

Paul Tucker: A perspective on recent monetary and financial system developments

Speech by Mr Paul Tucker, Executive Director and Member of the Monetary Policy Committee of the Bank of England, at Merrill Lynch Conference “A perspective on recent monetary and financial system developments”, London, 26 April 2007.

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Global monetary and financial stability

The past year or so has been marked by resilience in both the global economy and the international financial system. World growth has been robust. On average, headline inflation across the industrialised world has remained contained. Capital markets have, so far, weathered the gradual withdrawal of monetary accommodation in much of the G7, and also a series of specific disturbances, without destabilising spillovers. In short, the world has enjoyed a further period of monetary and financial stability. Against that background, banks and dealers have posted fairly remarkable profits, accumulating more capital resources; and the (risk-unadjusted) returns of the fund sector – and so probably for most of you here today – have been healthy.

There are, for sure, wrinkles in this picture, including here in the UK. But overall it is probably not what most commentators would have expected given that oil prices have more than doubled over recent years. For financial markets, it has surely been important that such a large cost shock has not led to a pronounced rise in global inflation, dislodging medium-term inflation expectations, and so prompting industrialised country monetary authorities to slam on the brakes. With the build up of household debt in many countries, and releveraging of parts of the corporate sector, that would not have been a happy prospect.

That, taking the industrialised world as a whole, monetary credibility has been sustained without aggressive policy action may owe something to the reasons for the increases in energy and other commodity prices – namely, the rise of China, India and other Asian economies which, as well as boosting global demand, has also been putting downward pressure on internationally traded goods prices. But, as the Bank has argued before, the way these relative price changes play out in terms of headline consumer price inflation depends on the overall path of aggregate nominal demand. And that in turn owes something to the behaviour of central banks.

The textbook response to a cost shock is supposedly to allow the price level to rise, with the associated temporary pick up in inflation being just that – temporary. In the jargon of central banking, the “first round effects should be accommodated” in order to contain output volatility; but any second-round effects on inflation, through wage bargaining and medium-term inflation expectations, should of course be prevented.

What of practice? Well, notwithstanding the rise in inflation in the UK over the past eighteen months, it is moot whether any of the major central banks did in fact fully accommodate the first-round effects of the oil price rise. That the full impact of the rise in costs has not passed through to inflation owes something, I believe, to wariness amongst central bankers of their being able, given uncertainty about the underlying shocks, to calibrate policy with sufficient precision to bring about such a neat but vitally important distinction between first-round and second-round effects; let alone of their being able to communicate such a strategy to the public, the business community and financial markets. Textbook orthodoxy might perhaps have been more compelling if the rise in energy prices had been both sharp and caused purely by interruptions to, or constraints on, the supply of energy. But when, as over the past couple of years, the rise in costs was partly the consequence of increased global demand, and the price rise drawn out, the wariness in fully accommodating the first round effects was, I think, tangible, and reasonable.

UK monetary policy

That has been the backdrop to my own approach to monetary policy over the past year or so. The policy stance has needed to be set and explained in the context of cost shocks and demand

conditions, placing a premium on clarity of communication about monetary strategy.¹ I have judged that to be a delicate exercise given recent and prospective volatility in headline inflation. This thinking informed my vote against an increase in Bank Rate in January. CPI inflation had risen quite sharply, but was – and, I should say, still is – also expected to fall back quite sharply towards the 2% target. Provided that broadly “humped” path for inflation materialised over the coming months, the upside risk to medium-term inflation expectations seemed likely to subside. It was not a matter of my wanting to avoid surprising the markets in some narrow sense, which in the greater scheme of things is neither here nor there. Rather, I was concerned that an immediate move might, on balance, cause unnecessary confusion about the Committee’s view of the medium-term outlook for inflation and about monetary strategy. In the event, subsequent speeches by colleagues, and the medium-term perspective of the February Inflation Report, helped to keep that genie in the bottle.

In February, I was strongly in favour of widening the width of the Inflation Report “fan chart” for inflation during the coming year, to underline the near-term uncertainty about, and the great difficulty in forecasting, the path of utility prices. It was vital to convey the medium-term prospect, and also that we stand ready to act if the risks warranted it.

