium.

(Mr. A, securities company)

My firm is engaged in derivatives trading around the world. We have a CVA desk and are now beginning to introduce CVA in earnest. We still need to iron out many of the details and practices, and improving the precision of risk measurement and limit management will be paramount in this, but we have begun to make the internal adjustments and develop the systems that are required. For us, the single biggest point of uncertainty is the regulatory environment. We are particularly concerned with where the derivative business will be headed in the future. For example, in the United States, the debate seems to be headed in the direction of an absolute prohibition on the injection of public funds into derivatives houses and a requirement that institutions who wish to engage in this business spin them out so that they are insulated from deposit insurance and public funds. In an environment such as this, it is uncertain to what extent governments will protect derivatives trading in business between financial institutions and counterparties and therefore difficult to see how this should be reflected in pricing. This needs to be sorted out because there are considerable business risks if most of the pricing factors can not be defined clearly.

One more point that I would like to raise is that regulators intend to encourage derivatives trading to go through central counterparties ("CCP" hereinafter), and I would like to ask how strong the incentives are for that. We did the calculations, and we found that if it were mandatory to use formulas based on equivalent bonds as commented on in the presentation by Mr. Benjamin, the capital charge would be far too strict because it would overstate capital requirements. If regulations are imposed in their present form and trading through CCPs is given a risk weight of zero, it will trigger an avalanche of CCP trading. When virtually all trading is done through CCPs, there is nothing to be gained by introducing CVA. That being the case, there are legitimate questions about whether one should work very hard to upgrade systems and change organizations.

The biggest problem in trying to determine whether and the degree to which we want to allocate management resources to CVA is the uncertainty of regulation. I would like to hear some comments from the regulatory side about these issues.

(Mr. Benjamin)

I think there are two components to this discussion. The first is capital requirement rules; the second, OTC derivative trading rules. These are currently under discussion in the Basel Committee. There is also the point about how to establish CCPs and what incentives to provide to take exposure through CCPs. Different forums are discussing how CCPs should be regulated. At the current point in time, CCPs mainly cover individual corporate CDSs and CDS indices. OTC derivatives include many more instruments than just these. In particular, structured products are not at the moment in a situation to be cleared via CCPs.. The general trend is for regulators to encourage the use of CCPs if it is possible to trade a given derivative through a CCP. However, CCPs may not necessarily cover all trading and it is probably realistic to assume that an important amount of OTC derivatives may still not be able to go through a CCP in the near future.

An important regulatory objective is also improving market transparency. This entails an appropriate, timely and accurate disclosure of the risks on firms' balance sheets. . CVA is a means of achieving this from the perspective of counterparty risk.

○ Is CVA based CCR management suited to the commercial banking business?

(Mr. Ugai)

We have heard a comment from a securities company. Do we have any comments from banks?

(Mr. B, bank)

For regional banks, customer positions account for a large portion of OTC derivatives, and what they put on the market is to cover these positions, so in an extremely large number of cases there is bias in the direction. In light of the size of the portfolios to be managed, there is great interest in the management of customer positions. This is not of a size that is really suited to questions of whether trades go through CCPs, and CVA calculations themselves will necessarily be imprecise. In other words, you cannot get CDS spreads from market data and even if you try to map to ratings, the fact is that you are unlikely to find a mappable rating, which puts these trades on a completely different level from those that have metrics that can be monitored on the market. Given this situation, what are the areas that we need to be particularly careful of in our management?

(Mr. Tomiyasu)

We also have customer positions and obviously cannot derive CDS spreads, so we assign internal ratings that we use to calculate PDs and from there calculate spreads to be applied in CVA calculations. This produces extremely large numbers, particularly for foreign-exchange exposure from yen purchases. The exposure to the customer position became extremely large during the financial crisis, as did the CVA losses, but the profits from the foreign-exchange hedge trades were able to cover it. The per-transaction amounts are not all that large, but there are large numbers of them and many of the schemes have a considerable degree of leverage. An appreciation of the yen will produce extraordinarily large exposure. During periods such as this, the financial position of the customer (transaction counterparty) worsens and in many cases no additional collateral can be provided, so the situation is close to a general wrong-way risk. Having experienced this, I am glad that we managed portfolios by CVA and also took hedges.

(Mr. Lee)

One of the purposes behind using CVA to manage transactions with small and medium-sized enterprises is because it allows you to normalize credit charges against OTC derivatives in a way that spans many different instruments. Even if there is no CDS market for the credit of an OTC derivatives trading counterparty, if there are loan transactions between the counterparty and the bank, the spreads on loans to the counterparty can serve as important metrics. Regardless of whether loan spreads are themselves at correct levels, you can at least confirm that prices are consistent with the credit risks associated with different instruments, whether they be loans or OTC derivatives. If you have consistent prices for loans and derivatives, the spreads will have a degree of suitability as information. You can also take an appropriate hedge if it is needed because you are able to give the CVA model a wide range of information, including credit information, in an appropriate form. Therefore, one alternative is to use loan spreads.

(Mr. Ugai)

How, for example, do regional banks in the United States employ CVA?

