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Securing your future through Precision Investing™

Advice and Guidance
Managing Liquid Reserves

Definitions

In this note we provide advice and guidance on how liquid reserves should be handled. Generally holdings of cash can be divided into two components

1. operational balances refers to cash held to pay bills coming due within the next 30-45 days in the ordinary course of life.

2. liquid reserves refers to all additional holdings of cash and of a certain class of securities known as "cash equivalents."

Liquid reserves can be further broken down into three components

1. transactional amounts – this is cash being held for use in a transaction which is not part of normal life, for instance the cash required to close purchase of a home. The key point is the cash is held for a specific identified purpose and it will be used at an identified time.

2. emergency fund - this is cash held to deal with a grave emergency or a developing need for cash. Paying emergency health bills, repairing damage to ones home or sustaining essential expenditures during a period of unexpected unemployment are typical uses of an emergency fund. In general some part of emergency cash needs to be immediately available at an unexpected time and the rest of the emergency fund should be available after a delay of only a few days.

3. funds held for investment – one sometimes has holdings of cash which ultimately will be invested but which are being parked in cash meanwhile. There can be any number of reasons for the delay – waiting to open an account, waiting for market to normalize after a big move, waiting to identify a suitable investment (e. g. if the investment is earmarked for real property.) In general, however, one has full control over when the money will be used.

These distinctions matter because each type of cash should be handled somewhat differently.

Whatever the type of cash, however, our goals are always the same:

1. to keep it secure
2. to keep it readily available
3. to earn some interest if possible

These goals are not of equal weight. Security of cash is of paramount importance. Generally unexpected losses of cash create problems in planning and bill paying which can be far more damaging than any return which could have been earned on the cash. The second criterion is that the cash be readily available – our categorization of types of cash have highlighted differences in just how available the cash needs to be. Again a problem with ready availability can have damaging consequences out of proportion to the issue at hand. If you need cash on Monday to close the purchase of your home and the cash only arrives Tuesday you could end up losing your chosen property to another buyer. Finally, the interest earned on cash is of much lesser importance than security and availability. Unfortunately, people tend to forget this point and in the process of hunting for the best interest rate they end up mishandling their cash.

Security of Cash

In the United States bank deposits are insured by the Federal Deposit Insurance Corporation (FDIC.) The FDIC is a government sponsored insurer funded by premiums levied on bank deposits.

The premium is calculated to cover usual and extraordinary calls on the insurance funds. Government sponsorship means that in the event of a catastrophic need for coverage beyond that on which the premium is based, the US Treasury is available to backstop the fund. This backstop has rarely been needed, but in crises it has been honored. Accordingly, bank depositors can take FDIC insurance as reliably present.

FDIC insurance coverage is currently limited to $250,000. This limit is applied by account owner by institution. Let us consider what that means. John banks at Friendly Local Bank. He has three accounts at the bank, his personal account, a joint account with his wife and a business account held under the taxpayer number of the business. The FDIC

considers each of these accounts to be a separate ownership. Suppose Friendly Bank goes bust and FDIC insurance coverage is triggered. Suppose John had $750,000 on deposit with Friendly. How much insurance coverage John has depends on how his funds were allocated among his three accounts. If each account had $250,000 then John is fully covered. If instead all the money was in the personal account, then John has just $250,000 in insured deposits and $500,000 in uninsured deposits. Consider a different situation. Suppose John banks at two banks, TweedleDee Bank and TweedleDum bank. We suppose he just has personal accounts at these two institutions. Unfortunately, TweedleDee and TweedleDum both go bust on the same day and the FDIC steps in. Although John's accounts have identical ownership, they are at distinct institutions and so each account will be insured up to the $250,000 limit.

