

Supply Chain Metrics That Matter: The Cash-to-Cash Cycle

Using Financial Data from Corporate Annual Reports to
Better Understand the Cash-to-Cash Cycle

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By Abby Mayer
Research Associate

Supply Chain Insights LLC

Contents

- Research 2
- Disclosure 2
- Research Methodology 2
- Executive Overview 3
- Getting the Right Perspective..... 4
- Understanding the Cash-to-Cash Cycle 5
 - Days of Inventory 5
 - Days of Receivables 5
 - Days of Payables 6
- Historical Performance..... 6
- Case Study 1: Automotive 8
- Case Study 2: High-Tech and Electronics 10
- Case Study 3: Chemical..... 13
- Case Study 4: Consumer Packaged Goods 15
- Case Study 5: Pharmaceutical 17
- Recommendations: 20
- Conclusion 21
- Other Reports in this Series: 22
- About Supply Chain Insights LLC..... 23
- About Abby Mayer..... 23

Research

Supply Chain Metrics That Matter is a series of reports published intermittently throughout the year by Supply Chain Insights LLC. These reports are based on data collected from financial balance sheets and income statements over the period of 2000-2011.

Within the world of Supply Chain Management (SCM), each industry is unique. To help companies understand the differences and similarities here, we share deep analysis on financial ratios.

This report takes a different perspective than previous *Supply Chain Metrics That Matter* publications in that it focuses upon a single metric across several industries. We seek to open up a conversation about different approaches to a single well-known and important supply chain financial metric, the Cash-to-Cash Cycle (C2C).

Disclosure

This independent research is 100% funded by [Supply Chain Insights](#). Your trust is important to us. As such, we are open and transparent about our financial relationships and our research process.

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Research Methodology

Over the last decade, industries and individual companies have approached supply chain excellence differently. Progress on improving financial metrics is different based upon supply chain maturity and industry business drivers. Here we share insights on both.

The basis of this report is publicly available information from corporate annual reports from the period of 2000-2011. In this analysis, we present results of companies' progress in five industries: automotive, high-tech and electronics, chemical, consumer packaged goods and pharmaceutical manufacturing.

Executive Overview

When it comes to supply chain, no two industries are the same; but, improving Cash-to-Cash cycle (C2C) metrics matters across all industries. With over a decade of investment in technology and process improvements, we can now assess progress. In this report, we examine the financial data in three time frames:

2000-2003	Dawn of Business-to-Business (B2B) commerce and Global Connectivity
2004-2007	Pre-recession
2008-2011	Post-recession

The health of the supply chain can be quickly assessed through the analysis of the C2C metric. It is a composite metric that combines decisions on receivables, payables and inventory management. Overall, while supply chain leaders have focused on the reduction of C2C cycles, little progress has been made. For most, despite a decade of investments in channel connectivity and supply chain optimization, there is limited progress on receivables and inventory. Instead, we find that the most mature companies have turned to increasing Days of Payables in an effort to reduce C2C. This can be detrimental to the overall health of the supply chain.

Over the last fifteen years, the only industry that has shown dramatic and continuous improvement in reducing C2C cycles is high-tech and electronics. While there are slight improvements in consumer packaged goods (CPG) and chemical supply chains, the results in pharmaceutical and automotive are much worse. While many supply chain professionals may claim that the changes in the supply chain—offshoring of manufacturing, cost of capital, increasing product complexity and decreasing product life cycle—are reasons that there was not more progress, the interesting fact is that the industry that had the greatest obstacles made the most progress. The reason? We believe it mattered more in the high-tech industry. With short life cycles and declining margins over the course of the product life cycle, it is just too expensive for a high-tech company to neglect inventory management. As a result, the high-tech and electronics industry has developed better and more comprehensive planning processes overall.

In this report, we share insights on the trends in five industries: automotive, high-tech and electronics, chemical, CPG and pharmaceutical. The data supports three facts:

- **Only the High-tech and Electronics Industry Made Substantial Progress.** While investment was high and promises were many, averages show limited progress on the C2C cycle in all industries other than high-tech and electronics.

- **Supply Chain Leadership Matters.** The data shows that while composite industry averages made limited progress, supply chain leaders like **Procter & Gamble**, **Samsung** and **Toyota** have used supply chain principles to outperform their peer groups in delivering C2C results.
- **Days of Payables Has Been Leveraged.** For some of the most mature industries, the only progress in C2C has come through the lengthening of Days of Payables. While this improves the C2C results, the impact on supply chain resiliency can be detrimental.

Progress in C2C requires both discipline and a clear focus on an end-to-end (E2E) vision. For most companies, both are problematic. Few companies have a designated leader for E2E process design. It is our hope that highlighting the progress made by supply chain leaders may serve as motivation for supply chain teams everywhere on how to organically and holistically drive improvements in their C2C cycle.

Getting the Right Perspective

Before jumping into analysis of the C2C metric, and a perspective on different industries, it is important to align on the basics of financial benchmarking.

- **Compare Against an Accurate Peer Group.** Our analysis in this report is broken down by industry subgroup. While we find cross-industry analysis to be interesting, this type of analysis is fraught with challenges. Companies operating in different industries have a different set of limitations and opportunities. Thus, when examining financial metrics, it is important to select the right peer group for analysis.
- **Look Holistically.** The C2C cycle has three separate inputs. Each can dramatically affect the end result. Thus, it is not enough to take a big picture look at the C2C cycle metric alone. Instead, it is important to understand the different inputs and levers with which companies may affect the financial metric in question.
- **Identify Objective Measures.** Many popular supply chain metrics like on time delivery or forecast accuracy are self-reported and subjective. When data is self reported, companies have a tendency to inflate their performance. For meaningful benchmarking activities it is critical to identify objective data. While anecdotal data indicates consistent historical improvement on inventory management, financial data illustrates that inventory has not seen sustained improvement and remains more stagnant than most supply chain professionals believe.

Understanding the Cash-to-Cash Cycle

While it seems simple, it is not. The C2C cycle is a compound metric. It is the combination of three supply chain ratios: Days of Inventory (DOI), Days of Payables (DOP) and Days of Receivables (DOR). These three ratios are based upon the strategic elements of inventory management, the determination of terms in supplier contracts, and the role of cash in the customer relationship. As a result, there are multiple inputs and thus, various ways of impacting or even, for more advanced companies, manipulating the value of the C2C.

In its simplest form, the equation for the Cash-to-Cash cycle is illustrated below:

$$\text{Cash – to – Cash Cycle} = \text{Days of Inventory} + \text{Days of Receivables} - \text{Days of Payables}$$

The shorter the cycle, or the lower the number, the better it is for the company's operations. In short, the smaller the number for C2C, the company can operate with less cash tied up in operations.

In order to create an equal understanding for all readers, let's start with a clear definition of each element. In this analysis, it is important to look at the individual components of the C2C cycle and define each input ratio. Each component on its own is a popular supply chain metric which provides a microscopic lens on a specific aspect of the company's operations.

Days of Inventory

$$\text{Days of Inventory} = \frac{\text{Average Inventory}}{\text{Cost of Goods Sold}} * 365$$

Days of Inventory is the first of the three inputs into the C2C metric. DOI is by itself a popular supply chain metric that illustrates the amount of inventory within a company when compared to its historical daily sales. The goal is to have the number as small as possible while maintaining stability within the supply chain. Most supply chain leaders believe that this number has steadily declined over the last decade. Instead, as we will see in the following data, industries have made little progress. Finally, DOI displays existing positive cash flow within the company and is represented by a positive number in the C2C ratio.

Days of Receivables

$$\text{Days of Receivables} = \frac{\text{Accounts Receivable}}{\text{Revenue}} * 365$$

Days of Receivables is the second input into the C2C metric. It is pulled from information available on a company's balance sheet and income statement. This value quantifies (in a daily

metric) the amount that is currently outstanding and owed by customers in the form of Accounts Receivable to the company. The goal here is to have this number as small as possible while still growing volume in the channel. Once again, because this metric represents positive cash flow for the company, it is a positive number in the C2C equation.

