Vested Metals Market Update

June 2022 Issue

What's Inside

SBA U.S. Small Business Administration 8(a) CERTIFIED

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Complex Political and Economic Cross-currents Impacting Metal Prices

Russian sanctions, China's zero-Covid policy, Fed rate hikes, and lingering supply chain issues creating uncertain outlook for metal prices

Metal prices are being pulled in multiple directions as one of the largest metal producers, Russia, faces heavy sanctions and one of the largest metal consumers, China, is dramatically shrinking its short-term demand due to its "zero-Covid" strategy.

While these two dynamics unfold, the U.S. Federal Reserve is in the early stages of a rate hiking cycle that could put downward pressure on U.S. demand. Additionally, Covid related supply chain disruptions continue to impact production globally.

Cobalt Price Trends - Cobalt prices have risen from lows of about $10/lb. in 2019-2022 to around $37/lb. Cobalt was last at these elevated levels in 2018 when a positive outlook for electric vehicles and rising demand sent prices briefly to $40/lb. The current rally is also driven in part by strong demand for elective vehicles.

Other factors driving price gains include logistics bottlenecks such as container shortages, trucking shortages and port disruptions. Covid related absenteeism is also impacting production. Prices would likely be even higher without reduced Chinese demand where metal production is down by more than 50%. Note that Russia's cobalt makes up only 4% of global production. ***Continues On Page 2***

Vested Metal's 8(a) Certification Can Help Your Business Access Significant Government Contract Revenue

The federal government allocates billions in contracting dollars each year to 8(a) certified companies. Through joint ventures with Vested Metals (teaming agreements) companies that do not have this certification can compete for 8(a) contracts.

Vested Metals is an experienced government contractor that is now 8(a) certified and is looking for teaming agreement partners. Please contact us to learn more. Also, see our Capabilities Statement for additional details related to Vested Metal's teaming agreement value proposition.

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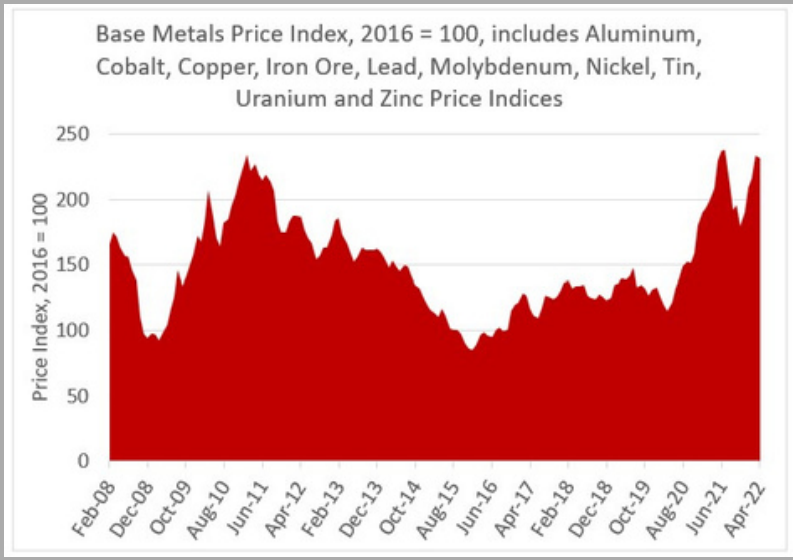
Nickel Price Trends - For most of the past decade, nickel traded between $10,000 and $20,000 per metric ton and moved approximately $50-$150 metric tons per day. In early March of 2022, the market for nickel unraveled when a metal producer established a substantial short position (150K tons). The position ultimately triggered a 'short squeeze' that sent nickel prices up 250%.

Since the March short-squeeze, nickel prices have quickly reverted to pre-surge levels. Apart from the short squeeze, low production rates due to Covid and other logistics bottlenecks have reduced overall supply and put upward pressure on prices. Note also that Russia produces approximately 20% of of the world's class 1 nickel (>99.8% pure). However, weaker demand from China and Europe have partially offset this impact.



Iron Ore Price Trends - Iron ore prices were in the mid $80s/ton in early 2020 and rose to as high as $220/ton in mid-2021. The prior peak for iron ore was $187/ton when the global economy was accelerating out of the 08/09 financial crisis. Iron ore has risen 18% in 2022 although demand remains uncertain as China continues to implement it's zero Covid strategy.

