

Construction Equipment Repeats as the Winner, Plastic Breaks into the Top 5

What are the hottest equipment sectors in 2017? The answer is construction, medical, machine tools, high-tech/computer, plastics and trucks/trailers, according to a new survey of ELFA member asset managers and consultants.

The 2017 “What’s Hot/What’s Not” Equipment Leasing Trends Report reveals industry perceptions of 15 equipment markets based on a survey of ELFA members. The study’s author is Carl Chruppa of The Alta Group, LLC.

The following are the top 5 equipment types from the survey:

1 CONSTRUCTION EQUIPMENT was the big winner for the fourth year in a row. The outlook for construction remains good, pinned to the improving health of the economy and low interest rates. Sales of used equipment have been declining a bit due to sales in the primary market, weak global trade and the strong dollar discouraging exports. Proposed national infrastructure projects could be a plus.

2 MEDICAL EQUIPMENT finished in second place. This high standing in rank is believed to be linked to a better understanding of the impact of the Affordable Care Act on hospitals and clinics and talk of an ACA overhaul. This industry has a preference for leased equipment, which continues unabated. However, potential Deductible Reimbursement Account (DRA) reimbursement cuts and rules aimed at the industry could weaken the new equipment market while potentially making some used equipment more desirable.

3 MACHINE TOOLS finished in third place due to the strong domestic automotive and allied industries, along with the now-improving oil

exploration sector. In the primary market, sales for metal cutting equipment fell -4.3% in 2016, though total consumption remains high. Sales for this sector are also forecast to remain high in 2017. However, the secondary market for machine tools has weakened a bit and prices are now being discounted in both the primary and secondary markets.

4 HI-TECH/COMPUTERS finished in fourth place. This industry continues to operate on very low margins but has a very large secondary market. Global computer sales continued to drop in 2016. Declining primary market PC sales reflect a growing preference for phablets and wearables, but could have positive implications for the secondary market.

5 PLASTICS EQUIPMENT tied for fifth place. Currently, this market segment continues to experience a solid turnaround in almost all categories. Sales of new injection molding machines increased again for the seventh year in a row. Used prices for plastic injection molding machines have increased by 20% to 50+% over the past five years. Much of this is thanks to the automotive industry, which requires high-capacity IMMs for its products, and auto parts suppliers, which utilize smaller capacity plastic equipment.

5 TRUCKS/TRAILERS tied for fifth place. New truck sales dropped more than 22% last year and are expected to fall again this year. Competition from rail bears some of the blame. New trailer shipments were brisk, breaking the 2006 record. Sales of used trucks and trailers are good, although resale values have been declining. This sector has greatly benefited from low fuel prices and interest rates. There is continued optimism for this equipment type.

View the results for all 15 equipment categories on the ELFA website at www.elfaonline.org/data/market-trends.

1



2



3



4



5



**"WHAT'S HOT, WHAT'S NOT IN
EQUIPMENT LEASING FOR 2017"**
By Carl Chrappa, A.S.A., M.R.I.C.S., I.F.A.

In January and February, 2017, The Alta Group, LLC ("Alta"), with the assistance of the Equipment Leasing and Finance Association ("ELFA"), conducted a confidential internet survey of approximately 400 equipment managers and consultants throughout the United States regarding what's hot, what's not in equipment leasing for 2017. A total of (131) responses were received, of which 80% were lessors, asset-based lenders, or financial advisors, and 20% were service providers.

COMPOSITION OF RESPONDENTS

Lessors reported that they added the following amounts of equipment to their portfolios in 2016: 23% added up to \$50 million; 14% added \$50 to \$100 million; 25% added \$100 to \$500 million; 12% added \$500 million to \$1 billion; 12% added \$1 to \$3 billion; and 14% added over \$3 billion. Thus, this survey was heavily influenced by the 63% of lessors who added \$100 million or more of equipment to their portfolios in 2016. Note: this is 5 percentage points lower than last year.

**SURVEY RESULTS AND
FUTURE LEASING BUSINESS VOLUME**

The survey consisted of six questions. One of the most important was Question VI(B), which asked for the "Total dollar amount (volume) of business per specific equipment type *expected* to be booked by your firm, (in the future) 2017 compared to 2016?" Respondents were simply asked to "click" on either the "increase," "about the same," or "decrease" box, with the final score, referred to as a Net Rising Index (NRI) representing the net difference between the percentage of respondents increasing (+) and decreasing (-) for each type. **Chart I** illustrates the 'NRI' results for the 15 equipment types surveyed. Overall, this year's volume results were similar to last year's. Thus favorable scores were tabulated for the same types of equipment as last year. For example, construction scored the highest with a (+83) compared to a (+64) in 2016, a (+62) in 2015's survey, (+67) in 2014's survey, and (+76) in 2013's survey; followed by machine tools which scored (+69) compared to (+46) last year; followed by medical which scored (+43), compared to (+60) last year and (+42) in 2015. Also, hi-tech/computers scored (+42), the same as last year; and plastics

made a major move, scoring (+30) this year compared to (+19) last year. Also scoring well were truck/trailer at (+29) compared to (+36) last year, rail at (+28), marine/intercoastal at (+20), and container/chassis tied with FF&E at (+17). This year only two types showed negative results, the same as last year. The two 'losers' were oil/gas/energy (O/G/E) at (-2) compared to (-44) last year and printing (-25) compared to (-15) last year.

Based on past surveys, a score of +20 or greater indicates a strong preference for adding a specific type of equipment to the portfolio during the coming year, while a score of -20 or greater indicates a strong preference for not adding. **Chart I** shows a strong preference for adding eight types of equipment, the same number as last year. This year's survey also found a strong preference for 'not adding' only one type printing, the same number as last year. Thus, the results of this year's survey resemble a "topping" shape, meaning conditions have normalized to resemble mature markets. This also means that the volume of equipment to be leased in 2017 is expected to increase at about the same rate as 2016.

Using the same 'NRI' scoring methodology, Question VI (A) asked for "The total (current) amount of business (volume) that was booked by your firm per specific equipment type as of year-end 2016 versus 2015?" The responses to this question, illustrated in **Chart II**, indicate business conditions were about the same as the year before. There was a strong preference (score of 20+) for five equipment types, compared to seven types last year. This year's survey also showed printing (-19) and O/G/E (-52) remain largely out-of-favor for the second year in a row. The 2017 survey results are a bit weaker than 2016's, with only one type having a score of +50 or better, versus two types in the 2016 survey. This illustrates that the industry's growth rate in 2016 was reflective of a mature marketplace. However, this also illustrates that volume increased again in 2016 at a moderate rate.