Days of Payables

$$\text{Days of Payables} = \frac{\text{Accounts Payable}}{\text{Cost of Goods Sold}} * 365$$

The third and final component of the C2C cycle is likely the least familiar for most supply chain professionals; and thus, perhaps not surprisingly, the most enlightening in our analysis. Days of Payables represents the amount of money within the firm that is owed to external suppliers. This number should be large, but not too large. It represents cash-in-hand that is flowing out of the organization, but should also be comparable to Days of Receivables in order to sustain the balance. To represent the outgoing cash flow, DOP is subtracted from the other two components of the C2C cycle.

Historical Performance

The general trend over the history of supply chain management is a gradual decline in the cash-to-cash cycle. The results have been slow and hard-earned. They are less than most supply chain professionals believe them to be. The trend of slow improvement is evident in the falling values across industry lines as seen in table 1 below. While there are some outliers to the generally improving trend, across the board, industries are demonstrating only small improvements in C2C values.

Table 1: Cash-to-Cash Cycle Averages for 11 Industries

Cash-to-Cash Cycle Averages			
Industry Sector	2000 - 2003	2004-2007	2008-2011
Athletic Apparel	119	110	94
Automotive	100	89	87
Chemical	82	78	77
Consumer Products	44	21	18
Food & Beverage	32	37	40
Hard-Disk Drives	19	19	15
High-Tech & Electronics	25	14	5
Medical Devices	275	269	309
Retail	23	18	13
Pharmaceutical	161	168	182
Semiconductors	93	98	92

Source: Supply Chain Insights LLC, Corporate Annual Reports 2000-2011

Athletic Apparel: Adidas, Mizuno, Nike, Puma SE

Automotive: Ford, Honda, Toyota, Volkswagen AG

Chemical: BASF, Dow, DuPont

Consumer Products: Colgate, Kimberly Clark, P'G, Unilever

Food & Beverage: Campbell, General Mills, Kellogg, Kraft

Hard Disk Drives: Seagate, Sony, Western Digital

High-Tech & Electronics: Apple, LG, Motorola, Samsung

Medical Devices: Boston Scientific, Medtronic, St. Jude Medical, Zimmer Holdings

Retail: Amazon.com, CVS Caremark, Safeway, Target, Walmart

Pharmaceutical: Abbott Laboratories, Merck, Pfizer

Semiconductors: Analog Devices, Intel Corp., Maxim Integrated Products, Texas M Instruments, TriQuint Semiconductor

To understand the trend, let's look closer at the numbers. The declining C2C values can be attributed to movement within one, two, or all three of the C2C components. This includes decreasing Days of Inventory, decreasing Days of Receivables, or increasing Days of Payables. Our experience with clients is that they expect declining C2C values have been driven mainly through reducing free inventory within the supply chain. However, our analysis tells a very different story.

What becomes readily apparent from table 1 is the diverse range of C2C values. Each industry has a unique potential. It varies by the inherent differences in supply chains. This is an endless list. It includes inventory turns, product lifecycles, channel velocity, complexity of product platforms, and shelf life. However, the entire story is not cloaked in supply chain differences; there is also the factor of supply chain maturity.

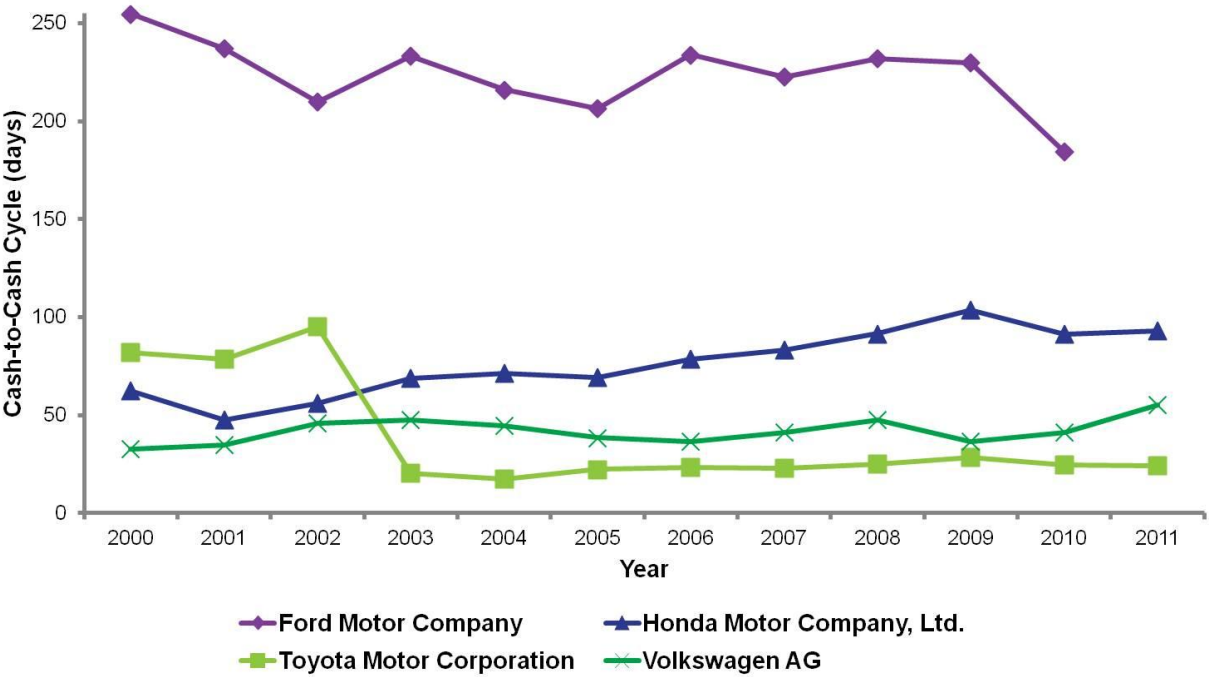
Industries have matured at different paces in regards to supply chain excellence, and those more mature industries demonstrate a lower potential for C2C values. Remember, a low C2C value means that companies are more effectively managing the money entering and leaving the enterprise. They have capitalized on the market potential.

To help the reader gain a more holistic understanding of the C2C cycle, we investigate industries and companies, at different stages of maturity, focusing on five industries: automotive, high tech and electronics, chemical, consumer packaged goods and pharmaceutical. Our goal is to share the lessons learned from companies and industries at various stages of maturity.

Case Study 1: Automotive

The automotive industry has undergone a tumultuous and even traumatic decade culminating in the Great Recession. As an industry, they are not known as supply chain leaders. While each company has strong roots in traditional procurement, they were late to adapt to more advanced supply chain concepts. To begin our analysis, it is important to understand the trajectories of the four automotive companies' C2C cycles as shown in figure 1.

Figure 1. Automotive C2C Values (2000-2011)



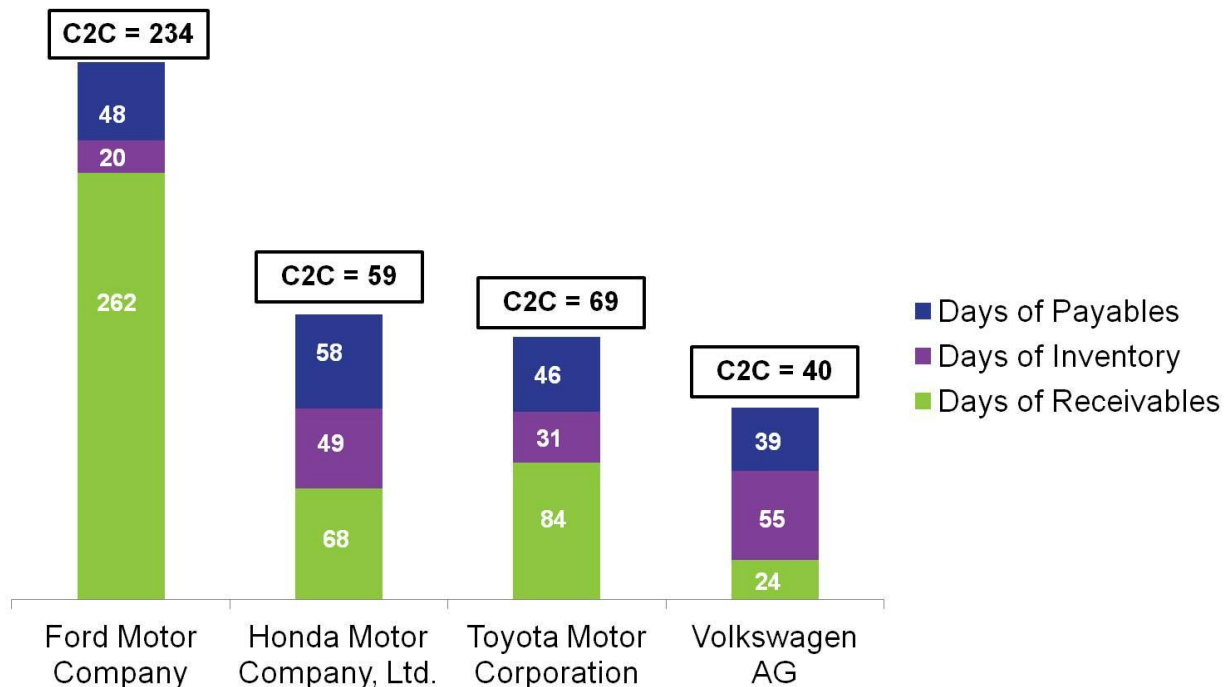
Source: Supply Chain Insights LLC, Corporate Annual Reports 2000-2011

The automotive industry has middle-of-the-pack C2C values when compared to other industries' verticals. However, within the industry, each company has a high degree of variability.

