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### Short-Term Liquidity Measures for Restaurant Firms: Static Measures Don't Tell the Full Story

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## Short-Term Liquidity Measures for Restaurant Firms: Static Measures Don't Tell the Full Story

### Abstract

Although most analysts apply static measures such as the current ratio or the quick ratio to assess a firm's short-term liquidity, a separate calculation of dynamic integrative measures can tell a completely different story about a firm's ability to meet its short-term obligations. One important difference between the two types of measures is that the static measures assume that a firm will be liquidated, while the integrative measures evaluate the liquidity of the firm as a going concern. Analyzing a sample of restaurant and manufacturing firms from 1994 through 2003, the static measures of liquidity imply that restaurant companies are illiquid, while manufacturing companies are liquid. However, when the same companies are evaluated under an integrative framework, restaurant firms were shown to be the more liquid ones, based on their financial and operating liquidity. Compared to restaurants, manufacturing firms exhibit a certain amount of operating illiquidity due to the length of their cash-conversion cycle (that is, the time it takes to generate revenue from the expense of adding and processing inventory). The analysis suggests that financial analysts, creditors, and managers should evaluate both dynamic liquidity measures and static measures in assessing short-term liquidity, since each measure provides different information about a company's ability to cover its obligations. Moreover, when evaluating a company's liquidity over time, one must pay careful attention to the sources of any changes in a company's liquidity position. The finding that restaurants, particularly owner-operator firms, have high operating liquidity should be an argument for favorable short-term financing terms, even though static ratios make restaurants seem like poor risks. An accurate evaluation of short-term liquidity may improve restaurants' cost of short-term financing, overall financing costs, and required returns from equity investors.

### Keywords

restaurants, firm liquidity, financing, investment return

### Disciplines

Business | Hospitality Administration and Management

### Comments

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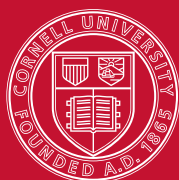


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Short-term Liquidity Measures for Restaurant Firms: Static Measures Don't Tell the Full Story

*by Linda Canina, Ph.D., and Steven A. Carvell, Ph.D.*

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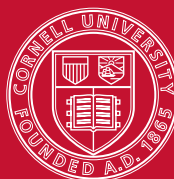
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## EXECUTIVE SUMMARY

**A**lthough most analysts apply static measures such as the current ratio or the quick ratio to assess a firm's short-term liquidity, a separate calculation of dynamic integrative measures can tell a completely different story about a firm's ability to meet its short-term obligations. One important difference between the two types of measures is that the static measures assume that a firm will be liquidated, while the integrative measures evaluate the liquidity of the firm as a going concern. Analyzing a sample of restaurant and manufacturing firms from 1994 through 2003, the static measures of liquidity imply that restaurant companies are illiquid, while manufacturing companies are liquid. However, when the same companies are evaluated under an integrative framework, restaurant firms were shown to be the more liquid ones, based on their financial and operating liquidity. Compared to restaurants, manufacturing firms exhibit a certain amount of operating illiquidity due to the length of their cash-conversion cycle (that is, the time it takes to generate revenue from the expense of adding and processing inventory). The analysis suggests that financial analysts, creditors, and managers should evaluate both dynamic liquidity measures and static measures in assessing short-term liquidity, since each measure provides different information about a company's ability to cover its obligations. Moreover, when evaluating a company's liquidity over time, one must pay careful attention to the sources of any changes in a company's liquidity position. The finding that restaurants, particularly owner-operator firms, have high operating liquidity should be an argument for favorable short-term financing terms, even though static ratios make restaurants seem like poor risks. An accurate evaluation of short-term liquidity may improve restaurants' cost of short-term financing, overall financing costs, and required returns from equity investors.

# Short-term Liquidity Measures for Restaurant Firms: Static Measures Don't Tell the Full Story

by Linda Canina and Steven A. Carvell

**T**he accurate measurement of a firm's liquidity is important to both creditors and investors as they consider short-term default risk in their calculations of a firm's short-term borrowing costs, credit worthiness, cost of capital, and valuation. Short-term liquidity measures, particularly current and quick ratios, are considered to be key liquidity measures by financial analysts and lenders. While these two ratios are the most commonly employed measures of a firm's liquidity,<sup>1</sup> they emphasize a static approach to liquidity analysis because they only consider the firm's stock of liquid resources. These ratios omit another source of liquidity available to the firm in meeting its short-term obligations, namely, the flow of resources available from operations. Though operating cash flow coverage is a crucial element in liquidity analysis, it is often ignored. Consequently, depending solely on the measurement characteristics of static ratios may overstate or understate a firm's overall short-term liquidity.