CHANGES IN RESIDUAL ASSUMPTIONS **RESIDUALS TRENDING LOWER**

Finally, Question VI(C) asked for "Change in the amount of residual value assumed this year (increase/decrease), per specific equipment type in comparison to last year." The results found on **Chart III** show that the industry is becoming even more conservative in booking residuals this year. This reflects a growing concern of the impact of the strong dollar on exports, along with rising interest rates on the economy, and a global trade slowdown. This year only three types showed increased residuals (vs. 6 types last year), and twelve types showed decreased residuals (vs. 8 types last year). It should be noted 2010 was the third time in the history of this survey that all equipment types scored negative. This year's results were lower than last year's. This shows the impact of asset

and risk management on assumed residual values. Overall, on a net percentage basis, 11% to 29% of respondents increased residual values for machine tools, plastics and construction equipment. All other types have residuals lowered. Aircraft (-24) and OGE (-39) had the largest declines. It is clear that the industry has become even more conservative with its residual positions.

Historically, positive results (increases) in residual positions, taken together with positive results of 20 or more in the survey's Future Business Volume question, indicate a strong willingness on a lessor's part (or if negative, a lack thereof) to aggressively seek (or avoid) business within certain equipment types. Overall, this year's survey shows only one type very positive (machine tools), compared to no types last year and five in 2015. Meanwhile no types showed 'very negative' results this year, versus two types in 2016 and 4 types in 2015. This is a dramatic turnaround from 2010's low which showed 'very negative' results in 11 of the 15 equipment types. Thus, these results illustrate that lessors have become even more conservative and risk conscious on a portfolio basis.

MOST AND LEAST FAVORABLE FUTURE EQUIPMENT LEASING OPPORTUNITIES

For clarification and correlation purposes, additional questions were asked and a 'weighted' approach to scoring the survey was used (*i.e.*, Questions III and IV), versus the previously discussed 'unweighted' approach (*i.e.*, Question VI). Questions III and IV asked respondents to pick only the *three best* and *worst* future equipment leasing opportunities (in order, 1 through 3) by specific equipment type.

The results for each equipment type were weighted by assigning a numerical weighting (multiplier) to each 'place' selected, whether positive or negative. For example, a first place vote was assigned five (5) points, a second place vote three (3) points, and a third place vote one (1) point. A weighted score was tabulated for each equipment category by multiplying the actual number of votes for each place by their respective multipliers (+ or -), then summing the total. A final weighted equipment score (net weighted score) was determined by calculating the difference between each equipment type's total positive and total negative weighted scores. Note, this year the weighted results, (see **Chart IV**), show a very close correlation with the unweighted results (see **Chart I**), in that the general order of equipment types – best to worst – is very similar in both approaches (weighted/unweighted). This lends support to the survey's other findings. The overall weighted scores were similar to last year's, showing the industry has remained selective. The enormity of this year's most positive and negative scores indicates, for the eighth year in a row, that the industry is

focused on certain equipment types.

The weighted scoring approach indicates the level of preference (strong or weak) for a specific type of equipment – whether positive or negative. This year's results show that respondents expect very strong (positive) future equipment leasing opportunities for: construction (+231) versus (+183) last year; medical (+138) versus (+183) last year; hi tech/computer (+131) versus (+118) last year; and machine tools (+85) versus (+75) last year; but not for telecom (-56) versus (-32) last year; O/G/E (-131) versus (-408) last year; and finally, printing (-227) versus (-191) last year. It is interesting to note that this year's top three and bottom three scores, construction (+231), medical (+138) and hi tech/computer (+131), versus telecom (-56), O/G/E (-131) and printing (-227) are polar opposites, clearly showing exactly “what’s hot and what’s not” in the industry. Overall, survey respondents rated five (5) equipment types very high (+20 or greater) versus six (6) last year, and nine (9) equipment types very low versus four (4) last year. Thus, these results indicate that leasing companies are a bit more selective about which equipment types to focus on.

FINAL OVERALL RANKING

Construction Equipment Repeats as Winner, Plastic Breaks into the Top 5, While Printing Hits Bottom

Finally, a combined overall score was tabulated by summing each equipment type's place (rank) for survey Question VI(B) – the amount of future leasing volume - unweighted, and Questions III and IV – the best and worst future equipment leasing opportunities - weighted. The combined results, shown on **Chart V**, indicate that this year, with the exception of new top tier arrival plastics, there was little change in the most desirable. There is a very strong preference for construction, medical, machine tools, hi-tech/computer, and plastics. Also scoring in the top eight were truck/trailer, marine/intercoastal and automobiles. Telecom, O/G/E, and printing had poor showings. The lower the overall score, the better the ranking. For instance, construction, which has a combined overall score of 2, finished first in both of the two future leasing business opportunity questions (1+1 = 2), while printing has a score of 30 (the worst possible out of 15 places in both of the questions).

CHANGES IN PREFERENCE

Construction Rules, Preference for Plastic Rises While Aircraft Dives

Table I shows a comparison between the overall results of the 2017 and 2016 surveys, in order to determine trends (preferences) in leasing towards ("+"), or away from ("-") certain types of equipment over the past year. Once again, the overall combined scores taken from the final rankings for each of the two years were compared. The lower the score the better, and the larger the year-over-year difference the greater the trend towards ("+") or away from ("-") a given type. In comparing the two surveys, the equipment leasing industry's perception of construction (+1), medical (-1), machine tools (+2) and hi-tech/computer (+1) all remained high. Plastics moved into the top five with a big move (+6), while on the other hand, lessors' preference for telecom (-1), O/G/E (+2) and printing (-2) remained low. The best year-over-year improvement came from plastics (+6). On the other hand, the worst year-over-year move came from aircraft (-7). Overall, for 2017, it appears that during the past year leasing companies have developed a greater preference for eight types versus five last year; no change in preference for one type, versus three types last year, and diminished preference for six types, versus seven last year.

EQUIPMENT OUTLOOK FORECAST

Based on the 2017 survey results, equipment managers and leasing companies remain very optimistic with some of their equipment outlooks, yet decidedly pessimistic in others.