The results are clear. Ford Motor Company is clearly an outlier and Toyota is the clear winner. Toyota demonstrates a significant decrease in 2002-2003 and has remained the industry leader. Toyota's focus on Lean has carried over and driven an industry-leading C2C value. In contrast, Honda and Volkswagen show C2C values creeping upwards over the 12-year period. While the

composite is interesting, the truly interesting stories emerge from understanding the individual levers within the C2C metric itself.

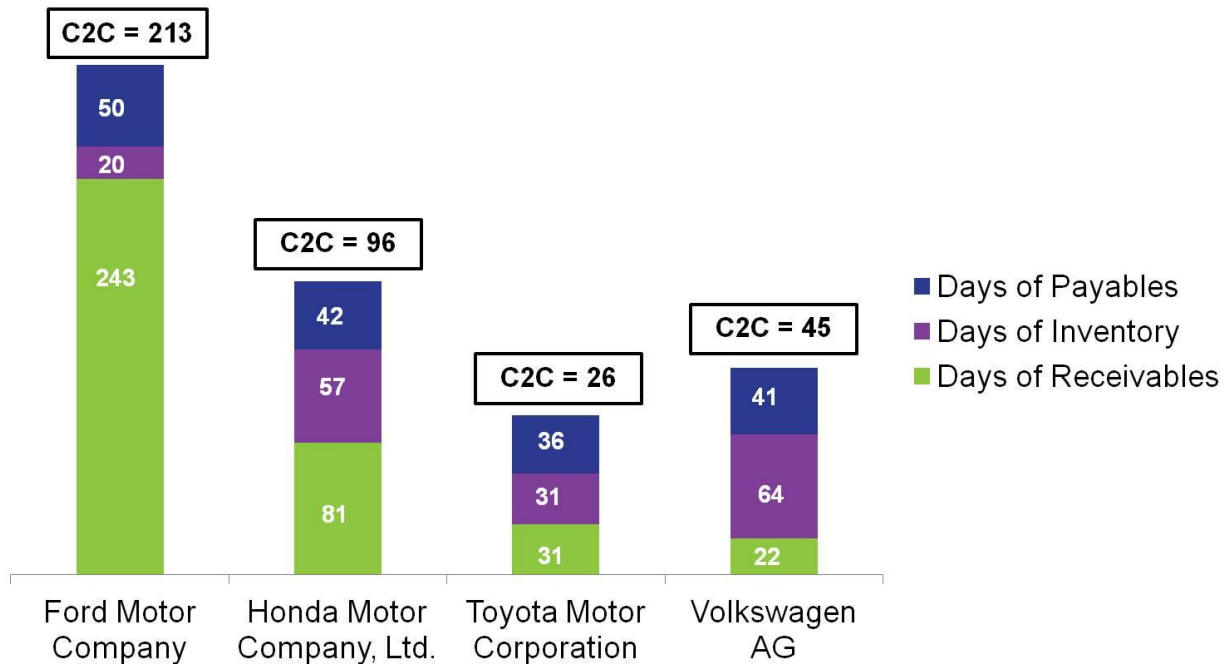
Figure 2. Automotive C2C Values (2000-2003)



Source: Supply Chain Insights LLC, Corporate Annual Reports 2000-2003

The data clearly illustrates the results of decisions made at a company level about supply chain strategy. At the beginning of the decade automotive companies designed and executed divergent supply chain strategies. Ford demonstrated an astoundingly high value for Days of Receivables meaning that its customers were given extremely generous payment terms upon which to repay the company for goods sold. Ford's competitors have much lower Days of Receivables values leading to lower and more competitive C2C values. Toyota had the best inventory position. The picture did not change much over the next decade and the more favorable terms for Ford's channel partners did not yield a competitive advantage in market share.

Figure 3. Automotive C2C Values (2008-2011)



Source: Supply Chain Insights LLC, Corporate Annual Reports 2008-2011

While other companies were working to reduce Days of Receivables and create a consistently lower year-over-year C2C value, Ford maintained higher DOR. In contrast, Toyota has made strides on Days of Receivables, demonstrating that in a similar operating environment it is possible to achieve a much lower DOR value than Ford is demonstrating.

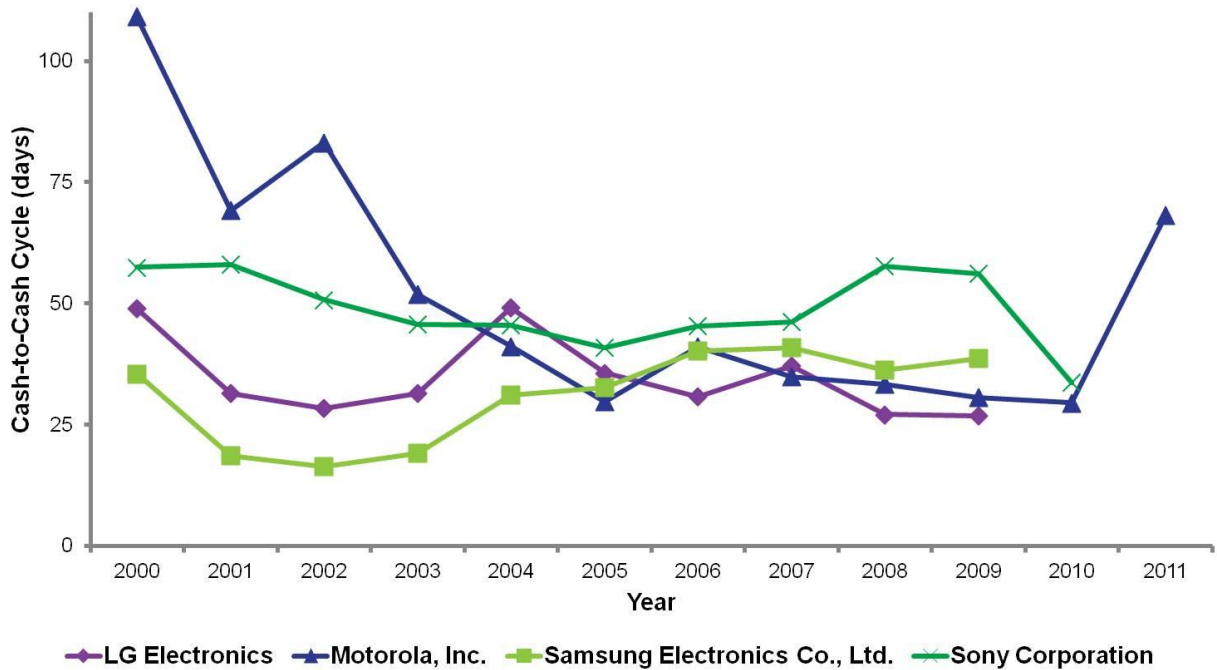
This industry tightly synchronized manufacturing and raw material supply and often strong-armed suppliers on terms. The supply chain was largely push-based with less discipline on the control of inventory in the channel. The focus was to level production and keep the manufacturing processes running.

Thus, it becomes apparent that supply chain leadership matters. In our research, Toyota is often referenced as a supply chain leader; and within their peer group, they have pushed C2C lower than any other company over the past decade.