More recently, with Bank Rate at 5.25% and a modestly upward sloping money market curve, I have characterised monetary conditions as “edging towards restrictive”, so long as inflation does as expected fall back in the near term. That has been appropriate given the degree of pricing power apparently emergent in conditions of relatively high capacity utilisation amongst firms. It has provided the platform needed going forward to restrain inflation pressures, and to maintain anchored inflation expectations, at a time when, understandably, there is public debate about the outlook given that CPI inflation rose above 3% for the first time, triggering an open letter from the Governor, on behalf of the Committee, to the Chancellor.

Looking ahead, my votes, and my approach to communicating our monetary strategy, will depend on balancing the medium-term prospect for demand pressures alongside uncertainties about supply conditions and near-term inflation expectations caused by volatility in energy costs. This will entail making judgments about a whole range of influences, including whether or not residual slack in the labour market might in time, given robust business investment, help to ease capacity constraints; whether or not competitive conditions amongst retailers will dampen the feed through of accelerating producer prices into consumer prices; and, most crucially of all, whether wage bargainers and price setters recognise the absolute determination of the Committee to maintain price stability.

Risks to the global capital markets

If anchored inflation expectations have so far been maintained, here and elsewhere, two other risks in, and for, the global financial environment continue to preoccupy commentators: current account imbalances; and compressed risk premia, together with an apparently high risk appetite, in credit markets.

There are, I would suggest, some interesting contrasts between these two risks, which – following the Bank’s Financial Stability Report – I shall call “global imbalances” and “low risk premia”. They can be contrasted in two dimensions: the probability that there is some kind of “disequilibrium” that needs to correct; and the probability that any such correction, or adjustment, will produce destabilising spillovers in the financial system.

On the first – the probability of adjustment – it is widely agreed by economists that one symptom of global imbalances, the US current account deficit, is unsustainable. It cannot continue indefinitely at the same rate because eventually the US’s external debt-servicing burden would become too great. That there will be adjustment, somehow or other, is therefore viewed by most commentators as near certain. By contrast, while the low risk premia across credit markets are hard to explain, no one can say for certain that they are unsustainable. A number of changes in the environment point towards some sustainable reduction in risk premia: more credible monetary regimes; more flexible labour and product markets, helping economies to adjust to nasty shocks; improved instruments and markets for managing risk; better diversified portfolios. Whether or not that merits the degree of risk premia

¹ The importance of communication to monetary policy was explored more fully in Tucker P M W (2006a), “Reflections on operating inflation targeting”, Speech at Chicago Graduate School of Business, May 2006, *Bank of England Quarterly Bulletin*, Summer 2006, pp 212-224.

compression seen over recent years is open to question. For some while now, I have encountered few people in the market who regard credit risk as fairly priced. A distinction is typically drawn – including in the Bank’s Financial Stability Reports² – between a “fast fuse” risk, in which credit is abruptly repriced; and a “slow fuse” risk, in which cheap credit leads over time to overleveraged borrowers and so to vulnerability to a deterioration in the global economy. As time passes, attention has perhaps been shifting to the longer-fuse risk, given signs of a pick up in aggregate corporate sector leverage and gradual dilution of covenants in loan terms and conditions, most obviously recently in so-called “covenant-lite” transactions in the leveraged loan market.³ But, in contrast to global imbalances, no one can say with complete conviction that a lower risk premia environment is definitely unsustainable, which may contribute to explaining why few market participants seem prepared to bet on the time or scale of any correction.

In terms of the second dimension – the probability that any adjustment would be disorderly –market practitioners at least seem to regard “low risk premia” more seriously than “global imbalances”. Resolution of the problem of global imbalances could come in various ways, not all of which need involve an abrupt correction in asset prices or further movements in nominal exchange rates. For example, the US might obtain greater competitiveness through a depreciation in the dollar’s real value if inflation in China and elsewhere were to be relatively high for a period. But, for my purposes today, the key point is that any correction in asset prices would most obviously be concentrated, at least initially, in the foreign exchange markets and, if associated with a reduced appetite for dollar-denominated assets, plausibly in US Treasury yields too – perhaps amplified by various option-like structures.⁴ But these are, of course, the deepest, most liquid markets in the world. So while sharp changes would no doubt inflict losses through parts of financial system, many practitioners seem to regard the market dynamics as manageable. Indeed, when in the Bank’s Market Intelligence rounds we explore this issue, the mechanism that elicits most concern is that any consequent macroeconomic slowdown – brought about in the US by higher risk-free bond yields or in the euro area by exchange rate appreciation – might put pressure on the corporate and household sectors after a period in which credit risk may have been underpriced and so abundantly available. In other words, discussion of “global imbalances” shades into an exploration of the potential consequences of “low risk premia”. But more important, the fundamental changes in the structure of credit markets over the past half decade or so have left many practitioners uncertain about the dynamics of any adjustment. Views vary of course, with some seeing the system as clearly more resilient than half a decade ago, but on the whole practitioners seem to be more uncertain about the potential for nasty spillovers from adjustment in “low risk premia” than in “global imbalances”.