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<sup>1</sup> R. Kamath, "How Useful Are Common Liquidity Measures?," *Journal of Cash Management*, January–February 1989, pp. 24–28.



In this regard, the adequacy of static liquidity measures such as the current and quick ratios has been questioned by many researchers. Although static ratios do, indeed, measure a firm's short-term liquidity, the focus of these ratios involves the solvency of the firm should the company liquidate. In contrast, the liquidity provided from financial assets and operations flows from the company as a going concern. In this paper we describe and compare measures of liquidity relating to operations. These liquidity estimates separately measure the financial and operating liquidity of the firm as a going concern, unlike the most commonly used static measures of liquidity.

The appropriate measurement of short-term liquidity is critical to the financial management of any firm. Operating liquidity plays an integral part in establishing short-term financial risk. As a result of the possibility that static measures do not fully state a firm's liquidity, this paper applies an integrative approach to the analysis of liquidity. The integrative approach comprises two components: financial liquidity and operating liquidity. In this way, we separately identify the extent to which the firm's potential short-term obligations are covered by both its stock of liquid financial assets as reported on the balance sheet and coverage from its flow of liquid resources provided as a result of operations.

The analysis presented in this report compares the static measures of liquidity to the integrative financial and operating liquidity measures to determine whether the integrative measures provide any additional information beyond that of the static measures regarding a firm's liquid reserve. We begin with a discussion of the two most common static measures of liquidity, along with an analysis of potential problems associated with them. This is followed by an explanation of the integrative approach to liquidity analysis. We will then compute and compare various measures of liquid-

ity for a sample comprising restaurant operators, restaurant franchisors, and manufacturing firms. We analyzed service firms and manufacturing firms to ensure that the results are not specific to a particular industry. The report ends with specific suggestions for analysts, investors, and executives involved in liquidity analysis.

## Measures of Liquidity

Companies maintain a liquid reserve so that they can meet cash obligations as they come due. If not enough cash is available a firm may have to delay payments, obtain temporary financing at unfavorable terms, or even sell assets. An adequate liquid reserve protects management from having to undertake these costly actions. The purpose of liquidity analysis is to provide managers, financial analysts, and creditors an indication of the adequacy of the liquid reserve. To fulfill this goal a liquidity measure must possess at least the following two characteristics. First, the measure should convey information about the likelihood that a firm will be able to meet its cash requirements. A firm with a high value for the liquidity measure will have a high likelihood of meeting its cash obligations (because it has adequate reserves). Second, the measure must incorporate only resources that are truly liquid—those assets quickly and easily convertible into cash and the use or disposal of which does not disrupt the operations of the firm. Next, we examine various liquidity measures in light of these two criteria. We will begin with the most common static measures of liquidity.

## Static Measures of Liquidity

The method of evaluating liquidity that is most commonly suggested by managerial accountants is to calculate certain ratios, typically, the current ratio and the quick ratio. The current ratio is current assets divided by current liabilities,

and the quick ratio is current assets less inventory divided by current liabilities. Although there are other static liquidity ratios, these two are designed to capture the firm's liquidity, based on the premise that we measure liquidity as the ratio of some or all of the firm's current assets against its current liabilities. The concept of these ratios is that we are "covering" the firm's current liabilities with the firm's current assets, ranging from cash to inventory and accounts receivable. The one real advantage of these ratios is that they are fairly simple to interpret. The higher the ratio, the less likely that the firm will need to seek external funding sources to cover current liabilities. For example, a firm with a current ratio of two would be able to see its current assets (cash, inventory, and accounts receivable) decline in value by as much as 50 percent of their book value and still be able to cover its current obligations to short-term creditors without looking toward liquidating its fixed assets or seeking expensive external financing to cover these obligations.