Case Study 2: High-tech and Electronics

High-tech and electronics companies began the decade with one of the lowest C2C values and they were able to systematically push that number lower. The industry overcame many issues which could have increased C2C values. In this case study we examine the trajectories of LG, Motorola, Samsung and Sony to better understand the origins of their success.

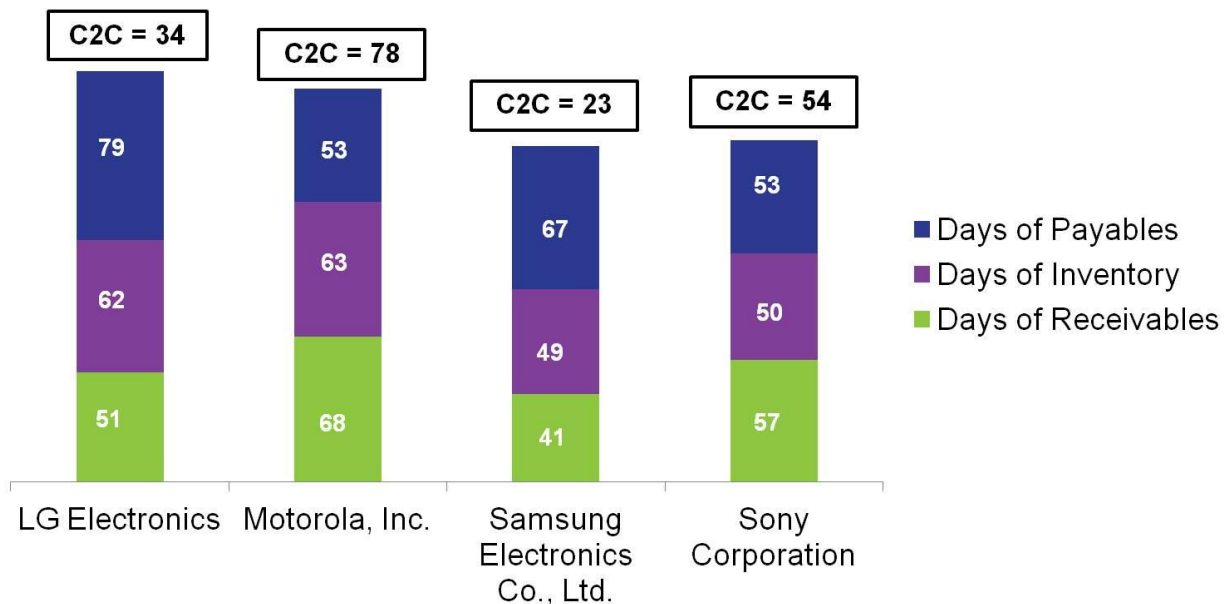
Figure 4. High-Tech and Electronics C2C Values (2000-2011)



Source: Supply Chain Insights LLC, Corporate Annual Reports 2000-2011

All four companies demonstrate a falling C2C value for the duration of the period. They were the leaders in reducing C2C cycles. When we dig into the details what lessons do we learn about the different components of the C2C cycle?

Figure 5. High-tech and Electronics C2C Values (2000-2003)

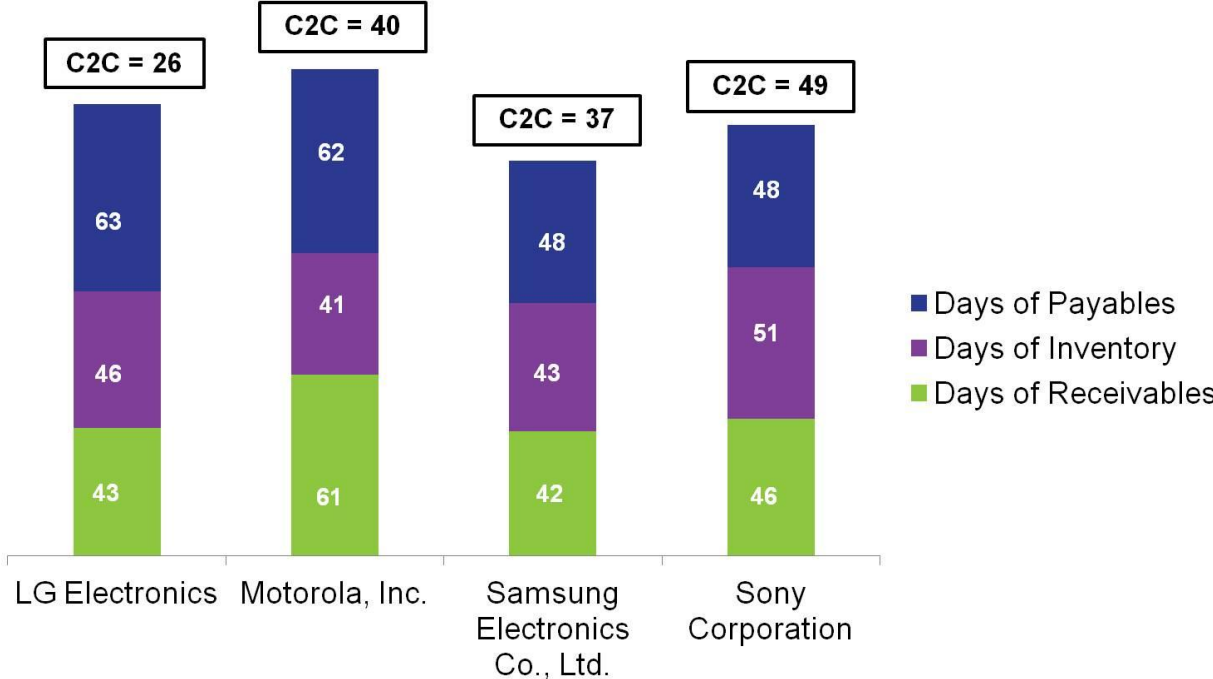


Source: Supply Chain Insights LLC, Corporate Annual Reports 2000-2003

The first years of the decade show Samsung leading the pack with a C2C value of 23 days. Samsung has always operated with fewer Days of Inventory than its competitors. They are one of a few companies where inventory metrics are measured and rewarded cross-functionally.

Samsung also demonstrates a higher value of Days of Payables. This is one of the reasons for their low C2C value, especially compared to Motorola and Sony. Even early in the decade, high-tech and electronics companies understood that to optimize C2C, it was possible to push longer Days of Payables onto suppliers.

Figure 6. High-tech and Electronics C2C Values (2008-2011)



Source: Supply Chain Insights LLC, Corporate Annual Reports 2008-2011

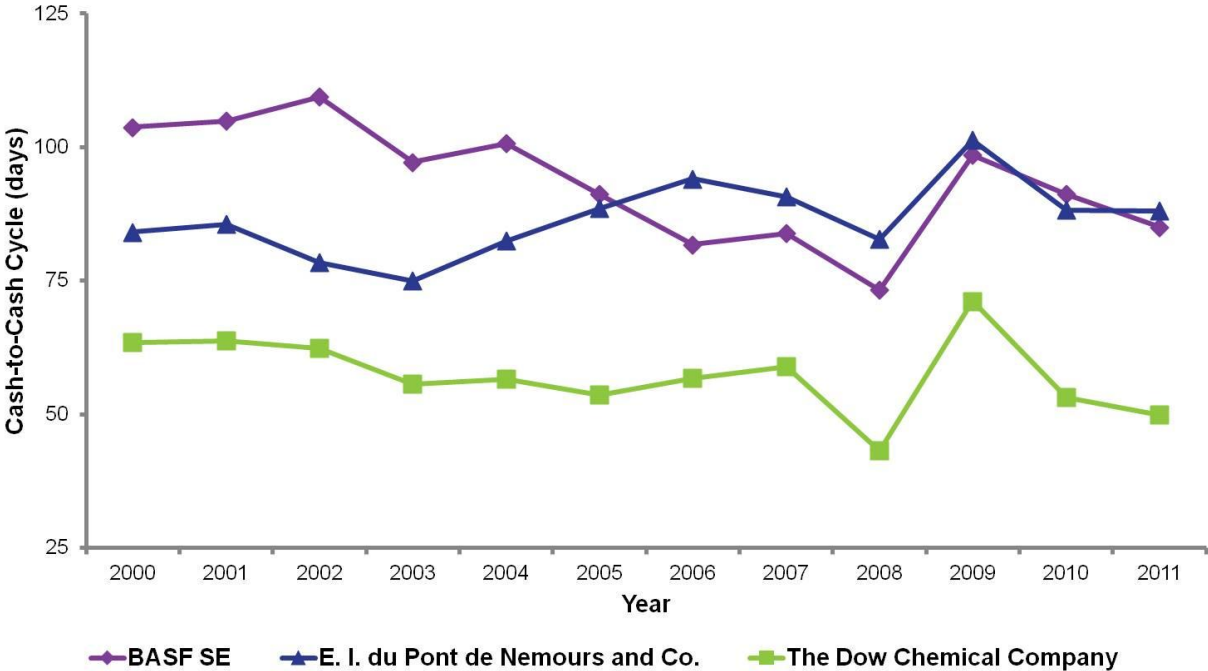
Once again, in figure 6, we see the company that achieved the lowest C2C value has the highest DOP value. In this instance it is LG. Over the time period, LG worked to reduce all three inputs and deliver the lowest C2C cycle of its peer group. Another point to note is the comparison between Days of Payables and Days of Receivables as each metric indicates cash entering or leaving the enterprise. If these values are roughly comparable, the company is not having to bridge a large gap or enjoying excess cash before paying its own bills. However, if there is a discrepancy with DOP significantly greater than DOR, this indicates cash is entering the company faster than it is leaving, possibly jeopardizing the financial health of upstream partners. Likewise, a higher DOR than DOP indicates that companies are paying their suppliers before receiving payment from downstream customers which could also create a burdensome situation for various members of the chain. Although creating low C2C values is a worthy goal

