Beyond the recession

Reduced U.S. consumer spending could uncover weaknesses in many non-asset based transportation and logistics companies — while creating opportunities for others.

By MergeGlobal Value Creation Initiative

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The eight-year period between the end of 1999 and the end of 2007 will most likely evoke fond memories in the minds of many C-level executives—and their shareholders—at North American freight forwarding and other "non-asset based" transportation companies. (And while 2008 was clearly challenging, they should celebrate the remarkable resiliency their businesses have shown thus far).

During that period, the continuing but intensifying global production shift from advanced to emerging (primarily Asian) economies led world merchandise exports (by volume) to grow at almost twice the rate of growth of world GDP. In the United States, total containerized ocean trade (imports from and exports to the rest of the world) went from 8.3 million 40-foot equivalent units (FEUs) in 1999 to 14.5 million FEUs by the end of 2007. This represents an average annual rate of growth of 7.3%, or a staggering 2.9 times the rate of U.S. GDP growth over the same period.

Rapid growth in U.S. international container traffic, primarily fueled by strong 1999-2007 personal consumption growth (3.2% per year, on average), spurred growth in other transportation sectors where freight forwarders, intermodal marketing companies (IMCs), truck brokers and owner-operator based trucking companies—collectively referred to as non-asset based transportation providers—act as orchestrators of the flow of goods (and information) across domestic and international supply chains on behalf of their customers.

For example, total U.S. intermodal loadings (shipments of trailers and containers where both truck and rail are used to complete the journey) grew 4.5% on average in each

year between 1999 and 2007. While this is a market primarily targeted by IMCs, over the past two years the only portion of it that has shown growth (to the tune of an impressive 7.5% per year) is the domestic container segment, where truckload carriers (both asset and non-asset based) play a key role. As for for-hire trucking, by far the largest segment of the North American supply chain, tonnage registered a modest 1999-2007 average growth rate of 0.8% (due to the incidence of two truckload recessions during the period, and in part reflecting the enormous size of the sector)—but the period did see very high growth, peaking at 6.1% for the year in 2004.

North American non-asset based transportation companies together control the vast majority of the region's domestic and international air freight flows, about 30% of its containerized sea freight flows and about 20% of its for-hire truck loads—without owning the majority of the transportation assets touching the freight. For these companies, the structural advantage of being exposed to high-growth markets combined over the past nine years with their business models' relative capital efficiency to create significant shareholder value.

By the end of 2007, a market capitalization-weighted stock price index for a group of eight publicly traded, North America based non-asset based transportation companies was almost 4.5 times its level at the beginning of 2000. To put this number in context, the asset based sector that came closest in stock performance (Class I railroads) stood at 2.9 times the starting point value.

Growth and capital efficiency, however, are only two of the three fundamental components of corporate value creation. The third one, margin expansion, also played a critical role for non-asset based businesses. This is partially due to sizable capacity expansions that took place during 2000-2007 on the part of asset owners in almost every transportation sector (particularly as the industry approached its 2006 peak year). Encouraged by the above noted demand trends and aided by easy credit, container shipping companies, truckload and air freight carriers saw in capacity additions a critical means to achieve economies of scale in their relatively high-fixed cost businesses. Multi-prong capacity additions over the cycle paved the way for a "buyer's market" that non-asset based transportation companies have adroitly exploited. It is thus not surprising that the average operating margin of the same eight non-asset based companies referenced above improved 110 basis points from 2000 to 2007 (and almost 300 basis points from trough to peak in the same period).

As 2008 brought with it GDP contractions in the U.S. and much of the main consumption markets throughout the world, the transportation capacity additions of the recent past have increasingly outstripped demand—so far to the benefit of non-asset based transportation competitors. In fact, the sector-specific stock performance gap between North American asset based businesses (truckload, less-than-truckload, rail and integrated freight carriers) and our list of eight non-asset based companies remained practically unchanged from year-end 2007 to year-end 2008.

The value creation performance of North American non-asset based transportation companies over the past nine years (i.e., on a long-term basis), up to and including the challenging 2008, has been outstanding. However, whether or not this impressive track record is an accurate indicator of future long-term performance remains an open question—particularly relative to that of asset based competitors.

The purpose of this article is twofold. First, we will provide our view on the long-term sustainability of the historically-observed gap in return on capital between North American asset and non-asset based transportation and logistics companies (we believe characterizing these businesses as "asset based" and "non-asset based" is misleading, and we shall explain why later). Since our position on the matter is rooted in the long-term prospects of the U.S. economy, we will first present our view on future U.S. GDP growth and its implications for the various North American transportation segments.

Second, we will offer our view on the actions that non-asset based businesses may implement, depending on their strategic and financial situation, in order to defend, preserve or improve their ability to create shareholder value in the future.

Briefly, our main points on the economy and the resulting outlook for value creation in North American non-asset based transportation and logistics are the following:

- The current U.S. economic crisis, whatever its "shape" and duration, will likely be longer-lived than any other economic crisis in the post-War period. This is due to the devastating and in many ways unprecedented combination of 1) a highly dysfunctional financial sector, 2) a deeply indebted and substantially less wealthy consumer base (which accounts for nearly three quarters of the nation's gross domestic product), 3) a simultaneous downturn in key export markets (combined with a strong dollar, propped up by the recent capital "flight to safety"), and 4) the complexity

and relatively lagged impact of largely public spending-based expansionary fiscal policy.

- When recovery finally arrives, most likely in our view by the second quarter of 2010 (on a year-over-year basis), the U.S. economy will put itself on track to roughly (though not quite) match its historical long-term GDP growth. However, there is a plausible chance (roughly 1 in 4, we estimate) that the "perfect storm" of mutually reinforcing destabilizing factors that currently afflict the U.S. economy (and many others in the world) will combine to create an unprecedented transition period where recovery not only takes longer to materialize (late 2010-early 2011) but, once it comes, it places the economy on a lower level of long-term GDP growth (by about 80 basis points relative to the past 20 years) which would trigger a generalized unwinding of the massive capacity additions of the recent past.

- Such a transition could materially and negatively impact the growth and margin expansion value drivers for non-asset based transportation companies (the capital efficiency driver would be only marginally impacted, as the underlying business model would remain intact), in such a way that the historical return on capital employed gap between asset and non-asset based transportation providers would be reduced, primarily in favor of asset based truckload and LTL carriers.

- A deeper recession and slower long-term GDP growth will obviously have a more profound impact upon the performance of the entire freight sector. However, even now, the economic slowdown is hurting non-asset based competitors previously immune from the cyclical capacity supply-demand imbalances experienced by asset based competitors. Many competitors simply do not have the same variable cost structure model implied by the term "non-asset based" and must now aggressively work to remove fixed costs and/or increase volumes. Some competitors are well positioned to do so, while others are likely to either be consolidated or disappear entirely.

