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THIRD-PARTY LOGISTICS: KEEPING AMERICA'S ECONOMY MOVING

By Leslie Carbone and Don Soifer

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Executive Summary

The Third-Party Logistics (3PL) industry plays a central role in managing domestic and global supply chains. With approximately 35,000 jobs in the United States (not including warehouse employees), 3PL providers help companies lower transportation costs, improve on-time performance, and even reduce carbon emissions by increasing cargo weight and running fewer shipping routes.

Both shippers and carriers benefit from 3PL. For shippers, inefficiencies mean higher costs, and utilizing 3PL outsourcing allows them to plan strategically to control costs, while leaving their employees free to focus on core competencies.

For carriers, especially smaller trucking companies, 3PL providers often serve as a lifeline to new business, especially in an environment where many shippers prefer to save management costs by working with fewer carriers. By leveraging considerable investments in personnel and technology on behalf of trucking companies, 3PL helps them secure loads they otherwise might not know about or be able to bid for.

This paper examines different aspects of the 3PL industry, and its unique benefits for companies seeking to manage their supply chains more efficiently.

Introduction

On any Saturday morning in America, retail shops are abuzz with consumers and families looking for the items they really need or just want. From small, neighborhood grocers to big discount superstores, these retailers count on having the merchandise that is their livelihood in stock and on shelves when customers come to get it. Customers count on the pricing and selection they expect. And suppliers count on their goods, whether fresh produce or manufactured equipment, being there reliably.

The work of making sure that products are affordable and available when they are needed is a complex orchestration whose many parts depend on up-to-the-minute information, resilient and efficient supply chains, and reliable transportation.

American households saved an average of $1,000 annually during 1980-2000 because of reductions in freight logistics costs.

Many of the arrangements are the work of technicians and managers known as third-party logistics (3PL) providers.

The Federal Highway Administration explains how commercial logistics in the United States is in the midst of a fundamental shift:

> Businesses are in the midst of an evolutionary shift from inventory-based 'manufacture-to-supply' logistics ('push' logistics) to replenishment-based 'manufacture-to-order' logistics ('pull' logistics). The latter relies less on expensive inventory and more on accurate information and timely transportation to match supply and demand. Overall, the result has been a move to coordinated logistics—the integration of distinct logistics activities such as… the bundling of transportation and inventory control.[1]

The 3PL industry has played a major role in making this possible. How? To appreciate the contribution fully, one must begin with a glimpse of how commercial freight moves in the United States. The United States has 4 million miles of roads and 100,000 miles of railroad tracks. Cargo also moves through 540 of the nation's 19,000 airports, and through 5,000 coastal, Great Lakes and inland waterways facilities.[2]

Each Monday through Saturday, 3PL provider C.H. Robinson's Central Chicago Office is hopping with 750 employees managing 4,000-4,500 shipments in 48 states over America's vast and complex transportation network.

The Chicago employees, typically clad in jeans and tee-shirts, are divided into 20 groups, each with a group leader. On one side of the room, workers make agreements with shippers to ensure that their loads are transported, e.g. fresh produce to grocery stores, ad supplements to newspapers. On the other side of the room, the employees place available loads with carriers, typically truckers, as soon as they appear in the company's internal tracking system. Their elbow-to-elbow workstations each usually hold a CPU, two monitors, family photos, model trucks, and either Cubs or White Sox memorabilia, even in winter. For many shipping managers or truckers, these high-energy workers represent their main point of communication with the hundred billion dollar 3PL industry.

Thus begins the story of 3PL in the United States.

What is 3PL?

Today's global supply chains are at the heart of business strategy, and often the difference between profit and loss in industries that operate with slim margins even during expanding economic conditions. But they are also fraught with risks, which add complexity to supply chains. Supply-chain disruptions can move a company from leader to laggard in short order: risks that include volatile energy costs, product quality issues, even natural disasters. Successful companies develop risk mitigation strategies and use resilience as a competitive advantage. Third-party logistics help companies develop and implement these strategies.