These liquidity measures presume that an asset is liquid if it can be turned into cash quickly, easily, and without an appreciable loss in value. Therefore, cash is by definition the most liquid asset, while a building, in contrast, is considered to be relatively illiquid. The building might be sold and turned into cash quickly and easily, but it also might sit on the market or be sold only if the owner were willing to incur a substantial financial loss in the rapid liquidation of the asset. Other assets have varying degrees of liquidity. Inventory and accounts receivable, for instance, are typically liquid, but equipment is typically less so. While the exact length of time it would take to transform an asset into cash can only be estimated, the concept behind assessing and ranking the liquidity of assets held by a company in this way is generally agreed upon.<sup>2</sup>

We see two main problems with static liquidity measures. First, the magnitude of the measure does not always provide accurate information about the likelihood that a firm will be able to meet its cash requirements, because

<sup>2</sup> G.W. Emery, "Measuring Short-term Liquidity," *Journal of Cash Management*, July–August 1984, pp. 7–14.

it may incorporate financial resources that are not easily convertible into cash without loss of value. Second, these measures do not distinguish the assets and liabilities that are tied up in operations and are therefore necessary for the ongoing operation of the firm. It may be argued that higher ratios do, indeed, protect creditors from loss severity after liquidation (when the firm disposes of its assets and uses the proceeds to repay its obligations). That argument holds true only insofar as the firm's current assets are liquidated at or close to full book value. However, excluding cash, current assets like accounts receivable and inventory rarely are sold for book value during liquidation. The fair market value at which assets can be sold may be quite different from their historical book value.

Beyond the issue of liquidity is the issue of priority of payment, which is not contemplated by current or quick ratios. The law of Chapter 7 bankruptcy liquidation places current liabilities quite far down the priority list for payment. Therefore, the idea that unsecured accounts payable and notes payable would, in reality, receive a reasonable portion of the value of the liquidated current assets is questionable. The issue of liquidating at book value combined with the issue of priority is the reason why creditors and investors prefer that the firm's current and quick ratios far exceed one. If the ratio is two or higher, this increases the probability that the firm's current assets will be sufficient to repay current liabilities following liquidation, even given the concerns outlined above.

Another problem with standard liquidity ratios lies in the assumption that high or increasing current ratios are positive signals for a company's short-term financial well being. This is not always the case, as when, for example, an increasing current ratio may be caused by a growth in accounts receivable that are generated by an expansion of uncollected accounts (as represented by the age of the average account held by the firm). If a company's accounts are aging, the fair market value of those accounts receivable is actually declining, because delinquency rates (and the likelihood of failing to collect those accounts) generally increase

## Static liquidity ratios fail to capture the operating liquidity enjoyed by restaurants.

as the age of the accounts receivable increases. Under this condition the firm is actually becoming less likely to cover its current liabilities, not more, even though its current ratio is increasing. The same can be said for a rising inventory's effect on the current ratio. If inventory is increasing in response to a backlog of unsold goods, then the fair market value of these goods is likely to be substantially lower than the stated book value. Again, in this case the higher current ratio is a reflection of a lower not a higher level of liquidity.

Finally, when comparing these ratios across industries, some types of businesses by their nature will hold a lower level of accounts receivable and inventory than others do. The fact of divergent current ratios does not necessarily imply that businesses in one industry are less or more liquid than those in another industry. By the nature of its operations, for instance, a firm in the services sector, such as a restaurant, may hold lower amounts of inventory than would a manufacturing firm. Also, some businesses, such as those engaged in business-to-business transactions, may have high levels of accounts receivable, while others engaged in business-to-consumer transactions may have low levels of accounts receivable. In addition, since current assets do not generate a return on investment, financial-economic models, such as the economic ordering quantity (EOQ) model,<sup>3</sup> always seek to minimize the current assets held subject to the firm's operating constraints. As a result of optimization models of this type, some firms will be able to maintain lower levels of current assets without violating their operating constraints and will therefore tend to have lower current ratios. This does not make them necessarily less liquid nor does it imply that they are less creditworthy. In fact it may imply that more efficient and profitable companies are the ones that have lower levels of current assets and therefore lower current and quick ratio.

Thus, while being of some use for assessing the value of current assets under conditions of liquidation, the cur-

<sup>3</sup> W.J. Baumol, "The Transactions Demand for Cash: An Inventory Theoretic Approach," *Quarterly Journal of Economics*, Vol. 66, No. 4 (1952), pp. 545–556.