Specifically, for the fourth year in a row, **Construction** equipment was the big winner of this year's survey, edging out medical equipment by 3 points. It also ranked number three in largest increase in residual value (+11), a very powerful 1-2 punch. The outlook for construction remains good, pinned to the improving health of the economy and low interest rates. Sales of used equipment have been declining a bit due to sales in the primary market, weak global trade, and the strong dollar discouraging exports. Proposed national infrastructure projects could be a plus. **Medical equipment finished in second place, the same as last year**. This high standing in rank is believed to be linked to a better understanding of the impact of the Affordable Care Act on hospitals and clinics and talk of an ACA overhaul. This industry has a preference for leased equipment, which continues unabated, driven by demographics linked to the increasing health care needs of the 'baby-boom' generation. However, various potential DRA reimbursement cuts, rules, etc., aimed at the industry, weakening the new equipment market while, at the same time, potentially making some used equipment more desirable. The medical equipment secondary market is robust, and the refurbished equipment market is forecast to grow sharply from 2016

levels at an estimated 12.5% compound annual rate, reaching approximately \$9.4 billion by 2019. **Machine tools** finished in third place, with an increase (+2) in preference from last year. This ranking is believed to be linked to the strong domestic automotive and allied industries, along with the now improving oil exploration sector. In the primary market, sales for metal cutting equipment fell by (-4.3%) in 2016; though total consumption remains at high levels. For 2017 there is much optimism, and sales for this sector are forecast to increase in 2017. This ranking is also believed to be linked to financing choices relative to smaller ticket size opportunities, and to 'one-off' deals, or large vendor product line financings, or entire manufacturing plant fundings; in addition, low interest rates and accelerated depreciation have aided this segment. However, the secondary market for machine tools has weakened and prices are now being discounted in both the primary and secondary markets.

Hi-tech/computers finished in fourth place with a large drop in residual values (-16), and a slight increase in preference of (+1). This industry continues to operate on very low margins but has a very large secondary market. Thus, volume is important. In 2013, global computer sales dropped by a record (-9.8%), due to the rapid increase in sales of smartphones and tablets. In 2015, global PC sales plunged by (-10.6%), surpassing 2013's record decline. Then fell again in 2016 by (-6%). Declining primary market PC sales reflect a growing preference for phablets and wearables, but could have positive implications for the secondary market. **Plastics** equipment tied for fifth place, three better than last year, with a sharp increase in preference (+6). Currently, this market segment continues to experience a solid turnaround in almost all categories. Sales of new injection molding machines increased again for the seventh year in a row after substantial declines during the prior two years. Used prices for plastic injection molding machines have increased by 20% to 50+% over the past five years. Much of this is thanks to the automotive industry, which requires high-capacity IMMs for its products, and auto parts suppliers which utilize smaller capacity plastic equipment. However, used blow molding equipment prices related to PET bottling have declined due to advances in technology and industry consolidation. This sector scored particularly well in this year's survey, with very few predicting volume declines for 2017, thus the overall high rating. **Truck/trailer** finished in a tie for fifth place after finishing in third place last year. New truck sales fell sharply by over 22% last year and are expected to fall again this year. Competition from rail bears some of the blame. New trailer shipments increased for the seventh year in a row, breaking the 2006 record. Sales of used trucks and trailers remain good, but resale values have been declining. Thus, there is continued optimism for this equipment type. This sector has greatly benefited from low fuel prices and interest rates.

Marine/Intercoastal rose to seventh place after finishing in ninth last year, showing a modest increase in preference (+3). Most vessels had difficulties with the supply and demand equation, especially in the blue-water marine and offshore vessel markets. Thus prices for new and used vessels declined. Meanwhile, the tank barge market remains healthy, but the open top hopper segment weakened, due to the 'war' on coal. Also prices for new open top and covered hopper barges have plunged by about one third, which has caused used prices to fall as well. In addition, the cost of new supply vessels has increased greatly over the past five years, while used OSV and PSV prices have fallen as utilization rates have plunged due to fallen demand in the Gulf of Mexico. **Rail** finished tied for eighth place with a large decline in preference (-5) from last year. This is believed to be linked to problems in the oil patch and the "war" on coal. In addition, pipelines, and new rules and regulations on crude oil tank cars have largely disrupted that market. Total carloads for all car types, including intermodal, declined sharply by (-5%) for the year with most major categories falling; even intermodal shipments decreased by -1.6%. Due to dwindling shipments, most car types are currently not performing well, especially open top hopper cars, gondolas, and tank cars. New design standards and regulations have adversely affected the flammable and hazardous material tank car fleet and could lead to many scrappings. **Automobiles** finished in a tie for eighth place, a major move up from 12th place last year. Preference increased by (+4). Automobiles experienced record sales in both the primary and secondary markets. New automobile and light truck sales increased by 2.1% last year to a record of just over 18 million. However, sales have started to slip somewhat this year after seven years of strong growth. Late model used car prices are starting to decline, but are still at elevated levels. Pickup trucks now rule the secondary market. In addition, the leasing penetration rate continues to steadily increase in this sector. This segment appears to have topped. Low interest rates and GenXers who still can't afford to purchase a home have greatly benefitted this industry. The drop in fuel prices caused a spike in new and used pickup truck and SUV sales.

Containers/chassis finished in tenth place, the same as last year, with a slight increase in preference (+1), but a slight decline in residual value position (-7). Over the past year, due to a softening global economy and trade, primary market sales for ISO containers fell sharply by about (-35%). This caused another drop in new container prices. Used container prices have also fallen, but remain relatively high by historical standards. A flat market is forecast for this year. Next, **FF&E** finished in eleventh place with a score of (21), the same as last year. FF&E showed no change in preference. Residual value position also declined (-14). The secondary market continues to be flush with inventory affecting wholesale prices, but it is improving. 2017 sales in the primary market are forecast to

increase by just over 7%. Meanwhile, the copier segment is challenged and is expected to remain so as OEMs fight for market share and insert themselves into the secondary market. There is general cause for optimism in the FF&E segment given that job creation is forecast to increase by over 2.5 million this year, which will have a positive impact on new office space, requiring furniture. **Aircraft** finished in twelfth place, a sizeable decline from last year's seventh place finish. This includes a major decline in popularity (-7) and a plunge in residual value position (-24). This indicates that currently leasing and finance companies are not enthusiastic about this equipment. Respondents appear to view parts of the aircraft market as being challenged, with some improvement seen in the commercial sector, dampened by technology changes in the emerging next generation new engine option (neo) aircraft, thus negatively impacting late model current engine option (ceo) aircraft values. Also some optimism is returning to the beleaguered business jet segment. Nevertheless, 2016 business jet shipments fell by 7.9%, while turbine rotocraft shipments fell by 15.9%, largely due to oil patch conditions.

