SFSA CASTEEL REPORTER

Steel Founders' Society of America

a publication serving
SFSA steel casting industry Members

780 McArdle Drive Unit G, Crystal Lake IL 60014
Tel: 815-455-8240 Fax: 815-455-8241
http://www.sfsa.org

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Casteel Commentary

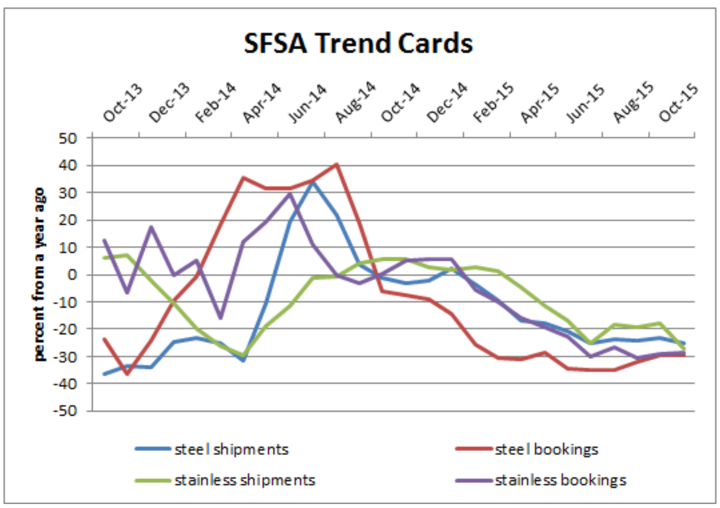
This month's Casteel Commentary reviews my forecast of activity for 2015 and makes some guess on what will happen in 2016.

SFSA Leadership Meetings

Please plan to attend the SFSA Spring Leadership Meeting May 4-5, 2016 in St. Louis, MO. This year's meeting will include a tour of MetalTek Carondelet on Wednesday morning and the meeting sessions on Wednesday afternoon and Thursday morning. The marketing committee will meet Thursday afternoon and all are welcome to attend.

The Fall Leadership Meeting will be September 10-13, 2016 in Santa Fe, New Mexico. We look forward to your attendance and participation in this educational and networking meeting and welcome the opportunity to share new developments in the steel casting industry with you.

Additional meeting details including presentation topics will be distributed in the coming months.



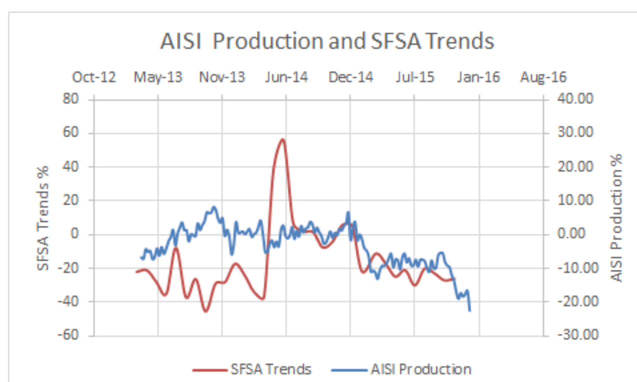
As the graph shows, our SFSA steel casting trends for shipments track closely with the AISI reported raw steel production. The production of steel is off dramatically as we entered 2016 and the expectation is for a slow year in steel demand.

Recently, oil and copper prices have tracked closely with steel casting demand and production. Both of these commodities are down dramatically. Copper prices are down around $2 a pound which makes investment and production slow. Oil prices and inventory levels make energy and CPI markets slow as well.

Market News

SFSA trend cards confirms the expectation that steel casting demand and production is down almost in every market segment. Our indicators show a fall in demand of over 25%. Casting backlog seems stable at a low level of 8 weeks.

Iron and steel casting shipments and steel mill shipments are down since late in 2014. Steel production reported and graphed weekly on our website shows continued falling levels.



The SFSA Marketing committee updated the forecast at the end of 2015 and that is located here, https://www.sfsa.org/sfsa/news/2016/2016%20SFSA%20Market%20Forecast.pdf for your use.