Although the industry is increasingly vital to the domestic and world economies, there is no single, legal definition of 3PL, sometimes called logistics outsourcing. Generally speaking, though, 3PL is the business of managing various elements of the supply chain via contract or outsourcing. A 3PL provider manages all or part of a client's logistical requirements, which may include transportation, inventory optimization, warehousing, order fulfillment, or the integration of these and other functions.

In short, 3PL as an industry represents an efficient market for moving goods. The activities most frequently outsourced to 3PLs in 2008 were domestic and international transportation, warehousing, customs clearance and brokerage, and forwarding, according to the 2008 13th Annual Third-Party Logistics Study.[3]

As supply chains grow increasingly complex, a steadily increasing number of companies rely on 3PLs to provide additional services necessary to support them. And the menu of available services is constantly changing. Some industry observers describe value-added services as what differentiate 3PLs from transportation companies and basic warehousing operations.

According to one writer for *The Journal of Commerce*, companies can expect their 3PL providers to offer ten key services, including strategic capacity, logistics expertise, network analysis, mode and load optimization, cost-containment strategies, vendor compliance management, systems support, actionable business intelligence, best practice sharing, and risk profile reduction.[4] Process expertise, customized services, economies of scale, and the benefits of long-term relationships are among the key factors that make 3PLs valuable to their customers and carriers.

In the world of logistics, inefficiencies mean higher costs.

Economic strength rests on the ability to move goods from where they are made to where the goods are needed or wanted. Improvements in the efficiency and reliability of goods transportation boost economic well-being. By freeing businesses to focus on their own core competencies, the specialized services of 3PL providers contribute to economic growth.

Across the country, 3PL providers help lower overall transportation costs, improve on-time performance, and reduce carbon emissions (by up to 20 percent) by increasing cargo weight and running fewer routes. Specifically, 3PL providers benefit the national economy by increasing efficiency in moving goods. In doing so, they help lower overall costs, including consumer prices, by identifying and correcting inefficiencies and improving on-time performance, preventing costly delays of supply or final goods deliveries. *The Journal of Commerce* estimates that American households saved an average of $1,000 annually during 1980-2000 because of reductions in freight logistics costs.[5] The 3PL industry also helps stabilize a volatile carrier base.

The 3PL industry also supplies good and stable jobs. The complex work of logistics coordination requires a well-trained, technically-proficient workforce used to communicating detailed information precisely and quickly. Opportunities are especially strong for college graduates who speak foreign languages spoken by many truckers (like Spanish, Russian or even Polish), have a knack with geography, and are capable of multi-tasking with advanced technologies.