Telecom finished in thirteenth place, the same as last year, with no change in preference (+0), but residual values fell by (-8). This equipment segment continues to be turning the corner with capex spending made over the past four years in order to significantly increase broadband capacity. This year telecom equipment capex is expected to be muted, as carriers continue to adopt NFV, SDN, 100G, and DCI. In addition, the industry also continues to ramp up LTE (Long Term Evolution) and conduct research and trials for 5G wireless standards. Sales in the secondary market are increasing. Also, sales of IP PBX systems are gaining wider acceptance. **Oil/gas/energy** finished in second to last place this year, rising from last place last year. Just three years ago O/G/E was in second place. Last year O/G/E smashed the 'weighted results' 26-year record low set by Printing (-279) in 2013, with a score of (-408). However, this sector increased a bit in popularity: last year (-4) and (+2) in this year's survey. It is currently viewed in a very negative light. It also finished dead last in residual value, far below all other types, with a score of (-39). This finish seems to reflect continued widespread pessimism for this equipment sector due to the worldwide decline in the price of oil and rising supplies. This has greatly affected the values of oil/gas production and exploration equipment, as well as operating cash flows. The Hughes total rig count during January 2017 showed a year-over-year increase of around 20%. This increase shows there is still life in this sector. Meanwhile, solar and wind power, both supported by tax incentives and government support, had good years. Finally, **Printing** equipment finished in last place after finishing second to last place last year, and also finishing dead last for the prior six years in a row. This equipment type continues to register a poor showing in this survey. These results seem to sum up the

industry's continued very negative outlook for printing equipment. Meanwhile, its preference fell (-2), and residual value assumptions continued to weaken (-16). The economics surrounding this industry remain challenging, as more and more publications, flyers, newspapers, etc. move away from print media to digital. Meanwhile, digital press sales continue to increase at the expense of traditional press room equipment. Overall this equipment segment appears very weak. Nonetheless, several used printing equipment dealers reported good sales, as used equipment inventories have significantly shrunk, and a supply and demand balance has finally returned to the industry, albeit with lower volume and pricing compared to seven or eight years ago.

SUMMATION

For 2017 construction equipment repeats as winner, and printing sinks into last place, after finishing second to last in 2016. In addition, medical equipment remained in second place. A look at the top five finishers reveals that 'rusty iron/yellow iron' and high technology gear have an almost equal weight.

Based on the overall results of the 2017 survey, it appears leasing and finance companies have generally become more comfortable with specific types of equipment. They are very selective in their equipment finance choices, as illustrated by the results of the Weighted Future Opportunities question, which carried bifurcated results with very high and very low scores. Preference ranking showed greater volatility in both positive and negative scores. The bifurcation in scoring once again indicates increased competition for the leasing and financing of specific types of equipment, as a growing consensus of opinion appears to have formed over the past several years regarding moves towards, or away from certain types. Also not to be missed, was that prices of most types of used equipment fell in 2016. Let's hope this reverses in the new year.

FINAL COMMENTS

This year marks the seventh year in a row of positive survey results. However, it also shows new volatility within the market, as illustrated by some of the large moves in preference scores. That said, some equipment markets have fallen in popularity to the point where knowledgeable operating lessors with solid market experience, can take a contrarian view to parts of this survey, and consider a sharp drop in popularity for a given equipment type to be an opportunity for future business success.

Perhaps the industry's perception can best be summed up in some of the following comments received about the greatest threats to the secondary market:

- # Slowing economy;
- # Oversupply;
- # Over regulation;
- # Used equipment surplus;
- # Protectionism;
- # Rising interest rates;
- # Economic instability.

It is clear from the comments received that the biggest threat to the secondary market this year appears to come mainly from bloated equipment inventories and the health of domestic and global economies.

BONUS QUESTIONS

This year's survey also carried with it three bonus questions, one dealing with the Domestic GDP, another with Unemployment, and a third with Inflation.

Based on this year's survey, respondents felt that U.S. GDP would increase during 2017; with a consensus of around 2.4%.

Regarding Unemployment: Respondents forecast unemployment at 2017 year-end to be about 4.5%.

Finally, respondents forecast that the Inflation Rate for 2017 would be approximately 1.9%.

It is hoped the information contained in this article will help you chart your course to success in 2017.



BIOGRAPHY

**CARL C. CHRAPPA, M.R.I.C.S., A.S.A., I.F.A.
SENIOR MANAGING DIRECTOR - ASSET MANAGEMENT PRACTICE LEADER
THE ALTA GROUP, LLC**