for the enterprise, it should not be the be-all and end-all goal, sacrificing the health of the value chain. The balance point will be different for each company and industry; but, many of the high-tech and electronics companies are close to the ideal state.

Case Study 3: Chemical

The chemical industry has often led other industries in paving new paths to understanding the E2E supply chain. The industry has demonstrated a willingness to invest in software and technologies to turn that vision into a reality. Thus, it is disheartening to not see more progress on the C2C metric for overall performance of chemical companies. It is also not surprising to see that some of the most mature chemical companies are also falling prey to an “easy win,” a focus on Days of Payables within their C2C cycle.

Figure 7. Chemical C2C Values (2000-2011)

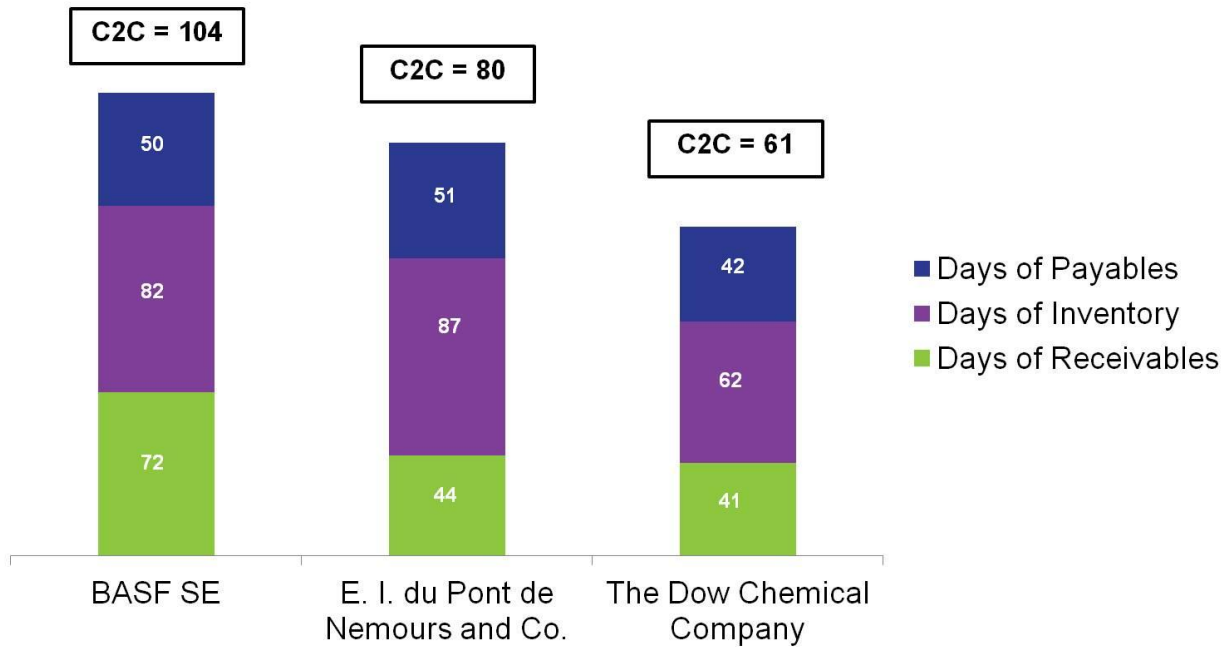


Source: Supply Chain Insights LLC, Corporate Annual Reports 2000-2011

Over the decade, this industry is characterized by a high amount of merger and acquisition (M&A) activity. M&A is a difficult environment in which to drive sustainable year-over-year improvements.

As seen in figure 7, the winner in the chemical industry is Dow Chemical. The worst performer is DuPont. DuPont returns the highest C2C value in 2011 and it is possible to trace their evolution from the beginning of the decade to understand how the company is choosing to impact their C2C performance.

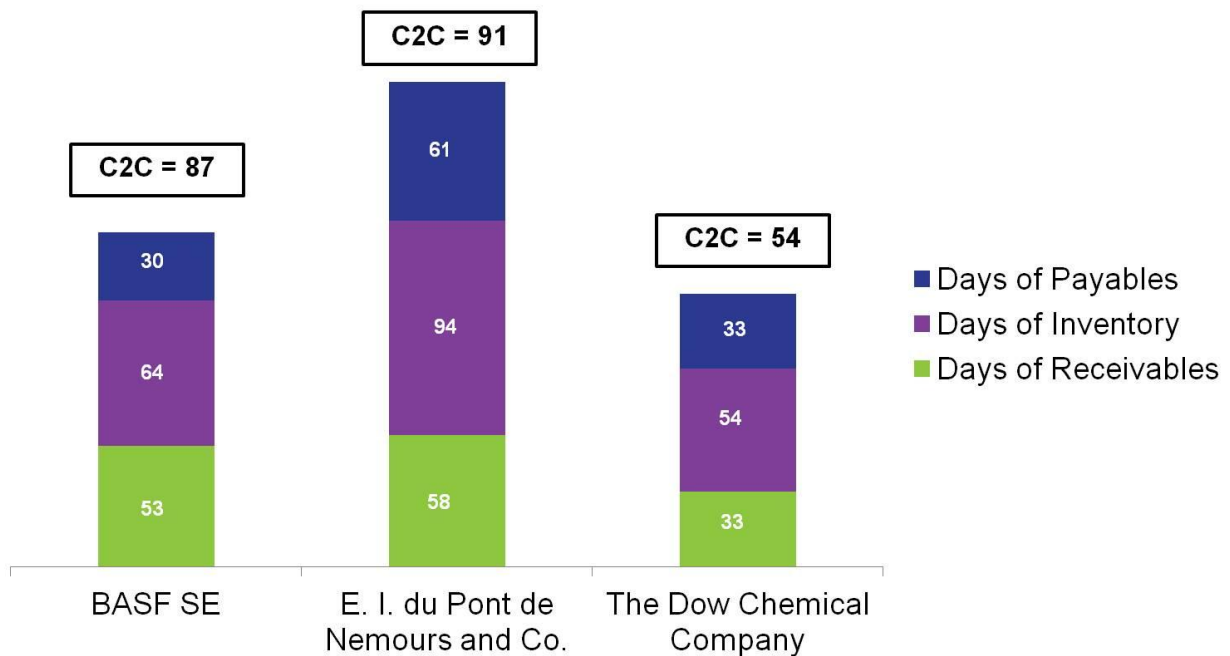
Figure 8. Chemical C2C Values (2000-2003)



Source: Supply Chain Insights LLC, Corporate Annual Reports 2000-2003

DuPont begins the decade with a middle of the pack C2C value and DOP and DOR are relatively balanced. In this instance, Days of Inventory is the differentiator pushing their C2C value upwards as compared to peers.