(Mr. Benjamin)

I am not sufficiently familiar with the practices of regional US banks in this respect. However when no spread is available for a derivatives counterparty, firms generally use spreads from sources other than the CDS market in their normal operations. They may use loan spreads that refer to counterparties, for example. Mappings are often determined on the basis of sectoral and geographical criteria, not just internal ratings. Ratings are an important basis to determine creditworthiness and they are also the trigger to changes in evaluations of creditworthiness in the

sense that ratings change when creditworthiness changes. By creating a matrix in these three dimensions (geography, industry, rating), banks often use mapping to appropriately calculate spread levels for the counterparty where no name-specific spread is available.

(Mr. Ugai)

Are there any opinions from large banks?

(Mr. C, bank)

This approach deducts a substantial portion of credit costs from the derivatives price, and when you think of it in those terms, you can consider CVA to be just another cost calculation tool. So I think it would be great to introduce CVA if you could do it for zero cost. But introducing CVA is no simple matter and, depending upon the approach you take, the costs can be enormous.

The ideas that have been discussed in this workshop represent one method of constraining the practice seen at European and North American financial institutions in particular of using derivatives trading to frontload earnings. The prime examples are AIG and Lehman Brothers. People assumed they were making money on derivatives trading with these institutions, but the CCRs were so large that the institutions themselves were undermined and the deals ended in failure. When the dust settled, it was discovered that you hadn't made anything after all. My impression is that the reason there is such a push to introduce CVA is an allergic reaction to the frontloading of earnings and the giant bonuses that were paid out. However, different financial institutions employ many different business models. I think it is a good idea, from the perspective of maintaining the soundness of the financial system, to have some sort of safeguards against people who make their living from derivatives just doing whatever they want to do without bothering to appropriately monitor risk. However, there are many financial institutions for which that is not the case. We have made several adaptations already, introducing things like VaR and EC, and so it feels (to ordinary Japanese banks) like, 'Now you're telling us to do CVA too?' I have some resistance to the idea of requiring everyone across-the-board to use what is an extremely advanced approach regardless of their business model. If you are going to advocate more sophisticated CCR management, I would like to see you also show where there is room to reflect specific business models. That is not to say our bank is uninterested in CCR management—of course, it is interested. We recognize the need for price adjustments based on CCR whether or not they take the form of CVA. That is why in our management we have made the decision to hold an extremely large buffer against losses related to CCR.

My remarks to this point have been from the vantage point of a risk management practitioner at a commercial bank. If you look at things from the perspective of a holding company that manages subsidiaries and also manages their risks, I think it is essential to have rigorous CCR management in place when securities companies under your umbrella engage in large OTC derivatives businesses.

(Ms. Yamanishi)

I would like to speak a bit from my personal experiences. A bank may have multiple business lines that incur credit extension to a single counterparty. For example, you may have loans, investments in private equity, investments in and underwriting of bonds, and counterparty risk from derivatives trading. If you have determined that your risk tolerance for Customer A is only 10, there might be situations where you face a question of which product is optimal to take credit risk choice from the company's perspective. Let's say, for example, you have a loan assessed for capital charge or balance sheet charge, or loan loss reserve, while with derivatives you give a free hand and no charges at all. When you have multiple business lines in this situation, you

encounter problems in trying to determine which business line has the best profitability. So my experience is that CVA can provide a useful metric as you try to decide which business lines to get more capital allocated.

I absolutely agree with you on the point that you need to take into account cost vs. benefits in introducing CVA.

(Mr. Benjamin)

I would like to comment on the question of the complexity of capital adequacy rules vis-a-vis CVA. The intention on the regulatory side is to use metrics that can be calculated based on information already held and metrics already calculated by all financial institutions. Some participants today have expressed the desire for greater flexibility to account for the varying nature, size and complexity of firms' derivatives exposures and indeed firms (in particular those with smaller derivatives exposures) do not have to engage in complex modeling activities to determine the CVA capital requirements. . For example, for counterparty exposure financial institutions can use the current exposure method (which simply takes replacement cost plus a percentage of notional as the exposure at default), which is very simple because there is no need to simulate exposure at future time points. The same applies to market risk—it is absolutely not necessary to calculate VaR to determine market risk capital requirements: the fall-back is to use a simple weighted sum of MtM values. The proposed CVA capital charge combines the counterparty and market risk capital rules, and does not force banks to engage in any modeling should they not wish to.

○ Closing

(Mr. Ugai)

I would like to thank everyone for a very active discussion throughout this long day. CVA pricing in risk management are among the starkest differences on the practical side between European and North American financial institutions on the one hand and Japanese on the other. During our discussions today, we have been able to confirm that institutions in Europe and North America, particularly larger institutions, have moved from the introduction phase to the dissemination phase for CVA. And we have heard about how the leading European and American financial institutions are developing more sophisticated ways of using CVA, which are in turn providing them with new business opportunities. Among the opinions expressed today was the idea that the benefits of CVA may not be readily achieved in Japanese commercial banking particularly in transactions with small and medium-sized enterprises. Others have said that Japanese financial institutions need to apply CVA if they are to aggressively develop their international business, still they have expressed a variety of concerns, including concerns about regulation. During our discussions, I think we have gained a more concrete picture of the differences that underlie these perspectives and stances. I would like to encourage everyone who participated today to continue to gather information about CVA and its use and to study the potential for introducing CVA into their business. We at the Bank of Japan remain committed to an ongoing dialogue with you.

I hope that our discussions today will be of some use as you consider your own approach to CVA.

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