Fixed Income Quantitative Research
Structured Credit Strategy

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Understanding the CP Crunch

- **Many of the troublesome features of Canadian conduits are not found elsewhere**
- **But CP and financing markets generally are still subject to considerable strain**
- **Central bank liquidity injection ought to stave off more widespread financial problems**
- **But given tendency of illiquidity to snowball, we remain bearish on spreads for now**

Like a nasty virus, this bout of market turmoil seems to mutate even as it picks up new victims. Having started in subprime, the sickness has spread via leveraged loans and the Crossover to the asset-backed commercial paper (ABCP) markets and to the Canadian conduits. This has led us, at least, to have to brush the dust off our financial market textbooks and refresh our memories as to the processes underpinning repo, CP and other short end markets – the processes which keep the world financial system afloat. This note runs through just why there is pressure in those markets today, what the sources of that pressure are, and examines whether support from central banks will be enough to provide some relief. First, we look at the Canadian conduits themselves; then, we go on to consider CP more broadly; finally, we discuss the effect of – and limitations of – central bank intervention. Broadly, we expect more trouble first, then still greater - and ultimately successful – intervention from central banks later.

When is a back-stop not a back-stop?

The latest victims of the global liquidity crunch have been some of the Canadian conduits. Not only have names like Coventree had trouble rolling their commercial paper, but some of the providers of their "back-stop" liquidity lines have refused to pay up, creating the risk of their going into default. If ABCP buyers were to refuse to buy other similar paper as a result, then current problems could become more widespread.

Yet the Canadian conduits have key features which are unique to that market. Moreover, most CP market participants seem to be fully aware of these differences already, reducing the chance of immediate broader contagion.

The main difference between Canadian conduit ABCP and ABCP found in other markets concerns their backup liquidity lines. In other countries, the liquidity line is unconditional. The "Canadian-style" liquidity mechanism, in contrast, is contingent on there being widespread "market disruption" before it is granted. While the precise definition of such disruption is doubtless subject to debate, this creates a clear risk of funding not being provided, despite problems at an individual Canadian CP issuer, when other CP is rolling over in the market. Yet this risk only really exists in Canada because the Canadian ratings agency, DBRS, for a long time separated out liquidity risk from default risk, and hence was prepared to rate conduits with such a contingent clause on their liquidity lines. S&P and Moody's, who rate conduits elsewhere, were never happy with this. Even DBRS changed their policy – effectively prohibiting such conditionality – in November 2006.

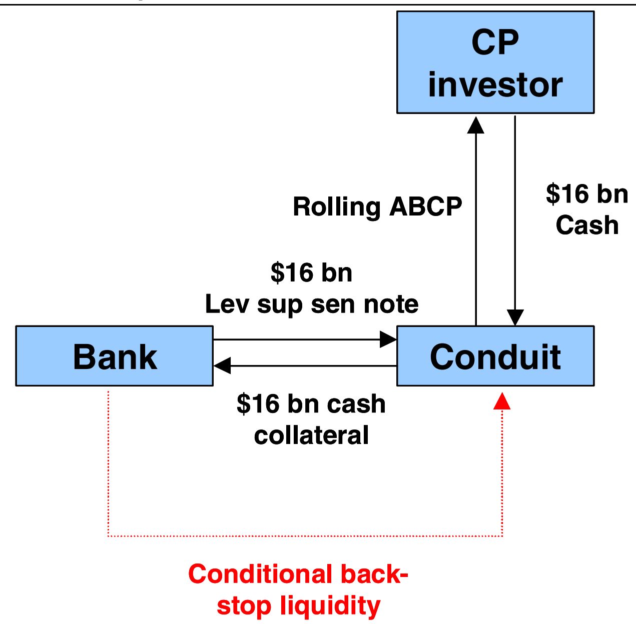
Super senior unwinding

If the Canadian conduits do end up in default (and Coventree, which has been at the heart of the headlines, actually yesterday succeeded in rolling more ABCP after problems the day before), there are likely to be knock-on effects on credit and tranche markets.