Vehicular finance

This uncertainty stems from changes not just in instruments and markets, but also in institutions – ie in the nature and structure of financial intermediaries. This is the age of what I call Vehicular Finance. The key intermediaries are no longer just banks, securities dealers, insurance companies, mutual funds and pension funds. They include hedge funds of course, but also Collateralised Debt Obligations, specialist Monoline Financial Guarantors, Credit Derivative Product Companies, Structured Investment Vehicles, Commercial Paper conduits, Leverage Buyout Funds – and on and on.⁵ These vehicles can fit together like Russian dolls. By way of illustration – and, I fear, slipping for a moment into alphabet soup – SIVs may hold monoline-wrapped AAA-tranches of CDOs, which may

² See chapter on “Risks in the international financial system”, in Bank of England *Financial Stability Review*, December 2004, p. 50.

³ See chapter on “Shocks to the UK financial system”, in Bank of England *Financial Stability Report*, April 2007, p. 16.

⁴ For example, hedging of Power Reverse Dual Currency Notes might in certain circumstances amplify movements in the yen; and hedging of Range Accrual Notes, for which the gamma exposure can flip sign, might amplify yield curve movements. The general question of the potential for dynamic hedging of short option positions to amplify market movements was discussed in Tucker P M W (2005), “Where are the risks?”, Speech at The Euromoney Global Borrowers and Investors Forum, London, June 2005, Bank of England *Financial Stability Review*, December 2005, pp 73-77.

⁵ See the Annex for brief explanations.

hold tranches of other CDOs, which hold LBO debt of all types as well as asset-backed securities bundling together household loans. (The diagram may, or may not, help!)

What is going on here? One possible explanation is that capital might be being allocated to wherever its cost is cheapest for a particular desired risk profile. That optimisation involves comparing the capital charges applied by regulators to regulated institutions; and by rating agencies to various types of vehicle (SIVs, CPDCs, CDOs, monolines etc). The “smart money” seems to be assembling its own portfolio of vehicles, so that it can choose from a menu of where to book transactions. One of the drivers is commonly referred to by practitioners as “ratings arbitrage”. Another was of course Basel I, which triggered the securitisation of high-quality credits, and for quite a few years fuelled a ballooning of vehicles whose existence depended on commercial banks providing zero-capital-weighted “liquidity” lines. Basel II will change all of that. Indeed, if central banks are to understand how the global financial system fits together, we will need to fathom the reconfiguration that Basel II prompts, including the potential for risk transfers between banks adopting different steps on the ladder of Standard, Foundation, Advanced approaches that it makes available. For the same underlying reasons, in pursuing their mission, central banks now need to follow developments beyond the big banks, and I am very grateful to the hedge funds, CDO managers and others who contribute to the Bank’s market intelligence effort.

Does any of this matter?

a) The dispersion of risk, and central banking instruments

The dialogue is, of course, largely qualitative. Given the variety of vehicles and their use of risk transfer instruments, it has become a commonplace that “we” no longer know where risk lies. Most often, the “we” is the official sector, and in particular bank regulators. But “we” might just as well be the management of banks and dealers.

Some commentators plainly see this as a Bad Thing. Is it? At least as put, I am not so sure.

In the first place, the transfer of risk has been a consequence of the development of wholesale markets, with reasonably broad participation, in all types of credit risk. Provided liquidity is sustained, that should aid the system’s adjustment to shocks. It also means that, while regulators, central banks and other analysts have certainly lost some quantity data, our assessment of credit conditions is enriched by the availability of a wealth of new price signals.