- Non-asset based transportation companies can pursue a number of strategic actions to remove fixed costs and/or increase volumes, but these actions are largely constrained by a company's strategic position and financial situation (in particular, its ready access to capital). While acquisitive growth may be highly attractive in an environment of depressed valuations, capital scarcity will limit this pathway to a small set of players. Joint ventures, or a re-evaluation of capital raising strategies, might be the only viable option for cash-strapped but decently-positioned companies. Still other companies will be forced to evaluate market pullouts or the development of a viable business case in order to sell themselves at the best possible price.

U.S. economy outlook

Much of the current discussion about the financial crisis that started in the summer of 2007 and the ensuing U.S. economic recession—in the midst of which we find ourselves right now—has centered around point estimates of when exactly the economy will reach a bottom and start a recovery. This is an important consideration because the extent of companies' cost-cutting, restructuring and other strategic actions in

Figure 1. U.S. Quarterly Real GDP Growth Under Four Different Scenarios: 1Q08-4Q10F
Seasonally adjusted at annual rates (SAAR)[1]

1/ Numbers in parenthesis are our estimated likelihood for each event. Source: Bureau of Economic Analysis, MergeGlobal analysis and estimates.

response to rapidly shrinking demand directly depends on the time it will take for the phones to start ringing again with orders.

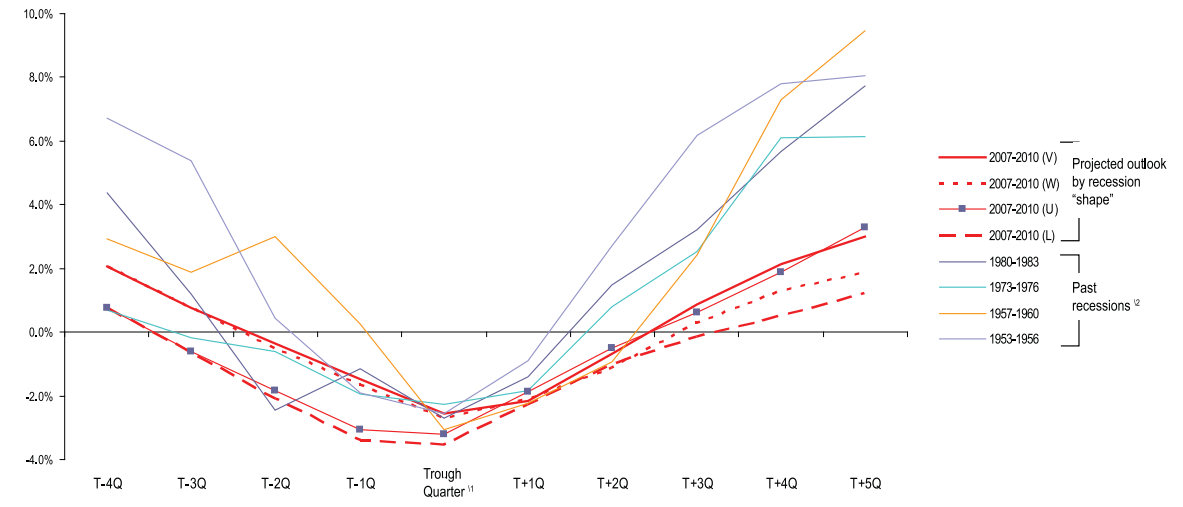
But analysis and planning made on the basis of point estimates are, we believe, incomplete. Specifically, they lack scenarios; that is, they lack the ability to look at a particular outcome (say, the length of the recession) as a shape (or distribution, in technical speak), rather than a single point. Similarly, and perhaps most importantly, they lack an assessment of the post-recession situation, as the implied assumption is that all variables of interest (e.g., demand) will resume their historically-observed behavior. Simply put, not only is it important to contemplate scenarios (not least to be prepared in case of a "worst-case" situation), but it is critical to evaluate their go-forward implications.

Economic forecasts are often inaccurate, particularly under high volatility (such as that plaguing the global economy right now), and we do not pretend to have a uniquely well calibrated crystal ball. But we can identify what in our view are the four most plausible scenarios for the U.S. economy going forward (Figure 1):

- An "Upside Surprise," often called a V-shaped recession, where the bottom of the cycle is clearly defined and immediately followed by a brisk and sustained recovery, probably by the third quarter of 2009, headed back towards the U.S. economy's historical long-term growth of roughly 2.9% to 3.0% per year. We think there is about a 1 in 7 chance of this scenario unfolding.
- A "False Start," or W-shaped recession, where first signs of recovery (say in the 3Q09) are only temporary, perhaps driven by the short-term effect of a cash-based fiscal stimulus; the economy does eventually recover (say by the 1Q10) at the same rate as that implied by an upside surprise scenario. We think this scenario has roughly a 1 in 5 chance of arising.
- A "Slow Recovery," or U-shaped recession, where GDP contraction (on a seasonally-adjusted at annual rates basis) takes longer than the widely expected 3 to 4 quarters (implying a clear recovery by the 2Q10 or later) but it is eventually followed by an output path that takes the economy roughly, but not quite, back to its historical long-term growth. We think this is the most likely scenario to arise, with roughly a 40% chance.
- A "New Normal," or L-shaped recession, where GDP contraction is at least as protracted as that under the slow recovery scenario, but the ensuing recovery path takes the economy to a new long-term (i.e. sustainable) GDP growth rate that is materially lower than the one observed during the previous 20-year period (2.9%). We think there is a tangible 1 in 4 chance of this scenario arising.

The likelihood we've attached to each of our four scenarios implies that it is somewhat unlikely that the economy will show clear signs of recovery before the end of this year. This is due to the nature of the crisis, where a combination of several (and in many cases reinforcing) factors negatively impacting the economy is likely to take more time to dissipate than in any other crisis in the Post-war period. These factors include (but are not limited to):

Figure 2. U.S. Quarterly Real GDP Growth in Past and Projected Recessionary Periods
Quarterly year-over-year percentage change



[1] Defined as the quarter where year-over-year GDP growth was the lowest during a recessionary period.? [2] The two most recent recessions (1990-91, 2001) are not shown 1) due to their being relatively mild in terms of GDP contraction, and 2) to make the figure more readable. Year-over-year growth for the "trough" quarter in those recessions was -1.0% and 0.2%, respectively. Source: Bureau of Economic Analysis, MergeGlobal analysis and estimates.

- A highly dysfunctional financial sector that, after years of inadequate regulation (not necessarily too little, but simply ill-adapted to the realities of the market at home and abroad), a flood of capital originated abroad (in the midst of unprecedented global trade imbalances) combined with low interest rates at home, and risk assessment practices that proved flawed, still is under the credit crunch—bailouts and other government efforts not withstanding—that started in August 2007

- A deeply indebted and substantially less wealthy consumer base (which accounts for nearly three quarters of the nation's gross domestic product)

- A simultaneous downturn in key export markets (which, combined with a strong dollar resulting from a surge in demand for U.S. Treasury securities, could significantly delay a strong—and growth-enhancing—recovery in U.S. exports)

- The complexity and relatively lagged impact of largely public spending-based expansionary fiscal policy at home, the wealth-creating effects of which will likely not be fully evident for at least 12 months

In consequence, we project that this time around economic recovery (as measured by year-over-year GDP growth) will take longer than in any other time since 1947 (when the government began measuring quarterly economic activity) under *any* scenario, as shown in Figure 2.

