Cash on the road

Working capital management in the automotive supply industry 2011

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Summary

Contents

Cash on the road is the latest in a series of working capital (WC) management-focused studies based on Ernst & Young research.

For years, the automotive supply industry has been in a challenging position, resulting from continuing pricing pressures from OEMs, intense competition, evolving products due to increased complexity and advances in technology, volatile raw materials prices, as well as industry globalization.

Since the middle of 2008, the industry's landscape has been profoundly changed by the global economic downturn and the related credit crisis. Many of the traditional forces that define the industry remain in force. But new trends have also been emerging, such as OEMs' shifting market shares, industry consolidation, reduction in production capacity, restructuring of operations and accelerated expansion in developing countries. The crisis also highlighted the vulnerability of many participants in the automotive value chain. Given such upheaval, WC management, necessarily, became an acute focus for the industry. For many, a focus on cash and WC capital was key for survival. Yet analysis reveals a contrasting picture of the industry's WC performance, with varying results among regions and over time.

Key findings

Overall

- In 2010 compared with 2009, the automotive supply industry managed to cut cash-to-cash (C2C)* by 13%, more than offsetting the deterioration in performance seen in prior seven years (resulting in C2C dropping by 7% between 2002 and 2010).
- The global downturn of 2008 had a considerable impact on the industry's WC performance, with regions and companies responding differently.
- Changes in the marketplace have highlighted the need for organizations to build greater levels of responsiveness in systems and processes along the implementation of lean solutions.
- A number of factors contributed to the reported WC variations, including changing payment terms with original equipment manufacturers (OEMs), globalization of sales and supply chains, volatility in raw materials prices and currency fluctuations.
- While there is evidence of progress in some areas of WC, we see significant opportunity for improvement across the entire WC value chain for the industry and for most of its constituents. It is worth noting that a high-level exercise (Ernst & Young analysis) indicates that a total of up to US$35 billion is still unnecessarily tied up in the WC of 40 of the largest automotive suppliers (by sales) in North America, Europe and Japan. This amount is equivalent to 7% of sales of the companies analyzed.
- The biggest problems remain the lack of mutually agreed objectives between OEMs and their suppliers, the absence of common processes and systems, and historic behaviors within the organizations and across the extended enterprise. Supply chains have also been growing complicated and vulnerable to disruptions, making businesses increasingly complex and risky to manage.

Regions

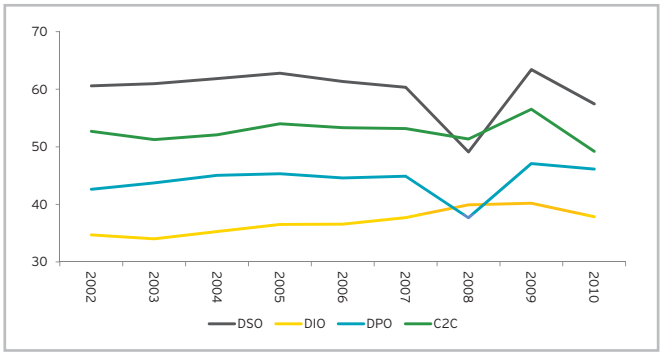
- In 2010 compared with 2009, each region reported lower C2C.
- Latest findings mean that C2C has been falling for each region since 2002, but with large variations through the different periods under consideration.
- WC performance between companies headquartered in different regions has been converging since 2002, which can be attributed to the impact of globalization of trade and industry consolidation. Common WC leading practices have also been spreading steadily across the industry.
- While progress in WC performance has been more limited than in other regions, North American automotive suppliers still carry the lowest level of C2C, thanks to a superior performance in both inventory and payables.
- European automotive suppliers exhibit the highest level of C2C, notably due to a poor performance in inventory, while Japanese automotive suppliers sit in between.

* C2C (cash-to-cash) = DSO (days sales outstanding) plus DIO (days inventory outstanding) minus DPO (days payables outstanding), expressed as a number of days of sales, unless stated otherwise. For a more detailed explanation of this and other metrics in the study, see the glossary on page 12.

Review of working capital performance

WC results for the automotive supply industry mask significant variations over time. WC performance was unchanged in the first five years (2003-2007) and then severely affected by the global economic downturn in the ensuing two years (2008-2009), with regions and companies responding differently. 2010 saw a significant improvement in performance.