The main position reportedly held by the Canadian conduits is a long position in super senior tranches of investment grade synthetic corporate names, in extremely large size. The risk is that this position has to be unwound in coming months.

Figure 1 shows a typical set-up.[1] The conduits would usually buy a funded note giving them exposure to a leveraged position on a bespoke super senior tranche of an investment grade CDS portfolio. The super senior tranche might be, say, 22-100% or 30-100%, and have paid a spread of 5bp in 10-years. With ten times leverage, that would pay the conduit 50bp running.

Figure 1. Typical ABCP-funded Conduit set-up



Source: Citi

To fund this position (and hence have the cash to buy the leveraged super senior (LSS) note), they would issue short maturity ABCP, where the LSS note is the asset backing the CP. This might cost them, say, Libor flat. The conduit would then earn the difference between the two, or 50bp.

Clearly the risk to this position is the inability to roll over the CP. In this event, the conduit would normally try to draw on its back-stop liquidity lines. Failing that, and after a short grace period (typically one day), it would be declared in default. If funding cannot be found after a further grace period (usually rather longer, often around 60 days), then the conduit would be forced to unwind its super senior positions and use the proceeds to pay back the CP holders.

[1] For a much better description of how conduits work, and to understand the difference between conduits and other similar structures, see *SIVs and conduits – more unsettling news ahead?*, B. Specht, 3 August 2007.

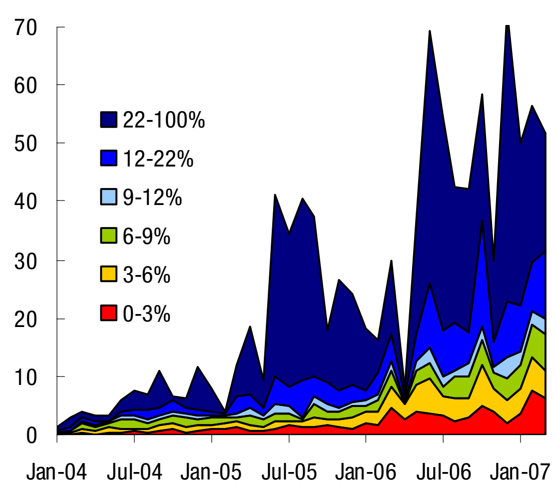
An earlier unwind can often also be forced if certain triggers on the super senior trade are breached. Basically this would happen if super senior spreads sold off enough. Since the LSS note is itself levered, it is technically possible to lose more than the par amount paid for the note. Hence in the event of such a sell-off, the issuing bank would require more collateral to be provided by the conduit. If this could not be raised via additional ABCP (or from some other source), then an early unwind would be triggered.

How big is the problem?

The super senior trades were very large. Coventree alone sponsors around $16 billion in ABCP. That probably represents a little more than the amount they own in ABCP notes (not all their assets need be LSS, and they will probably hold some cash). Levered 10-15 times, that implies some $200 billion in super senior. The total super senior market size is harder to estimate, but is probably not too much larger than this: Creditflux statistics show only about $180-$250 billion in net super senior tranche issuance over the past few years (Figure 2). While those numbers are unlikely to encompass the whole market, this still means that total outstandings should be less than $500 billion or so. Unfortunately looking at total ABCP outstandings serves as little guide, since most ABCP is backed by things other than leveraged super senior trades.

