Derivatives—a central banker's view

Brian Quinn, an Executive Director of the Bank of England, offers[1] *a central bank assessment of the recent disturbances affecting global financial markets and of the part played in them by the growing derivatives markets. He argues that good progress is being made in capturing and confining the risks arising from derivative transactions, but that regulators and market participants have a shared interest in ensuring that there is further progress.*

Introduction

We are in the midst of a paradox: there appears to be a malaise in financial markets at a time when the prospects for sustained global economic recovery are probably better than they have been for many years.

The United States' economy is enjoying steady, non-inflationary growth, with Europe—including the United Kingdom—promising to follow the same pattern. The Pacific region continues to display vigour and dynamism. The countries of Latin America, on the whole, are negotiating the passage to market economies without undue alarm. And the countries of Eastern Europe, no doubt with individual variations and vicissitudes, are gradually managing the enormous transformation from command economies to modern capitalist states.

Yet financial markets in the principal developed countries appear to have suffered a collective disturbance that, in degree, casts a shadow over this more welcome evolution of the world economy. Of course, there can be argument whether the outlook is quite so promising. Some doubt whether steady non-inflationary growth is assured in the United States and Europe; others express concern about the recovery in Japan. That said, the hesitancy and anxiety recently displayed by foreign exchange and capital markets seem to go beyond what such doubts would usually provoke.

As always, we do not lack for explanations of the behaviour of financial markets. Current and prospective government financial deficits, fears of the alleged global capital shortage, political uncertainties, technical corrections and portfolio adjustments all have their proponents. But it is difficult to avoid the feeling that there is a widespread view, amounting to an apprehension, that the global financial system may be becoming more unstable. It is, I think, worthwhile asking ourselves what feeds this view, before turning to the question of derivatives and how they fit into the picture.

Global financial instability

The first factor, commonly acknowledged and not negative in itself, is a recognition that the world economy and financial markets are more closely connected and probably more integrated than ever before—and growing ever more so daily. This undoubtedly has brought many benefits. Over the past 25 years, the proportion of world output traded internationally has doubled, reaching about 18% in 1993. The successful completion of the GATT negotiations will surely maintain this trend. Taking just the United Kingdom, life assurance and pension fund portfolios' holdings of overseas assets rose from some 3%–5% in the early 1960s to 19% by the end of 1992; a list of the funds available to those who wish to invest outside the United Kingdom suggests that this proportion will continue to rise, current events notwithstanding. Collective investment vehicles in the United States appear already to be diversifying their portfolios worldwide.

Trade and investment are now managed on a global basis and international markets operate on the basis of decisions taken and news arising just about anywhere. The international news agencies and media have targeted their market very effectively. However, although it may follow naturally that events, particularly those creating risk of loss, should influence a wider group of financial markets, it does not seem to me to be obvious that that should create greater volatility in the markets. Perfect markets, we were taught, behave rationally, not erratically. But that is what appears to have happened as markets have become more open and accessible. Until recently, it seemed that this greater volatility was primarily if not exclusively within a given market—foreign exchange in 1992 and 1993, equities in 1987 or bonds in 1994; but the experience of recent months raises the possibility that the contagion may have spread across markets.

Another phenomenon, again not problematic *per se*, is that innovation and competition represent very powerful and fast-changing forces that constantly challenge pre-existing business strategies. Being on the leading edge is exhilarating, and indeed vital, to survival in most international businesses—whether industrial, commercial or financial. That said, the pace of change needed to stay abreast of the competition may be taxing financial agents, particularly those who manage funds, to the point where abrupt changes in sentiment take place. Complexity plays its part too. Financial products and business decisions are no

(1) In a speech delivered on 1 July at the Annual Managed Derivatives Industry Conference in New York.

longer as straightforward. In a word, people get jumpy. Investors, faced with increasing pressure to perform, can at times behave like a shoal of small fish: all turning quickly and at once out of a feeling that there may be safety in numbers when there are dangers around them. The presence of one or two large sharks can greatly aggravate this behaviour.