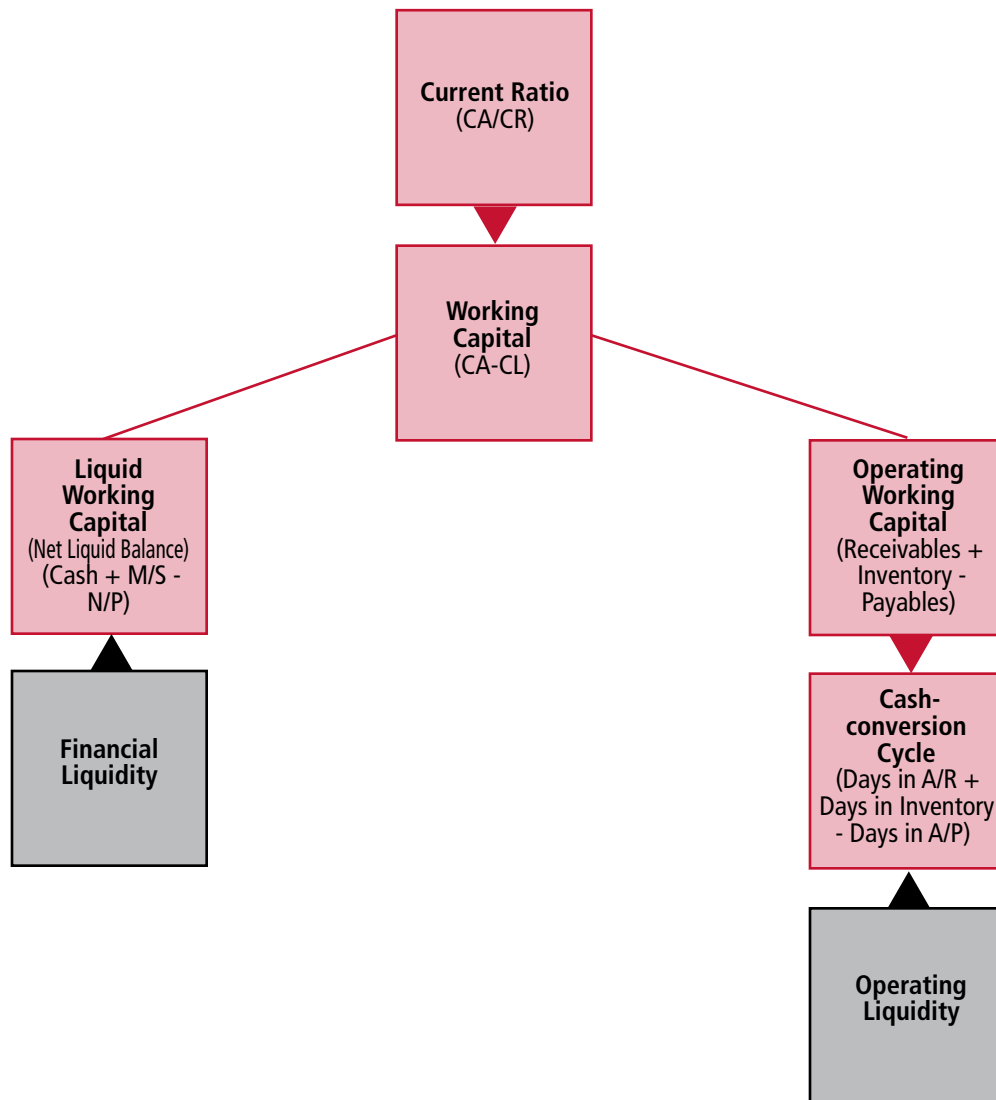
rent and quick ratios provide an incomplete and potentially inaccurate assessment of the firm's operating liquidity. We suggest that the current ratio and the quick ratio are more appropriately categorized as liquidation ratios, rather than liquidity ratios. While the distinction may sound semantic, the difference is critical to the accurate assessment of a firm's liquidity risk. To accurately assess liquidity we need to differentiate the current assets and liabilities used in the firm's operating cycle from those current assets and liabilities that are not directly related to operations. This is necessary because the current operating assets do not represent liquid assets as long as the firm is actively engaged in an ongoing business. To remedy this matter, we need a measurement technique that considers the liquidity of current assets used in the operating cycle separately from the other current assets held by the firm. The integrative approach to liquidity analysis, explained next, is designed to achieve just this goal.

### Integrative Measures of Liquidity

Measuring the liquidity of a firm's operations is quite a different matter from measuring the liquidity of its assets or specific asset accounts. Operations-based liquidity measures are used to assess the firm's liquidity as far as its operations are concerned, rather than gauging its liquidity after it has sold off the assets necessary for operations. In so doing these measures should be able to provide investors and creditors with information regarding the ability of the operations to sustain the firm without the need to liquidate productive assets or find external capital to fund operating needs. The integrative approach, developed by Shulman and Cox and Shulman and Dambolena,<sup>4</sup> categorizes the underlying balance sheet accounts of net working capital into two distinctive components, one that focuses on financial liquidity and one that focuses on operating liquidity. This method

<sup>4</sup> J.M. Shulman and R.A.K. Cox, "An Integrative Approach to Working Capital Management," *Journal of Cash Management*, November–December 1985, pp. 64–67; and J.M. Shulman and I.G. Dambolena, "Analyzing Corporate Solvency," *Journal of Cash Management*, September–October 1986, pp. 35–38.