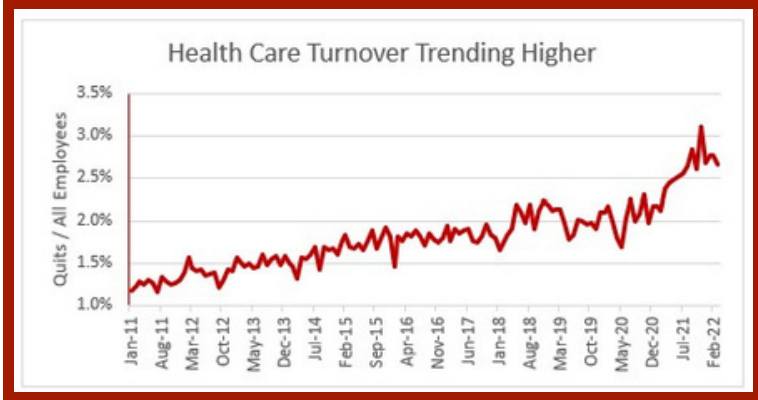
Aluminum Price Trends - Aluminum prices rallied by 37% leading into the conflict in Ukraine although prices have return to early January levels in recent weeks due to weak demand from China.

Health Care Turnover Increasing More Than Broader Labor Market

Going back to December 2000, health care industry turnover (including social workers) averaged approximately 1.7%. In the past 6 months, turnover increased to 2.8%. All industry turnover increased by a lower percentage going from 2% to only 2.9%.

Job openings as a percentage of employees is also up in the health care industry. The average openings as a percentage of jobs since 2000 is 4.6%. Current openings as a percent of jobs is 9.9%.

Takeaway: health care industry turnover is now approximately equal to all industry turnover. Historically, the health care industry experienced 11% lower turnover relative to the all industry average.



Weak Chinese demand continues to put downward pressure on a variety of metal prices

Vested Metals Inventory Update

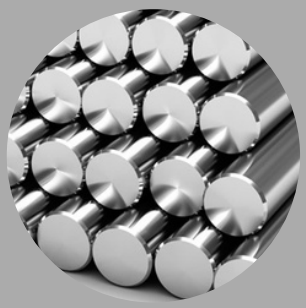
Featured Items

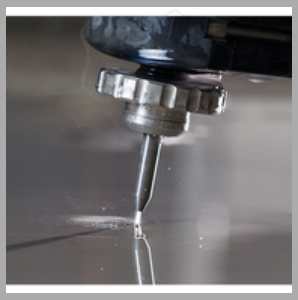
17-4 H900 Stainless Bar:

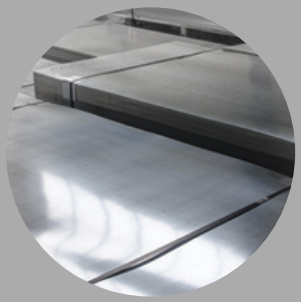
- Used in applications requiring high strength and a moderate level of corrosion resistance.
- Principal applications include surgical instruments and turbine blades.
- Stocked in a pre-hardened condition to save downstream time for aging final parts.

6Al-4V ELI Titanium Plate:

- The ELI (extra low interstitials) variant has moderately high tensile strength, good fatigue strength, and high resistance to general corrosion.
- Principal applications include medical implants, jet engine, rocket components and automotive components.







In Stock - Ready To Ship

Titanium

- 6Al-4V ELI Plate & Round Bar
- 6Al-4V Plate & Round Bar

Stainless

- 316 LVM Flat & Round Bar
- 420 Mod/X15TN (UNS 42025) Round Bar
- 455 Round Bar
- 17-4 & 17-4 H900 Round Bar, Flat, Sheet & Plate
- C465 Round Bar
- CCM Round Bar

Waterjet Cutting

- Highly versatile - Waterjet machines can cut most metals up to 18 inches thick
- Tight tolerances - Some material/thickness: +0.0625 IN, minimum tolerance: +0.040 IN
- Clean edges, no burns
- For in house material we can fill orders as quickly as 2 days

Vested Metals Line Card

What We're Reading

The 18 Minutes of Trading Chaos That Broke the Nickel Market

Iron Ore Prices May Rise on Lossening Real Estate Regulations

Metallurgy Minute

Fred McMann - Metallurgical Consultant For Vested Metals

This article is intended to give an overview of the attributes of using a Titanium Grade or a Stainless Grade of material in Medical Applications. This would include implants and surgical devices and tools, along with external fixation devices. Many implants include a combination of titanium and stainless components which the designer disseminates based on advanced criteria.