Table 1: WC trends by metrics, 2002-10



Source: Ernst & Young analysis, based on publicly available financial statements

Between 2002 and 2010, WC levels (as measured by C2C) fell by 7%, with each region reporting better results. Both payables and receivables contributed to the improved WC performance since 2002, with DPO rising by 8% and DSO falling by 5%. By contrast, inventory performance deteriorated, with DIO up 9%.

The industry's WC performance was unchanged in the first five years (2003-2007) and then severely affected by the global economic downturn in the ensuing two years (2008-2009), with regions and companies responding differently to it. There was a significant improvement in performance in 2010.

The global downturn of 2008 had a considerable impact on the industry's WC performance. At the end of 2008, suppliers were left with "excessive" levels of inventory, when sales plunged (by 6% on a full-year basis in 2008 compared with 2007 and by as much as 25% in Q408 vs. Q407) and severe cuts in production and supply chain capacity failed to prevent inventory build-up. With sales recovering gradually in 2009 (still down 17% on a full-year basis compared with 2008, but up 15% in Q409 vs. Q408), production was progressively ramped up while allowing for reductions in "excessive" levels of inventory. At the end of 2009, inventory returned to a level which was slightly below that of the end of 2007.

In contrast with inventory, receivables and payables were better managed over the same period 2007-2009 (see details in Table 3).

For many years, the automotive manufacturing industry and its Tier 1 suppliers have led the way with lean production techniques, achieving dramatic improvements in terms of quality, throughput and production costs. These latest results prove that the ability to move quickly is also critical. For organizations, it is therefore important that greater levels of responsiveness are built in systems and processes along the implementation of lean solutions.

Contrasting reported WC results for the full year 2009 and Q409 compared with the same periods of 2007, as shown in the tables, reflect the impact of changes in quarterly sales patterns, with sales dropping sharply in the last quarter of 2008 compared with the full year 2008, and recovering significantly in the last quarter of 2009 compared with the full year 2009.

The strong WC showing of 2010 (C2C down 13%) came from a combination of reduced receivables and inventories (DSO and DIO down 5% and 6%, respectively), while payables were lower (DPO down 2%). Increased production and build-up of inventories played catch-up with a swifter and stronger than expected recovery in global automotive production (to exceed its previous pre-crisis peak of 2007).

It is worth noting that the pace of WC improvement in 2010 compared with 2009 would have been lower (C2C down 6%) were the last quarter of each year used as a basis for comparison rather than the full year.

Table 2: Change in WC metrics, 2002-10

Days	Change 10/02	Change 10/09	Change 09/07	Change 07/02
DSO	-5%	-9%	5%	0%
DIO	9%	-6%	7%	9%
DPO	8%	-2%	4%	5%
C2C	**-7%**	**-13%**	**6%**	**0%**

Source: Ernst & Young analysis, based on publicly available financial statements

Table 3: Change in WC metrics, Q407-Q409

	Change Q409/ Q407	Change Q409/ Q408	Change Q408/ Q407
DSO	-3%	-4%	1%
DIO	-1%	-25%	32%
DPO	-2%	-7%	5%
C2C	**-3%**	**-19%**	**19%**

Source: Ernst & Young analysis, based on publicly available financial statements

Spotlight: North America

Over the past decade, a handful of trends have been profoundly reshaping the automotive supply industry in the US. These include market share losses for Ford and GM, intense competition, industry consolidation, international expansion and the impact of the global downturn.

In 2009, GM and Chrysler filed for Chapter 11 bankruptcy protection. Several automotive suppliers implemented varying levels of operational and financial restructuring actions, with a few turning to the bankruptcy process for reorganization. The supply base of the automotive supply industry was also severely affected.

Against this backdrop, North American automotive suppliers have been under intense pressure to increase efficiency, streamline processes and improve cash. Yet, while overall results have been improved, analysis reveals a contrasting picture of the industry's WC performance in this region, with large variations over time and diverging results in metrics and among companies.

For suppliers headquartered in the North American region, C2C in 2010 was 5% below that for 2002, but this was only achieved on the back of last year's gains, which more than offset the losses seen in the previous eight years. Only half of the companies surveyed managed to report a better performance.