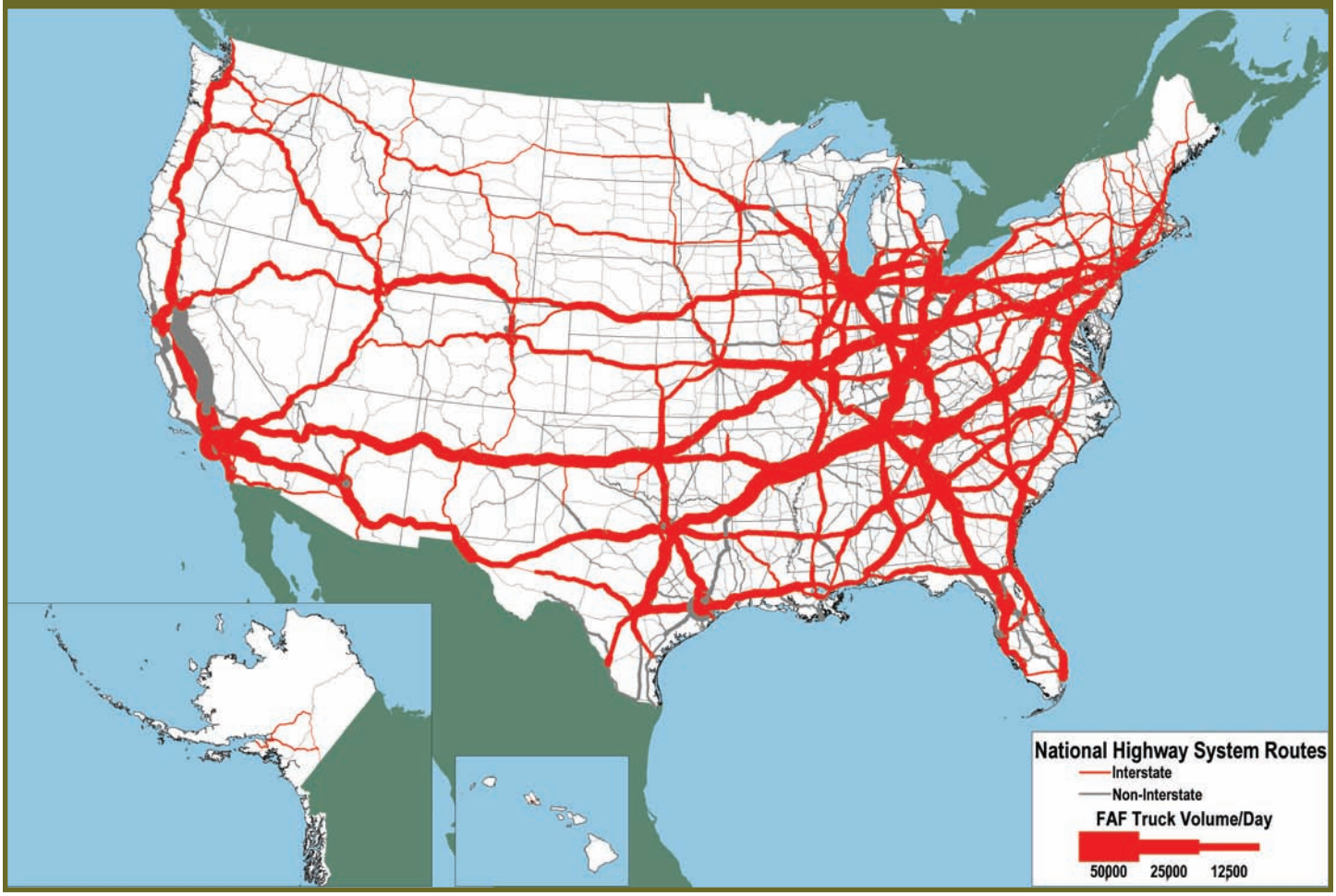
It is estimated that there are 35,000 employees working in 3PL jobs nationwide. This number does not include warehousing employees. Varying definitions make it difficult to pinpoint the precise number of jobs.

Weight of Shipments* by Mode (By Percent)

	2002	2006	2035
Truck	60	60.3	61.3
Rail	9.7	9.7	9.4
Water	3.6	3.2	2.7
Air, Air and Truck	0	0	0
Intermodal	6.6	7.1	6.9
Pipeline, other	20	19	19.2

Source: U.S. Department of Transportation
*Includes domestic, imports, exports.

Average Daily Long-Haul Freight Truck Traffic on the National Highway System: 2035



Note: Long-haul freight trucks serve locations at least 50 miles apart, excluding trucks that are used in intermodal movements.
Source: U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework, version 2.2, 2007.

3PL Benefits for Shippers

Third-party logistics is the business of managing various elements of the supply chain via contract or outsourcing.

One essential service offered by 3PL providers is inventory optimization. Internet-enabled instant communications technology provides unprecedented inventory visibility. Leveraged with the right logistics, this offers shippers an invaluable advantage in competitive markets.

When a consumer buys a product, a 3PL provider can be notified immediately, and automatically, that the product must be replenished. It can then coordinate the most efficient shipping option, contracting with and managing one of hundreds of possible carriers, managing warehouse operations, and monitoring the supply chain for possible disruptions. This leaves the shipper and the retailer free to concentrate their time and resources on what they do best.

And with many trucks on the road, 3PL providers have access to vital, up-to-the-minute, wheels-on-the-ground information about everything from product needs to highway congestion that can help them make crucial decisions. In a knowledge-lubricated economy, first-hand information is irreplaceable.