Figure 9. Chemical C2C Values (2008-2011)



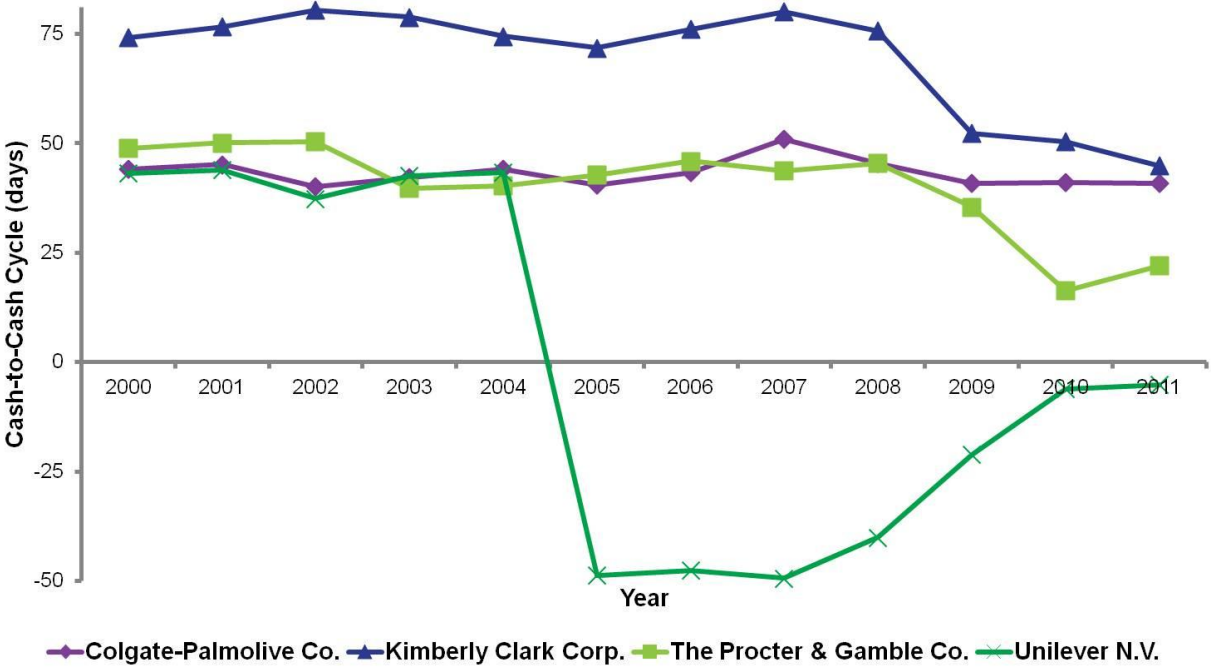
Source: Supply Chain Insights LLC, Corporate Annual Reports 2008-2011

At the end of the decade, DuPont’s C2C value has actually increased, driven by increases across the board in the three components. Increasing values in DOI and DOR are not ideal, but we believe by refocusing on the fundamentals, DuPont and other chemical companies can rein in their C2C cycles. Once again, the potential pitfall moving forward would be to increase DOP while reining in the other inputs, weakening the strength of the supply chain. Because of the chemical industry’s placement within the supply chain, relationships with upstream partners are increasingly critical and should not be jeopardized for a superficial improvement in the C2C cycle.

Case Study 4: Consumer Packaged Goods

The fourth case study focuses upon four companies operating within the CPG sphere: Colgate, Kimberly-Clark, Procter & Gamble and Unilever. This industry is more mature in supply chain processes than most others and operates with a maturity level comparable to high-tech and electronics, but the results in C2C are not as impressive.

Figure 10. Consumer Packaged Goods C2C Values (2000-2011)

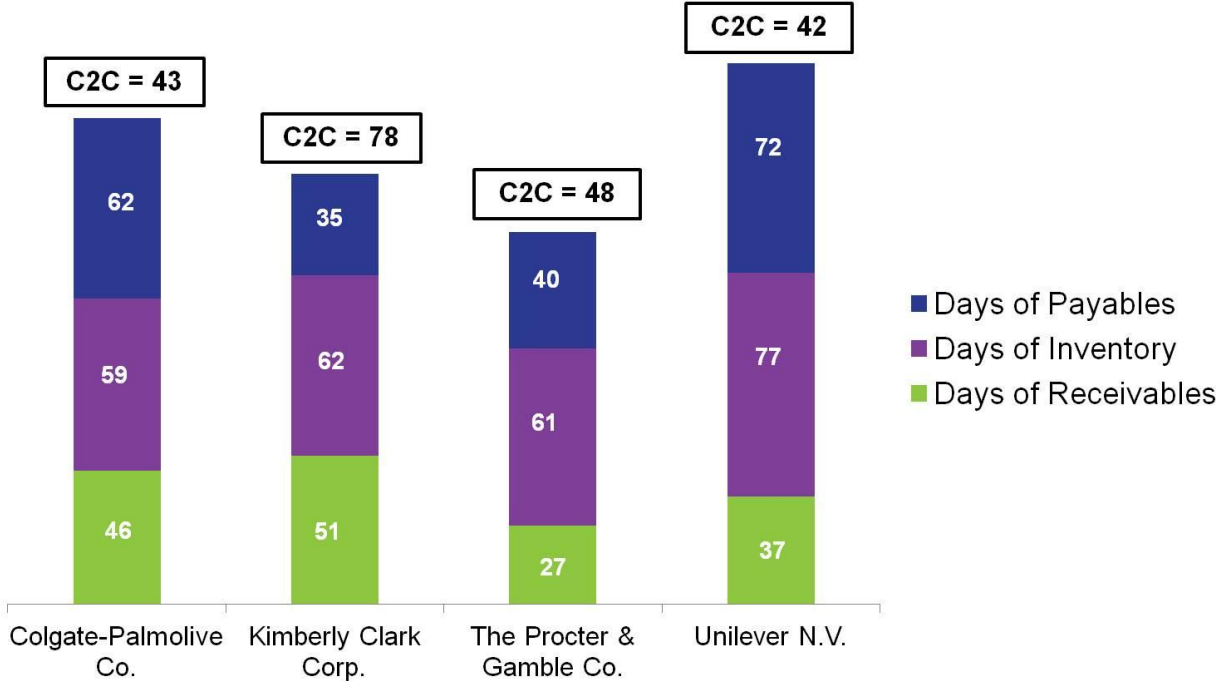


Source: Supply Chain Insights LLC, Corporate Annual Reports 2000-2011

In the most advanced industries, such as the one displayed above, C2C values are consistently below 100 days and falling. Unilever shows an incredible drop in C2C from 2004-2005, but lacks the stability and resilience to maintain the gains with a rising trend for the rest of the decade. Once again, although the C2C values are low and headed lower within the CPG

sphere, it is instrumental to understand how the companies are able to continue realizing gains from already low C2C values.

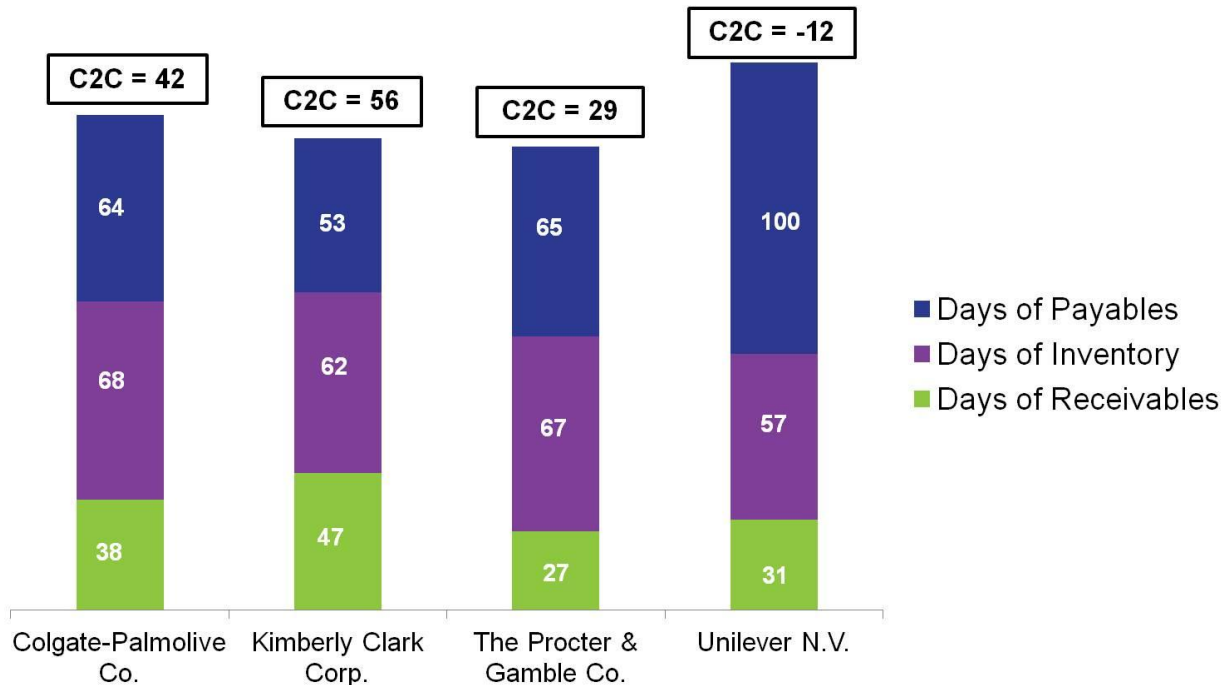
Figure 11. Consumed Packaged Goods C2C Values (2000-2003)