How accounts in bust banks are handled by the FDIC depends critically on whether deposits are insured or uninsured. In general the FDIC pays insured deposits immediately. When a bank is going bust, it is typical for the FDIC to close the bank at the end of the week, to send in its crisis team to take charge over the weekend and to pay insured depositors on Monday. If the bank is closed earlier in the week, then the FDIC usually tries to pay insured deposits within 3 business days. Handling of uninsured deposits is not so straightforward. The FDIC can simply refuse to pay anything on such deposits. In this case the bank goes into bankruptcy – a legal process stretching out for months to several years. Uninsured depositors are one class of claimant on the bank's assets. At the end of the legal proceeding the judge orders a division of the bank's funds among the different classes of claimants. The uninsured depositors will typically get some recovery, but usually not the full value of their claim. In other cases, the FDIC can elect to pay the uninsured depositors. The FDIC does this in two circumstances: 1) the bank is so important and significant that stabilizing the banking system requires quick resolution of the problem or 2) the FDIC is confident that it can generate enough funds from liquidating the bank's assets that uninsured depositors would eventually make a full recovery under the bankruptcy process. If the FDIC decides to make a payment on insured deposits, it may pay them immediately

or it may pay it in tranches as it liquidates assets. Normally, however, depositors will get their recovery much quicker than under the bankruptcy process. Finally, the FDIC may arrange the sale of the bust bank to a healthy bank. Normally such sales require the acquiring bank to pay the depositors of the bust bank in full. The acquiring bank in fact hopes to retain those customers, so it generally will try to pay them quickly. Doing so, however, will involve migrating their accounts off the computer system of the old bank and on to the computer system of the new bank. This is not a simple process, and it can take a few days to a few weeks. In the interval, depositors may have only limited access to their funds.

Which course of action the FDIC may take depends entirely on the specific circumstances. In general, therefore, only insured bank deposits can be considered truly safe. Certain banks are so large as to be considered systemically important. Other banks are so financially secure that their going bust is only a remote possibility and if they were to fail there almost surely would be adequate funds to make depositors whole. Uninsured deposits at these systemically important banks and strong banks may be considered adequately secure.

There are alternatives to bank deposits which can provide comparable levels of security. Cash deposited with security brokers is insured by the SPIC up to the same limit as FDIC insurance. The SPIC is a different government sponsored insurer but its procedures are similar to the FDIC. When brokers go bust the nature of their business means there is usually a smaller recovery in bankruptcy and so uninsured deposits with brokers cannot be considered secure.

Cash may also be deposited to money market funds. Money market funds invest only in high quality short terms debt instruments. Such investment losses as they may experience are usually covered by the investment income they generate. As a result they can almost always redeem their shares at par. Redemption of shares thus functions identical to withdrawl of a deposit from a bank. Only in the most severe financial crises have money market funds been unable to redeem funds at par and such losses as their investors have incurred have been only a few percent. General money market funds

may, therefore, be considered nearly as secure as insured deposits.

Certain money market funds invest only in Treasury bills and other short term debt issued by government agencies. These are the most secure investments available and such funds should be considered the most secure manner in which to hold cash. Other money market funds hold short term paper issued by State governments and agencies. While not possessing the gilt edged security of Federal securities, this state issued paper is for all practical purposes of the same security as Treasury bills. Interest derived from Treasury instruments is subject to Federal income tax but is exempt from State income tax. Interest derived from State instruments is exempt from Federal income tax and may be exempt from State income tax as well. So called "triple tax free" debt is debt issued by US territories and a few other Federally sponsored entities. It is generally exempt from all income taxes: Federal, state and local. Interest paid by money market funds will usually be taxed like the underlying investments. The choice of which type of money market fund to invest in is usually made based on ones personal tax circumstances and the after tax yield rather than on considerations of security.

It is also possible for individuals to invest directly in the same sort of instruments as money market funds. The only real difficulty is that the minimum investment is usually $100,000. The instruments typically purchased by investors are Treasury bills and Commercial paper. Treasury bills are issued by the US Treasury. The Treasury sells them to the public in regularly scheduled auctions. Maturities at issue are usually 13 weeks (3 months), 26 weeks (6 months) and 52 weeks (one year.) In the market place it is possible to buy Treasury bills whose remaining life is less than the when issued life. The 4 week (one month) Treasury bill is the one most often purchased this way. One can buy Treasury bills at auction by submitting a bid accompanied with a cashiers check to a Federal Reserve bank. The Federal Reserve bank's role is to manage the auction. The bid can either be noncompetitive – meaning one will purchase the bill at the average price determined by the auction – or it can be competitive – meaning one states the price one is willing to

pay and the Federal Reserve will decide on the Treasury's behalf whether to accept or reject the bid. Alternately Treasury bills can be purchased through a security dealer. The security dealer may enter a bid at auction on the clients behalf, bid itself at auction and resell the bill to the investor or purchase the bill in the open marketplace. Buying through a dealer avoids the inconvenience of posting a cashiers check, so it is the most commonly used procedure.