Nevertheless, distinguishing between a V-shaped recession, or best-case scenario, and an L-shaped recession, or worst-case scenario, especially when credit is scarce and capital risk-averse, is critical for most companies at the moment. Transportation and logistics businesses are no exception to the latter point—particularly asset based players, as demonstrated by the dramatic uptick in trucking company failures in 2008 or the recent flurry of earnings revisions by most publicly traded LTL carriers.

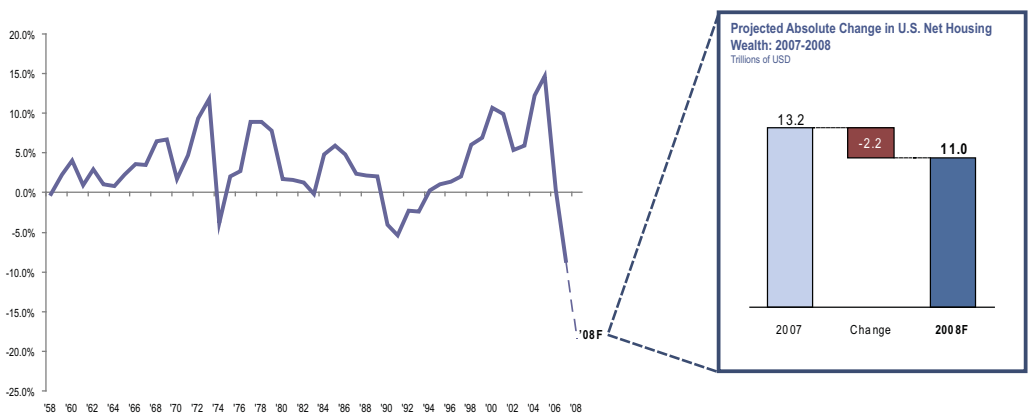
What could the long-term GDP growth congruent with an L-shaped, or New Normal, scenario be? How would it impact the various segments of North American transportation? The next section will shed some light on these issues.

Life under a New Normal

The only way to assess future long-term GDP growth is to understand the fundamentals on which past long-term GDP growth rested. If the fundamentals are expected to remain intact when recovery emerges, then it is safe to assume that future long-term growth will roughly mimic past long-term growth.

In its simplest form, GDP results from multiplying the number of workers in the economy (referred to as the labor force) times the output that on average each worker produces (known as labor productivity). The *rate of change* in GDP is thus approximately equal to the sum of the rates of change of its two component parts. During the 20-year period between 1987 and 2007, the U.S. labor force grew at an average annual rate of 1.2%, while productivity grew at exactly 2%. Adding up the two components yields an *expected* long-term GDP growth of 3.2%. The actual average GDP growth observed in the

Figure 3. U.S. Net Housing Wealth Held by Households: 1958-2008F[1]
Real year-on-year percentage change[2]



[1] Average net housing wealth had fallen by 16.6% year-over-year by the end of the third quarter 2008. [2] Deflated by the core Consumer Price Index.
Source: Federal Reserve, Bureau of Labor Statistics, MergeGlobal analysis and estimates

1987-2007 period, according to official figures, was 2.9%, reasonably close to the expected rate (the difference is explained by unemployment and other market rigidities, collectively referred to by economists as market failures).

Consumer spending has been a fundamental enabler of U.S. productivity growth (and thus a key determinant of long-term GDP growth) in at least the past 15 years. To be clear, the immediate drivers of productivity improvements in an economy are knowledge accumulation (sometimes referred to as the economy's experience curve) and technological change. But what gets *sustainably* produced (regardless of the amount of workers needed to do so) must ultimately be consumed. Hence the fundamental role played by personal consumption as enabler, rather than driver, of productivity growth.

In the 15-year period from 1992 to 2007, a full 79% of the total change in inflation-adjusted U.S. GDP was due to consumer spending—more than in any other 15-year period since the one ended in 1949. Meanwhile, the same period saw the country's personal savings rate plummet from 7.7% of disposable personal income to 0.6%. It also saw outstanding consumer credit (which excludes real estate debt) as a percentage of GDP climb from 13% to 18% (total consumer debt, including mortgages, climbed much more dramatically, from 63% to 100% of GDP). That is, the main driver of U.S. GDP over the past 15 years rested on the ability of consumers to incur debt and dissave. Will they retain that ability going forward?

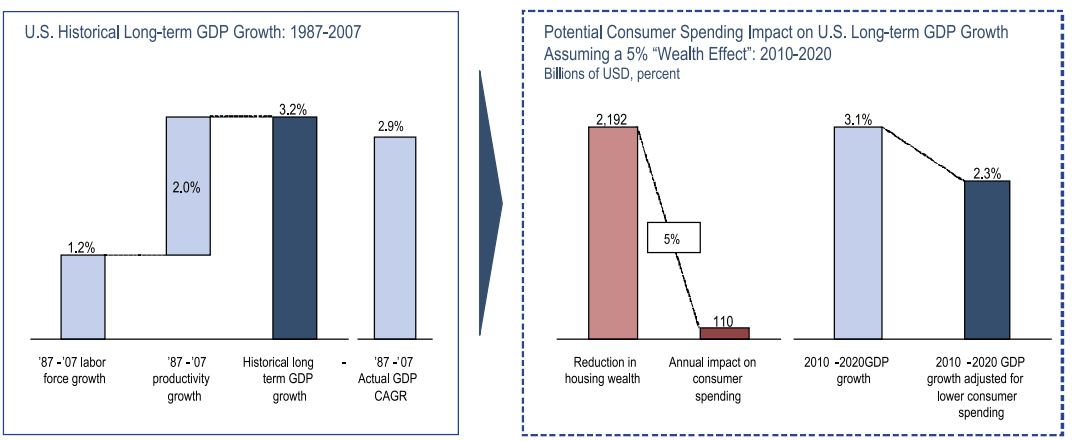
What made American households willing to consume more and save less was the sustained growth in housing wealth registered between 1994 and 2006. During the period, U.S. net housing wealth grew at an average annual rate of 5.8% in inflation-adjusted terms (1.8 times the rate of growth of GDP). More recently, during 1999-2007, it grew at 8.4%, or a whopping 3.3 times GDP growth.

The complication is that 2008 saw by far the largest reduction in net housing wealth since the Federal Reserve began tracking it in the 1950s (close to 19%), as shown in Figure 3. While economists generally agree that a change in housing wealth translates into a permanent change (in the same direction) in consumer spending—a phenomenon known as the wealth effect—there is wide disagreement as to the size of the change, with most estimates falling between 2 and 7 cents per marginal dollar (up or down) of housing wealth. Both our U-shaped and L-shaped scenarios assume that the 2007-08 collapse in house prices represents a long-term (10-year) realignment of housing wealth, but they attach to it different wealth effects.