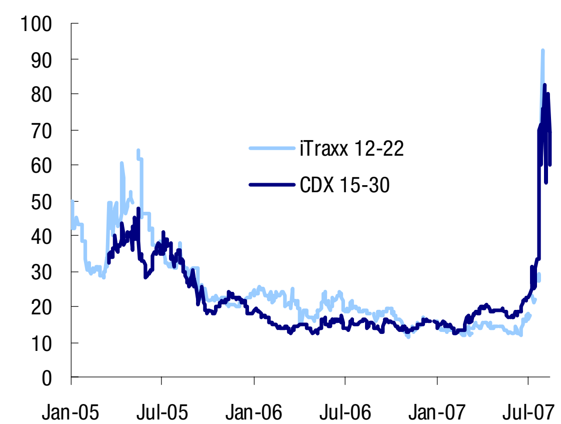
The unwinding of even part of this would be hard for the tranche market to digest. It is because of this that even senior tranches (such as 12-22 and 15-30) have been hit so hard in recent weeks (Figure 3).

Figure 2. Synthetic CDO issuance (Dollars in Billions, Monthly, Non Delta-Adjusted)



Source: Creditflux Data+

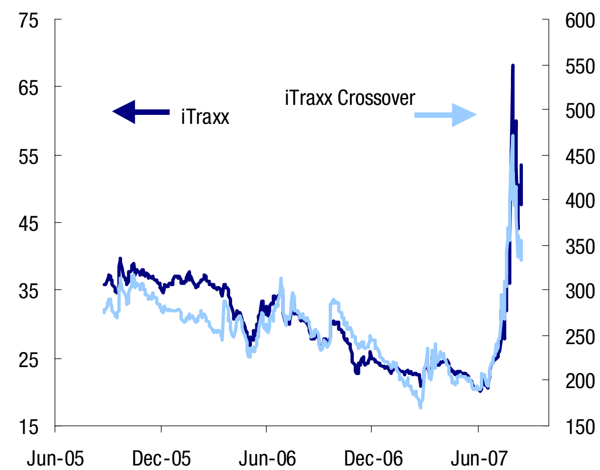
Figure 3. Senior Tranche Spread Levels – 10-Year, Basis Points



Source: Citi.

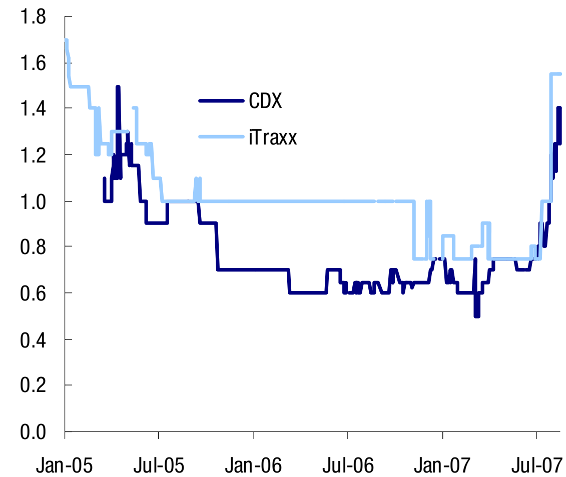
For credit markets as a whole, the prospect is not quite so terrible. The delta of these positions is around 0.5: that is, if, say, $200 billion were indeed unwound, this would require $100 billion of protection buying in the iTraxx and CDX IG indices in order to hedge it. While that too is a large number as an amount of net selling, it is probably only slightly more than a typical day's traded volume. Nevertheless, it is again the prospect of these and other investment grade tranche positions being unwound which we think is behind the underperformance of the IG indices relative to the Crossover over the past month or so (Figure 4). It is also very striking that when the super senior tranches were first placed, their delta was much smaller: deltas have increased dramatically as a result of the sell-off (Figure 5).

Figure 4. iTraxx Main and Crossover Spreads – 5-Year, Basis Points



Source: Mark-It.

Figure 5. Senior Tranche Deltas – iTraxx 12-22 and CDX 15-30*



Source: Citi

* Super senior deltas are harder to get data on, and will be smaller in size, but will have followed the same pattern.

