Fundamentals of Liquidity

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In a world in equilibrium, it simply does not make sense to think of liquidity as an attribute of an asset that affects its expected return. There is no trade-off between liquidity and return.

In the current world, there may be, for institutional reasons, such a trade-off. But it would be very difficult to establish laws governing the trade-off, since attempts of individuals and institutions to get around the institutional constraints will tend to change the terms of the trade-off. And since there will be no trade-off in equilibrium, we would need very powerful evidence to be convinced that the world is consistently out of equilibrium in such a way that more liquid assets have lower expected returns than less liquid assets.

LIQUIDITY AND REAL ASSETS

It is often claimed that some real assets are more liquid than others, because there is an established market for such assets, and they can be sold in this market on short notice.

A real asset has two functions: it acts as a store of wealth, and it is an object that has value in use. In theory, these two functions can be separated, as when one person owns an asset, and another person rents it for use. In practice, it may be advantageous for the user to own the asset, since he then has an incentive for keeping it in good condition.

It is true that the selling costs are lower for some assets than for others. However, selling costs should be assigned to the user of the asset, not to the owner. Thus variability in selling costs should not affect the return that the owner receives on the wealth he has invested in the asset.

For example, suppose that the retail value of a new car is \$3000. Suppose that \$300 of this is selling cost, so that its wholesale value is \$2700. After one year, suppose that its expected wholesale value is \$2000; and after two years, \$1500. Suppose further that the uncertainty in the value after one year or two is such that the required return on wealth invested in a car is 10% per year.

Then the cost of using the car has three components: (1) the initial selling cost of \$300, which is independent of the time the car is used, (2) the depreciation in the wholesale value of the car over the time it is used, and (3) the required return on the amount of wealth that could be made available at any time by selling the car at wholesale.

Thus the costs of using the car for one or two years are as follows.

	Initial Selling Cost	Required Return		
		Depreciation	On Wealth	Total
One Year:	\$300	\$700	\$270	\$1270
Two Years:	300	1200	470	1970

The important point here is that the owner of the car can receive all of the required return on wealth for assets of this degree of risk. He does not bear the cost of transferring the asset from one user to another; the user bears this cost. In a competitive world, where the person with wealth can get the required return on his wealth by investing it in financial assets, the extra costs of investing his wealth in a car for his own use must all be assigned to the use of the car rather than to the ownership of the car.

CASH FLOWS AND REAL ASSETS

The fact that liquidity should not affect the return on investment in real assets becomes especially clear when we consider the relation between the purchase or sale of an asset and the cash flow connected with the purchase or sale.

There is virtually no relationship between the legal transaction in which a buyer agrees to pay a certain amount to a seller, in return for an asset owned by the seller or services to be provided by the seller, and the settlement of the transaction in the form of one or more cash flows.

The seller can get most of the money that he will realize from the sale before he actually makes the sale, by borrowing from a lender in anticipation of the sale. On the other hand, the seller may provide credit to the buyer, and may get his money in the form of periodic payments on an installment contract. Or a lender may give the seller money before the sale, and collect from the buyer (in installments) after the sale. Thus the seller can get his money either before or after the sale, and the buyer can pay his money either before or after the sale. Both the buyer and the seller can arrange to have the actual cash flows occur at convenient times that bear almost no relationship to the time of sale.

In particular, both the buyer and the seller can arrange for the cash flows to occur at a future time that is fixed in advance. So both of them can know well in advance when the cash flows will occur, and neither

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has the problem of dealing with unexpected cash flows.

LIQUIDITY AND FINANCIAL ASSETS

Like a real asset, a financial asset may have more than one function. In addition to serving as a store of wealth, a financial asset may make it possible to transfer risk from one person to another, and may make it possible for speculators to make "bets" on the fortunes of a particular company.

But these functions are separable. There is no reason why the person who supplies the money for a financial asset should take the risk associated with the asset. And the risk can be transferred from one person to another independently of any transfer of the money investment from one person to another.

For example, government bond dealers hold large quantities of bonds in inventory, financed almost entirely by bank loans and loans from other financial institutions. The dealers are bearing the risk of fluctuations in the value of their bond portfolios, but they are supplying only 5% - 10% of the money that is invested in the bonds. One dealer might sell a bond to another dealer, without any change in the institution financing the bond; this would be a transfer of risk without any substantial transfer of funds.

Consider a long term corporate bond. There is no theoretical reason why a financial institution could not guarantee, for a fee, the payments of interest and principal on the bond. We would expect the fee to be related to the amount of market risk in the bond. Such a bond would then be, from an investor's point of view, virtually free of risk of default. The transfer of the bond would be completely independent of the transfer of the guarantee. A second institution might take over the guarantee function from the first institution, without affecting the bond holder. And the holder of the bond could sell it to another holder without any change in the institution guaranteeing the bond.

It is clear that the risk of default on the bond, and changes in the fortunes of the issuer, will affect the terms on which the guarantee can be transferred. If there is a dealer in guarantees, these factors may affect his spreads. But these factors will not affect the terms on which the bond itself can be transferred. Nor will they affect the spreads of bond dealers.

Similarly, there is no theoretical reason why a financial institution should not guarantee a long term bond against fluctuations in price. This would convert the long term bond into a short term bond, from the holder's point of view, and would separate the function of supplying the money from the function of bearing the risk of price fluctuations.