Assuming a 5% wealth effect (close to the middle of the above interval, to be conservative) under our New Normalscenario, we would expect American consumers to permanently reduce their annual spending by about $110 billion (or 1.1% of 2007 consumer spending) for the "foreseeable" future (say, the next 10 years). Such a spending realignment would shift the U.S. GDP growth rate during 2010-2020 to 2.3%, assuming a no-realignment base rate of 3.1% (higher than the 20-year historical trend, again to be conservative). Our New Normalscenario thus assumes a loss of 80 basis points in the long-term growth of the U.S. economy (Figure 4).

In a New Normal economy we would expect volume growth in the different segments of the North American

Figure 4. A Long-term View of U.S. GDP Growth



Source: Bureau of Economic Analysis, Federal Reserve, Bureau of Labor Statistics, Congressional Budget Office, MergeGlobal analysis and estimates

containerized transportation industry to be impacted almost across the board, albeit with varying degrees of intensity. This is shown in the right-hand panel of Figure 5. (The middle panel shows our volume forecast for our U-shaped or most likely scenario, where we consider a wealth effect much closer to the lower end of the interval).

The implication of New Normal volume growth rates by industry segment is that a significant portion of the capacity additions we've witnessed over the past few years, partly built on the assumption of permanently higher consumption rates in America, will be made redundant over the next few (2-3) years. This would be particularly true in container shipping, LTL and, to a lesser extent, truckload. In other words, a New Normal for demand would be the driver of a New Normal for supply in transportation and logistics.

While it is clear that many asset based carriers would not survive such a prolonged downturn and relatively bleak long-term outlook, those who do will emerge to an industry where supply and demand will be much more balanced than in the recent past—and one where new waves of supply additions will be further constrained by 1) relatively higher interest rates, 2) more stringent credit terms, and 3) what we expect to be a much more cautious approach to capacity additions on the part of managers.

In such a world, we suggest, asset ownership or control would carry a premium that would ultimately translate into improved profitability for asset based transportation companies. By implication, their non-asset based counterparts would see some parts of their business model altered—including the historically observed profitability gap (as measured by returns on capital) between the two segments (asset/non-asset).

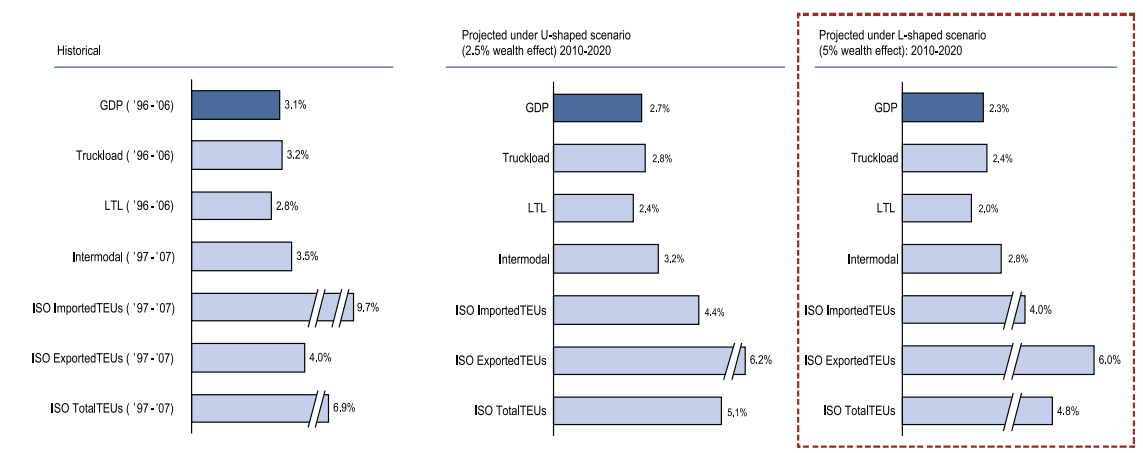
The remaining sections will dig deeper into the drivers of value creation in non-asset based transportation, as well as the strategic alternatives that depressed demand, and the prospect of a new normal, could call for.

Assets for solutions

The term "non-asset based" in transportation typically evokes the concept of a freight forwarder. Simply put, freight forwarders act as intermediaries linking network operating carriers, who manage a fixed fleet of transportation assets (e.g., vessels, aircraft), and shippers—economic entities that are ultimately concerned about safely (and visibly) moving goods to the right place, at the right time, for the right price. By pooling demand from a wide variety of shippers—big and small, moving heavy and light commodities, on many modes, to and from many markets—freight forwarders originate high volumes in specific origin-destination lanes on a consistent basis throughout the year. Both of these characteristics (volume and predictability) translate into favorable rates from carriers which the forwarders' customers wouldn't be able to achieve on their own. The difference between these two rates, called net revenue, is a primary benchmarking measure for forwarders (for an in-depth discussion of the forwarder business model and value creation in the space, please refer to *Forwarder Momentum* at http://www.mergeglobal.com/articles/2008-03_Forwarder-momentum.pdf).

But the non-asset space is not limited to freight forwarders. In fact, companies with non-asset based business models are present in every segment of the North American transportation and logistics industry (Figure 6). For example, an IMC, who acts as an

Figure 5. Average Annual U.S. GDP and Transportation Volume Growth by Sector



Source: Bureau of Economic Analysis, American Trucking Associations, Intermodal Association of North America, Maritime Administration, MergeGlobal analysis and estimates

intermediary between shippers and intermodal transport providers (railroads and drayage carriers), or a truck broker, who acts as intermediary between shippers and an enormously fragmented base of truck carriers, are simply the (primarily) domestic version of a freight forwarder. The business model tenets among these types of companies (limited balance sheet exposure to heavy equipment, pooling of highly-variable demand patterns, preferential access to a wide array of transport options, technology-enabled visibility and planning) are, we argue, the same.