Progress in WC performance since 2002 came entirely from payables (DPO up 19%), while levels of receivables and inventories were much higher (DSO and DIO up 6% and 9%, respectively). For payables, performance was driven by supply chain initiatives and higher levels of production, mirroring, to an extent, the increase in inventory. Further insights have been discussed in the section "Contributing factors to WC performance."

Through the different periods under consideration, WC results have been varied. Performance was weaker in the first four years starting in 2002, with C2C rising by 6%. This was followed by a period of sharply diverging performance during the years 2007-2009. C2C increased by as much as 21% in Q408 versus Q407, driven by higher levels of inventory (DIO up 32%). There was a significant improvement a year after, with C2C dropping by 24% in Q409 versus Q408, as inventory fell back. As a result, C2C fell by 8% between Q409 and Q407, with a combined reduction in inventories and receivables (DIO and DSO down 5% and 3%, respectively), partly offset by weaker payables (DPO down 1%).

Results were strong in 2010, with C2C dropping by 11% compared with the year before (DSO and DIO fell by 5% and 3%, respectively, while DPO dropped by 1%).

It is worth noting that the pace of WC improvement in 2010 compared with 2009 would have been lower (C2C down 5%) were the last quarter of each year used as a basis for comparison rather than the full year.

Table 4: Change in WC metrics, 2002-10

Days	Change 10/02	Change 10/09	Change 09/07	Change 07/02
DSO	5%	-7%	6%	7%
DIO	11%	-4%	8%	6%
DPO	17%	-1%	10%	7%
C2C	**-5%**	**-12%**	**3%**	**6%**

Source: Ernst & Young analysis, based on publicly available financial statements

Table 5: Change in WC metrics, Q407-Q409

	Change Q409/Q407	Change Q409/Q408	Change Q408/Q407
DSO	-5%	-7%	2%
DIO	-3%	-27%	33%
DPO	-1%	-7%	6%
C2C	**-8%**	**-24%**	**21%**

Source: Ernst & Young analysis, based on publicly available financial statements

Spotlight: Europe

European automotive suppliers managed to report much lower C2C in 2010 compared with 2002. C2C was down 12%, with 11 out of 15 companies analyzed showing better results.

Such progress in WC came from a combination of sharply improved payables and receivables (DPO up 17% and DSO down 6%). Nine out of 15 companies analyzed in Europe reported a lower DSO, and 13 out of 15 a higher DPO. By contrast, there was a deterioration in inventory performance (DIO up 5%), with eight companies posting worse results.

Compared with their peers in the US, WC performance for automotive suppliers in Europe was much stronger between 2002 and 2007 (C2C down 7%).

This was followed by a period of sharply diverging performance during the years 2007-2009. C2C increased by as much as 14% in Q408 versus Q407, driven by higher levels of inventory (DIO up 30%). There was a significant improvement a year after, with C2C dropping by 22% in Q409 versus Q408, as inventory fell back. As a result, C2C fell by 11% between Q409 and Q407, with a combined reduction in receivables and inventories (DSO and DIO down 8% and 3%, respectively), while payables remained unchanged.

Performance improved in 2010, with C2C falling by 8% compared with the year before. Each WC component contributed to these results, with DSO and DIO down 5% and 1%, respectively, and DPO up 3%.

For European companies reporting quarterly data, it is worth noting that the pace of WC improvement in 2010 compared with 2009 would have been lower (C2C down 5%) were the last quarter of each year used as a basis for comparison rather than the full year.

Table 6: Change in WC metrics, 2002-10

	Change 10/02	Change 10/09	Change 09/07	Change 07/02
DSO	-7%	-5%	3%	-5%
DIO	6%	-1%	5%	3%
DPO	16%	3%	5%	7%
C2C	**-12%**	**-8%**	**3%**	**-7%**

Source: Ernst & Young analysis, based on publicly available financial statements

Table 7: Change in WC metrics, Q407-Q409*

	Change Q409/Q407	Change Q408/Q409	Change Q407/Q408
DSO	-8%	-5%	-3%
DIO	-3%	-26%	30%
DPO	0%	-4%	5%
C2C	**-11%**	**-22%**	**14%**

Source: Ernst & Young analysis, based on publicly available financial statements

*Based on 12 companies out of 15 that report quarterly data (representing 2/3 of total sales)

Spotlight: Japan

Japanese automotive suppliers reported much lower C2C in 2010 compared with 2002, with six companies out of seven improving performance. C2C were down by as much as 19%, beating the results reported by its peers in both North America and Europe. Progress came primarily from a large reduction in levels of receivables (DSO down 20%), with five companies improving performance. By contrast, payables performance was weaker (DPO down 8%), while inventory levels were down (-3% for DIO).