Commercial paper is short term unsecured debt issued by well known corporations with very high credit ratings. Typical maturities are 30 days. Most commercial paper is held to maturity and not traded in the marketplace. Commercial paper usually has a slightly higher yield than one month Treasury bills. However, commercial paper interest is subject to all income taxes (federal, State and local.) On an after tax basis the yield premium of commercial paper is fairly nominal. Only during financial crises will commercial paper command a meaningful premium above Treasury bills and that is the one time one prefers the greater security of Treasury bills. Commercial paper is purchased through a security dealer. Certain banks also purchase Treasury bills and commercial paper on behalf of clients.

One purchases Treasury bills and commercial paper for their high level of security. To achieve that security it is essential that they be held in cash accounts and not margin or loan accounts. When assets are held in a cash account at a security dealer the dealer must keep the assets segregated from all other firm assets. When the assets are held in a margin or loan account the dealer may sweep them into its general account. Should the dealer go bust, segregated assets will be delivered to their owner – generally within a few days. Unsegregated assets, however, will convert to a claim in bankruptcy. It may be years before one receives a payout and it will generally be a partial payout.

Availability of Cash

When one discusses availability of cash the important distinctions are whether the cash is immediately available, available next business day or available only after a delay of several days.

Generally funds need to be available to make payments, so we consider the different mechanisms for paying out cash as well in this section.

Only cash held in a bank demand account (i. e. a checking account) can be considered immediately available. Such cash can be paid out by wire transfer the same day if the request is made an hour or so prior to the wire cut-off time (normally 5pm Eastern time.) Wires sent closer to the cut-off point usually will be processed the same day but may be delayed to the next day if the wire department is having a busy day. Cash may be withdrawn from a bank and used for same day payments. However, most banks limit the amount of cash which can be withdrawn by a customer to a few thousand dollars unless prior arrangements are made. Banks often refuse to accept cash deposits except from customers which also limits the utility of cash payments. Small sums of money (up to a few thousand dollars) may be paid by various consumer payment networks, such as Western Union and Venmo. Such payments usually go through in a few minutes to hours. Cash paid out by ACH transfer (a form of bank-to-bank electronic transfer) is normally available the next business day. The same applies to cashiers checks (a check issued in the bank's name.) Personal checks take a variable amount of time to process. The payment interval with payment cards (debt and credit cards) also is variable depending on how the merchant handles the transaction. The interval can be from same day to two days. The amounts that can be processed through payment cards is limited by the card issuer.

Costs for different payment mechanisms is generally variable. A wire transfer normally costs $30. An ACH transfer and cashiers check can be anywhere from $0 to $25. Personal checks are free with offsetting balances or else are limited to a certain number of transactions per month. Consumer payment networks and payment cards usually charge 1%-3% of the amount transferred. Many merchants absorb these fees, while others pass them on to the payer or offer a discount for cash payments. As a result of these different considerations there is a natural selection of payment mechanism. Large transactions are typically paid by wire, ACH transfer or cashiers check. Both a wire and an ACH transfer require the

bank details of the person paid. When such details are not available or physical confirmation of payment is desired, a cashier's check is the usual payment mechanism. A wire is utilized when payment on a date certain is needed, while an ACH transfer may be preferred if there is some flexibility to payment date. Smaller routine payments are made by payment card, consumer payment network or personal check. Electronic payment methods result in easier bookkeeping and less time devoted to the payment, so the majority of payments are made by this mechanism today. Personal checks are primarily useful where one or the other of the parties has not yet switched to electronic payment.

Cash held in savings accounts can normally be transferred to a demand account at the same bank and paid out the same day. However, the bank may limit the number of withdrawls per month or reserve the right to process withdrawls more slowly in case of a financial crisis. Thus savings account holdings should be considered as "overnight" money rather than "same day" money.

Cash held in brokerage accounts or in money market funds normally must be transferred to a bank demand deposit before it can be paid to a third party. The transfer to the bank will either be same day (for a wire) or overnight (for an ACH transfer.) Many brokers and money market funds integrate their operations with those of a bank and thus support paying out operations (e. g. check writing privileges or third party electronic transfers) on the account. How immediately available the funds are must be verified with the broker or money market fund.