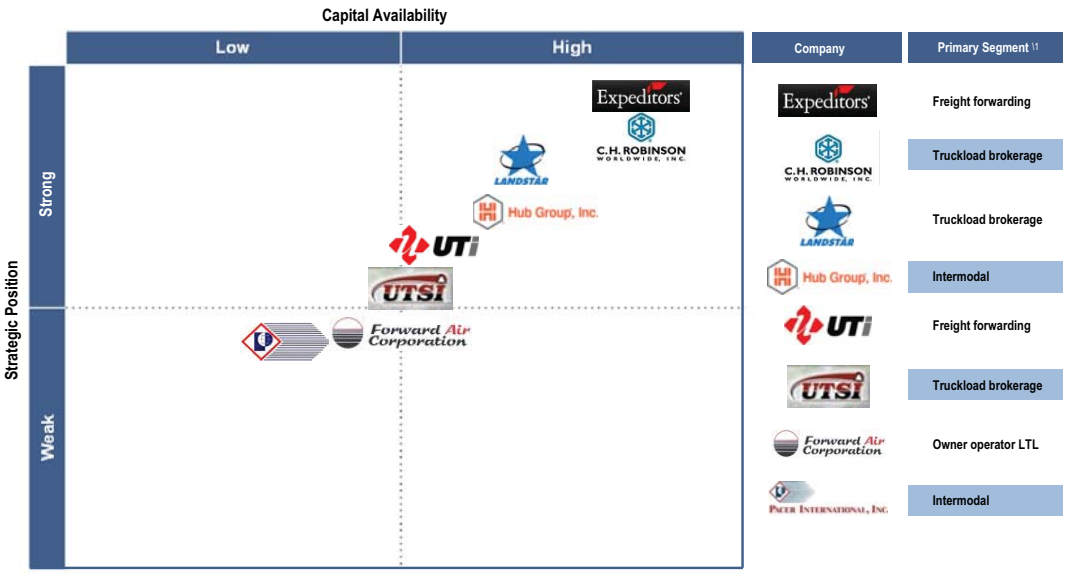
We consider the asset/non-asset distinction between, say, truckload carriers and truckload brokers to be misleading. Such a distinction is based on the notion that the former operate under a highly fixed cost structure because the assets they own (e.g., trucks) both a) incur costs (e.g., depreciation, maintenance) that are insensitive to volumes in the short run and b) are rigid and lumpy in nature and thus difficult to reduce in response to falling demand. Non-asset based businesses—which generally do not own transportation equipment—are on the other hand considered to operate under a highly variable cost structure where lower volumes are almost automatically accompanied by lower costs. In our view, reality is much more nuanced than that.

Freight forwarders, IMCs and truck brokerage firms all manage assets and, more broadly, resources, that are essential to their value proposition, whether they show up on the balance sheet or not. For example, while IT systems (hardware and software) do appear on the balance sheet, the costly and critical resources of in-house software development and database integration projects do not—and the latter costs are incurred without much regard to volumes.

It is true that the majority of the costs incurred by non-asset based businesses fall into the (presumably highly variable) purchased transportation bucket. However, not all purchased transportation is variable, due to the widely prevalent minimum purchase commitments freight forwarders and other non-asset based players negotiate with carriers in exchange for preferential access to capacity. But more importantly, below the net revenue line (i.e., after purchased transportation is subtracted from total revenue), the costs incurred by non-asset based companies can be set as high as 50% fixed within a 12-month period (Figure 7), thus blurring the asset/non-asset distinction.

By the same token, not all asset based transportation providers are alike in terms of their supposed rigidity to adjust their cost structures to declining volumes. Recently, YRC and other LTL companies have in fact had a difficult time reducing "capacity" in their LTL networks. But over the last 12 months a number of truckload operators have been able to adapt their cost structures to a rapidly deteriorating environment far more effectively than LTL providers by shedding discrete assets. Tractors, in particular, have relatively short lives and truckload fleets can be reduced surprisingly quickly simply by

Figure 6. Non-asset Based Business Models are Present in Every Segment of the Transportation and Logistics Industry



[1] Most companies in this list participate in more than one segment. Source: MergeGlobal analysis and estimates

cutting annual replacement purchases.

In our view, the key distinction between asset and non-asset based businesses lies in the primary goal behind each business model. On the one hand, asset based transportation companies invest significant amounts of capital in the construction of fixed networks. In some cases, these networks must cover a relatively broad service area (e.g., national and super-regional LTL, domestic and international parcel), including markets that in isolation are unattractive. In other cases, an asset provider may be able to invest in discrete pieces of equipment and facilities with a relatively narrow or more dynamic service area (e.g., certain truckload sectors, regional LTL). In either case, the primary purpose of these businesses is to optimize the utilization of the fixed assets they've deployed. Having determined the structure of a network, they seek to maximize utilization by fitting customer requirements into their offered service base. We thus refer to network operating truckload, LTL, rail and integrated package carriers as Asset Optimizers.

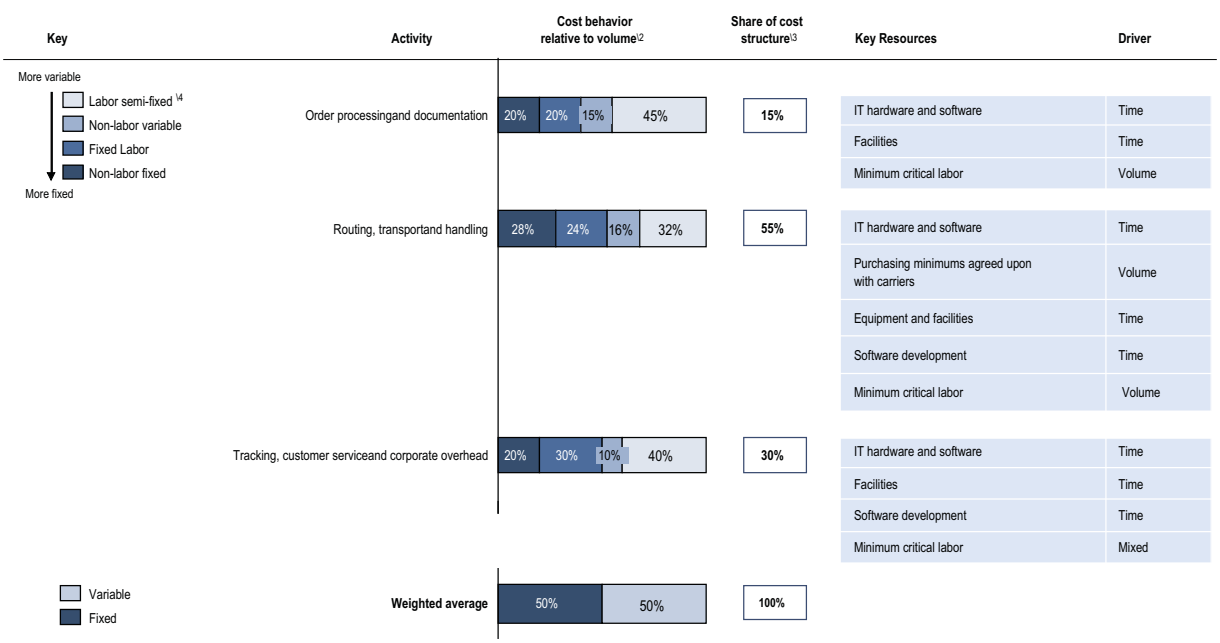
Non-asset based businesses, on the other hand, are not constrained by a fixed network of transportation options. Instead, they are (relatively) free to accommodate freight by mode, carrier and route according to customer needs. The flows they orchestrate resemble the cost-effective flow of their customer's freight, rather than a pre-specified, rigid arrangement of transport connections. We thus like to refer to non-asset based businesses as Customer Solutions companies.