Yet WC performance has been notably volatile through the different periods under consideration. C2C fell by 11% in the period 2002-2007. This was followed by a period of sharply diverging performance during the years 2007-2009. C2C increased by as much as 18% in Q408 versus Q407, driven by higher levels of inventory (DIO up 29%). There was a significant improvement a year after, with C2C dropping by 23% in Q409 versus Q408, as inventory fell back. Compared with other regions, C2C was still up 6% between Q409 and Q407, with receivables and payables showing a deterioration (DSO up 3% and DPO down 4%). Inventory performance remained unchanged.

Results were strong in 2010, with C2C falling by 20% compared with 2009. It is worth noting that the pace of WC improvement in 2010 compared with 2009 would have been much lower (C2C down 6%) were the last quarter of each year used as a basis for comparison rather than the full year.

A note of caution, however, is required when reviewing WC performance for Japanese suppliers, as volatility in the Japanese yen against other main currencies may have exaggerated yearly WC variations. In 2008, for example, the Japanese yen was 14% higher than the US dollar and 19% higher than the euro at year-end compared with the average exchange rates for the year.

Table 8: Change in WC metrics, 2002-10

	Change 10/02	Change 10/09	Change 09/07	Change 07/02
DSO	-20%	-20%	14%	-13%
DIO	-3%	-15%	11%	3%
DPO	-8%	-12%	6%	-1%
C2C	**-19%**	**-22%**	**18%**	**-11%**

Source: Ernst & Young analysis, based on publicly available financial statements

Table 9: Change in WC metrics, Q407-Q409

	Change Q409/Q407	Change Q409/Q408	Change Q408/Q407
DSO	3%	1%	2%
DIO	0%	-23%	29%
DPO	-4%	-10%	6%
C2C	**6%**	**-10%**	**18%**

Source: Ernst & Young analysis, based on publicly available financial statements

Contributing factors to WC performance

For the automotive supply industry, the reported WC variations since 2002 have been influenced by a number of factors:

- The evolution of payment terms with OEMs played a big role behind the changes in receivables performance. For both GM and Ford, payment terms policy appear to have changed significantly over different periods and between them. GM's DPO rose significantly between 2002 and 2007, with the company terminating, for example, supplier fast-pay account programs in 2004 and 2005. DPO then fell back in 2010 to reach a level which was still 20% above that of 2002. GM explains the late drop in DPO by the completion of a change to weekly payment terms to its suppliers. For Ford, DPO fell by 13% between 2002 and 2007, and then recovered by 8% by 2010. In total, DPO for US OEMs (on a weighted basis) was up 13% between 2002 and 2010.

  By contrast, DPO of the four largest (by sales) European OEMs has been falling since 2002 (down 14%) to reach a low in 2010 (if we were to exclude the "abnormal" year 2008). There was also a drop of 15% in DPO for the three largest (by sales) Japanese OEMs during the same period.