Again, it is clear that changes in interest rates will not affect the terms on which the bond can be transferred, and will not affect the spreads of a dealer in bonds. They will affect the terms on which the guarantee can be transferred, however, and may affect the spreads of a dealer in guarantees.

Instead of having a financial institution guarantee the bond against price changes due to changes in interest rates, the corporation issuing the bond might choose to have a coupon tied to current short term interest rates rather than a fixed coupon. This would also serve to eliminate the risk of changes in price due to changes in interest rates.

Thus a long term corporate bond could actually be sold to three separate persons. One would supply the money for the bond; one would bear the interest rate risk; and one would bear the risk of default. The last two would not have to put up any capital for the bonds, although they might have to post some sort of collateral.

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The cost of transferring the bonds themselves, under these circumstances, would be nearly zero. The buyer of the bonds would not have to worry that the seller knew something about the company's fortunes, or about future interest rates, that he did not know. The dealers in the bonds would not be bearing any risks at all. The nominal transactions costs could be paid by the buyers and sellers of the bonds.

In the same way, the function of a common stock in transferring risk can be separated from its function as a store of wealth. When a company sells stock, it would be possible for one person to put up the money, and for another person to take on the risk. The first person would simply be lending the second person the money to buy the stock. The risk-bearer would normally give collateral to the lender, but he would not have to put up any cash.

Again, the transfer of the risk would be independent of transfer of the loan. The risk-bearer could transfer the risk to another person without affecting the lender, so long as the new risk-bearer could post enough collateral. And the lender could transfer the loan to another person without affecting the risk-bearer.

The person who takes on the risk has to worry that the person giving it up has inside information that he does not have. But a new lender does not have to worry that the old lender has knowledge he doesn't have. So long as the collateral is adequate, he is safe.

Thus the costs associated with transferring risky financial assets should properly be associated with the transfer of risk, and not with the transfer of funds.

CASH FLOWS AND FINANCIAL ASSETS

The two factors that are said to make an asset relatively illiquid

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are risk and transfer costs. But we have seen that the risk of a financial asset is separable from the asset as a store of wealth, and that the transfer costs are associated with the risk of the asset rather than with the asset as a store of wealth.

Thus liquidity in financial assets has nothing to do with cash flows. Cash transfers are completely independent of risk transfers, and liquidity, if it has any meaning at all, is associated with risk transfers rather than with cash transfers.

One way to see this is to note that the purchase or sale of a financial asset can be financed by a lender, just as the purchase or sale of a real asset can be financed by a lender. The time of the purchase or sale is not related to the time at which the major portion of cash is transferred.

If the seller provides credit to the buyer, then they can agree on a mutually acceptable future time for payment to be made, and the cash flow will be known in advance for both of them.

A person or institution does not need to hold liquid assets to help handle unexpected cash flows. Almost all cash flows are expected, and the cost and risk associated with handling those cash flows that are unexpected are very low.

OPEN MARKET OPERATIONS

The idea that cash transfers are independent of risk transfers casts new light on Federal Reserve open market operations. The important difference between the Federal Reserve System and other holders of government securities is that the Federal Reserve does not choose its securities in order to maximize its income. Because of this, the Federal Reserve actually loses money on its open market operations; that is, it makes less money than it could make if it held different securities.

The Federal Reserve is unique in that its decisions on what securities to buy are not influenced primarily by expectations of future interest rates. Since it is such a large factor in the government securities markets, it can actually distort the term structure of interest rates, so that government bond prices do not reflect only the market's expectations of future interest rates.

To the extent that the Federal Reserve does not base its actions on expectations of future short term interest rates, there are profit opportunities for the other participants in the government securities markets. What the Federal Reserve loses on its open market operations, other participants, who trade with the Federal Reserve, Make.

It might seem that the Federal Reserve was in a position to make money at the expense of other participants, because of its great knowledge of the market and its knowledge of its own intentions. But in fact the reverse is true.

Since Federal Reserve actions create continuing profit opportunities, the market is continually out of equilibrium. If the market were more efficient, and transactions costs were lower, and knowledge of Federal Reserve actions more widely available, the Federal Reserve would not be able to influence market prices appreciably.

The inability of the Federal Reserve to make money from knowledge of its own intentions depends on the fact that it is not able to

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influence very short interest rates; in other words, that it is able to influence futures prices but not spot prices.

In the very short end of the spectrum, quoted interest rates provide all the knowledge an investor needs, and arbitrage is very effective. Given a choice between competing instruments with the same risk characteristics and the same maturity, the investor chooses the one with the lowest price.

The only exception to this rule is in the case where "institutional factors" prevent large holders of short term notes from choosing certain classes of notes. Then there may be a significant differential between the notes they can hold and the notes they can't hold, and Federal Reserve actions may affect the size of this differential. But this does not mean that the Federal Reserve is affecting "the" spot rate of interest.

The Federal Government's budget will affect short term interest rates. The larger the deficit, the higher interest rates will be, as private investment is displaced by government borrowing. But the actions of the Federal Reserve in shifting the composition of the government's debt will not affect short term interest rates.

There is only one short term rate that is consistent with equilibrium in the investment market, given the rate of change of prices. And Cagan has shown that the price level cannot bring equilibrium to a system in which it is an endogenous variable. So we must regard the time path of prices as exogenous, and the short term interest rate as endogenous. But in such a system, the actions of the Federal Reserve are not necessary (or even possible) to determine the short term interest rate.