Source: Supply Chain Insights LLC, Corporate Annual Reports 2000-2003

Procter & Gamble and Colgate-Palmolive Co. are often mentioned as two leaders in the CPG sphere and they demonstrate their superiority with some of the lowest C2C values during the 2000-2003 period. Procter & Gamble has focused on optimizing Days of Receivables, while Colgate chose to prioritize Days of Inventory.

Figure 12. Consumed Packaged Goods C2C Values (2008-2011)



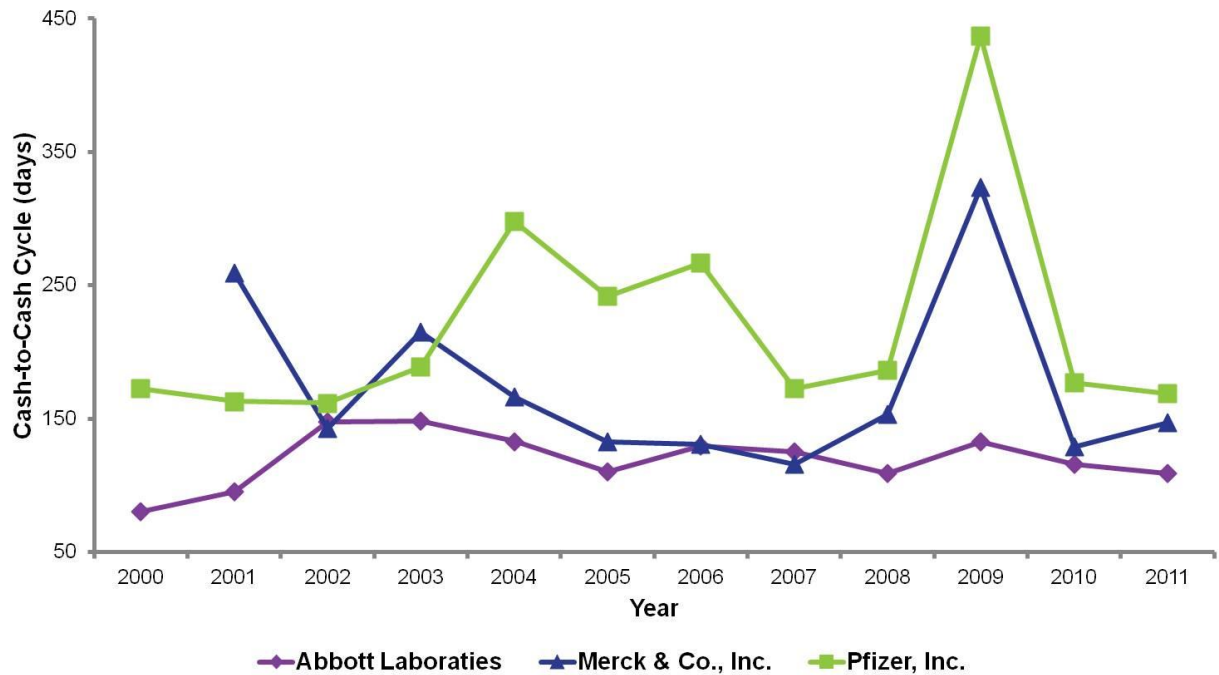
Source: Supply Chain Insights LLC, Corporate Annual Reports 2008-2011

The end of the decade sees Unilever make a severe movement to a negative C2C cycle, but it does this through increased Days of Payables values. In fact, each of the four CPG companies has increased their DOP value, holding onto their cash longer before paying suppliers and downstream partners. Unfortunately, this is one of the easiest, yet potentially one of the most destructive ways to drive improvement in the C2C cycle and a pattern we have seen before in the chemical industry. A more holistic understanding of the supply chain can help companies to regain focus on the entire value chain and avoid such behaviors.

Case Study 5: Pharmaceutical

Our final analysis focuses upon three companies operating within the Pharmaceutical industry. Our case study examines the C2C performance of Abbott Laboratories, Merck and Pfizer. Here, Abbott Laboratories is the clear winner demonstrating a level of resiliency unmatched by its competitors.

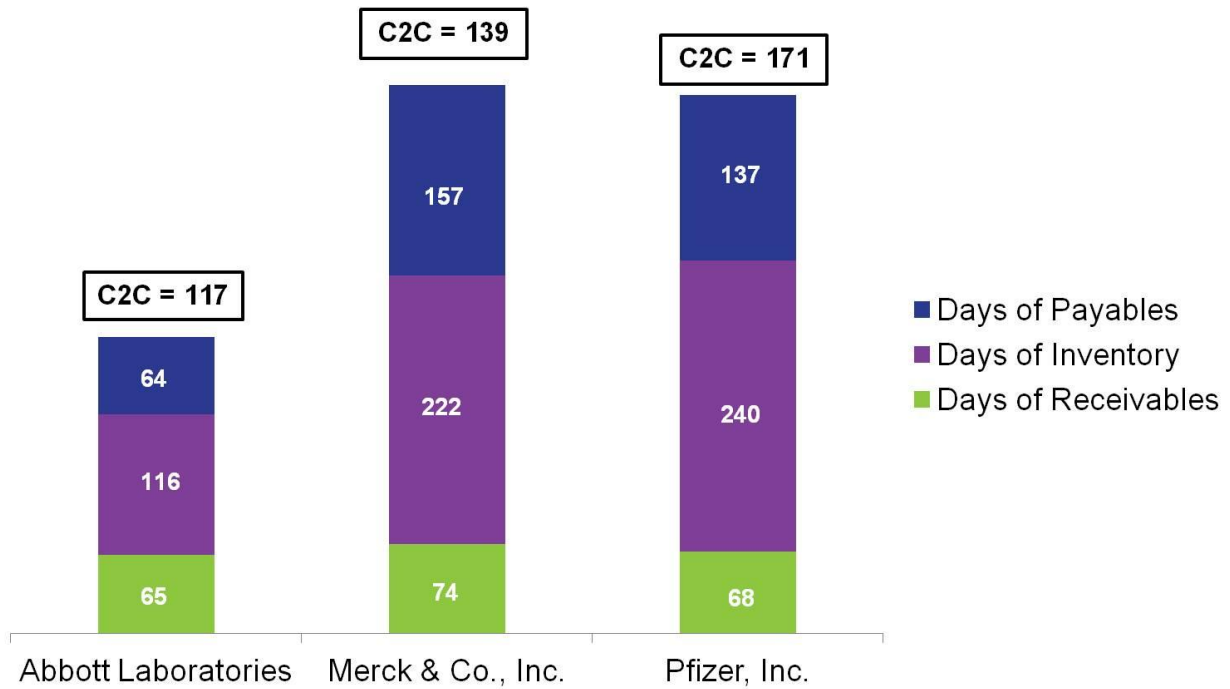
Figure 13. Pharmaceutical C2C Values (2000-2011)



Source: Supply Chain Insights LLC, Corporate Annual Reports 2000-2011

The most striking aspects of figure 13 are the large spikes weathered by both Merck and Pfizer during the Great Recession. This instability in the C2C cycle represents a lack of supply chain resiliency. The acquisition of Wyeth by Pfizer and Schering-Plough by Merck adds to the complexity.