- With regard to inventory, performance has been the result of some conflicting factors. OEMs have been looking to their suppliers to assume greater supply chain responsibilities, such as providing complete systems and combinations of components. In addition, market globalization and the desire of OEMs to adapt their products to satisfy regional demands have driven suppliers to establish capabilities within major regions as they follow their customers.
- Procurement and sourcing have remained an area of focus for the industry, with companies seeking to leverage and consolidate spend, changing payment terms, standardizing processes and working more closely with their own suppliers. Consolidation has also created larger Tier 1 suppliers with increased buying power, capable of extracting better cash terms from Tier 2, Tier 3 and other suppliers.
- Another feature that influenced WC performance in different periods has been the volatility in certain raw materials prices, such as steel, aluminium, rubber, resins and fuel. While price adjustment provisions exist, the sharing of costs remains the subject of negotiations with customers. Increases in raw materials prices in the second half of 2010 contributed to boost reported levels of inventory and payables at year-end.
- Changes in the region and country sales mix and the associated rebalancing of OEM exposure also had an impact on the industry's WC variations. This was notable for US automotive suppliers, with sales outside North America accounting for as much as 47% of total sales (for the companies analyzed) compared with only 36% in 2002. For suppliers in Europe, the proportion of sales outside the domestic market was only slightly up, with a relative stability of sales exposure to European OEMs and a higher share of sales to Asian OEMs replacing falling sales with Big Three. For suppliers in Japan, the rebalancing of OEM exposure since 2002 has been moderate.
- WC variations also may have been caused by individual companies choosing to change the balance among cash, cost and service levels in response to varying internal, customer or supply and demand requirements.

Actions taken

To address WC, automotive suppliers have been focusing on several actions, including:

- Applying lean manufacturing, with just-in-time (JIT) manufacturing and just-in-sequence (JIS) processes being the normal mode of operation
- Reconfiguring, relocating and consolidating supply chains
- Leveraging, centralizing and consolidating procurement
- Managing payment terms more effectively with customers and suppliers
- Improving billing and cash collection
- More efficient billing of costs incurred under engineering, tooling and R&D costs contracts
- Optimizing service and products-parts planning and aftermarket distribution practices
- Collaborating more closely with each partner of the extended enterprise
- Linking up with downstream OEM processes to gain improved visibility into demand
- Monitoring financial viability of key suppliers and implementing dual sourcing to reduce dependence on single supplier
- Adopting common technologies up and down the value chain to share real-time and accurate information about supply and demand
- Tracking and monitoring WC metrics and linking compensation to these metrics

Regional performance: wide WC variations

Automotive supply industry WC performance varies widely across regions. This partly reflects variations in country sales and local payment practices, customer base, as well as in manufacturing, logistics and distribution strategies deployed for the companies analyzed within each region.

North American automotive suppliers exhibit by far the lowest levels of C2C (35 days), due to superior performance in each WC area. European automotive suppliers exhibit the highest level of C2C (61 days), notably due to a poor performance in inventory, while Japanese automotive suppliers sit in between (51 days).

Turning the focus to receivables (DSO), the levels do not materially vary across regions. This likely reflects the global and highly concentrated customer base nature of the industry, with most automotive suppliers realizing a significant part of their sales outside the region where they are headquartered.

However, in terms of inventory and payables (DIO/DPO), industry averages differ significantly. North American automotive suppliers, for example, carry a much lower level of inventory (DIO of 31 days) than their peers in Japan (36 days) and Europe (45 days). This can be attributed to companies in the US operating amid simpler supply chains, largely owing to the absence of national borders and a unified single currency and language. Vendor-managed inventory arrangements are also less widespread outside North America.

Suppliers in the North American also exhibit much higher levels of payables than in Europe and Japan. While trade terms are generally longer in the latter two regions, globalization in sales and procurement may be dampening the effect of regional payment practices. Certain companies also choose to pursue extended payment terms rather than to pay faster in return for cash discounts.

Large differences also exist among suppliers in the levels of cash and cost savings that each one has been able to drive out of its supply chain (notably with Tier 2 and Tier 3 suppliers) in response to pressure from customers.

Within each region, analysis also shows wide variations in performance among companies for C2C and for each WC metric. Part of this performance dispersion is due to differences in country and customer sales mix, production, logistics and distribution infrastructure, degree of vertical integration and nature of supply contracts.

The spread of C2C performance among companies is larger in Europe than in North America and Japan, with the former region exhibiting the highest figure for each WC metric.

There are several reasons which may explain these results for Europe:

- Differences in business models, with companies operating at various points of the industry value chain
- Wide variations in trade terms across countries in Europe, notably between the North and the South
- Dispersion of production, logistics and distribution facilities and absence of a unique trading currency.