Secondly, while credit risk transfer markets are new, derivative markets in interest rates, exchange rates and equity prices have existed – on-exchange and over-the-counter – for approaching two decades. We have not known where those risks are for quite a long time.

Thirdly, if we “no longer know where the risk is”, that implies that it has been dispersed beyond the regulated sector. One might think that was a Good Thing. To take an extreme scenario, if risks were widely and evenly distributed across savings institutions internationally, a very nasty shock causing a sharp fall in asset markets would not obviously destabilise the financial system. It would obviously have macroeconomic consequences, by depleting household wealth and raising the cost of capital for firms. Other things being equal, central banks could respond by adopting an easier path for interest rates than otherwise, in order to maintain aggregate demand broadly in line with aggregate supply, with the objective of keeping inflation in line with explicit or implicit targets. Although the original shock may be nasty, the response would be the routine use of the routine instrument: the price of central bank money. There is no question of a so-called Greenspan (or any other kind of) “put” here; the focus would be not asset prices, but the outlook for spending in the economy and so inflation.

This is obviously rather different from a similarly nasty shock producing severe disorder in a banking system that was carrying unduly concentrated exposures of some kind. For a central banker, banks matter because their liabilities are used as money, they are at the centre of the payments system, and they carry an associated asset/liability maturity mismatch.⁶ Banking system distress is therefore typically characterised by a liquidity run. Faced with that, a central bank’s instrument – used, where necessary, in collaboration with its regulatory and finance ministry partners – is to supply the system

⁶ Chaplin G, Emblow A and Michael I (2000), “*Banking system liquidity: developments and issues*”, Bank of England *Financial Stability Review*, December 2000, pp 93-112.

with an increased quantity of its money, without necessarily changing its price. Given the need to take collateral to protect against risk, and to charge a premium to create the right incentives, establishing a routine framework for such operations without creating moral hazard remains “work in progress” for the international central banking community.⁷

So it would seem that there is a good deal to welcome in the greater dispersion of risk made possible by modern instruments, markets and institutions.

But there are most certainly qualifications to such an apparently alluring conclusion.

b) The banking system’s residual risk, stress testing and transparency

The banking system retains risk in a number of ways, both pre- and post-risk transfer, and its aggregate balance sheet has in fact expanded considerably.⁸ Pre-risk transfer, banks and dealers hold, or finance, warehouses of portfolios of loans to households and corporates on their way to securitisation,⁹ meaning that the banking system can still find itself “holding the parcel” when the music stops. Post-risk transfer, some risk is contingently retained by virtue of banks and dealers financing the acquisition of risk by hedge funds and others. This entails counterparty credit risk and, taking account of collateral, is akin to writing out-of-the-money put options.

So, for me, the question is not so much “where is the risk?”, as “in what circumstances could risk flow back to the banking system?”; and “do banks have enough capital and liquidity to absorb such flows without stress?”

This is relevant not only to credit risk, but also to transfers of complex market risks. In providing bespoke “solutions” to their corporate and investment management clients, investment banks accumulate complex market risk exposures that are hedged largely in public, and so relatively “vanilla” wholesale markets. These hedges are inevitably imperfect. Some of the residual market risk is now occasionally transferred to the fund sector, via for example variance swaps or correlation swaps, transforming market risk into counterparty credit risk – underlining the importance of the work of the industry’s Counterparty Risk Management Group in debating and promulgating prudent practices.¹⁰

Other imperfectly hedged risks are retained, leaving intermediaries with so-called “basis risk” – or, more prosaically, the risk that assumed correlations break down. Put bluntly, if instruments A and B have subtly (or not so subtly) different characteristics but are nicely correlated for a while, B might be employed as a “hedge” for A, without the implicit risk exposure turning up in Value At Risk measures. When a shock hits and the correlation breaks down, the hedge breaks down too, with a double whammy to VaR and so, for regulated firms, to regulatory capital requirements: through higher volatility, and a higher measured exposure. To be clear, this is not the fancy of the ivory tower. As discussed in the Bank’s latest Financial Stability Report, it was one of the factors contributing to the recent volatility in the market for US sub-prime mortgage securitisations. Indeed, this hazard may conceivably have increased during a period when markets have not been especially volatile.