CP Markets – keep the ball rolling

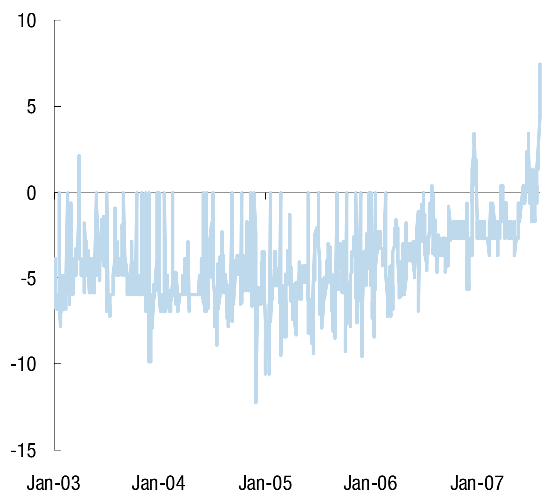
While the Canadian conduits' problems basically stem from their conditional liquidity feature, they are sadly not the only problem facing short-term financing markets. Other bull market phenomena have begun to be challenged for the first time of late, such as the first extensions on extendible CP following American Home Mortgage's filing for Chapter 11 and problems at some other issuers. While subprime is still the only area where we see a truly fundamental problem, these liquidity problems have taken on a life of their own in recent weeks.

As we see it, things basically started with increases in haircuts on CDOs of ABS as loss expectations – even on quite senior tranches – began to be raised. Unfortunately this coincided with a period when banks themselves were feeling relatively extended thanks to the $330 billion or so of LBO bridge financing they had sitting on their balance sheets, not to mention subprime losses of their own. This made them reluctant to countenance taking on more risk in those areas. As hedge funds and other levered borrowers searched around for refinancing, haircuts began to be raised not only on assets with a fundamental problem (subprime), but also on fundamentally unimpaired securities such as leveraged loans and corporate bonds, simply in order to keep overall risk levels under control. Furthermore, as volatility began to pick up and market liquidity diminished, banks had no option but to increase haircuts in order to compensate them for the potential for greater slippage in prices in the event of forced liquidations.

From there, things have snowballed. Hedge fund losses and associated asset seizures have simply made dealers feel longer risk still. Subprime problems showing up at places like IKB began to make banks fear lending to one another. Yet the more reluctant banks have become to lend – and hence the more liquidity they have withdrawn from the system – the worse the problems have become, as more and more counterparties have found it hard to refinance assets. Today's additional sharp moves in FX and equities add fuel to the same fire, as does Countrywide's decision to draw down $11.5 billion in its own liquidity lines. In a sense, this is the classic problem with liquidity and leverage – that everything is fine while liquidity is there, but that once it is withdrawn, an orderly mass deleveraging proves extremely difficult.

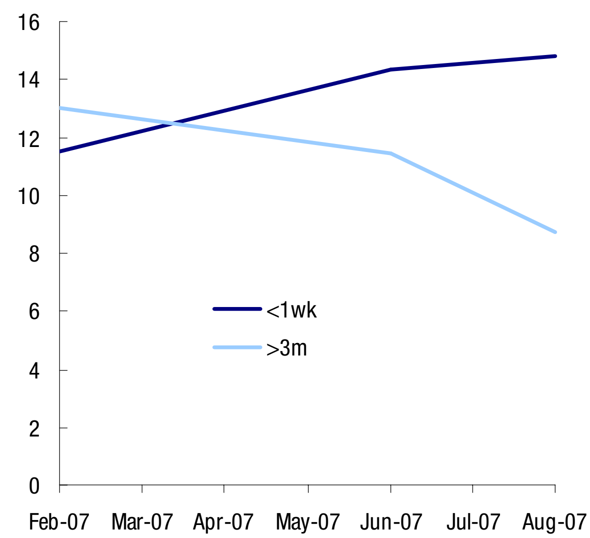
As such, the last few weeks have been characterized by three key features. First, spreads on CP have widened (Figure 6). Second, maturities have fallen (Figure 7). Even where banks and other CP buyers have been willing to lend, they have done so for diminishing terms. This risks creating a problem whereby more and more debt needs to be rolled each day – exactly the opposite of the way in which any treasurer tries to manage their borrowing needs. Third, there has been greatly increased differentiation: lenders have become much choosier about whom they lend to, and which assets they finance.