## Disaggregating liquidity



provides financial analysts, investors, and creditors with a measure of the liquid balance of financial assets after operational needs have been met.

The first step in measuring the liquidity of the firm's operations is to break down the firm's net working capital measure, an accounting item closely related to the firm's liquidity as measured by the current ratio, into the following two distinctive components: the financial component and the operating component. The financial component of the net working capital is the net liquid balance, and the operating component is the working capital requirement. The process of transforming the firm's current ratio, which

is a liquidation measure, into a disaggregated measure of the firm's operating and financial liquidity is summarized in Exhibit 1.

The net liquid balance, which is the liquid balance of financial assets after operational needs have been met, is defined as financial current assets less financial current liabilities. Financial current assets are cash plus marketable securities and cash equivalents, while financial current liabilities are equal to notes payable plus the current portion of long-term debt. As a result, net liquid balance provides a direct link to a firm's liquidity position by measuring the firm's ability to cover financial current liabilities with the use

of financial current assets. Since net liquid balance does not include current assets tied up in operations, higher levels of net liquid balance always imply greater financial liquidity, unlike higher levels of the current ratio.

The operating component of the firm's net working capital, the working capital requirement, is defined as operating current assets less operating current liabilities, where operating current assets are defined as inventory plus accounts receivable and operating current liabilities are defined as accounts payable. This means that the working capital requirement is equal to inventory plus accounts receivable less accounts payable. As discussed previously, an increasing level of the firm's current ratio and therefore its working capital requirement caused by growing inventory or accounts receivable does not always indicate that the firm's liquidity is improving.

The working capital requirement is not useful in its static form to measure the firm's operating liquidity directly, as it consists of operating current assets that are tied up in the operating activities of the firm and are therefore not available to cover financial obligations. Furthermore, since it is a static measure it fails to measure the timing and size of the cash flows that determine the extent to which the firm's operations are liquid. What is needed is a mechanism of transforming the static measure of operating liquidity represented by the working capital requirement into a dynamic measure of liquidity that captures the liquidity of these assets and liabilities in an ongoing operational setting. Richards and Laughlin suggest the use of the cash-conversion cycle as a dynamic or a flow measure of operating liquidity.<sup>5</sup> This flow measure of operating liquidity better incorporates both the timing and size of the cash flows. Next we discuss the process of transforming the working capital requirement component of the firm's net working capital from a static measure into a dynamic measure to create an indicative assessment of the firm's operating liquidity.

We start with the working capital requirement, which is, as we said, inventory plus accounts receivable less accounts payable. If we look at each of these accounts in a dynamic setting we see that the working capital requirement is directly related to the cash-conversion cycle. The cash-conversion cycle measures the amount of time, in days, that it takes the firm to transform cash spent to purchase inventory for sale into cash collected from that sale. The cash-conversion cycle is defined as the inventory-conversion period plus the accounts receivable collection period less the accounts payable deferral period, where the inventory-conversion period equals the number of days that the average inventory is held until it is sold and the accounts receivable collection period

is the number of days that elapse for the average account receivable to be collected. Together, the firm's inventory-conversion period plus the accounts receivable collection period equals the firm's operating cycle and represents the amount of time that the firm's operations take to turn inventory into finished goods, sell them, and collect the cash from those sales. Finally, we must recognize that cash does not go out from the firm as soon as the inventory is purchased. Instead, the firm typically assumes an account payable. The period of time between purchasing the inventory and settling the account payable for cash is the accounts payable deferral period. Subtracting the accounts payable deferral period from the firm's operating cycle gives us the cash-conversion cycle, which is the appropriate measure of operating liquidity. The cash-conversion cycle is the measure that we use in the integrated model of a firm's liquidity to connect the firm's working capital requirement to a measure of operating liquidity.

In sum, it is apparent that the net liquid balance is an appropriate measure of a firm's financial liquidity as a going concern and the cash-conversion cycle of its operating liquidity. Net liquid balance and the cash-conversion cycle are linked to the current ratio, but differ in that they only include the financial and operating liquidity components of net working capital available while the firm continues to operate. In the next section, we compute and compare each of these measures.