If investment banking entails warehousing optionality and complex forms of basis risk, it puts a premium on stress testing. Speaking as a policy maker, I would want so-called macro stress tests to be complemented by more fine-grained stress tests in which management explore the exposure to complex risks given their qualitative understanding of their business, and taking into account the possibility of impaired market liquidity. In other words, risk managers need to do “market intelligence”

⁷ The Bank of England took some steps in this direction as part of the fundamental reforms to its Sterling Monetary Framework market operations in summer 2006. The role of central banks in accommodating sharp (velocity) shocks to the demand for their money was discussed in Tucker P M W (2004), “*Managing the central bank’s balance sheet: where monetary policy meets financial stability*”, Lecture to mark the fifteenth anniversary of Lombard Street Research, London, June 2004, Bank of England *Quarterly Bulletin*, Autumn 2004, pp 359-382.

⁸ A fuller explanation is in Tucker P M W (2006b), “*Macro, asset price and financial system uncertainties*”, Roy Bridge Memorial Lecture at the Annual Conference of the ACI – Financial Markets Association, London, December 2006, Bank of England *Quarterly Bulletin*, Spring 2007, pp 122-130.

⁹ The composition of the balance sheets of Large and Complex Banks is discussed at greater length in Tucker P M W (2006b), op. cit.

¹⁰ Report on “Towards Greater Financial Stability: A Private Sector Perspective” by the Counterparty Risk Management Policy Group, July 2005.

within their own firms. My sense is that that view is shared by at least some Chief Risk Officers. Greater transparency of such stress testing would not only shed light on the risks retained by the banking system, it might also have a productive effect on incentives – rather as greater transparency has enhanced monetary policy making.

What happens when the music stops: ex ante preparation for stress

But of course severe stress cannot be ruled out. Central banks and practitioners therefore expend effort thinking about what will happen if and when the music stops.

As the Bank's latest Financial Stability Report discusses, the official sector has stepped up its practice exercises of various kinds. The private sector analogue to crisis resolution is the "workout", in which a company is restructured under the shadow of insolvency. In a world characterised by bank intermediation, workouts typically involved bank syndicates co-ordinated by a few lead banks. Even country workouts in the early 1980s had that broad shape, albeit with the IMF holding the ring. One might wonder how on earth it would work today, in a world of traded debt, synthetic risk transfer, and vehicular finance. Much thinking remains to be done on this, but a policymaker has to form a preliminary view, just in case the music stops tomorrow. My provisional view is that some investors in credit risk would find themselves without the skill set to participate in a workout. In a "covenant-lite" world, they might also find themselves with fewer protections as conditions deteriorated than they would like ex post. Unless markets seized up, however, they might be able to crystallise their losses by selling out to funds and bank desks who trade in "distressed credit"; and they in turn might be able to sell on to funds and banks with specialist workout skills and risk appetites. By such transfers, the end-game co-ordination problems might be reduced. On the way, some hard bargains would be struck, and some participants would no doubt be surprised by their losses.

But this relatively benign scenario is not guaranteed. It depends on markets continuing to function; on the infrastructure holding up through volume surges and stress; on the shadow of the insolvency regimes in various jurisdictions establishing productive incentives; and on lack of uncertainty in the terms and conditions of market contracts.

That last point needs underlining. In today's markets, there is a large premium on *ex ante* clarity and certainty, as opposed to *ex post* negotiation amongst bankers who know and trust each other. The work required is detailed and largely out of the limelight. But getting clarity around things like "close out netting" may make all the difference when the music stops.¹¹ The official community therefore needs to maintain its encouragement and support for private sector initiatives to standardise and improve documentation. To take just a few examples from what could be a long list, this includes the work of New York's Global Documentation Steering Group; of various market trade associations; and of London's Securities Lending and Repo Committee, which helps co-ordinate the work of different parts of the collateral-financing markets.¹²

Summary

I have travelled from macro to micro. To maintain the two elements of monetary stability – price stability, and financial stability – we need credible and effective institutions.