Figure 6. ABCP Composite Funding Levels



Source: Citi

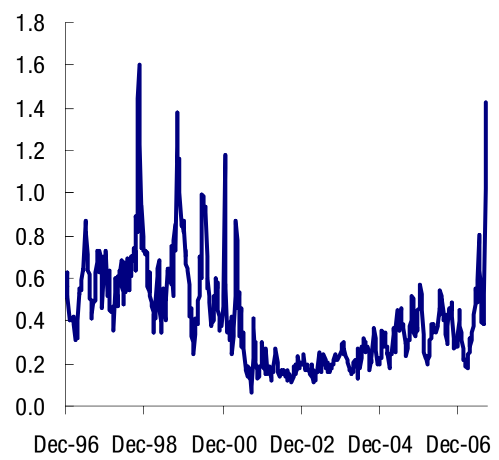
Figure 7. Proportion of ECP with Different Maturities (Percent)



Source: Dealogic / CPWare

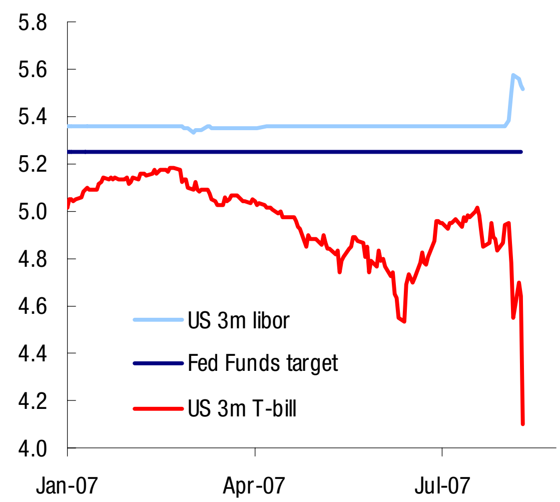
In this context, the Canadian conduit problems have simply exacerbated trends which were in place already. For example, one broad measure of liquidity pressures in the system is the extent to which T-bills trade through Libor. US T-bills now trade further through Libor than at any time since 1998, yet the widening of their spreads actually began months ago (Figure 8 and Figure 9). The move in Europe is much more recent, but here too, it pre-dates the problems at the Canadian conduits (Figure 10).

Figure 8. 3-Month Libor Minus 3-Month T-Bills – US, Percent



Source: Bloomberg.

Figure 9. US Money Market Rates (Percent)



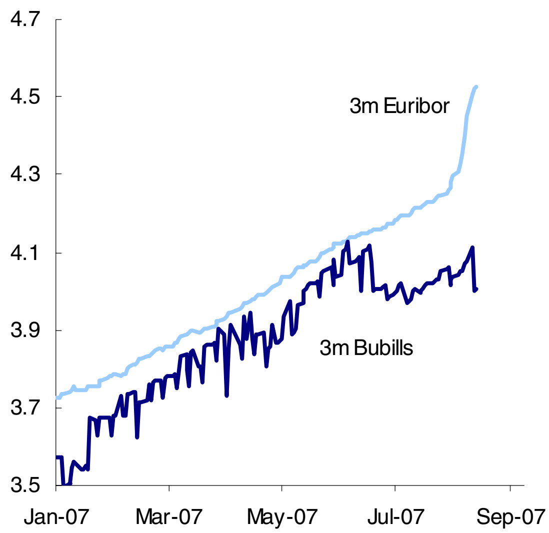
Source: Bloomberg.