Cash held in the form of a security with a maturity date is not normally available before the maturity date. Treasury bills, commercial paper and bank certificates of deposit are examples of such dated instruments. Treasury bills can, if absolutely necessary, be sold in the secondary market prior to maturity, but one will usually have to take a modest haircut for so doing. Banks usually allow certificates of deposit to be cashed prior to maturity, but they will normally exact penalty fees for so doing. In general cashing out of some instruments prior to maturity should only be done in an emergency. Once the maturity or sales proceeds are received in the security account, transfer to a bank account will normally be required.

When an important sum of money must be paid on a date certain it is best to use a bank wire and to make sure the necessary funds were on deposit in the paying out account at least the day before.

All of the foregoing remarks assume the payment is being made between US parties. International transfers are an entirely different process. The equivalent of an ACH transfer is a payment made over the SWIFT system. Such transfers can take a few days to a few weeks to process. Large commercial banks often enter into arrangements with large commercial banks in foreign countries known as correspondent banks. Transfers between correspondent banks may process in a few hours to a few days. Foreign currency dealers may hold accounts in a number of foreign banks and may also be able to offer speedy transfer services. Small sums of money (up to a few thousand dollars) may be rapidly (i. e. a few minutes to hours) transferable by services such as Western Union and World Remit. In general, however, international transfers take longer, are surrounded by more red tape and are less predictable as to how much time they will take than domestic transfers. When funds must be available in a foreign destination or must be received from a foreign destination by a date certain it is best to start the transfer process with adequate lead time. Each country and transfer provider has their own set of rules which apply.

Advice

We now turn to specific advice regarding the particular situations noted at the start.

Operational Balances

For most people operational balances will be below the FDIC insurance limit. These balances may be kept at any insured bank. We recommend utilizing both a checking and a savings account. Place funds needed in the next week or two in the checking account and hold the balance in the savings account. This arrangement is a precaution against identity theft and check fraud. Criminals are most likely to access the checking account since that is the account number that circulates out in the world. Accordingly, one wants to keep a

low balance in the checking account to limit loss should criminal access occur. Periodically one tops the checking account up from the savings account. Most savings accounts are limited to three withdrawls per month after which a penalty may be levied, so one wants to limit the number of top ups needed.

Transactional Amounts

These are large amounts held generally for short periods of time. The simplest way to hold them is in the savings account if the FDIC insurance limit will not be breached. If one banks at a systemically important or high rated institution, holding deposits beyond the insurance limit has minimal risk and high convenience.

Emergency Funds

It is convenient to divide these funds into two portions. The amount which needs to be immediately available can be held in a savings account provided insurance limits are not breached. Remaining funds are most conveniently held in a money market fund selected on the basis of after tax yield. This is also the best solution if holding the emergency funds on deposit would breach the insurance limit.

Funds Held For Investment

A money market fund is a reasonable solution for funds up to $500,000. For significant cash balances or balances exceeding $100,000 which are likely to be carried for a year or more, it is worthwhile to consider direct purchase of Treasury bills and top grade commercial paper. We recommend not buying commercial paper issued by financial firms. The credit standing of such firms can change more quickly than nonprofessionals can monitor. Instead it is better to hold paper issued by top rated manufacturers. Although these firms can experience declines in credit quality, those declines are generally slow enough that ones paper matures before a threat of bankruptcy arises. Commercial paper is rated in three grades by credit rating bureaus. Nonprofessionals should only consider top rated paper.

There are several ways one may structure a holding of short term debt. One approach is to keep maturity to 30 days and simply keep renewing it as it comes. Alternately one can ladder it out with maturities at 3, 6, 9 and 12 months.

Practices To Avoid

Some people like to open accounts at lots of different banks. The excuse for doing so is often to maximize FDIC insurance coverage. However, there are better ways to keep large cash sums safe than spreading them through many banks. When a person has accounts at many banks it is easy to lose track of them and if they remain idle too long, the bank must turn them over to the state as property presumed to be abandoned. If you die unexpectedly it can be a nightmare for whoever is winding up your affairs to reclaim deposits at multiple banks. Generally each bank will have its own procedures and requirements and the work of dealing with multiple institutions can be very substantial.

We recommend limiting ones self to not more than two banks and one money market fund. Generally complicating matters beyond that point will increase operational risks and costs without generating meaningful additional financial security.