The Customer Solutions premium

Over the past nine years, North American Customer Solutions companies have outperformed Asset Optimizers on the basis of profitability—by a ratio of 3 to 1, on average (Figure 8, right-hand panel). This is true despite the fact that the former typically have lower operating margins than the latter (Figure 8, left-hand panel). In other words, value creation ultimately rests on the productive use of capital combined with growth—focusing exclusively on operating margins does not address relative capital productivity across businesses.

Our key measure of profitability is return on capital employed (ROCE), which we calculate as earnings before interest and taxes (EBIT) divided by the sum of net operating working capital and net property, plant and equipment. This particular measure of profitability is an effective tool to assess how companies actually create value for shareholders for three main reasons: 1) It addresses data limitations, as it does not deal with the sometimes involved (and to some extent arbitrary) treatment of non-operating activities performed by the firm (i.e., the measure is practical, not perfect); 2) it

Figure 7. Representative Cost Structure for a Non-asset Based Business[1] Below the Net Revenue Line



1) Broadly defined as including freight forwarders, intermodal marketing companies, truck brokers and owner operator-based transportation providers.
2) Over a period of up to 12 months, assuming network footprint held constant.
3) Below net revenue line.
4) Typically a function of volume expectations.
Source: MergeGlobal analysis and estimates

eliminates many distortions due to the differences in capital structure and tax policies of individual companies; and 3) it focuses on the underlying productivity of the organic capital in the business. The measure purposely excludes goodwill, in order to enable comparisons across businesses regardless of ownership and acquisition price decisions.

The left-hand panel of Figure 9 shows the historical evolution of ROCE, by segment, over the past 9 years (which we consider a proxy for "long-term" performance). The consistent absolute and relative performance of Customer Solutions companies stems from a combination of three underlying value drivers:

1) Growth, as the segment has been relatively more exposed to high-growth flows linked to international trade

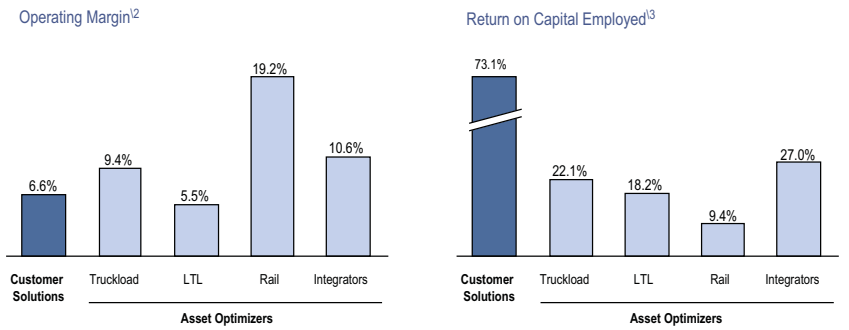
2) Capital efficiency, as the capital employed requirements for these businesses are much lower than those of asset optimizers (one way to measure this efficiency is by comparing capital expenditures per dollar of revenue across industry segments, shown in Figure 10)

3) Margin expansion, which results from many factors (e.g., knowledge- and relationships-based barriers to entry), but which in no small part has been driven by the segment's ability to exploit indivisibilities in the operation of asset-based networks across all transportation modes:

- Airfreight: Since carrier belly capacity (about 50% of total) tends to be managed as a by-product of the core passenger service, it tends to be poorly priced. Customer solutions companies dealing with air carriers rely on IT to continually identify these attractively priced lanes.
- Container shipping: Close to 30% of the global fully cellular capacity is operated by companies and entities only partially concerned with return on capital considerations, ostensibly giving priority to other goals such as national employment (CSCL, COSCO) and market share (MSC, CMA CGM). This has contributed to excess capacity, which ultimately translates into improved net revenue margins for customer solutions companies.
- Intermodal: Backhauls are aggressively priced due to heavy directional imbalance in the Transpacific. This benefits customer solutions companies, which are able to fill backhaul lanes due to their effective (IT-enabled) pooling of westbound freight across a broad shipper base.
- Truckload: This highly fragmented segment with low barriers to entry provides highly favorable conditions for intermediaries to connect trucks with shippers. Additionally, heavy directional imbalance in some key markets generates attractive backhaul pricing opportunities.
- LTL: Dock doors, which are the key capacity indicator in the segment, are very rigid from a capacity management perspective (it can take several years to open a new terminal close to urban centers), and thus capacity has not historically responded to changes in demand. Moreover, pricing in LTL is largely based on an arcane and outdated system that is essentially a regulation-era remnant.
- Contract warehousing: The country's real estate bubble unsustainably fueled growth in most markets over the past several years.

It is interesting to note that, as the right-hand panel of Figure 9 suggests, ROCE for Customer Solutions Companies is no less variable than that of Asset Optimizers (by segment), except for LTL. This evidence challenges the common belief that Customer Solutions companies generate stable returns over the economic cycle, predicated upon the idea that these companies benefit from plentiful supply during downturns (thus protecting profitability) but are constrained at the peak by a highly variable cost structure. Therefore, our ROCE variability finding is consistent with our previous point that Customer Solutions companies

Figure 8. 2000-2008LTM Average Operating Margin and Returns by Sector\1



1\ 2008 data is for the 12 months ended in September. Customer Solutions includes CHRW, LSTR, EXPD, UTIW, HUBG, PACR, UACL, FWRD; Truckload includes WERN, KNX, HTLD, CLDN, CVTI; LTL includes ABFS, CNW, SAIA, YRCW, ODFL; Rail includes UNP, BNI, NSC, CSX; Integrators includes UPS, FDX. 2\ Defined as Earnings before Interest and Taxes (EBIT) divided by total revenue.
3\ Defined as EBIT divided by the sum of net operating working capital and net property, plant and equipment.
Source: Capital IQ, Securities and Exchange Commission filings, MergeGlobal analysis

have much higher operating leverage in their cost structures than it is generally believed. Notably, it is also evidence that some Asset Optimizers have means at their disposal to reduce costs relatively rapidly (and thus partially smooth returns over the cycle). The surprisingly low ROCE volatility for the integrated carriers we believe is a result of 1) the relatively limited sample size and 2) the fact that they may be cushioned by the relatively concentrated nature of the industry.

New Normal, revisited

Our New Normal scenario for demand could have challenging short term (say, within 1-2 years) as well as long term (say, over the next 5-10 years) implications for Customer Solutions companies.