In such an environment, it is very difficult to know where things stop. The main fear becomes fear itself. While defaults will undoubtedly pick up simply because liquidity is withdrawn from the system, nobody is seriously suggesting that enough corporates default to actually imperil the major banks. If this is widely recognized, markets should calm back down again. On the other hand, if CP buyers take fright and stop funding not only Canadian conduits but also others elsewhere, banks will face increased funding difficulties.

Even the major brokers, for example, have increasingly used ABCP conduits to fund their prime brokerage businesses, with the assets they themselves are funding on repo as the assets behind the ABCP. Were that ABCP to be withdrawn, their backup liquidity lines to those same conduits would need to be tapped, leaving them longer still of risk and causing them to withdraw even more liquidity from the system.

Of course, there is no *fundamental* reason why the ABCP buyers should take fright – the assets themselves are generally sound, and most of the banks are very well capitalized – but the greater the fear in the system, the greater the potential for problems. What is more, with regular Libor rates now trading so cheap relative to Eonia, investors may have reason to switch simply on grounds of relative value. While it is difficult to know precisely which conduits are used for what, their total size has grown to be quite large relative to the size of their sponsoring banks, and in particular relative to some of these banks' other sources of capital, such as retail or commercial deposits, or even relative to their total assets (Figure 11).

Figure 10. Euro Money Market Rates (Percent)



Source: Bloomberg.

Figure 11. Largest ABCP Dealers – Sorted by CP Outstanding Relative to Total Assets

Dealer	1Q06 ABCP ($bn)	# Programmes	Total Assets ($bn)	CP / Total Assets
Lehman	833	183	504	1.65
Merrill Lynch	749	171	841	0.89
Goldman Sachs	605	109	838	0.72
Morgan Stanley	489	108	1,121	0.44
Citi	728	166	1,884	0.39
JPMorgan Chase	513	105	1,352	0.38
Credit Suisse	324	74	1,032	0.31
Deutsche Bank	308	85	1,509	0.20
Bank of America	228	70	1,460	0.16
RBC	40	8	499	0.08

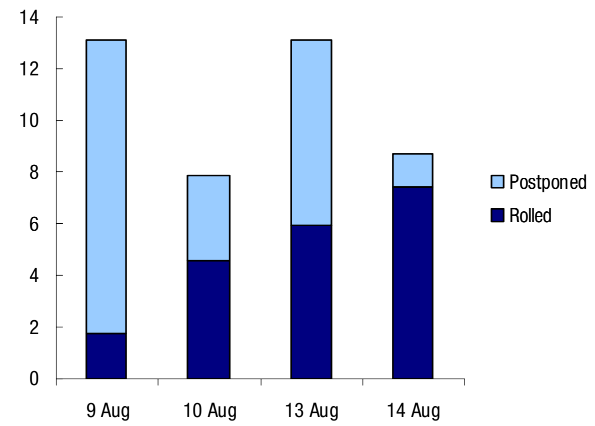
Source: Moody's, Bloomberg, Citi.
Note: Total Assets as at end 2006. Converted into dollars at current exchange rates. ABCP data come from Moody's and may exclude paper rated by other agencies.

Central banks to the rescue?

It is because of the potential magnitude of these problems that central banks have been injecting liquidity in recent days. While we think they will ultimately be successful, and this seems already to have had some impact, we doubt we are out of the woods yet.