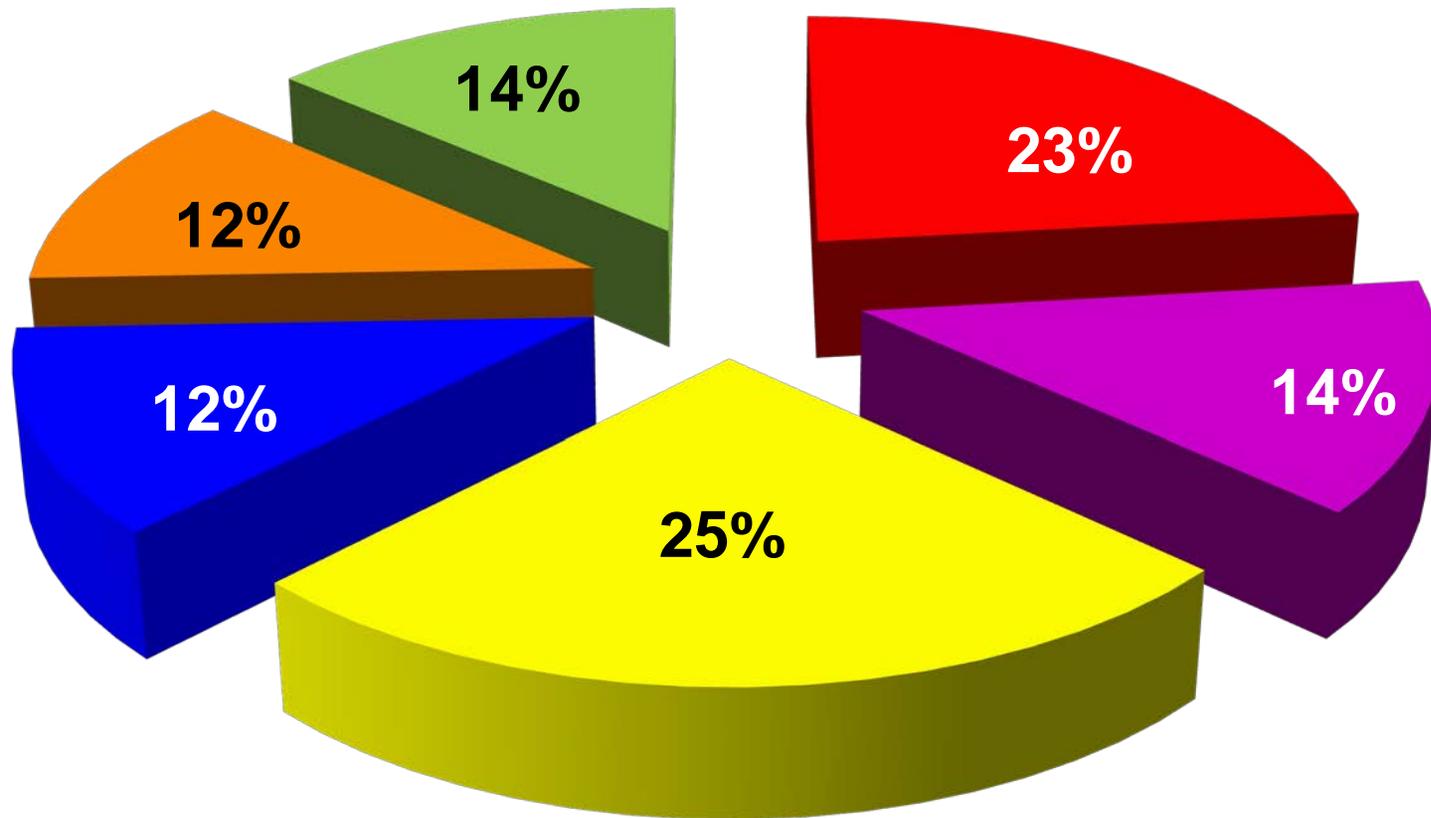
Carl C. Chrappa is Senior Managing Director - Asset Management Practice Leader of the Asset Management Practice of The Alta Group, LLC, headquartered in Clearwater, Florida. He is a registered auctioneer, and nationally (A.S.A.) as well as internationally (M.R.I.C.S.) tested and accredited senior equipment appraiser with over 40 years of experience.

Mr. Chrappa is uniquely qualified to author this article, since he actively trades in global equipment markets, and provides appraisals and equipment consulting services to companies throughout the world. He is also a member of the ***National Association for Business Economics (NABE)***, where he was elected to serve two-terms as Chair of the Association's Industrial/ Manufacturing Roundtable. Mr. Chrappa also serves as a panelist on the **Federal Reserve Bank of Philadelphia's** – 'Livingston Survey,' which twice a year forecasts macroeconomic moves in the U.S. economy.

He is a current and founding member of ***The Equipment Leasing and Finance Association's Equipment Management Committee***, also serves on the Board of Directors of the ***Commercial Finance Association***. He has served on the **ELFA's Service Providers Steering Committee**, and is a past national technical director of the ***American Association of Cost Engineers***. Mr. Chrappa received the ELFA's Distinguished Service Award in 2010. In addition, he co-authored a book entitled *A Leasing Company's Guide to Equipment Management* and is the author of several columns devoted to equipment management as well as being a regular content provider to the ELFA's web-based ELFAonline.org. He has given numerous presentations at professional and trade association meetings and seminars throughout the United States and Europe, and has been interviewed and quoted by such news media as The Wall Street Journal, the L.A. Business Times, TheStreet.com, CNBC MoneyLine, and NPR radio. Mr. Chrappa is a graduate of the University of Massachusetts at Amherst.

Carl C. Chrappa
Senior Managing Director - Asset Management Practice Leader
The Alta Group, LLC
2471 McMullen Booth Road, Suite 309 - Clearwater, FL 33759
Phone (727) 796-7733,
email: cchrappa@thealtagroup.com; cchrappa@iecvalue.com