Often shippers working to control transportation costs find that, in doing so, they act tactically, but lack a strategic plan. Even when such shippers remain disciplined toward controlling costs, the absence of an integrated strategy allows inefficiencies in their operations. And in the world of logistics, inefficiencies mean higher costs.

Analyzing and applying point-of-sale information more broadly, 3PL providers can also track sales trends, and notify manufacturers and retailers when they should increase or decrease orders for certain products in certain places.

According to leading 3PL consultant Armstrong & Associates, several 3PL providers have implemented fully integrated systems "backbones" to support global transportation and warehouse management operations. These systems boost the value of transportation management services by offering total visibility and handling capabilities down to the smallest details. This capability allows companies the assurance that thousands of shipments across large geographical areas are being handled in the most optimal way.

The same 3PLs can run value-added warehousing operations, perform supply-chain network analysis and design, and manage call center and fulfillment operations. Armstrong and Associates expects 3PL providers to continue to grow in capability and sophistication, continuing to add more service offerings, and even offering single-source global solutions capable of handling the supply-chain needs of large multinational companies.

Services like these, and their power to help companies keep up with or ahead of their competitors, make 3PL providers more and more vital to businesses across industries. Today, every Fortune 100 company relies on at least one 3PL provider.[6] According to Armstrong & Associates, 3PL revenue growth had been relatively steady between 2005 and 2008 from all industry segments represented in the Fortune 100 except in the automotive sector.[7] In the first quarter of 2009, revenues fell 6.7 percent off the same quarter in 2008, driven by declining automotive revenues.[8]

Third-party logistics arrangements of course vary widely from one industry to another. The most common industry users are automotive, grocery, and high-tech/computer manufacturers. Internet-based companies are expected to represent a growing segment of 3PL business. Internet-based

companies are especially likely to outsource logistics and transportation functions, and warehousing is particularly valuable to these companies.

Because managing carriers takes time and resources, most shippers look to minimize the number of carriers they do business with; this makes them more efficient. So does the centralizing of these and other functions to a 3PL provider. Along with narrowing the number of carriers they use, retailers and manufacturers are using fewer, bigger bids.

Most shippers build and maintain "routing guides"—schedules of carriers available for specific routes—for use in planning shipments. Usually 3PL providers report they are able to find the greatest savings for shippers over lanes with higher frequency of shipments, or on those where they have greater control over routing guides. This also makes the use of 3PL brokers critical for carriers on those lanes.

Tools like barcoding and RFID are essential in maintaining inventory visibility throughout the supply chain, helping to streamline costs.

3PL Industry Jobs 2008*

STATE	# Employees	STATE	# Employees	STATE	# Employees
ALABAMA	365	MASSACHUSETTS	1152	OKLAHOMA	267
ARKANSAS	231	MARYLAND	811	OREGON	755
ARIZONA	635	MAINE	66	PENNSYLVANIA	837
CALIFORNIA	2442	MICHIGAN	801	RHODE ISLAND	11
COLORADO	259	MINNESOTA	1505	SOUTH CAROLINA	582
CONNECTICUT	109	MISSOURI	1238	SOUTH DAKOTA	40
DISTRICT OF COLUMBIA	54	MISSISSIPPI	111	TENNESSEE	1063
DELAWARE	34	MONTANA	123	TEXAS	2759
FLORIDA	3488	NORTH CAROLINA	705	UTAH	354
GEORGIA	1596	NORTH DAKOTA	63	VIRGINIA	480
IOWA	496	NEBRASKA	141	VERMONT	7
IDAHO	98	NEW HAMPSHIRE	116	WASHINGTON	620
ILLINOIS	2812	NEW JERSEY	1062	WISCONSIN	1984
INDIANA	381	NEW MEXICO	45	WEST VIRGINIA	16
KANSAS	284	NEVADA	257	WYOMING	20
KENTUCKY	214	NEW YORK	933	**UNITED STATES**	**35691**
LOUISIANA	418	OHIO	2851		

Source: Lexington Institute * Totals do not include warehousing jobs

How 3PL Benefits Carriers

The 3PL industry depends on a robust array of carriers, and especially smaller trucking companies. For many of these carriers, 3PL serves as a lifeline for new business, especially in an environment where many shippers prefer to save management costs by working with fewer carriers.