This tendency, if true, is aggravated by the emphasis on short-term performance. Those whose results are assessed on a quarterly basis and according to a league table can hardly be expected to take a passive attitude to the flow of information which comes to them. Steady nerves are in short supply when the business in your market is all one-way. Sophisticated models may help manage correlated risk when markets are deep and functioning well; but they may not be able to cope—or dealers may put them to one side—when several markets are moving rapidly together.

The role of central banks

How do central bankers respond to such fears? First, I do not think we should exaggerate what we see. It is not clear yet that market disturbances in recent times lie outside the limits of what we have seen in the past. Memories do tend to be selective, marking previous periods of instability. In the real world, perfect markets are hard to find.

Second, let us look at the basics. Central banks in most countries have three main roles:

- the maintenance of monetary stability: so that business and economic life can go forward and deliver the welfare gains of a properly-functioning market economy;

- the maintenance of financial stability: ensuring sound financial institutions so that monetary stability can be safely pursued and so that economic agents—individuals as well as firms—can conduct their business with confidence; and

- the maintenance of stable payments systems so that financial transactions can be safely and efficiently executed. Some central banks, such as the Bank of England, play an even wider role, helping the financial infrastructure of markets and systems more generally to operate efficiently.

The developments which I outlined earlier certainly make the task of managing *monetary policy* challenging, on several counts. First, the assessment of monetary conditions can be made more difficult, first by unpredicted—and unpredictable—shifts in the measures of the intermediate targets of policy, notably money supply. Germany is the country most recently going through this experience. Secondly, policy-makers need to assess and evaluate the effects on financial markets of changes in the control variables, notably short-term interest rates. The exact response of holders of financial assets to officially determined changes in short-term interest rates is inevitably a matter of uncertainty and the more so when financial markets are themselves suffering a bout of instability. And thirdly and most important for those carrying out monetary policy, changes in the relationships between the control variables, the intermediate targets and the ultimate objectives of monetary policy can of course be clouded by extraneous disturbance in financial markets.

Complex though these issues are, there is no sense of drift or inertia among central bankers. We never have used simple rule books in the conduct of monetary policy; adaptability to change and the ability to detect it have always figured highly in our job descriptions. Let me repeat what I said at the outset: despite the current turbulence in financial markets, the outlook for the principal economies is very much brighter than for some time past. Monetary and macroeconomic policies generally seem to me set in the right direction.

This is also important for *financial stability*. I can think of no better way of bringing greater stability to financial markets and financial institutions than achieving the avoidance of exaggerated cycles of economic activity, accompanied by large swings in prices of goods and services of all kinds. The connections between the real and the financial economy have never been closer. Individuals as well as companies are very alert to movements in the relative rates of return on a wide range of savings and investment vehicles, foreign as well as domestic. At present, their behaviour suggests a lack of conviction that the inflationary dragon has been slain, and the coexistence of low nominal and positive real rates of interest has not yet sunk in for people accustomed to seeing their savings repeatedly destroyed by higher prices of goods and services. A period of steady growth in real incomes should gradually generate more stable expectations and less volatile investor behaviour.

The role of derivatives

But, you will quite correctly argue, this is certainly not yet the world we live in; rather we have encountered a heightened uncertainty. The emergence of derivatives is, at least in part, a response to this climate of greater uncertainty. They may even be giving the wheel of asset-price volatility a further spin, making the task of the central banker correspondingly harder. Does this lead us to want to outlaw them, regulate them out of existence or even wish they did not exist?

I should like to add my voice to those central bankers who have already acknowledged the value of derivatives. Chairman Greenspan set out the case eloquently in his recent testimony to Congress. Derivatives clearly meet a market need. They diffuse and re-allocate risk to risk-bearers who are more willing to bear it. The efficiency of financial markets is improved and indeed the economy generally benefits. Contrary to some perceptions, innovation is welcome to central bankers since it is the life-blood of efficient, dynamic markets, and policy is better conducted in such an environment than in one in which signals and responses are obscured or distorted.