## The Data Sample

Our primary sample consists of all publicly traded restaurant and manufacturing companies with annual financial statements available on the Compustat database over the ten-year period of 1994 through 2003. We used the four-digit SIC code 5812 (restaurants and eating places) to identify the firms for our sample. Our search compiled a total of 111 restaurant companies that had financial reports available during the entire ten-year sample period. Next, we used Compustat's description-of-business variable to separate those firms that were owner-operated from those that were engaged in franchise activities. Needless to say, the two company types have a different business model, because franchise firms are in the business of running a franchise operation, while owner-operated firms are focused on restaurant operation. Asset and liability accounts vary accordingly. For example, restaurants have both low inventory and low receivables, and while restaurant franchisors generally also have low inventories they have relatively high receivables, in the form of franchise fees due. By analyzing these two groups separately, we hope to show the importance of analyzing measures of both operating and financial liquidity regardless of a business's structure. As a consequence, the results would not be specific to restaurant operators. Our sample consisted of

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<sup>5</sup> V.D. Richards and E.J. Laughlin, "A Cash-conversion-cycle Approach to Liquidity Analysis," *Financial Management*, Spring 1980, pp. 32–38.

**EXHIBIT 2****Average total assets and sales**

Firm Type	Number of Companies	Average Total Assets	Average Annual Sales
<b>Restaurants</b>			
Owner operated	36	\$313.39	\$477.95
Franchisors	75	\$310.38	\$498.75
<b>Manufacturing</b>	2,380	\$1,896.33	\$1,779.48

Note: Asset and sales figures are US\$Millions.

**EXHIBIT 3****Current and quick ratios**

	Restaurant Owner Operators	Restaurant Franchisors	Manufacturing Firms
<b>Current Ratio</b>	0.9201	1.0053	3.5211
<b>Quick Ratio</b>	0.7374	0.8431	2.7223

36 owner-operated restaurant companies and 75 franchise operations.

To confirm that the results are not specific to restaurant operators and franchisors, we also examined liquidity measures for a sample of manufacturing firms. Manufacturing firms operate in a manner far different from either restaurants or franchise firms. For instance, unlike either restaurants or franchise firms, manufacturers typically have both high levels of inventory and receivables. We used the two-digit SIC codes 20 through 39 to identify a broad sample of manufacturing firms. This resulted in a total sample of 2,380 manufacturing companies that had financial reports available during the ten-year sample period. To provide an indication of the relative sizes of the firms involved in the study we present average total assets and average annual sales for the sample in Exhibit 2.

As can be observed by both the average total assets and average annual sales, the two groups of restaurant companies are fairly close in size. The owner-operated restaurant companies have average asset values of \$313.39 million, slightly higher than the \$310.38 million average asset values for the franchisors. The numbers for average annual sales are similar for the two restaurant-related groups. Owner-operated restaurant companies have average annual sales of \$477.95 million, slightly lower than the \$498.75 million average annual sales for the franchisors. Manufacturing firms are much larger than either of the restaurant-related firms. Both asset values and average sales for manufacturers are approximately four times that of the restaurant firms. The fact that our restaurant samples have similar sizes should make comparisons of liquidity and the cost of financing operating liquidity fairly straightforward. The size differential between manufacturing firms and the restaurants will only be an issue for the values of the firms' net liquid balance since the cash-conversion cycle is reported in days not dollars and the current and quick ratios are already normalized. To compensate for the differences in the dollar values of the net liquid balance, we report as comparison statistics both the raw values and the values adjusted for size using net liquid balance divided by total assets.

For each company in the sample, we calculated the measures of liquidity discussed above, that is, the current and quick ratios and the net liquid balance and cash-conversion cycle, to ascertain whether the different measures resulted in disparate estimates of the sample firms' liquidity. In addition, we estimated the opportunity cost of holding the operating working capital for each firm in each of the two groups of restaurants to determine the economic cost imposed by the firm's decision to hold operating current assets. While maintaining liquidity has positive signaling benefits for the firm's short-term financial risk, the cost of holding operating working capital diminishes the firm's value added in direct

proportion to the economic cost of holding unproductive operating working capital.