According to U.S. Department of Transportation data, by far most the most tonnage of shipments are carried by truck, and this will continue to be the case for the next few decades. The Federal Highway Administration reports:

> Bulk goods, such as grains, coal, and ores continue to make up a large share of the tonnage moved on the U.S. freight network. But lighter and more valuable goods, such as computers and office equipment, represent a growing proportion of what is moved.[9]

3PL providers help small trucking companies secure loads they otherwise wouldn't know about or be able to bid for, and are able to leverage considerable investments in people and technology on truckers' behalf.

According to the American Trucking Associations, of more than 500,000 private carriers in the United States, 97 percent have 20 or fewer trucks.[10] Just under 10 percent of the nation's 3.4 million truck drivers are independent owner-operators. Many smaller trucking companies lease at least half of the trucks they run.

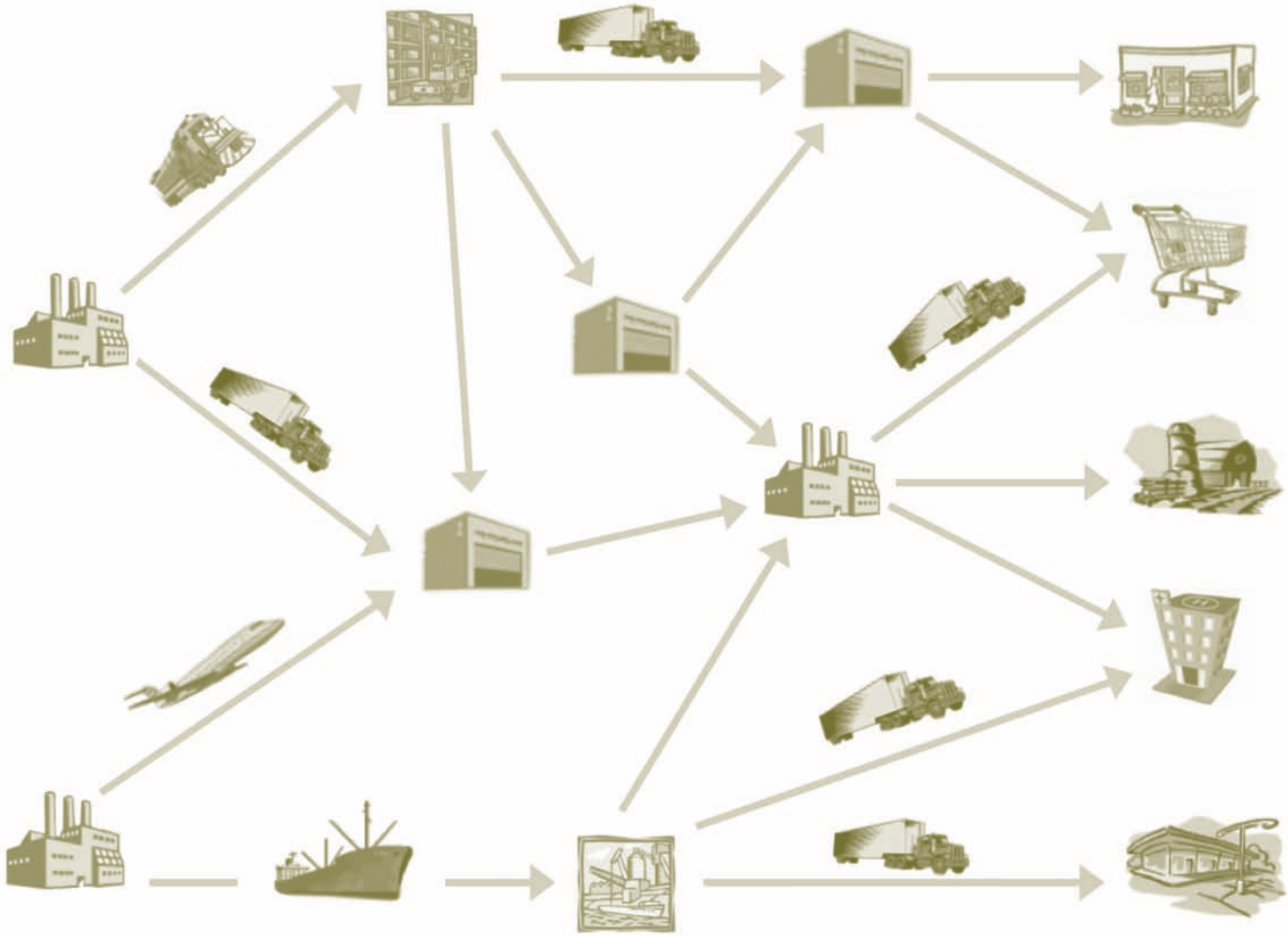
Third-party logistics providers help small truckers secure loads they otherwise wouldn't know about or be able to bid for, and are able to leverage considerable investments in people and technology on truckers' behalf. While larger carriers regularly utilize expensive Electronic Data Interchange (EDI) to line up loads in advance, small trucking companies continue to rely on the telephone and fax machine. Whether from a home office, cellphone, or truckstop, word of mouth from their broker is what gets most truckers back on the road. Smaller trucking companies without benefit of EDI, especially those serving a limited number of lower-volume shipping lanes in smaller markets, count on 3PL providers to arrange cargo and rates. 3PL providers also help carriers manage claims for lost or broken cargo.