But as with all innovations, questions also arise. I do sometimes wonder whether the mixture of Greek letters, mathematical formulae and very large numbers does not have the same mesmeric and scary effect as the Wizard of Oz. Some derivative products are complex to the point where the risks being assumed are not evident to the buyer or user. What are the risks and how is the financial community—participants as well as central banks and other regulators—dealing with them? The catalogue of risks is well known and admirably set out in a number of reports coming from both public and private sector sources. I would also refer you again to the very comprehensive statement made by Chairman Greenspan who reported on the scene in the United States. Let me also go through them and record progress in tackling them, as seen from the angle of someone who sits on international committees spanning the G10 and the European Union.

Derivatives are originally a response to *market* risk, the possibility that current and future values might diverge. Trading in these products itself of course carries market risk—the customary prudential response to which is to require those authorised to trade in these products to hold capital against the possibility of loss. I believe both the market participants and the regulatory authorities have come a considerable way in identifying the capital needed for derivatives and all other instruments carrying market risk. Until recently, the methodologies used by either side differed fundamentally. The G10 Committee of Bank Supervisors is now well advanced in considering whether the models used by the leading participants in the markets, which relate the capital requirements to the risk of the overall portfolio, might also play a part in determining these requirements. Perhaps as important, the G10 is also focusing on the qualitative controls that management of supervised entities should employ in managing these activities.

I rather doubt whether models will represent the way forward for all firms involved in derivative activities; we may need to have more than one approach to hand to cope with the needs of the less active and less sophisticated firms. The possibility of a dual approach to capital adequacy is also reflected in the provisions of the Capital Adequacy Directive enacted last year in Europe. I cling to the hope that the progress being made in this connection by banking supervisors, both in the G10 and the European Union, will find a positive response from the securities supervisors. It would be regrettable if securities firms from the United States and Japan, in particular, found themselves operating under a different system from those in the European Union and other G10 countries in which this business is carried out primarily by banks.

Banks, securities houses and regulators have also targeted *counterparty* or credit risk as a priority area. The credit losses suffered by banks during the last cycle have been a powerful spur and, indeed, the risk-management models being developed in the market not only encompass counterparty risk in derivative trading but also address credit risks of the more conventional kind. It took a space programme to lead to the discovery of Teflon, and perhaps the work on derivatives will greatly enhance our understanding of credit risk. Rocket scientists have their other uses.

I am perhaps less optimistic about *liquidity* risks. We have seen examples over the last few years of individual instruments and markets that can 'dry up'. There are some signs that this is happening on a wider scale during the current period of market disturbance. This could mean that the absence of liquidity in a given market, notably bonds, was creating the conditions for greater volatility in price movements not only in that market but in other markets connected or linked, in a way not previously observed. Against this possibility, regulators will be looking with an even keener eye at the stress tests and behavioural assumptions built into the risk models used by firms active in derivative trading. Perhaps we are seeing a development in markets at the moment which will have as its result a far more meaningful understanding of the liquidity and contagion risks in these markets; and if the development occurs without serious damage being done to either the principal players or to the markets themselves then the experience may be worth much more to us than any amount of stress testing—although we are still likely to insist on it.

The derivative sector, if there is such a thing, is still an example of comparatively *concentrated* risk. Both in the London and New York markets, over three quarters of the business in swaps and options is being conducted by a small handful of authorised firms.

So long as these firms maintain their expertise, this degree of concentration seems unalarming and does not call for any regulatory response. However, the regulators still carry the scars of previous clusters of exposure which they did not realise represented a dangerous concentration until it became all too painfully clear. A good part of the problem was that the population of the sector in question—and the scale of its activities—was not sufficiently evident in advance of the difficulty. One cannot rule out the possibility that serious problems being encountered by a large player in derivatives might not knock on more or less automatically to others who are known to be very active in the business.

The answer to this, and to other questions posed by derivatives, is greater transparency and disclosure, accompanied by common and satisfactory accounting rules. It is a second-order, but nevertheless important, question whether disclosure should be only to the market, which is then free to make its own judgments, or also to regulatory authorities. My own preference is to have both, but certainly not to the point that all those who use derivatives need to be regulated. The criterion should be the capacity to endanger the financial system.