## Results

Exhibit 3 shows the current and quick ratios for each of the three groups of firms in our sample. Using the standard static measures to assess the firms' liquidity, we would find that the manufacturing firms appear to be the most liquid, since they have current and quick ratios well above two. The restaurant franchisor and restaurant owner-operator groups, on the other hand, seem to be quite illiquid. The current ratio for the restaurant franchisor group is barely above one, and that of the restaurant operator group is below one. In addition, the quick ratios for both the restaurant franchisors and restaurant operators are below one. These findings would seem to bear out the presumption that firms engaged in either restaurant operations or franchising have high levels of short-term financial risk, as measured by these commonly employed liquidity measures.

These results, however, do not show the whole picture. As discussed above, relatively high current and quick ratios do not necessarily mean that firms are liquid. In fact, due to the ratios' poor construction and the economics of holding current assets, the ratios may provide perverse results. To gain a clearer picture of liquidity and the financial risk imposed on firms as a result thereof, we must disaggregate the current ratio into the cash-conversion cycle (operating liquidity) and the net liquid balance (financial liquidity). In so doing we will be able to better ascertain the firms' liquidity and determine whether the source of any illiquidity lies in its operations (i.e., its operating liquidity) or in its financing (i.e., its financial liquidity).

The results in Exhibits 4 and 5 provide a strikingly different picture of our sample firms' liquidity than that seen in Exhibit 3. First, we find that the measure of operating liquidity, namely, the cash-conversion cycle, provides evidence that the restaurant owner-operators are the most liquid as a group, with a cash-conversion cycle of -2.764 days, compared to restaurant franchisors, which have a cash-conversion cycle of nearly 30 days, and manufacturing firms, with a considerably higher cycle of just over 120 days. Note that the current and quick ratios were similar for the restaurant owners and the restaurant franchisors, but their operating liquidity measures are different. Beyond that, the operating liquidity measure shows manufacturing firms to have a substantial amount of illiquidity in their operations, in contrast to their appearance of high liquidity when measured by the current and quick ratios. Since the cash-conversion cycle expresses in days the period between when cash is collected in the operating cycle and when it is dispersed from accounts payable, a positive number implies that the company takes more days to collect its cash than it uses to defer disbursing

### EXHIBIT 4

#### Cash-conversion cycle and net liquid balance

	Restaurant Owner Operators	Restaurant Franchisors	Manufacturing Firms
<b>Cash Conversion Cycle (days)</b>	-2.764	29.892	120.339
<b>Net Liquid Balance (millions)</b>	\$7.593	\$5.284	\$54.900
<b>Net Liquid Balance / Total Assets</b>	0.0170	0.0242	0.0290

### EXHIBIT 5

#### Components of the cash-conversion cycle

	Restaurant Owner Operators	Restaurant Franchisors	Manufacturing Firms
<b>Days in Inventory</b>	7.84	8.79	91.74
<b>Days in Receivables</b>	5.50	62.31	85.86
<b>Days in Payables</b>	14.59	32.98	180.49

## An integrative framework showed restaurant owner-operators to be quite liquid, in contrast to their position with static measures.

that cash to accounts-payable creditors. A negative number implies that the company is transferring cash through its operating cycle in fewer days than it is taking to pay off its accounts payable. For the cash-conversion cycle, then, the shorter (or lower number of days) the better. Having a negative number implies that the company's operating cycle is short compared to its payables deferral.

A negative value is quite rare for the cash-conversion cycle, however, since this requires that the sum of the inventory conversion period and the receivables collection period be less than the payables deferral period. One might expect a fairly close match of the payables and receivables periods, since they represent the flip side of the same coin in a business relationship. Even if a firm can manage to collect receivables in short order and stretch out payables, the business still needs time to transform inventory into finished goods and sell them. The addition of the inventory conversion period to the receivables collection period makes it difficult to find instances of negative cash-conversion cycles.

As shown in Exhibit 5, both the restaurant owner operators and manufacturing firms are on average collecting their receivables faster than they are paying out their payables. This is not the case for the restaurant franchisors. The reason for this discrepancy lies in the nature of the restaurant franchising firms' relationship with their accounts receivable debtors. Accounts receivable for the restaurant franchisors are the royalty and other fees due from the company's franchisees. Collecting fees in this instance often takes some time, as the payment value is based not on a good or service transaction but on reported sales over the previous period. That value must be agreed upon and then collected—a time-consuming process. In contrast, restaurant owner-operators collect cash at the time of sale. The only reason our group of owner-operators does not have an effective zero collection period is that some firms in this group have a few franchisees and some have corporate accounts that pay on credit terms. However, the fact that this group's days in receivables is 57 days shorter than that of franchisors and 80 days shorter than that of manufacturing firms is one of the main reasons for the negative cash-conversion cycle observed here.

