

CASH AND CARRY: THE U.S. MINT VS. WEALTHY MAX

Chasing the elusive jackpot in America's waste stream

HONG KONG – Sharp syllables of Cantonese bite through the din of heavy truck traffic and steady beeps of a forklift as it unloads 13 tonnes of mangled U.S. clad coins—dimes, quarters and half dollars—from a freight container sitting in the center of Hong Kong's New Territories.

These coins are stuck in limbo. Unlike millions of their predecessors, they have not been returned to the United States, a voyage made possible by a century-old mutilated coin redemption program under the U.S. Mint. Their departure has been halted by the U.S. government, which has accused Hong Kong-based coin recycler and exporter Wealthy Max Ltd.—ostensibly the world's largest mutilated coin dealer—of fraud.

In a largely overlooked buyback program, the U.S. Mint has accepted mutilated and out-of-circulation coins since 1911. At a standard rate of \$20 per pound, 1 tonne of damaged clad coins, Mint-speak for a cupronickel, can be cashed in for more than \$44,000—a figure grossly exceeding any price that a Chinese smelter would pay.

With the exception of a brief period when the price of copper, nickel and zinc metal spiked, causing the scrap value of the penny and nickel to exceed their face values, the Mint's mutilated coin buyback program pretty much hummed merrily along.

However, the program hit a road bump in 2010 when a report issued by the Office of the Inspector General's Office of Investigations, part of the U.S. Treasury Department, sounded

an alarm. Mint officials became concerned after the report suggested that the buyback program "could be exploited to facilitate illegal activity ... based upon the value and frequency of mutilated coin redemptions by a relatively small number of individuals and corporations."

The seed was planted, and after a review of the program Mint officials grew suspicious of fraudulent activity and became convinced that Chinese counterfeiters were using the guise of mutilation to siphon millions of dollars worth of fake coins back into the United States through the Mint's front door. The U.S. government took action, and in 2014 seized for laboratory testing millions of dollars worth of coin shipments from Wealthy Max and two other recyclers sourcing coins from China. The results revealed the presence of aluminum and silicon metals, which are not found in clad coins.

In November 2015, to ensure the integrity of U.S. coinage, the Mint suspended the buyback program for a period of six months to assess the security and safeguard protocols put into place. Since the suspension, coin recyclers in the United States and overseas have expressed serious concerns about the resumption of the program and question



Waiting for redemption. Millions of dollars worth of U.S. coins sit in limbo, frequently in China, while their return journey to the U.S. Mint is delayed by a program suspension.

whether the piles of coins they have collected over the past four months will be redeemable after the hiatus.

U.S. waste incinerators, auto shredders and heavy media plants have told AMM that the suspension of the buyback program has had a negative impact on their businesses, amounting to an abrupt freeze of a revenue stream during the worst market cycle since the 2008 crash. Despite the hiatus, companies said they continue to sort and collect coins, hopeful that the program will be resumed in May.

MOUNTAINS OF MONEY

With the hum of heavy machinery behind them, three executives—Matthew Wong, director of Wealthy Max; Dickie Chan (Chan Kai Yan), his colleague and co-owner of Glory Smart (HK) Ltd.; and Bradford L. Geyer, a partner in the Washington and Philadelphia offices of GeyerGorey LLP, who serves as the pair's

attorney—in February prepared for a public unsealing of nearly \$7-million worth of U.S. clad coins that sat untouched inside a shipping container since the U.S. government seized the shipments more than 22 months ago.

In a bid to prove the company's innocence, Wong invited AMM to attend the unsealing and sampling of the 13 tonnes of mutilated coins in Hong Kong. During the course of the trip, AMM also had the opportunity to visit Wealthy Max's coin sorting factory in Foshan, China, and one of the many scrap reclamation facilities in the southern region of the country, where the company sources its coins.

Bagged in thick, white woven plastic and sealed in wooden boxes, the dual-metal zip ties atop each crate were cut so that the lids could be pried off with crowbars. The unsealing was overseen by Steven L. Gomez, director of

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FormerFedsGroup, a company that provides compliance, business development and trade facilitation, and a former U.S. Federal Bureau of Investigations agent hired by Geyer's law firm to conduct an investigation. Gomez was brought in as part of an offensive move to challenge the U.S. government's examination.

With a shovel and magnet in hand, Gomez tested the coins at various depths, searching for any easily detectable and unauthentic magnetic coins. Dimes, quarters and half dollars contain 8.33 percent nickel with the remainder copper, and are not magnetic.

Over the past 15 years, Wealthy Max has successfully redeemed more than 160 shipments of pennies, nickels and clad coins

U.S. MINT BUYBACK RATES

(Per pound)

Penny	\$1.4585
Nickel	\$4.5359
Clad coin (dime, quarter, half dollar)	\$20.00
\$1 coin	\$56.00

Source: Compiled by AMM from data released by the U.S. Mint.

with the U.S. Mint. The company, which participates in 23 similar buyback programs throughout the world, adamantly denies and contests the U.S. government's accusations that it participated in a counterfeit scheme to defraud the U.S. Mint of millions of dollars. It argues that an entire industry has been overlooked, with a staggering volume of coins entering the waste stream every day.

CASTAWAY COINS

All but destroyed by the recycling process, these dull metallic and at times unrecognizable coins fully live up to the definition of "mutilated currency" assigned to them by the U.S. Mint. Whether a decade's worth of forgotten pocket change buried deep in the crevice of a car seat or the random pennies tossed in a dustpan after sweeping the floor, money inherently enters the waste stream. Whatever the route, a portion of this cold hard cash is eventually captured at some stage in the recycling process.