Carriers prefer to do business with brokers that pay them quickly, and some larger 3PLs employ systems that pay trucking companies electronically, and swiftly, enabling them in turn to pay their drivers quickly. For many truckers, a blown tire on the road can take a major bite out of a day's pay, so timely payments are noticed and appreciated.

Another vital function of the 3PL industry is to help carriers (especially smaller carriers) cope with rising volatility. This volatility stems from turbulence in the economy, supply/demand fluctuations, fuel prices, and rising and falling capacity. When demand surges, typically capacity tightens; when demand drops (as it does during periods of economic uncertainty), capacity loosens, and truckers have increased difficulty finding enough loads to make ends meet.

Most 3PLs are non-asset-based, meaning they don't own the trucks and equipment used to transport freight. This makes them uniquely suited to help asset-based shippers and carriers handle volatility. Some carriers that own substantial assets, like truck fleets, also engage in their own brokerage activities.

Third-Party Logistics Services



Primary Services
Shipment Optimization/Consolidation
Carrier Selection and Management
Logistics Expertise
Cost Reduction Strategy
Mode Optimization
Specialty Transport

Warehouse Value-Added Services
Warehouse Management
Kitting/Retail-ready packaging
RFID/Barcoding

Other Value-Added Services
Point of Sale Analysis
Freight Payment
Claims Supervision
Best Practices Sharing
Customs Brokerage
Call Center Management
Risk Containment
Drayage

Upstream Value-Added Services
Supply Chain Management
Reverse Logistics

Outlook

The 3PL industry depends on carriers, especially small trucking companies. Even as 3PL companies continually expand their service offerings, freight operations—the practical work of moving goods from a shipper to a receiver—will remain vital to their ability to create value for their customers and society. Freight transportation boosts economic output by moving goods from where they can be produced most economically to where they are more highly valued. It encourages competition and its value-creating power, by extending the spatial boundaries of both goods and labor markets. It also stimulates new demand by introducing products to areas. The employment of millions of people depends on this economic stimulation.

Unfortunately, freight carriers, especially small trucking companies, face mounting challenges that threaten their ability to stay in business and on the roads. Most of these challenges are caused or exacerbated by government regulation.