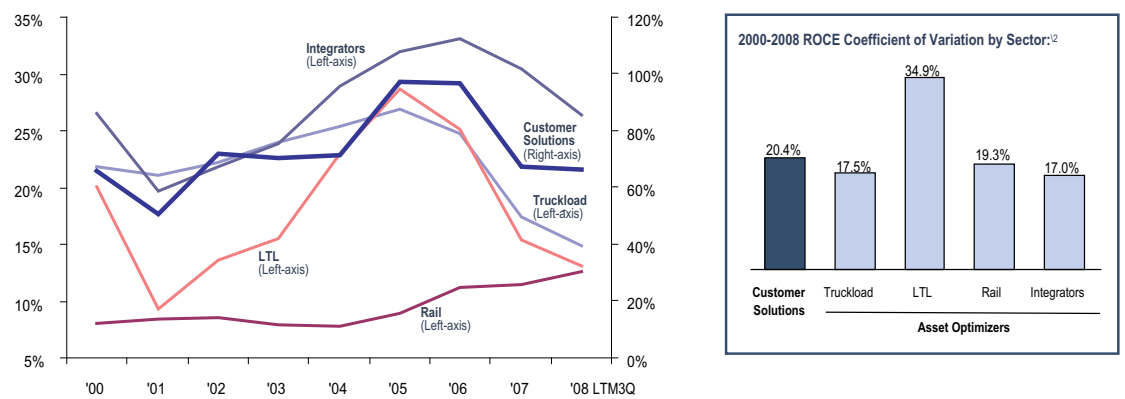
The short term implications have to do with on-going demand contraction in America and around the world. While financial capital may be minimal and returns on capital high for Customer Solutions companies who have been very successful over the past few years, many such companies who are incapable of reducing fixed costs and/or expanding market share will face enormous strategic challenges in a weaker freight environment. Simply put, many Customer Solutions companies have yet to test the true operating flexibility of their (supposedly highly variable) cost structures.

From a long term perspective, many of the structural inefficiencies that Customer Solutions companies have, to an important extent, depended on could be materially reduced, as supply eventually realigns with demand and carrier networks are pared down. For example, after an estimated 3.4% contraction in 2008, truckload capacity could be reduced over the next 1-2 years by 10-12% relative to the level it reached at its peak in early 2007 (which marked the end of the 2006 pre-buy motivated wave of capacity additions by carriers). Moreover, the dual long-term trends of increasingly expensive diesel (partially mitigated by slower New Normal economic growth but exacerbated by more rigorous environmental regulation) and driver shortages—both of which favor large, financially sound carriers over small fleets and nominal owner operators—suggest that significant consolidation in the industry would likely follow. In LTL, the ongoing restructuring (and possible failure) of LTL giant YRC Worldwide could significantly contribute to bringing LTL capacity back in line with demand in one stroke.

In container shipping, aggressive capacity additions through 2007 (the global fully-cellular capacity grew at an average annual rate of 13% during 2001-07) increasingly turned unsustainable in 2008 and will likely continue in that path for some time. Specific to North America, Maersk, the world's largest carrier, recently announced a 10% capacity reduction in the Transpacific. APL, one of the most successful carriers, announced a 20% capacity cut in the same trade (and a 25% cut in the battered Asia-Europe lane) in October.

Similarly, debt instruments issued by CMA CGM, the third largest carrier in the world (it grew its deployed fleet by an average of 26% per year during 2000-2008) and holder of one of the largest outstanding order books (close to 600 thousand TEUs), have recently been downgraded by rating agencies worried about global demand contraction. Highly leveraged transactions in the space, such as the recent acquisition of Hapag-Lloyd, are especially at risk

Figure 9. Transportation and Logistics Return on Capital Employed (ROCE) by Sector: 2000-2008LTM[1]



[1] 2008 data is for the 12 months ended in September. Return on capital employed is defined as earnings before interest and taxes (EBIT) divided by the sum of net operating working capital and net property, plant and equipment. Customer Solutions includes CHRW, LSTR, EXPD, UTIW, HUBG, PACR, UACL, FWRD; Truckload includes WERN, KNX, HTLD, CLDN, CVTI; LTL includes ABFS, CNW, SAIA, YRCW, ODFL; Rail includes UNP, BNI, NSC, CSX; Integrators includes UPS, FDX. [2] Defined as 2000-2008 ROCE standard deviation divided by 2000-2008 ROCE arithmetic mean.
Source: Capital IQ, Securities and Exchange Commission filings, MergeGlobal analysis

during a protracted recession. And as if all of this wasn't enough, it is also unclear how strong state support for Asian (particularly Chinese) shipping lines will remain, as even China's growth is cooling down to near socially-destabilizing levels.

The key question in container shipping, however, is how flexible (if at all) are the sizable orders already placed at shipyards around the world (by mid 2007, the containership orderbook stood at slightly more than 50% of existing slot capacity). Cancellations are expensive (down payments typically cover 20% of a ship's price tag) or, as it is most likely the case for 2009 and even 2010 scheduled deliveries, may not even be feasible at all. Industry sources have noted that shipyards may grant delays in non-cancellable orders in exchange for higher interest payments, but this is unlikely to reduce overcapacity over the next 2 years. We thus think that generalized structural changes in container shipping will take much longer to materialize (2-3 years) than in any other sector, but there might be lane- or carrier-specific adjustments in the short term as carriers take measures to conserve cash and remain in business, or abandon the market altogether.

Finally, Class I railroads—whose long-term supply curve is constrained by rigid infrastructure—will continue a focused strategy partly based on pushing ownership of rolling stock and other "non-essential" assets to their customers, including intermodal-focused Customer Solutions companies (which forces IMCs and truck brokers to take ownership of containers and similar equipment).

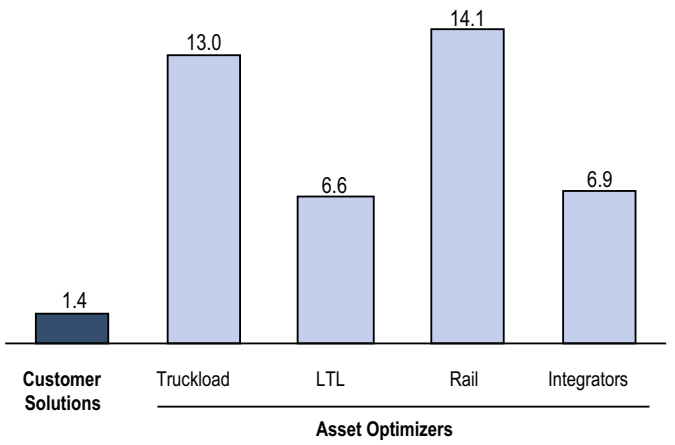
It is unclear whether capacity reductions can offset volume decreases. However, it is plausible that in some sectors this will be the case and that—for surviving Asset Optimizers—a reset of pricing leverage could result in higher ROCEs both in abosolute terms and relative to Customer Solutions companies.

Strategic alternatives

For the past several years, investors and executives have been enamored with, and sometimes confused by, the so-called non-asset based business models of freight forwarders and other transportation intermediaries. The attractions to this sector have historically included exposure to high-growth markets (typically linked to international trade) and the ability to substitute human capital (IT, operational expertise, customer relationships) for financial capital.

Over the same period, a number of customer solutions providers invested heavily and aggressively to expand their service offering and market coverage. Many initiatives were part of an effort to be "one-stop shop" or to develop global leadership rather than to focus on specific geographies and sectors. These expansions, though not necessarily always unwise, increased fixed costs. The fixed nature of these costs was often hidden by the ability to "grow into them."