COMPOSITION OF RESPONDENTS TO 2017 SURVEY



■ \$0-\$50MM

■ \$50-\$100MM

■ \$100-\$500MM

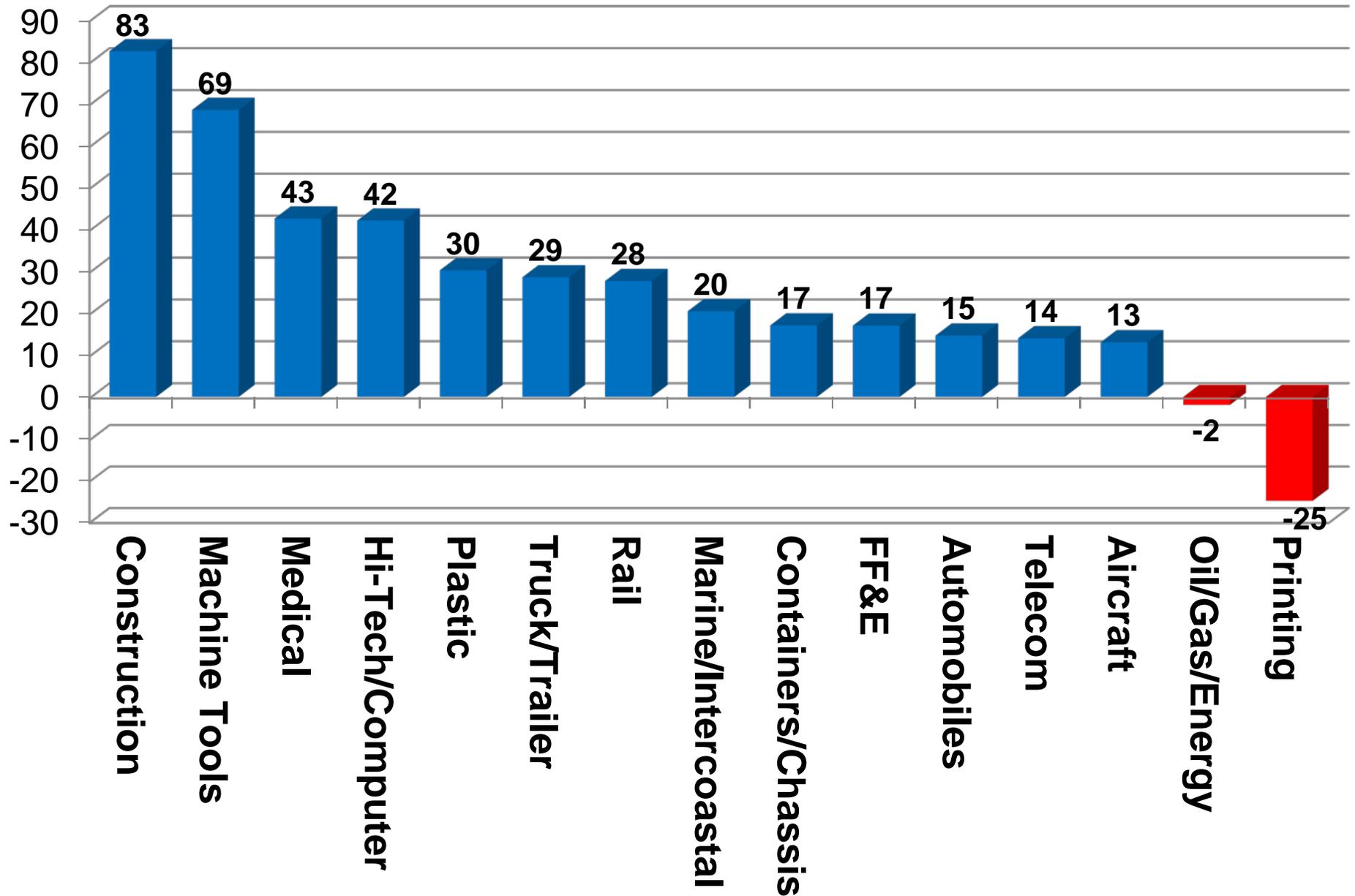
■ \$500MM-\$1BN

■ \$1-\$3 BN

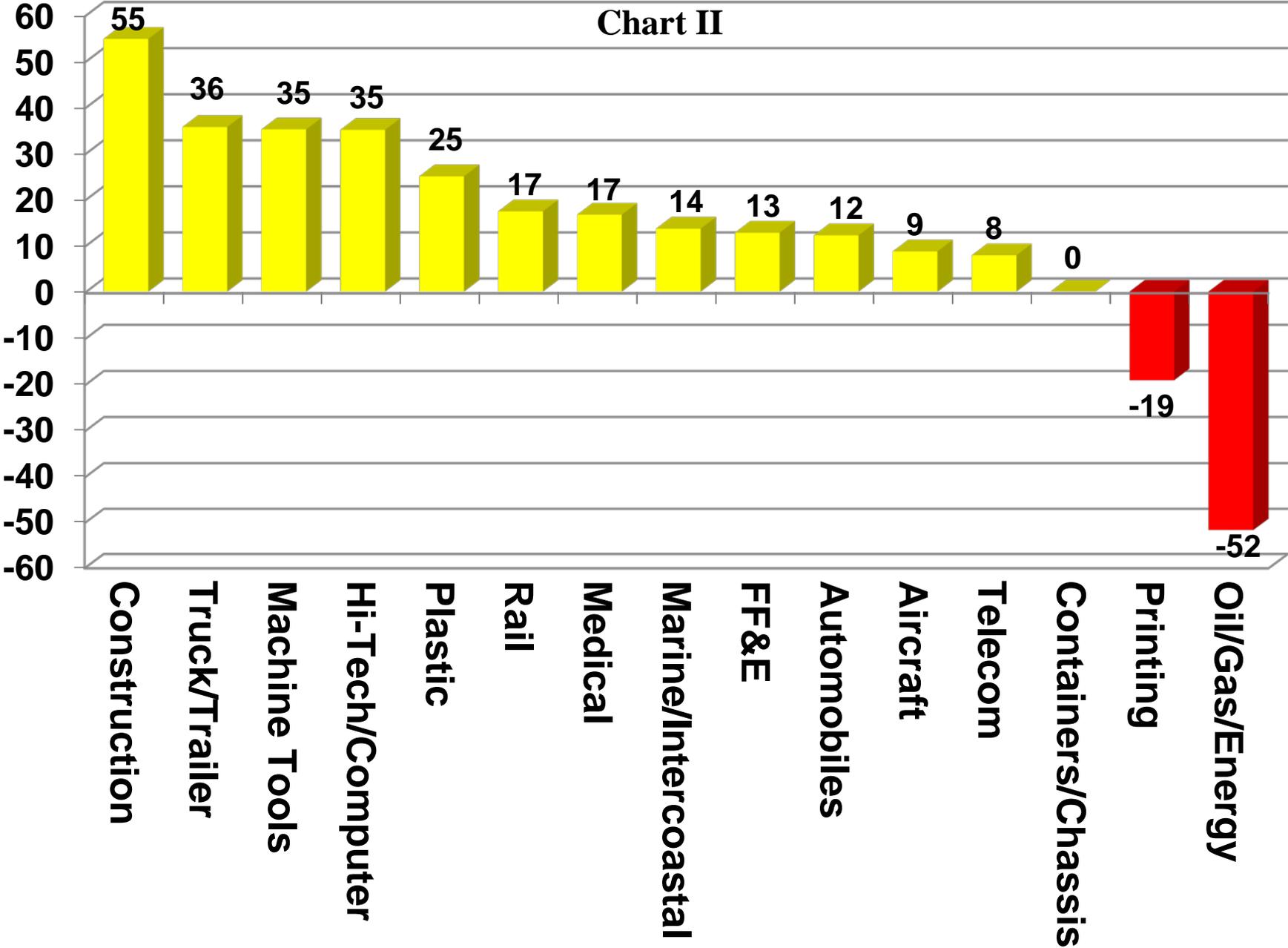
■ >\$3 BN