This explains why restaurant owner operators are liquid in terms of operating liquidity and why we see such a different story than the one told by either the current or quick ratio.

The financial liquidity as measured by the net liquid balance provides further evidence of the relative liquidity of restaurant owner-operators and franchisors. Seeing a positive net liquid balance, we conclude that all firms in the sample have reasonable buffers between their short-term financial obligations and their cash on hand to meet those obligations. This is true whether we look at the raw dollar amount or the percentage of the net liquid balance buffer against total assets. While restaurant franchisors and restaurant operators have similar net liquid balance statistics, manufacturing firms have a much higher level—eight to ten times that of the restaurant-related firms. Once we control for size differences by dividing the net liquid balance by total assets, however, financial liquidity across the three groups is quite similar, ranging from 0.017 for restaurant operators to 0.029 for manufacturing firms.

At first glance, the finding that manufacturing firms are more financially liquid may seem like a positive outcome. From a pure liquidity standpoint, the comparison holds true, but it may not be so favorable when we consider the carrying cost of holding sufficient cash reserves. As we mentioned above, holding excess cash constitutes a burden on firms, because those reserves represent assets that must be financed but that do not earn a rate of return in excess of the required return on the firm's capital. Therefore, while the extremely high level of liquidity for these firms is a positive from a financial risk standpoint, it is a negative from a financial valuation standpoint.

The last issue we consider here is related directly to the issue of financing working capital. The negative cash conversion cycle of restaurant owner-operators has another implication beyond the fact that it makes them highly liquid from an operating perspective. Their relatively brief cash conversion cycle means that their firms incur relatively low financing costs on their operating working capital. In Exhibit 6 we have calculated an estimate of the average cost to finance operating working capital for firms in each of the



**EXHIBIT 6****Cost of carrying operating capital**

	Restaurant Owner Operators	Restaurant Franchisors	Manufacturing Firms
<b>Cost of Carrying Operating Capital</b>	\$-0.0096	\$0.0754	\$7.1035

three groups. We used an estimate of 10 percent as the firm's WACC and applied this amount to the balance financed in each firm's components of the cash-conversion cycle. Manufacturing firms, because they need to finance their sizable operating capital for an average of 125.81 days, would incur an annual finance cost of \$6.928 million. Restaurant franchisors have a lower cash-conversion cycle and hold a smaller raw dollar amount of operating capital than the manufacturing firms, but still incur an average annual finance charge for their working capital of \$59,000. In contrast, since owner-operators have a negative cash-conversion cycle, they have the additional benefit of gaining free financing for their operating working capital. In fact, because they hold money so briefly, they spin off a small average annual profit of \$8,400. While not large, this profit means that these firms have an advantage over the others in our sample, as they need not make up the financing costs incurred by holding and financing working capital.

### Conclusion

Many financial analysts, creditors, and managers use static measures of liquidity such as the current and quick ratios as a gauge of the firm's ability to meet cash obligations as they come due. However, static measures are useful only as a general estimate of a firm's ability to cover short-term obligations in liquidation. These measures are not as useful to assess the ability of the firm to cover current obligations while continuing to operate. Therefore we conclude that they

should not be used as an indicator of a firm's liquidity as a going concern. This issue affected both restaurant companies and manufacturing companies. In contrast to the static ratios, we found that integrative liquidity measurements provided radically different information about the firm's ability to cover obligations as it continued to operate.

The integrative framework showed restaurant owner-operators to be quite liquid, in contrast to their position as gauged by static measures. This is an important finding for managers and investors, as it may have a substantial effect on financing costs for owner-operators, as well as required returns from equity investors. The liquidity picture for restaurant franchisors and for manufacturing firms also varied greatly depending on whether the measurement was static or integrative.

For this reason, it is important for financial analysts, creditors, and managers to examine both dynamic liquidity measures and static measures in their evaluation of a firm's financial liquidity and its short-term default risk. Furthermore, operating liquidity measures and financial liquidity measures provide disparate pictures of liquidity, and we judge that the use of both is important in determining a firm's overall liquidity. Therefore, when evaluating short-term liquidity we must pay careful attention to each component of the integrative framework to establish what changes, if any, have occurred in the liquidity position over time and what the implications are for the firm's financial and operating liquidity. ■

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