Casteel Commentary

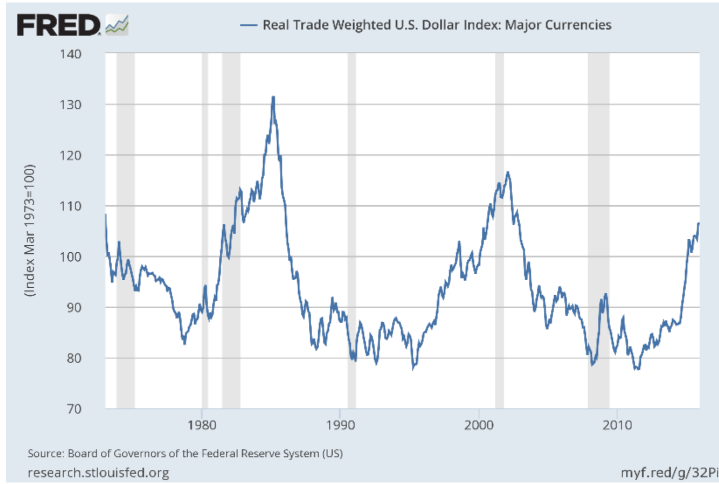
How did I do last year anticipating conditions in 2015:

1. **Steel casting demand will be down, not dramatically, but enough to make 2015 a challenging year to run the business profitably.**

Wrong! Steel casting demand was down but down dramatically and painfully. Steel foundries are operating typically at less than 60% of their recent peak production.

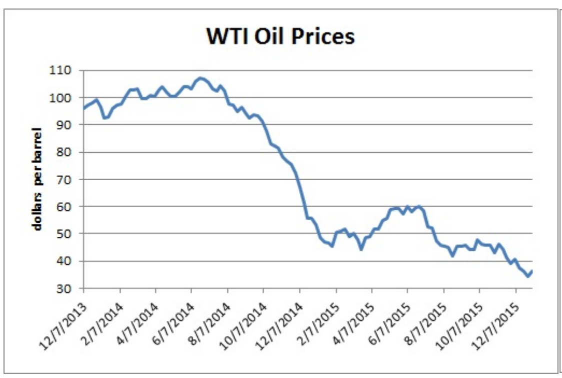
2. **The US dollar will continue to strengthen against other major currencies making imports more competitive and making large domestic OEM's interested again in global sourcing.**

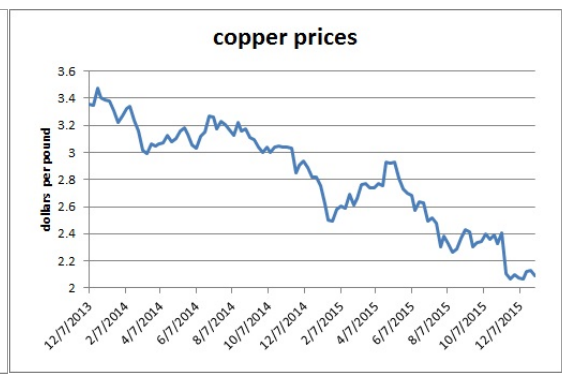
This is right in spades.



3. **Low oil and copper prices make both the mining equipment and oil field business slower than we forecast. Steel casting sales have generally followed these prices.**

Far worse than I expected.





4. **A significant adjustment in both equity (stock) prices is likely with a fall of more than 20% sometime in the year.**

Too early, will surely happen this year…

5. **Rising interest rates at the yearend will result in larger projects moving forward to avoid escalation in costs on investment.**

Wrong, the slowing economy led to an increase only at year end.

6. **The Keystone pipeline will pass Congress but fail to override the veto of President Obama.**

Maybe half right. Keystone was unable to get started over Obama's opposition and now with low oil prices is seen as unnecessary.

7. **Building construction should be up around 10% this year, improving this long dormant market.**

While the construction market did improve this much, not much equipment or steel castings was required.

8. **Stainless markets should remain steady with low oil prices allowing investment in the CPI industry in US.**

Stainless markets did stay steady more the first half of the year but softened significantly the final part of the year. Low oil prices have not stimulated CPI investment yet.

What about 2016? Will we see an improvement in activity or will we see an ongoing slow economy? Will the election year result in improved climate for investment or will uncertainty in future policy dampen investment? Will slowing growth globally limit capital investment?