The trucking industry itself has been substantially deregulated, to the great benefit of both truckers and consumers. Deregulation in the trucking industry occurred, for the most part, following the Motor Carrier Act of 1980. Deregulation has allowed greater efficiencies, price reductions, and growth in multimodal solutions.

According to the Federal Highway Administration*:*

> Deregulation of trucking prompted an explosion in the number of interstate motor carriers, from 216,000 in 1990 to more than 500,000 in 2000 (USDOT FMCSA 2002). Existing carriers developed new services and routes. Reliance on in-house trucking declined, as shippers decided to rely on the more efficient services offered by for-hire carriers, allowing manufacturers to focus more on product development and improvement. Moreover, deregulation reduced the number of empty back-hauls, improving productivity, reducing prices, and lowering carbon emissions.[11]

State Headquarters of 33 Largest 3PL Providers, 2008

4 each	California, Florida
3 each	New Jersey, Tennessee
2 each	Arkansas, Illinois, Pennsylvania, Texas, Washington
1 each	Georgia, Ohio, Kansas, Minnesota, Missouri, Nebraska, New York, Vermont, Wisconsin

Source: Logistics Quarterly

Manufacturers and retailers have also grown better at planning and forecasting since deregulation. This helps reduce volatility. For instance, Wal-Mart has become an industry leader at using point of sale information to read and forecast trends. It is also a major customer of 3PL services.

Recent economic news has had a major impact on the logistics industry, in many ways. The faltering economy (and worries about it worsening) is driving consumers to buy less, and retailers to cut back on inventory, and that means fewer shipments and less work available for truckers. Some industry experts equate each percentage-point gain or loss in gross domestic product (GDP) with a 3-point change in freight. Since peaking in 2005, which industry observers call the last peak year for 3PL, carriers have seen both their freight volume and their revenues decline ever since. With costs increasing and loads decreasing, small trucking companies are extremely vulnerable. Nearly 2,000 trucking firms failed in 2007, according to *Inbound Logistics*.[12] Published reports in March, 2009 estimated that 1,000 cargo ships were laid up empty for lack of freight—so many that Singapore and other Asian ports were not allowing in new ships.[13]

Within minutes of being notified of a shipment anywhere in the country, 3PLs swing into action: identifying and contracting with a ready-to-roll carrier (top left), optimizing freight and even combining loads and shipping runs as needed (middle), all the while helping to maintain inventory visibility to ensure the supply chain runs smoothly and efficiently (lower left).

Adding Complexity to the Supply Chain

Although significant deregulation occurred following 1980, with tremendous benefits to the economy, there are still many regulations that dampen efficiency and raise consumer prices; and Congress, states, and federal agencies are considering more.

Fifty-five mile per hour speed limits and hours of service regulations, which mean that the federal government and not the individual trucker decides how fast he should drive and when he should rest, slow deliveries and inflate costs.

Requirements to track and favor minority-owned businesses spike costs and diminish efficiency.

Supply Chain Disruptions Can Mean Interruptions for U.S. Businesses

- Terrorism
- Natural Disaster
- Strikes and Labor Interruption
- Power Outage
- Cargo Loss
- Infrastructure Failure
- Epidemic
- Human Error

Environmental regulations, like tire pressure mandates, require frequent checking and elbow out more effective tactics, like combining loads, at boosting efficiency and decreasing carbon emissions.

Homeland security regulations in particular can add significant complications. According to the 2008 13th Annual Third-Party Logistics Study, providers express doubts about their ability to enact measures such as scanning every container, verifying worker identity daily, researching every delivery address, and even determining how to report a security breach to authorities.[14] And fear of violating mandates, incurring penalties, and delaying shipments has a lingering effect. The report suggests that meddlesome rules could effectively eliminate just-in-time deliveries into the United States, something that would suppress economic recovery, further weakening the country for little payback.

With over 1,000 cargo ships anchored empty in Singapore waiting out the economic downturn, others have been turned away.

In addition to federal-level regulations, truckers and 3PLs must comply with the varying mandates of different states, from taxes on trucks to driver-safety laws. Ensuring compliance with the laws of every state a truck passes through on a long route is costly.