We will not go into specifics and details, but Grade 23 (6Al 4V ELI) and CP Grade 2 constitute 90+% of the usage. Titanium is characterized by a significantly higher strength to weight ratio than competing Stainless Steels. That translates to a much lighter component and in the case of hip and knee implants, the patient is much better served by limiting the weight of the implant. In many designs it also translates to a smaller component.

Biocompatibility of titanium in the human body is exceedingly well tolerated, and some would use the term, “totally immune”. Ti (titanium) properties provide implants which give a capacity for joining with bone and other tissues which is referred to as osseointegration. Another advantage is that Ti is totally non-magnetic and doesn't interfere with magnetic resonance imaging (MRI) machines.

Stainless steels are also used in implants and we will state that CCM (Cobalt-Chrome-Moly) is frequently used in knee and hip replacements in conjunction with Ti and Ceramics. Stainless alloys for implants are the aforementioned CCM, and 316LVM. Those two grades are the most frequently used implantable stainless alloys compiling about 80% of the tonnages used.

Stainless Alloys are characterized by high strength which in many cases exceeds Ti Grades by a wide margin. The density of SS (Stainless Steel) is far greater than Ti, however. SS can provide greater wear resistance in mating components than Ti alloys. External fixation devices are commonly made from SS (normally 316LVM) if they are in contact with the body, giving rise to very high strength levels from drawn small diameter bars. The same can be said for pins and sometimes plates.

SS alloys are used in surgical instruments and tools providing for unique properties for design considerations. As many as 15 different SS alloys are used in these applications, but those alloys are not intended to be implantable. They will not be covered here.

SS for implants are virtually non magnetic, similar to Ti alloys, and the biocompatibility of CCM and 316LVM are well tolerated in the body. Nickel sensitivity of SS implantable material has been discussed over the years but is not at all widespread and in recent years has not been an issue. MRI resistance is acceptable with those two alloys.
Nitinol is considered both a Ti alloy and a SS alloy having approximately 50% of Ti and nickel respectively. Nitinol is a memory shape/super elastic alloy and is non magnetic and has great biocompatibility. We will not cover that in any more detail but we wanted to at least mention it.

Medical implants, specifically the knee and hip varieties, have been refined in the last 5 years to be superior to the offerings of 15 or more years ago. While the manufacturers of the implants won't hold to this, many will last for the lifetime of the patient - many variables including lifestyle and fitness, determine longevity of the devices.