My thoughts about what 2016 holds for the North American steel foundry industry:

1. **Steel casting demand will improve some by the end of 2016. The first quarter will be brutal as the markets adjust but then underlying economic demand for parts and equipment to keep the system going will require more steel casting production.**
2. **The US dollar will remain strong and that will temper and hamper our competitiveness.**
3. **Oil prices will bottom out around $30 a barrel in the first half of the year and recover to around $50 by the end of the year. Copper prices will remain depressed, above $2 a pound but below $2.50.**
4. **The fall in the stock market will exceed 30% and will likely be around 50% or a DJIA of under 12,000.**
5. **China will be stagnant at best, dampening industrial and commodity demand.**
6. **The economy will have at least one quarter of negative growth (a weird way to say a shrinking economy that the financial press uses). It is more likely two so we will have a recession in 2016.**
7. **Interest rates will remain stable and low while the market adjusts asset prices to more realistic levels and may have a small rise in the last half of the year.**
8. **Stainless casting demand will not be as poor as steel casting demand but is unlikely next year to see a strong recovery.**

STEEL FOUNDERS' SOCIETY OF AMERICA
BUSINESS REPORT

SFSA Trend Cards (%-12 mos. Ago)	12 Mo Avg	3 Mo Avg	November	October	September
Carbon & Low Alloy					
Shipments	-17.6	-25.3	-26.0	-27.0	-23.0
Bookings	-28.8	-26.1	-19.4	-26.5	-32.5
Backlog (wks)	8.2	7.8	7.5	8.0	8.0
High Alloy					
Shipments	-11.1	-17.2	2.5	-31.5	-22.5
Bookings	-19.1	-24.9	-17.9	-24.5	-32.2
Backlog (wks)	7.3	7.3	6.0	7.8	8.0
Department of Commerce Census Data					
Iron & Steel Foundries (million $)					
Shipments	1,641.5	1,611.3	1,605	1,603	1,626
New Orders	1,607.4	1,558.3	1,526	1,513	1,636
Inventories	2,027.9	1,953.3	1,940	1,960	1,960
Nondefense Capital Goods (billion $)					
Shipments	79.4	79.5	80.2	78.5	79.9
New Orders	78.6	80.0	83.2	83.2	73.5
Inventories	178.0	174.9	174.3	175.0	175.4
Nondefense Capital Goods less Aircraft (billion $)					
Shipments	69.3	69.2	68.7	69.2	69.8
New Orders	69.0	69.8	70.1	70.1	69.2
Inventories	120.9	119.2	118.9	119.0	119.6
Inventory/Orders	1.8	1.7	1.70	1.70	1.73
Inventory/Shipments	1.7	1.7	1.73	1.72	1.71
Orders/Shipments	1.0	1.0	1.02	1.01	0.99
American Iron and Steel Institute					
Raw Steel Shipments (million net tons)	7.4	7.2	7.2	7.4	7.1

National Technical & Operating Conference

The 2015 National Technical & Operating Conference was another success due to the commitment of industry to both provide papers and to participate in the event even through the current downturn in the industry. The T&O Committee organized a complete program covering SFSA's research such as Beckermann's riser sleeves, development in specifications such as Bergman's changes to ISO 9001, improvements in safety such as Plascencia's zero accidents, technical topics such as Thomas' heavy-section heat treatment, and operation topics such as Valenzuela's use of FARO in a foundry. The workshop leveraged an opportunity to learn about welding of nickel alloys from DuPont. The conference was packed with over 50 papers, higher than past years, with the majority being from industry. The committee's service to the industry in preparing and running the world's premiere steel casting conference deserves recognition. They are already in the process of planning for this year's conference, which will be held on December 7-10, 2016 – mark your calendar! If you would like to recommend a topic and presenter for the 2016 conference, please contact David Poweleit at poweleit@sfsa.org.