All these requirements conspire to exacerbate the already stacked odds against small business success and make it very difficult to start, keep, and make a living at one's own trucking company. These difficulties, combined with the challenges of surviving a downspiralling economy, mean that there is likely to be a serious driver shortage when the economy recovers.

Increasing Regulation = Higher Costs

Today's commercial logistics industry in the United States, in which 3PL plays a vigorous part, has evolved directly from deregulation made possible by the federal Motor Carrier Act of 1980. Prior to 1980, a carrier could be denied entry into a market if an existing carrier could demonstrate that it would be caused financial harm. Since 1980, a freight broker meeting certain minimum requirements, including holding a $10,000 bond, can contract for the transportation of nearly any cargo or shipping route.

The Federal Highway Administration estimates the cost of moving freight in the United States dropped from 16.1 percent of GDP to 10.0 percent between 1980 and 2000, a development which benefits both business and consumers. But today, any number of proposed federal or state-level initiatives would likely raise the costs of shipping freight and, in economic terms, add complexity to the supply chain.

Such proposals encompass a broad range of different policy mechanisms and goals. These could include federal driver safety regulations, carbon emissions requirements, state taxes on diesel fuel, state or federal environmental standards, and even one recent proposal to require financial disclosure by freight brokers for fuel surcharges for individual transactions.

The 3PL industry's value depends on its ability to identify and eliminate inefficiencies, lowering costs. In an environment where government initiatives like these add costs and complexity, 3PL providers would likely have an even more valuable role helping shippers and carriers work to remain as efficient as possible. The more complex a supply chain, the better the opportunities are for 3PLs to produce lower costs for their customers.

Conclusion

Third-Party Logistics is a valuable contributor to keeping America's economy moving forward. It creates an efficient market for moving goods that benefits all parties—shippers, carriers, and consumers.

The 3PL industry helps drive down costs by identifying and correcting inefficiencies. It also provides a major resource as the nation's freight carriers, particularly smaller trucking companies, confront increased volatility and bid for loads they might not otherwise know about.

For those shippers, from Fortune 100 companies to specialty producers, whose deliveries constitute the time-critical fabric of domestic and global supply chains, 3PL has become essential to carrying out core business strategies. These strategies include choosing and managing carriers, and maintaining optimal loads and modes for shipments nationwide.

But 3PL providers also rely on a deep reservoir of specialized knowledge that allows them to provide value-added services, both for big-picture solutions—incorporating best practices for transportation and inventory management—and for highly-specific expertise like customs clearance and retail-ready packaging.

While 35,000 3PL employees at work in all 50 states (not counting warehousing jobs) keep shelves full and prices affordable, the industry provides a vital key to getting and keeping America's economy on the road to recovery.

Endnotes

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Don Soifer is executive vice president and Leslie Carbone is adjunct scholar with the Lexington Institute.

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Glossary of Key 3PL Terms

3PL – Third-Party Logistics is the business of managing various elements of the supply chain via contract or outsourcing. A 3PL provider manages all or part of a client's logistical requirements, which may include transportation, inventory optimization, warehousing, order fulfillment, or the integration of these and other functions.

4PL – Essentially a 3PL arrangement in which two or more providers are utilized.

Drayage – Intermodal moving of containerized cargo.

EDI – Electronic Data Interchange, widely used in the transportation industry to manage shipments and match cargo to carriers.

Freight Broker – A provider who sells and arranges freight transportation without moving it themselves.

Freight Forwarder – Provider who assumes responsibility for shipping or storage of freight.

NVOCC – Non-Vessel Operating Common Carrier, service provider who, without owning transportation assets, assumes responsibility for moving or storage of freight.

Reverse Logistics – Practice of routing used supplies or equipment for reuse or recycling.

RFID – Radio frequency identification, a technology-driven solution to tracking inventory and shipments.

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1600 Wilson Boulevard, #900
Arlington, VA 22209
Telephone: 703-522-5828
Fax: 703-522-5837
Web: www.lexingtoninstitute.org
mail@lexingtoninstitute.org