¹¹ Close-out netting is a process by which, following a default, open transactions between two parties are terminated, each transaction is valued and, together with any outstanding payments, these are reduced to a single net amount owed by one of the parties to the other. Obtaining legal certainty over recognition of netting across different products and, in particular, with different legal entities with a common group is very important.

¹² The Global Documentation Steering Group (GDSC) is an industry group formed in 1999 to implement the documentation-related recommendations of the report of Counterparty Risk Management Policy Group (CRMPG). The primary objective of the Committee is to encourage the harmonisation of documentation in standard over-the-counter contracts in order to minimise disparities that can exacerbate market, credit and legal risk. It took the lead in updating the recommendations on documentation issues for the second CRMPG report released in 2005. GDSC is sponsored by, but independent of, the Federal Reserve Bank of New York. The hedge fund community is represented on the GDSC. The Stock Lending and Repo Committee, facilitated and chaired by the Bank of England, provides a forum for practitioners and the authorities to discuss structural (including legal) developments in London-based securities lending and repo markets.

At the macro end of the spectrum, that above all means credible monetary regimes. The MPC is now ten years old. During that period, inflation expectations have been well anchored to our target. And no one should be in any doubt that the Committee is determined to keep it that way.

But a credible monetary regime does not insulate the economy, or financial markets, against all shocks. Over the coming decade, some currently observable imbalances will plausibly work their way through the system, as the pattern of global saving shifts, asset prices adjust, and we encounter, eventually, a period of corporate defaults. In ten years time, we may therefore know whether “global imbalances” and “low risk premia” were resolved with or without stress; and we may be better informed on whether the changes in the structure of our financial markets help or hinder the preservation of stability. A benign outcome would be more likely if the industry were to maintain its efforts on improving ex ante measures to handle stress. Managers of hedge funds and other modern investment vehicles, as well as banks, have a clear stake in that work.

Annex: Vehicles

CDO: Collateralised debt obligation.

Typically, a structured finance product where a SPV issues notes backed by, or referenced to, a portfolio of underlying assets. The notes issued are tranching by seniority into senior, mezzanine and equity. The underlying assets could be corporate bonds, loans or structured finance securities (such as mortgage-backed securities or notes issued by other CDOs), and they might be owned either directly or synthetically via credit default swaps.

CDO squared.

A CDO invested in CDO tranches, typically mezzanine tranches of synthetic CDOs.

CDPC: Credit Derivative Product Companies.

A highly-rated limited purpose company, with permanent capital, that sells credit protection on individual names or synthetic CDO tranches. CDPCs differ from monolines in that they write protection only via credit default swaps. They are in some respects akin to synthetic banks.

Closed-end fund.

An investment company that issues shares to investors and invests the proceeds in a pool of assets typically stocks and/or bonds. Recently some funds have invested in “alternative” assets such as hedge funds, private equity and infrastructure, and structured credit. Shares in closed-end funds are traded like other equities. The funds may issue their own debt to obtain leverage. They may also issue different classes of shares with different entitlements to income or capital receipts from the underlying investments.

CP (Commercial paper) conduit.

A SPV that issues CP backed by financial assets originated by one or more sellers. They are generally supported by liquidity facilities provided by their sponsor or a third-party bank.

DPC: Derivative product company.

A bankruptcy-remote structure that houses credit risk from long-dated derivative transactions. They are typically wholly-owned subsidiaries of financial services companies. In general, DPCs sit between their sponsor and an external counterparty in derivative transactions and protect the counterparty from the potential default of the derivative seller (the sponsor).

Monoline insurance companies.

Monoline insurance companies provide protection against a specific type of risk (typically credit risk). Originally developed in the 1970s to provide US municipal bond holders with credit guarantees (or

“wraps”), over the past few decades they have diversified into the ABS and CDO markets (particularly the highly-rated senior tranches).

SIV: Structured Investment Vehicle.

A SPV that funds a diversified portfolio of highly rated assets by issuing short-term commercial paper, medium-term notes etc. In general, there is a maturity mismatch between their assets and liabilities. They aim to generate a positive spread between their return on assets and funding costs.

SPV: Special purpose vehicle.

A bankruptcy-remote company created for the sole purpose of acquiring assets or derivative exposures and issuing liabilities linked to these assets. Also known as a special purpose entity.

Diagram 1: Interlinkages between financing vehicles