Figure 10. Average Capital Expenditure per Dollar of Revenue by Sector: 2000-2008LTM[1]
Cents per dollar of revenue



[1] 2008 data is for the 12 months ended in September. Customer Solutions includes CHRW, LSTR, EXPD, UTIW, HUBG, PACR, UACL, FWRD; Truckload includes WERN, KNX, HTLD, CLDN, CVTI; LTL includes ABFS, CNW, SAIA, YRCW, ODFL; Rail includes UNP, BNI, NSC, CSX; Integrators includes UPS, FDX.
Source: Capital IQ, Securities and Exchange Commission filings, MergeGlobal analysis

Now, facing depressed demand in the short run and a possible realignment of supply in the long run, the Customer Solutions companies' strategic response will be constrained by both their strategic position and the capital they can reasonably find at their disposal (Figure 11).

While the current weak backdrop in financial markets will discourage investment, mergers and acquisitions still provide executives with the most potent and immediate strategic tool to restructure and reposition their companies.

Customer Solutions companies with high fixed cost structures should consider combinations which drive additional volume into the heart of their systems as

well as ways to "variablize" other aspects of their network where they lack scale (e.g., switching from owned offices to agents in marginal locations). Those with financial resources should consider exploiting the relatively narrow options available to capital-constrained competitors by making strategically wise acquisitions. Those with limited financial resources should consider how they can best benefit from consolidation, either as a seller able to articulate the value it brings to a business combination or through joint ventures, stock-for-stock combinations, or other acquisitions driven through third-party financing.

But not all Customer Solutions providers were willing or able to rapidly expand over the past bountiful years. Those who have not expanded or invested as aggressively and have maintained a highly variable cost structure (generally with greater focus) may have temporary advantages in terms of their ability to adapt to lower volumes. Additionally, and contrary to conventional thinking, some Asset Optimizers may actually be better positioned than customer solutions providers to reposition themselves as a) discrete pieces of capacity can be shed relatively easily (e.g., tractors) and b) significant pieces of industry capacity are likely to be eliminated in broad restructuring (both in and out of Chapter 11).

As Warren Buffet likes to say, "When the tide goes out, you can see who's been swimming naked." The naked will obviously include not only marginal competitors but also even some of the companies who have done an outstanding job serving customers in a stronger freight environment. In this case, the clothed will have some temporary advantages as a result of their ability to adjust costs rapidly to lower volumes. Regardless of their position, however, all Customer Solutions providers should reassess their threats and opportunities in an environment in which old rules no longer apply.

Conclusions

North American Customer Solutions companies have successfully created value for their shareholders on a long-term basis. The majority of the value created was based on a sound business model focused on delivering services that are essential to the everyday flow of freight, information and trade financing, both at home and around the world. These companies identified many needs in the market—to pool and smooth demand, to improve freight visibility, to link a universe of shippers with the right transportation services, to facilitate compliance with an increasingly confusing array of laws regulating global freight flows, to simplify the complex proposition of managing a supply chain—and hired talented people to fill the void (and, importantly, knew how best to motivate them).

The foundations on which Customer Solutions businesses rested are sustainable—but not infallible, as a portion of the value stemmed from indivisibilities and rigidities present in carrier networks that could be

Figure 11. Short- and Long-term Strategic Options Matrix for Customer Solutions Companies

Strategic Position \ Capital Availability	Low	High
Strong	▪ Evaluate measured headcount reduction as start ▪ Reconsider sources of profitability (customers, geographies, and service lines) and exit those that cannot be made attractive ▪ Refine strategy and develop set of alternatives for combination and/or capital raise ▪ Identify private equity sources who could support acquisitions ▪ Consider joint ventures or other means of expansion not requiring expensive third-party capital ▪ Combinations in stock-for-stock not involving third-party capital	▪ Expand market share ▪ Acquire weaker players ▪ Enter new businesses via acquisitions able to acquire significant scale ▪ Invest IT projects to manage both cost reduction and service improvement/expansion
Weak	▪ Must take aggressive approach to restructuring beyond simple head count reductions and "trimming" ▪ Next Step is large pull back from unprofitable areas – abandon plan for broad geographic network/service scope; replace owned assets within agents and partners ▪ Develop business case/strategy and set of strategic alternatives in order to sell company at best price	▪ Re-evaluate resources deployment, including subscale business lines, unprofitable customers, and unproductive assets and employees ▪ Consider means of "variablizing" fixed costs for activities that are strategically necessary but not competitive (e.g. switch to agents in second-tier markets) ▪ Make acquisitions that r provide scale in properly defined markets

Source: MergeGlobal analysis

significantly reduced as a result of the current financial and economic crisis. Another portion rested on continued high demand in most markets, which is also being impaired (perhaps permanently) by current conditions. Customer Solutions companies should carefully consider whether their current plans of action, specific to a given strategic positioning and level of capital availability, address potential structural changes in the markets they serve. Pursuing the right measures, and doing so in a timely manner, can signify extended value creation for some, or outright survival for many.

MergeGlobal Managing Directors

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Brian Clancy is a Managing Director and co-founder of MergeGlobal, Inc. ("MGI"), a financial and strategic advisory firm serving the global transportation and logistics industries. Mr. Clancy has 20 years of experience in providing financial and strategic advisory services.

Mr. Clancy has advised clients on a wide range of strategic issues, including: business strategy, mergers & acquisitions, bankruptcy support, customer segmentation, price elasticity, network strategy, capital investment decisions and operational improvement. He has worked with numerous clients in the air freight, small package, less-than-truckload, container shipping, third-party logistics, and transportation infrastructure industries. Mr. Clancy's experience is global in scope, where he has directed client engagement teams in North America, Latin America, Europe, Middle East, and Asia. Within Asia, Mr. Clancy has significant engagement experience in China/Hong Kong, Malaysia, Thailand and Singapore, with clients in the freight forwarding, air cargo and container shipping sectors.

Prior to founding MergeGlobal in 1993, Mr. Clancy was a Director at Global Aviation Associates in Washington, D.C., where he established the firm's freight transportation consulting practice. Previously, he was a financial analyst with Airline Economics, Inc. in Washington, D.C., where he worked on several merger & acquisition advisory assignments involving leveraged buyouts of U.S. airlines.

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Jim Westphal has over 20 years of professional experience in investment banking and corporate development. Prior to joining MergeGlobal, he spent 13 years as an M&A and transportation specialist at Salomon Brothers, UBS, and Deutsche Bank. At UBS he started and ran the North American Transport Group and the Global Logistics Group. At Deutsche bank he was Managing Director and head of the US Transportation Group. From 2002 to 2004, Jim served as a special advisor and interim CFO of Atlantic Aviation (the second largest fixed base operator in the world) where he led five acquisitions, a recapitalization, and the company's ultimate sale to Macquarie Bank. Prior to his career in investment banking he was a consultant at Monitor Company.

Mr. Westphal holds a B.A. in Economics from Amherst College and an M.B.A. and M.A. in East Asian Studies from the University of Virginia.

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