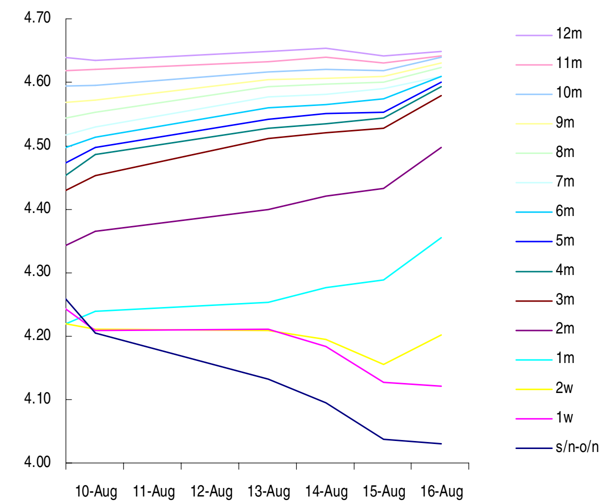
The reason for near-term optimism is that – until the conduit thing hit the headlines – CP buyers seemed to be returning to the market. Figure 12 shows the amounts of CP due to roll (under normal T+2 settlement) over the past few days relative to what actually rolled. Paper which did not roll then needs to be rolled either the following day (with T+1 settlement) or two days later (with same day settlement) in order to avoid a default. Following the central banks' intervention, the proportions failing to roll had begun to shrink back to more normal levels – though that seems to have changed again today.

Figure 12. ABECP Due to Roll and actually Rolling (Dollars in Billions)



Source: Citi, Dealogic CPWare.

Figure 13. Euro Money Market Rates (Percent)



Source: Bloomberg.

The other reason to be optimistic is the diminishing size of central bank interventions, and the supportive pressure which naturally builds up over time. Most of the funds taken down from the ECB were not in fact used, but redeposited with them later in the day. Banks feared they may need them (for example, as back-stop liquidity lines), but then turned out not to.

While on the other hand this means that the underlying problem was smaller than the original €95 billion liquidity injection suggested, on the other it also shows the central banks' limitations. Liquidity injections have so far only reached the overnight market, pushing rates down there (Figure 13), but failing to extend out to where the cash is really needed: in the form of buying of CP and other longer-term lending.

This conundrum ought in principle to be resolved over the next few days. Once banks reach a monthly quota for cash redeposited with the ECB, the overnight rate with which they are compensated falls precipitously, by a percent or so. At that point, if they do not want to take a loss, they should either draw down less liquidity in the first place, or else – as is the hope – be forced to extend that liquidity out to the rest of the market.

We are still a little doubtful as to whether this will happen without further intervention. For example, while the ECB has been extremely proactive in supporting the euro banking system, financing in dollar markets remains tight. The Fed has supplied liquidity to US banks, of course, but these have been reluctant to lend on to other non-US institutions (though there is evidence of this now abating). And suggestions by the press of the possibility of a currency swap, as occurred after 9/11, do not seem to have led anywhere (*FT*, 16 August).

Even if banks and central banks do want to do their best to provide liquidity, they may not physically be able to get the money fast enough to where it is needed. As banks have been disintermediated by markets over the past few years, so borrowers have come to depend not on the banks, but on a complex network of other lenders. For example, much CP is bought by corporate treasurers as a form of near-term cash management. If those corporates suddenly refuse to buy CP, it creates a problem. Even if banks suddenly try – with the aid of central bank liquidity – to take their place, they may well not have in place a sufficient number of credit lines to be able to support all of the extra borrowers. Fundamentally sound institutions could find themselves struggling to find liquidity.

Conclusion

Where, then, do we go from here? The crisis appears to have spread far beyond subprime and even leveraged loans to the heart of the financial system itself: CP and other forms of short-term financing. Its barometer is therefore no longer the Crossover index, but rather, the proportion of CP being rolled successfully, and the stock prices and credit spreads of the world's financial institutions. The Canadian conduits, although an extra burden, ought of themselves not to have broader repercussions, due to the uniquely conditional nature of their liquidity back-stops. But given the tendency of liquidity problems to feed upon themselves, our instinct is that more concerted intervention still[2] – most likely in response to further nasty headlines[3] – will be required before the system can return to normal.

[2] For more information on different methods of injecting liquidity – and some more of the background – see *Special Topic – A Brief Recap of How Global Markets Got Into This Liquidity Mess*, S. Peng, 16 August.

[3] See *Euro Credit Strategist*, 6 August 2007, for more of the potential sources of bad news we are worried about.

Disclosure Appendix A1

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