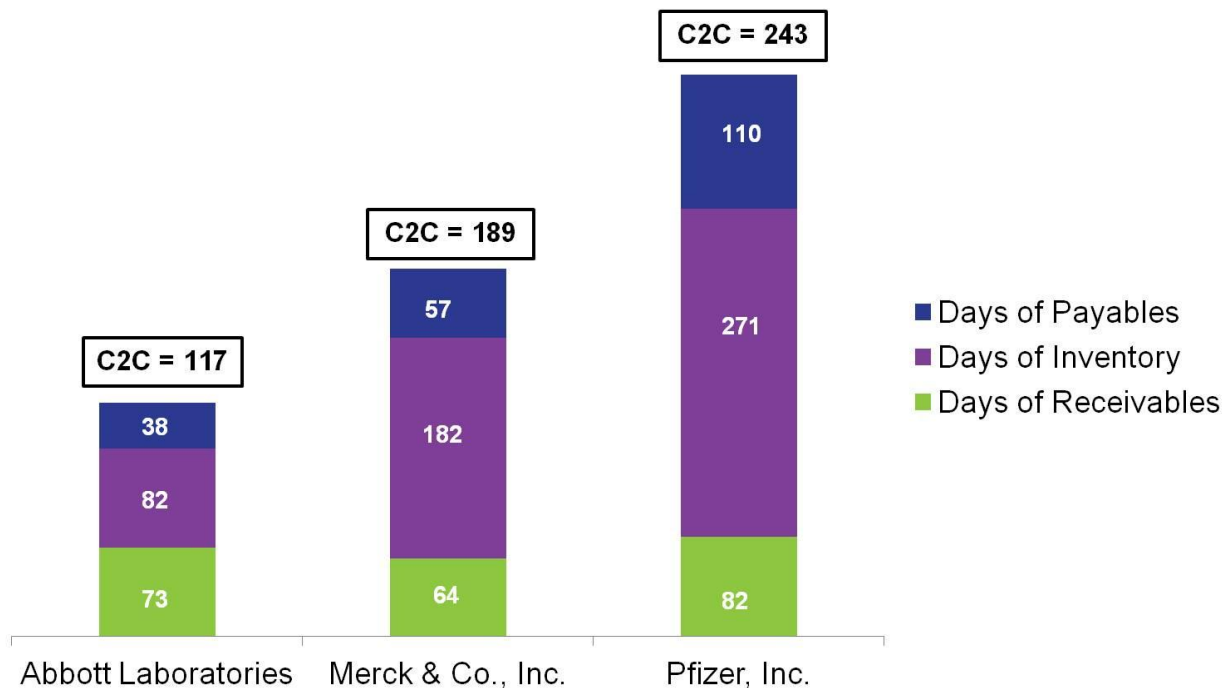
Figure 14. Pharmaceutical C2C Values (2000-2003)



Source: Supply Chain Insights LLC, Corporate Annual Reports 2000-2003

The beginning of the decade sees large (over 100 days) values for C2C among all three companies. Due to the reality of the operating environment, and the requirement for holding greater inventory stores than other industries, this is not unexpected. Consolidation within the pharmaceutical industry has also limited progress. However, there is a high spread of DOP values from 64 (Abbott Laboratories) to 157 (Merck & Co.). Due to the challenging operating environment, we would not expect dramatic improvement in any of the metrics, but would hope to see small consistent year-over-year gains culminating in the 2008-2011 time period.

Figure 15. Pharmaceutical C2C Values (2008-2011)



Source: Supply Chain Insights LLC, Corporate Annual Reports 2008-2011

Unfortunately, for two of the three companies, their C2C cycle is on the rise. For the third, Abbott Laboratories, the top number (117) has not changed, but the components have shifted. Days of Inventory has been controlled with a drop of 34 days. In the same environment, Pfizer has demonstrated increasing inventory values indicating a lack of focus on consistent inventory management. It becomes clear that the pharmaceutical industry does not rival the maturity level of companies operating in CPG or high-tech and electronics. Each industry and each company can make strides in their own right by understanding and then acting on formulating supply chain strategy moving forward.

Recommendations:

Our analysis supports the need for supply chain teams to align to improve C2C cycles. Few supply chain professionals would argue against the C2C cycle as an important metric, but few are looking at it holistically. The five separate case studies have allowed us to examine different ways in which companies and industries approach the C2C cycle. Each industry is at a different level of maturity in regards to their C2C cycle; but in each industry, supply chain leaders have driven differentiation. From these case studies it is possible to draw several conclusions and make recommendations for the supply chain practitioner:

- **Inventory Management Matters.** The reduction of inventory is all about discipline and rigor in planning processes and supply chain execution. Although we have been focused on reducing inventory for a long time, the results from financial balance sheets and income statements tell us that there have been only slow and small improvements. The degree of the improvements is often exaggerated by supply chain leaders at conferences. Reducing Days of Inventory is one of the easiest ways to reduce the C2C cycle and enact a positive impact on the entire supply chain. While laggards focus on inventory levels, leaders focus on form and function of inventory.
- **Define an Accurate Peer Group.** The automotive case study profiled in this work examined the C2C trajectories of four major global players. One of them, Ford Motor Company, consistently recorded much higher C2C values driven by extremely generous Days of Receivables values. While it is oftentimes not fair to compare the C2C metric across industries, it is a valuable exercise to define an accurate peer group and compare across that platform. By returning closer to the industry average, Ford can standardize its procedures with its peers and also drive improvement in its C2C cycle. Thus it becomes critical to identify an accurate peer group operating within a similar environment for meaningful comparison.
- **Think Holistically.** To reduce C2C, there is a need for an end-to-end focus. Companies that make the most progress have an end-to-end process leader with a clear strategy and a multiyear road map. The most mature of the case studies are in the CPG and high-tech and electronics companies. In these industries, the thinking has been more holistic. Unfortunately, in most industries, this holistic focus has been the exception, not the rule. The results illustrate that many companies have transitioned away from a holistic improvement approach and are now jeopardizing the health of upstream suppliers by increasing payables terms and creating a brittle supply chain. While this drives improvement in their C2C values, this sort of behavior abandons the idea of a value chain approach. We would encourage companies to think holistically and act in a manner which optimizes the performance of all chain members as opposed to weakening others for short term gain.

Conclusion

While companies have claimed to reduce C2C cycles, few have been successful. Industry results are often overstated and inflated, especially self-reported metrics. There is a wide belief, largely unfounded, that supply chain projects over the past decade have had a dramatic impact on reducing cash-to-cash cycles and inventory levels. What we see in the data is that progress

has been slow for industries, but that the most marked progress is by a few leaders operating in several different industries. Those that have succeeded focused on year-over-year progress and consistent improvement. They managed the supply chain holistically and balanced the varying demands of the C2C cycle. They used technologies and valued planning processes. For leaders, the proof that supply chain matters is in the C2C numbers.

Other Reports in this Series:

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[Supply Chain Metrics That Matter: A Focus on Retail](#)

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Published by Supply Chain Insights in September 2012.

[Supply Chain Metrics That Matter: A Focus on the Chemical Industry](#)

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About Supply Chain Insights LLC

Supply Chain Insights LLC (SCI) is a research and advisory firm focused on reinventing the analyst model. The services of the company are designed to help supply chain teams improve value-based outcomes through research-based Advisory Services, a dedicated Supply Chain Community and Web-based Training. Formed in February 2012, the company is focused on helping technology providers and users of technologies improve value in their supply chain practices.

About Abby Mayer



Abby Mayer (twitter ID [@indexgirl](#)), Research Associate, is one of the original members of the [Supply Chain Insights LLC](#) team. She is also the author of the newly-founded blog, [Supply Chain Index](#). Her supply chain interests include connecting financial performance and supply chain excellence as well as talent management issues and emerging market development.

Abby has a B.A. in International Politics and Economics from Middlebury College and a M.S. in International Supply Chain Management from Plymouth University in the United Kingdom. She has also completed a thru-hike of Vermont's 272 mile Long Trail, the oldest long distance hiking trail in the United States. As part of the planning and food prep process, she became interested in supply chain management when she was asked to predict hunger pangs for the entire three-week trip before departure. If that isn't advanced demand planning, what is?!?!