As with other new financial instruments, derivatives raise questions of *legal, operational* and *reputational* risk. It would be naive to think that problems might not arise in any or all of these areas. The authorities in most developed countries have picked up the need to ensure that contracts involving derivatives, notably but not exclusively netting contracts, are robust under legal challenge. In many countries, this has been done by changing the law. In the United Kingdom, we are tackling this through the medium of the Financial Law Panel, whose views carry great influence in the UK courts without necessarily involving new legislation. In the area of operational risk, computers can fail, creating difficulties for the settlement of outstanding transactions; and settlement itself contains counterparty and other forms of risk, of course.

Both the authorities and the markets have, I believe, anticipated many of the problems here by re-examining carefully the risk characteristics of wholesale payments and settlement arrangements. The Federal Reserve led the way five years ago in pointing up the hitherto submerged set of issues in the payments field and, as you will know, organised a repeat of its original symposium at a conference held earlier this year in Washington. European payments regulators have already published a set of principles governing the operation of national wholesale payment systems in the European Union and are now turning their attention to the integration of these systems in Stages 2 and 3 of European Monetary Union. The G30 Report on settlements in equities markets demonstrated that market participants make their own invaluable contribution in this area. Likewise the efforts currently being made on both sides of the Atlantic to establish multilateral, multicurrency payments systems.

Payments and settlements now represent an area which is enjoying a great deal of attention from both the market and from regulators, and the way forward in reducing risk is satisfyingly clear; but we must press on with the implementation of the reforms to the financial infrastructure needed to underpin the development of derivatives and other traded financial instruments.

Reputational risk arising from transactions involving customers needs little elaboration from me. Financial institutions will make their own assessments of whether the damage to their reputation exceeds the financial costs of picking up or sharing losses which arise in the course of derivatives transactions carried out by their customers. The market will find its own solution. I sincerely hope that, in the process, sight is not lost of the principle that willing buyers and sellers should carry responsibility for their own decisions.

Conclusion

As you can see, good progress is being made in capturing and confining the risks which arise from derivatives operations. The supervisors and regulators in the main centres are working hard in specialised groups to find solutions that deliver regulation without strangulation. Perhaps equally important, the market is developing its own form of safeguards by insisting on greater disclosure and transparency, improved accounting rules, collateralisation and margining requirements that protect both them and the ultimate users of the product. As a regulator and central banker whose direct responsibility includes the stability of the financial system, I feel this combination of effort must be the right way.

There is also encouragement to be taken from the fact that, over a period of two years when conditions in the market have been particularly taxing, no large failures have occurred. Some parties have of course made losses, some of them very substantial; and we are by no means yet out of the woods. We have already seen failures arising directly from mistakes made as a result of derivatives trading. It would be an imprudent man who would claim at this stage that a threat could not arise to the system.

Nor do I feel that all the questions of risk have yet been fully answered. We need more reliable and complete data, so that those whose responsibility it is to maintain the stability of the system can have a good idea of where the failure might arise and what might be the consequences of such a failure. We need a better understanding of the relationship between derivatives markets, cash markets and the behaviour of economic agents. And we need a clearer view of how the risk management techniques employed by banks and other financial institutions measure up to the task of producing the correct combination of profit and prudence in an uncertain financial environment.

Nevertheless, progress is being made. The earliest apprehensions about derivatives have been replaced by a methodical analysis of the possible sources of difficulty. The facts are being collected to illuminate that analysis, and regulators and regulated seem generally at one on what needs to be done—although the detail will no doubt excite the usual passions on both sides. Central bankers are, as a whole, ready to take part in the exercise to trade off the costs and benefits of derivatives. With their interest in financial stability, that is both desirable and inevitable. We have a somewhat perplexed user group to persuade. There is therefore a joint interest, regulators and market participants, in finding a safe and profitable way ahead.