Table 10: WC metrics by region, 2010

	US	Europe	Japan	Total
DSO	57	59	55	57
DIO	31	45	36	38
DPO	54	44	39	46
C2C	**34**	**61**	**51**	**49**

Source: Ernst & Young analysis, based on 2010 publicly available financial statements

Gauging the opportunity

Variations in WC performance between companies in each region point to significant potential for improvement. The Ernst & Young analysis suggests that the leading 40 automotive suppliers have between US$17 billion and US$35 billion of cash unnecessarily tied up in WC processes, equivalent to somewhere between 4% and 7% of sales.

This has been calculated by comparing the performance of the WC components of each company with that of the average (low estimate) and the upper quartile (high estimate) of its peer group within its region.

Even at the top end of each range, which might be considered ambitious, experience across many projects, industries and geographies shows that a dedicated focus on WC management can frequently release results at or above this level. Note that the opportunity is distributed across the whole range of WC components, with 50% derived from inventories, 30% coming from payables and 20% derived from receivables.

The size of the disparities in performance between companies within each region also points to fundamental differences in management focus on cash and process efficiency.

Table 11: WC cash opportunity

	Cash opportunity					
	Value (US$b)		% WC scope*		% Sales	
	Average	Upper quartile	Average	Upper quartile	Average	Upper quartile
US	3	7	6%	13%	2%	5%
Europe	9	20	12%	26%	5%	10%
Japan	5	8	12%	19%	4%	7%
All regions	**17**	**35**	**10%**	**20%**	**4%**	**7%**

Source: Ernst & Young analysis, based on Q410 publicly available financial statements

*WC scope = sum of trade receivables, inventories and accounts payable

Overcoming obstacles

When it comes to optimizing working capital, the industry faces a wide range of strategic challenges. For example, supply chains are becoming increasingly global, creating longer lead times and adding vulnerability to business disruptions. Product complexity is also on the rise, adding both risk and R&D cost to the mix. This is to say nothing of the rush to build capacity and distribution in emerging markets.

Visibility challenge

Industry participants are also anxious to improve demand visibility up and down the value chain. But enhanced demand forecasting, production planning and inventory optimization efforts are sideswiped primarily by distrust, often fuelled by a lack of fundamental alignment or even conflicting objectives. Similarly, visibility and cooperation are hampered by the industry's relative lack of standardized processes and systems.

Further complications often include self-billing and vendor management inventory (VMI) practices, poor end-customer (OEM) forecast accuracy, frequent abuse of consignment stocks and the participation of less sophisticated and often less solvent Tier 2 and Tier 3 suppliers. Overall, the industry is struggling to strike a better balance between operational efficiency with flexibility and responsiveness. The question on all participants' minds: What are the best ways to combine "lean" practices with "agile" responses?

Achieving improvement in increments

There are no easy answers. Nonetheless, the way forward is clear. Companies need to begin by encouraging a stronger focus on WC management. Performance evaluation, for example, needs to include a heavier does of WC measures. Once the organization begins to appreciate WC costs, it will be more motivated to enact everything from simple to innovative solutions.

A quick fix for many suppliers relates to receivables. The typical supplier has little leverage with an OEM regarding payment terms. But a supplier can pay closer attention to its own invoicing to make the most of such terms. Simple errors, for example, failing to update prices on a master data file, can lead to under-billing or alternatively, to errors resulting in rejected invoices and payment delays.

Similarly, suppliers can also do more to accelerate payment for such expenditures as engineering change-overs, tooling and R&D. These tend to be larger payments. Moreover, if handled professionally, discussions of terms in these areas tend not to bleed over into the broader commercial relationship.

As for more innovative options, suppliers can continue to push for greater visibility into demand processes. Most have done well in terms of optimizing production and inventory management inside their own four walls. However, more can be done by obtaining buy-in and cooperation across the supply chain. In addition, suppliers might look downstream to find opportunities for collaborative purchases of steel or other commodities. Larger orders executed with greater procurement expertise, perhaps working with an OEM or an alliance of suppliers, can lead to lower materials costs.

Managing risk in the supply chain

The global downturn of 2008, recent events in Japan and more generally higher volatility and unpredictability in demand have highlighted the increased vulnerability of supply chains to internal and external business disruptions.

This vulnerability has also been increased by a change in the supply chain risk profile, resulting from lean practices, rising outsourcing and reduced supply base.