UNWEIGHTED FUTURE OPPORTUNITIES RANKING BEST (+) AND WORST (-) BY EQUIPMENT TYPE

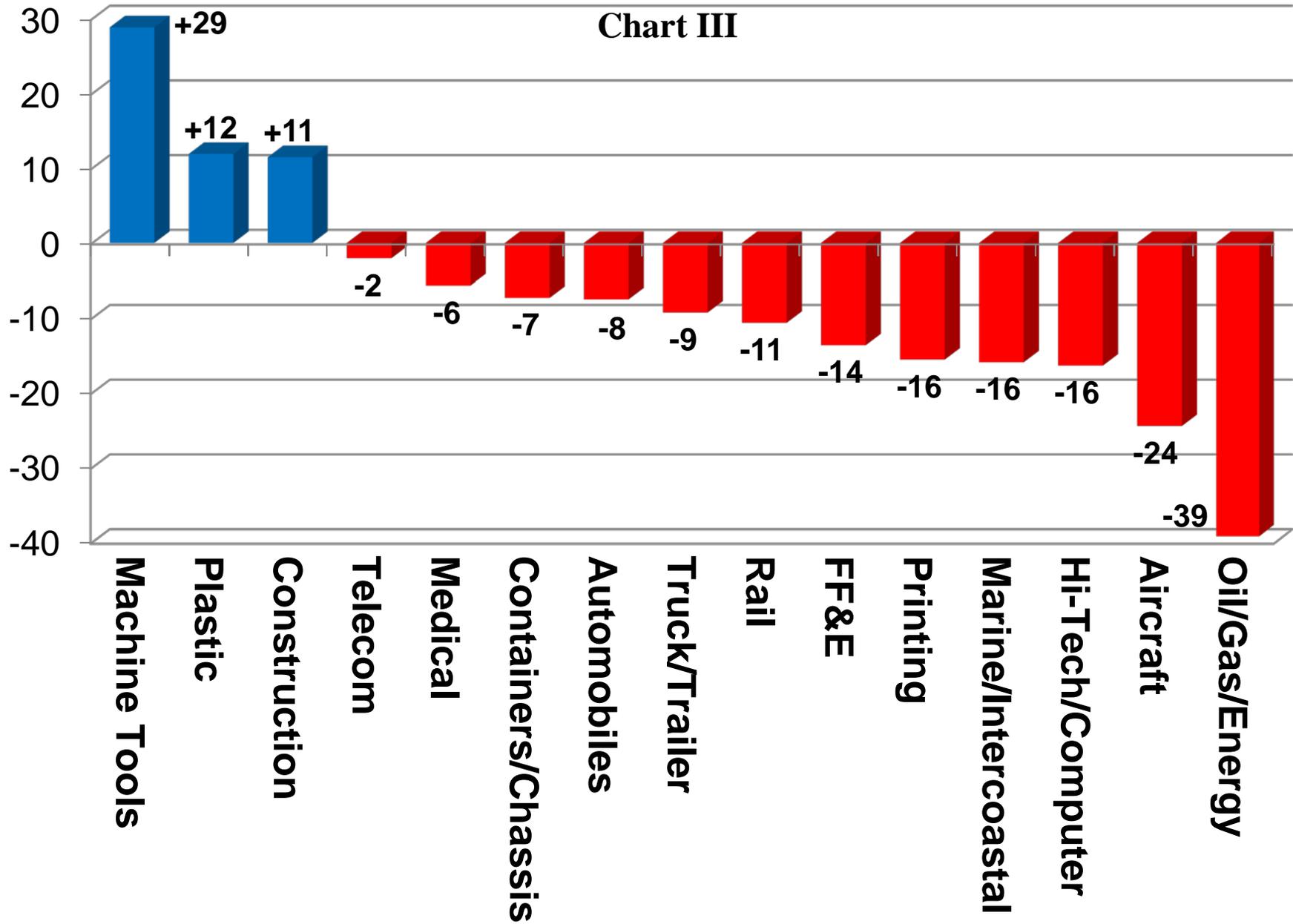
Chart I



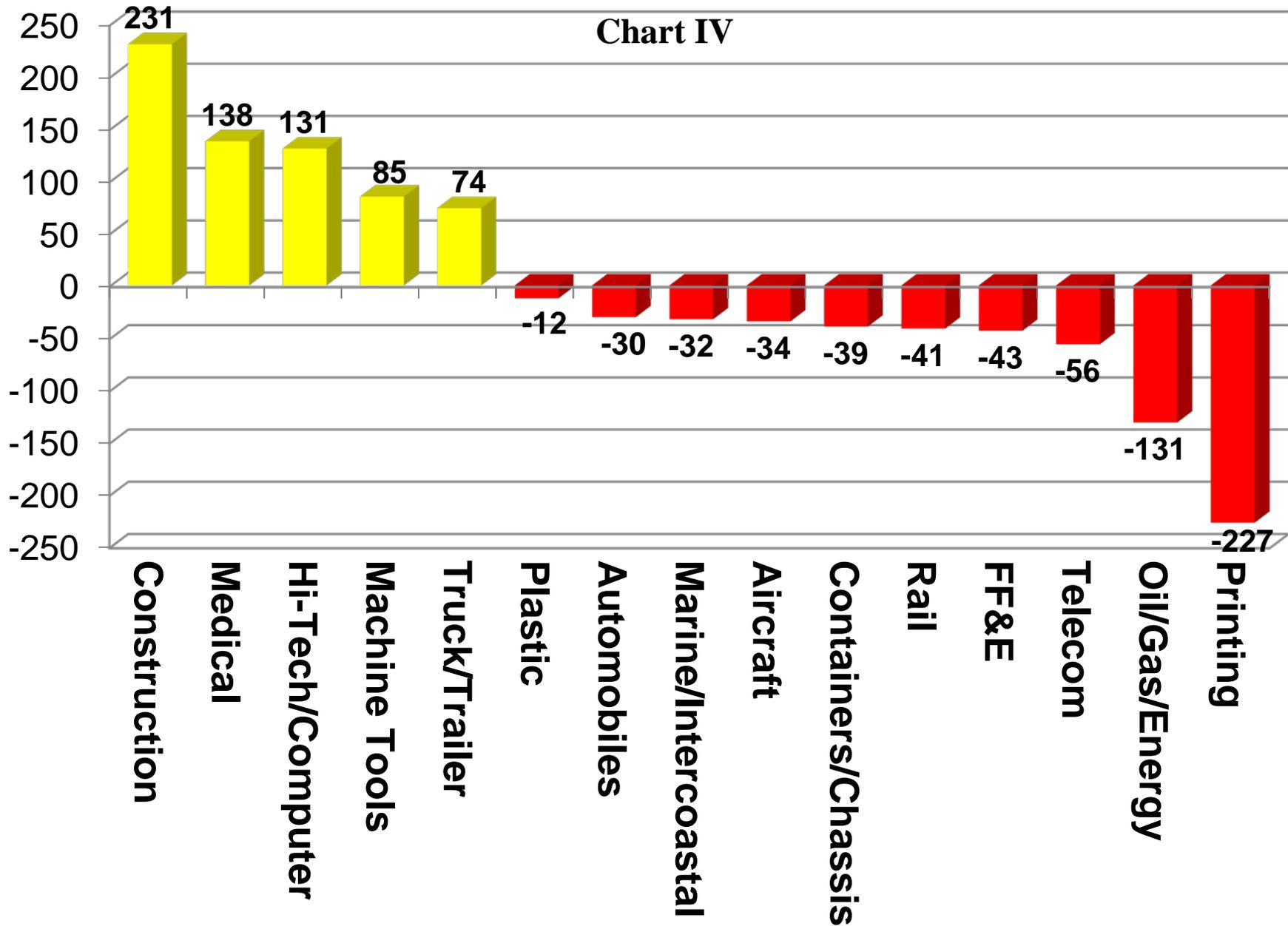
2016 LEASING BUSINESS VOLUMES V. 2015 BY EQUIPMENT TYPE (Unweighted)