Awards

SFSA is proud to recognize the following people who received awards in 2015 and their member foundry who support their involvement in the society:

- Tyrus Tenold, Spokane Industries, Frederick A. Lorenz Medal
- Hal Davis, Sivyer Steel, Charles W. Briggs Medal
- Von Richards, Missouri University of Science & Technology, Thomas E. Barlow Award
- David Jolin, Spokane Industries, Robert G. Shepherd Award
- Jessica Okhuysen, Corporaçion POK, Robert G. Shepherd Runner-up Award
- Kyle Long & Anoop Balakrishnan, Harrison Steel, Robert G. Shepherd Runner-up

SFSA would like to thank all of these individuals for their service to the steel foundry industry.

Safety Awards

SFSA presented several members safety awards at the T&O conference last month for demonstrating an exemplary safety record for 2014. The awards are to recognize members that set the standard in safety practices and contribute to the improvement of the overall safety record for our industry.

The following member achieved a "Perfect Safety Record" with a DART rate of 0:

- ME Global – Tempe, AZ

The following six members achieved an "Outstanding Safety Record" with a DART rate less than the industry average and for all manufacturing:

- Magotteaux – Pulaski, TN
- Fimex, SA de CV – Guadalajara, Jalisco Mexico
- Metaltek Wisconsin Centrifugal – Waukesha, WI
- Southwest Steel Casting Company – Longview, TX
- Southern Cast Products – Meridian, MS
- Midwest Metal Products – Winona, MN

SFSA Scholarships Awarded

Recruiting students to join our industry and grow into leadership positions remains a critical need in the steel casting industry and a strategic initiative of the Society. The SFSA Foundation aims to attract the next generation workforce by providing scholarships to student interns. To compete for the scholarships, interns are required to work at a member foundry and carry out a specific task or investigation and selected works are presented at the annual T&O conference.

During the 2015 T&O Conference, SFSA awarded four interns scholarships, each receiving $1,000. The scholarship recipients were as follows:

- Jonathon VanDruff, McConway & Torley – Robert Schumo Scholarship
- Austin Edwards, Voestapline Nortrak – Robert Schumo Scholarship
- Mark Emmendorfer, Spokane Industries – Robert Schumo Scholarship
- Santhosh Rachuri, McConway & Torley – Kent Peaslee Scholarship

Please be sure to watch for the 2016 scholarship registration forms in your e-mail inbox later this month.

Your SFSA Membership

The recent T&O paper, "SFSA – Your Society", discussed many opportunities that the society offers, which members may be unfamiliar with. During tough times it is important to make certain you stretch every dollar to its fullest. In 2016, each Casteel Reporter will feature this section, which will discuss an aspect of SFSA that you as a member may take advantage of to improve your business.

For many, many decades, the SFSA directory was published in hardcopy as a listing of steel foundries. It has transformed to the most complete listing available of steel foundries and their capabilities. Members may search the complete details of the directory. Non-members, such as customers, may search the complete records of member foundries. The directory website is the most frequented page visited on the Society's website. Customers may utilize the directory to search for and identify foundries to supply their parts. Searches offer a direct link to a RFQ utility.

When was the last time you checked your foundry's directory listing? Outdated information means that customers may overlook your capability or not get to the right person. Please check your record and update information such as website, phone, personnel, capabilities and castings produced; the Directory Information Form is attached, which you can use to update your information or just to see what types of information can be included in directory listing – minor changes can just be included in an email to Rob Blair at blairr@sfsa.org. An updated directory record is one way to ensure business opportunities can find their way to your foundry.

Researchers Recognized for Outstanding Achievements

Dr. Rachel Abrahams received her doctoral degree by participating in SFSA research at Penn State University. She currently works for the Air Force Research Lab Munitions Directorate and supports the SFSA Research Committees. Rachel is the primary inventor of a revolutionary, new steel alloy that maintains the material properties of the most advanced steel alloys while drastically reducing the material's cost. Her research is greatly influencing the weapons industrial base, leading to fundamental changes in how metallurgical material and manufacturing are processed and tested for munitions technologies. For her work, she was selected as one of the Air Force's best and brightest scientists and engineers, and received the Early Career Award.

Dr. John DuPont of Lehigh University was selected as an Awardee of the 2015 Defense Manufacturing Technology Achievement Award for his project on "Welding of High Strength Steels". This SFSA project is funded by the Defense Logistics Agency ManTech R&D through the American Metalcasting Consortium. John's work over the years has supported and advanced the use of steel castings.