As a result, there is a need for robust risk management policies to mitigate and manage that risk. This process starts with a better understanding of the wider supply chain, improving the supply chain by reducing complexity and increasing process reliability, analyzing and managing risks associated with the critical links and nodes of the organization, improving network visibility and working more closely with suppliers and customers.

Conclusion

The automotive industry worldwide is in a period of profound change. Consolidation, competition, fast-evolving technologies, a shift toward greater energy efficiency, the globalization of supply chains and the promise of emerging markets: these are just a few of the challenges facing industry participants.

Nonetheless, automotive suppliers can make significant WC improvements. This begins with the basics, for example, evolving performance metrics to include a greater focus on WC and paying closer attention to fundamentals such as adherence to commercial terms and accurate invoicing. But in addition, automotive companies can expand their focus on lean manufacturing, collaborate more closely with suppliers and adopt common technologies to share real-time information about supply and demand. This also means taking an approach across all these areas that balances cash, cost and service levels, while achieving greater agility amid high volatility in demand and persistent uncertainty.

Of course, the biggest impediments to achieving truly effective WC management strategies remain the lack of mutually agreed objectives between OEMs and their suppliers, the absence of common processes and systems, and historic behaviors within the organization and across the various supply chain partners. But with focus and commitment, incremental progress can begin that can ultimately lead to breakthrough performance. The opportunities are there. It is up to leaders to make the most of them.

How Ernst & Young can help

To support companies in gaining greater control over their cash flows and addressing WC opportunities and challenges, Ernst & Young helps identify, evaluate and prioritize realizable improvements in WC derived from process improvements, elevated compliance levels or changes to commercial terms. We also help companies to implement these WC and cash flow improvements and realize the resulting benefits.

To help organizations make the transition to a cash-focused culture, we also help them implement the relevant metrics and identify areas for improvement in cash flow forecasting practices. We can then assist in implementing processes to improve forecasting and frameworks to sustain improvements.

WC improvement initiatives are often self funding. In addition to increased levels of cash, significant cost benefits may also arise from process optimization, through reduced transactional and operational costs and lower levels of bad and doubtful debts and inventory obsolescence.

Study methodology

This report is based on a review of the WC performance of 40 of the largest automotive suppliers (by sales) headquartered in North America (18 companies), Europe (15) and Japan (7). Most of them are Tier 1 suppliers.

The North American companies are: American Axle & Manufacturing Holdings, ArvinMeritor, BorgWarner, Cooper Tire & Rubber, CTS, Dana Holding, Exide Technologies, Federal-Mogul, Gentex, The Goodyear Tire & Rubber Company, Johnson Controls, Lear, Magna International, Modine Manufacturing, Superior Industries International, Tenneco, TRW Automotive Holdings and Visteon.

The European companies are: Autoliv, Continental, Faurecia, ElringKlinger, Georg Fischer, GKN, Grammer, Haldex, Michelin, Nokian Tyres, Plastic Omnium, Robert Bosch, Sogefi, Trelleborg and Valeo.

The Japanese companies are: Aisin Seiki, Bridgestone, DENSO, Tokai Rika, Toyo Tire & Rubber, Toyoda Gosei and Yokohama.

The analysis is developed from:

- Industry- and country-specific analyses
- Publicly available annual and quarterly financial statements

All analysis is of a summary nature; the WC performance of individual companies is not disclosed.

Glossary

- **DSO (days sales outstanding):** year-end trade receivables net of provisions, including VAT and adding back securitized and factored receivables, divided by full-year pro forma sales and multiplied by 365 (expressed as a number of days of sales, unless stated otherwise)
- **DIO (days inventory outstanding):** year-end inventories net of provisions, divided by full-year pro forma sales and multiplied by 365 (expressed as a number of days of sales, unless stated otherwise)
- **DPO (days payable outstanding):** year-end trade payables, including VAT and adding back trade-accrued expenses, divided by full-year pro forma sales and multiplied by 365 (expressed as a number of days of sales, unless stated otherwise)
- **C2C (cash-to-cash):** equals DSO, plus DIO, minus DPO (expressed as a number of days of sales, unless stated otherwise)
- **Pro forma sales:** reported sales net of VAT and adjusted for acquisitions and disposals when this information is available

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