CHANGES IN RESIDUAL POSITIONS BY EQUIPMENT TYPE (+ increase / - decrease)

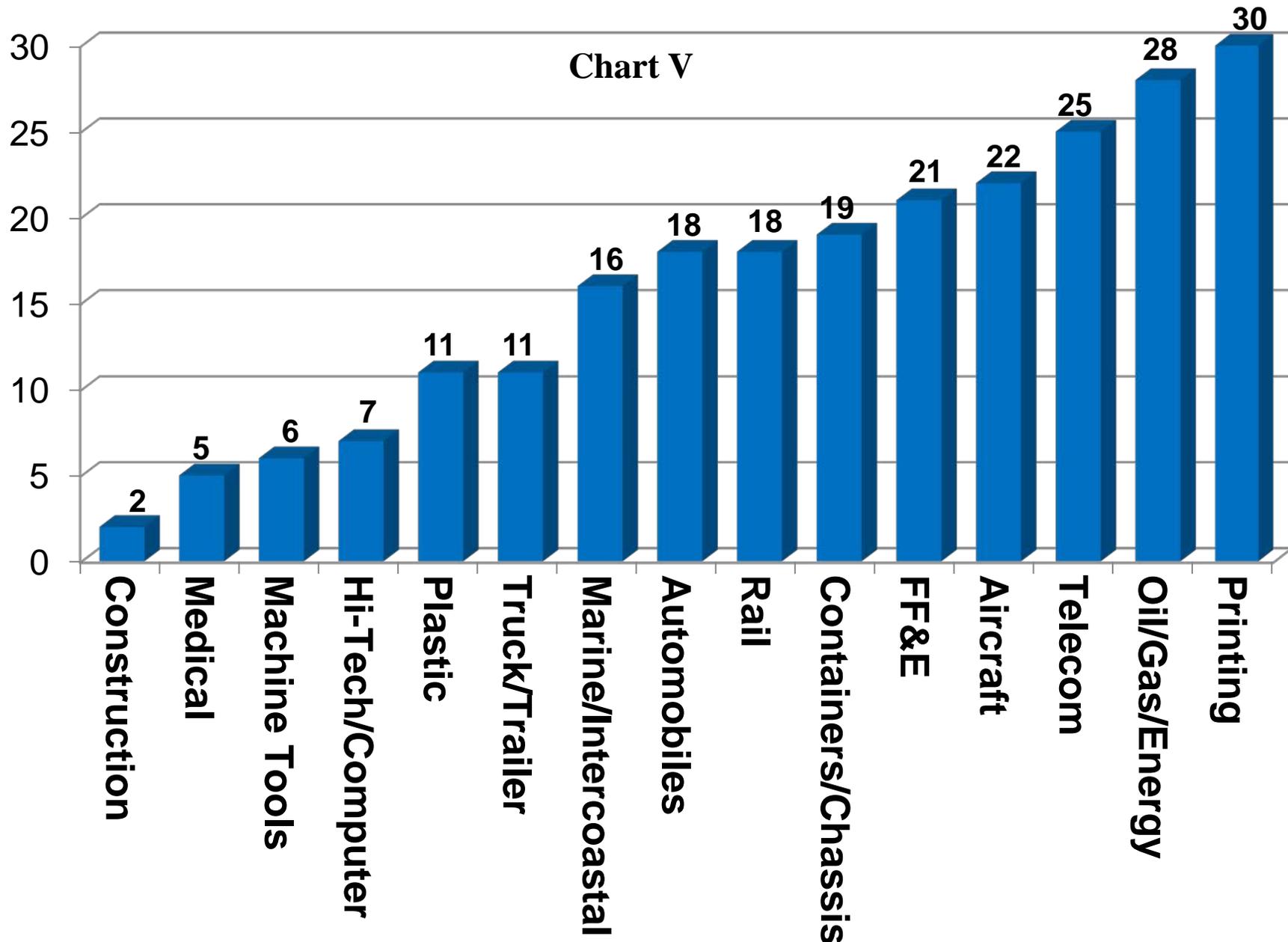


FUTURE LEASING BUSINESS VOLUME BY EQUIPMENT TYPE (Weighted)



FINAL OVERALL SCORE AND RANKING

LOWEST SCORE BEING THE BEST



Equipment Survey Results 2017 versus 2016

OVERALL RANKING SCORES

Table I

<i>Equipment Type</i>	<i>2017 Score</i>	<i>2016 Score</i>	<i>Difference</i>
CONSTRUCTION	2	3	+1
MEDICAL	5	4	-1
MACHINE TOOLS	6	8	+2
HI TECH/COMPUTER	7	8	+1
PLASTICS	11	17	+6
TRUCK/TRAILER	11	6	-5
MARINE/INTERCOASTAL	16	19	+3
AUTOMOBILES	18	22	+4
RAIL	18	13	-5
CONTAINERS/CHASSIS	19	20	+1
FF&E	21	21	+0
AIRCRAFT	22	15	-7
TELECOM	25	24	-1
OIL/GAS/ENERGY	28	30	+2
PRINTING	30	28	-2