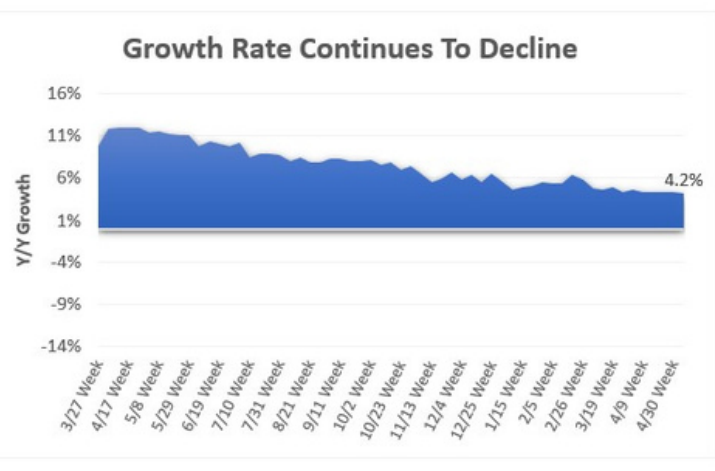
What We're Reading

China’s Covid-19 Outbreak Cools Metals Rally

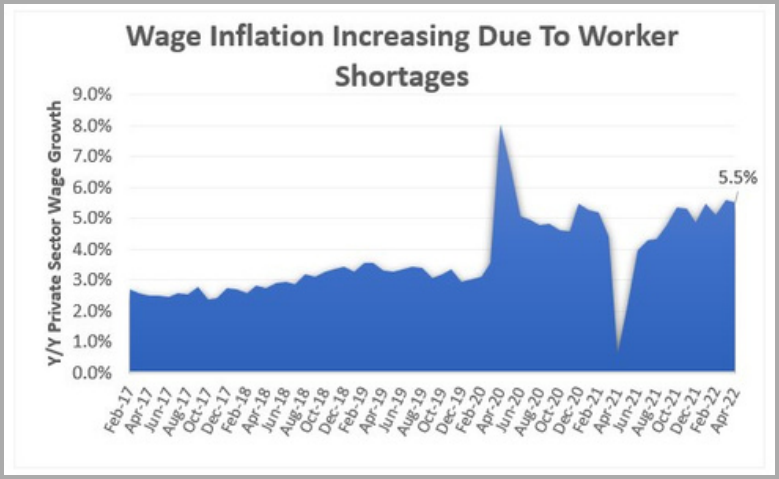
Economic Trends

Economic Indicators Of Interest

The Weekly Economic Index is composed of ten daily and weekly indicators of real economic activity and is directionally comparable to U.S GDP growth.

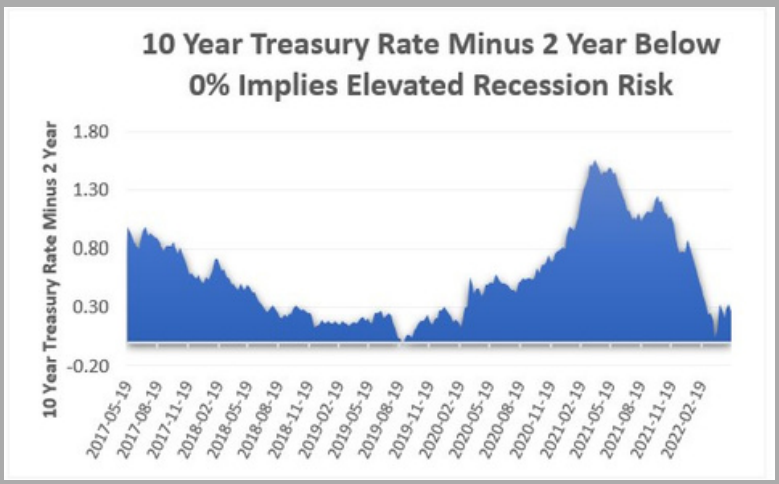


Private Sector Hourly Wage Growth measures the change over time in private sector pay rates.



Job Openings / Unemployment measures labor market supply versus demand. This ratio is a key inflation causing data point to watch.

10 Year Treasury Rate Minus 2 Year is an indicator that tends to go below 0% 6-18 months before a recession begins (2.85% 10 year minus 2.61% 2 year = 0.24%, still above 0.0% but not by much)



What We're Reading

What Higher Interest Rates Could Mean for Jobs

Vested Metals Overview

Vested Metals International is a certified customer centric metals supplier focused on locating hard to find metals. We provide various grades of titanium, stainless steel and a range of other metals. Industries we serve include medical, industrial, defense and aerospace.

Vested Metals is also an SBA 8(a) certified organization and is open to teaming agreements that can expand a company's ability to compete for government contracts.

Contact Vested Metal's Leadership Team To Learn More

VIV HELWIG

President

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E-mail: vhelwig@vestedmetals.net

Viv founded Vested Metals in 2014 and has 10+ years of experience in the metals industry.

Under Viv's leadership, Vested Metals earned a spot on Inc. Magazine's 5000 fastest growing companies list three years in a row (2019, 2020 and 2021). In 2019, the Jacksonville Business Journal named Viv to its "Ultimate CEO" list.

He earned his bachelor's degree from Flagler College where he was also awarded an honorary "Doctor of Laws" degree.

JOHN PULLIAM

Chief Operating Officer

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John is one of Vested Metal's founding investors and has 10+ years of experience as a financial professional including 5 years of experience successfully managing a hedge fund.

He received his MBA from Columbia Business School and has experience investing in commodities including copper, oil & gas, and precious metals.

RIC SNYDER

Vice President of Operations and Product Management

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Ric has 15 years of industry experience with a focus on orthopedic bar. As a product line manager he developed significant material and technical expertise in a range of raw material products.

He received his MBA from Indiana Wesleyan University and his BA from Indiana University-Purdue University at Fort Wayne.

Click To See Vested Metal's Line Card