Further investigation by AMM has revealed that shredders, heavy media plants and waste incinerators are well aware of

the presence of coinage in the recycling chain, with some companies taking special measures to capture part of this revenue stream.

On an individual basis, forgotten change might seem insignificant, little more than needles in the haystack of our country's waste stream, but on a national level the volume and value of these pennies, nickels, dimes, quarters, half dollars and dollar coins might actually accumulate faster than initially anticipated, especially when it's so easy to overlook the complex industry sorting it all.

New screening technology installed three years ago to boost Morristown, N.J.-based waste-to-energy provider Covanta Holding Corp.'s nonferrous metal recovery rate revealed the presence of a staggering number of U.S. coins, Steve Bossotti, the company's senior vice president of metals management, told AMM in an interview.

"When we started to screen and capture material, it was completely evident to the eye that there were a lot of coins," he said.

The findings prompted Covanta to conduct experiments with coins in the waste stream, and eventually led to a contract with a heavy media processor that sorts the company's nonferrous metals. A percentage of coin value sold back to the U.S. Mint by the heavy media processor goes to Covanta, Bossotti said.

The United States generates 389 million tons of trash annually, according to figures issued by the Energy Recovery Council in 2014. Of that total, some 247 million tons are landfilled, while 112 million tons are recycled or composted. Bossotti estimates that, on average, each ton of solid waste contains at least 15 to 25 cents, which suggests that in any given year, America could be discarding up to \$61.75 million in pocket change in its trash.

Added to this are the coins that numerous automotive recyclers have told AMM are found in the shredded waste stream, which includes cars, clothes washers and old vending machines.

"There's a significant amount of coins (in the shredded waste stream)," one heavy media processor said. "It's a very large

U.S. MINT COSTS FOR MUTILATED AND OTHER COINS NOT FIT FOR CIRCULATION

(In millions of dollars)



SOURCE: COMPILED BY AMM FROM DATA RELEASED BY THE U.S. MINT.

number, (but) in terms of the amount of coins its fraction of a percentage (of the total waste)."

"The U.S. Mint has an obligation to redeem damaged coins...there needs to be a mechanism to recycle coins," former U.S. Mint director Edmund C. Moy, who headed the agency from 2006 to 2011, told AMM in an interview.

ZORBA

Bent and twisted after traveling through an automotive shredder or charred from temperatures in excess of 2,000 degrees

Fahrenheit during waste incineration, most coins wind up buried in a pile of mixed metal, plastic, foam, ash and other debris after their first round of processing. From there, various segregation techniques—eddy currents, air separation, flotation or screening, as well as at least one pass with a magnet—help to refine the jumbled mess into zorba, a shredded nonferrous scrap consisting predominately of aluminum, as defined by the Washington-based Institute of Scrap Recycling Industries.

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Untouchables. Matthew Wong (left), director of Wealthy Max Ltd.; Dickie Chan (right), his colleague and co-owner of Glory Smart (HK) Ltd.; and Bradford L. Geyer (center), a partner in the Washington and Philadelphia offices of GeyerGorey LLP, who serves as the pair's attorney—in February as they prepared for a public unsealing of U.S. clad coins worth nearly \$7 million.

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Credit: American Metal Market / Brad MacAulley

After passing through the reclamation chain, most of these coins are battered, no longer machine countable and unlikely to garner much attention from passersby if noticed on a busy sidewalk.

The generation of zorba has skyrocketed the past decade, propelled by a dramatic increase in the number of auto shredders that came online throughout the United States. The term overcapacity quickly became part of any discussion involving shredders, until the lethargic recovery in metal prices over the past few years led to the temporary idling and shutdown of some of these machines.

Shipping containers are packed full of this mixed nonferrous metal every month and sold to domestic processors and overseas buyers that use an array of sorting techniques ranging from primitive hand-eye methods to complex machines and proprietary systems. Any shipments of zorba entering the international market have a high likelihood of being funneled into southern China due to the regions' ability to sort material cost effectively, suppliers said.

Tracking down a rock-hard number for zorba shipments is extremely difficult, according to Joseph Pickard, ISRI's chief economist and director of commodities, who noted that a lot of trade entries for aluminum scrap shipments are vague. "So it's not possible to tell what those shipments contain exactly," he said.

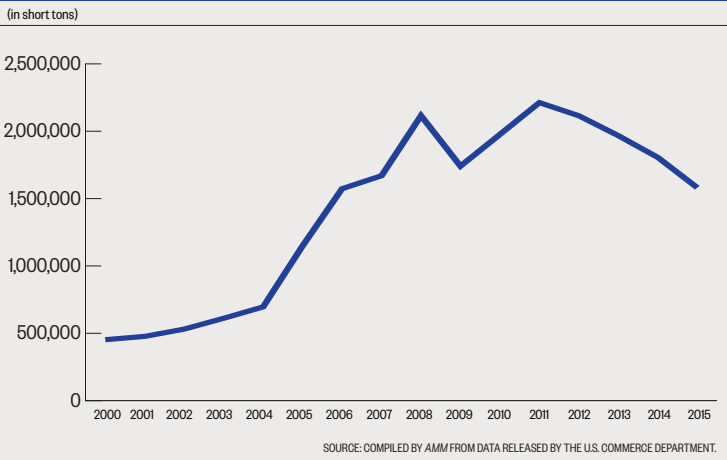
Industry veterans polled by AMM estimate that 70 to 90 percent of aluminum scrap exported to China is zorba. In 2015, the United States shipped 957,465 short tons of aluminum scrap to China (including Hong

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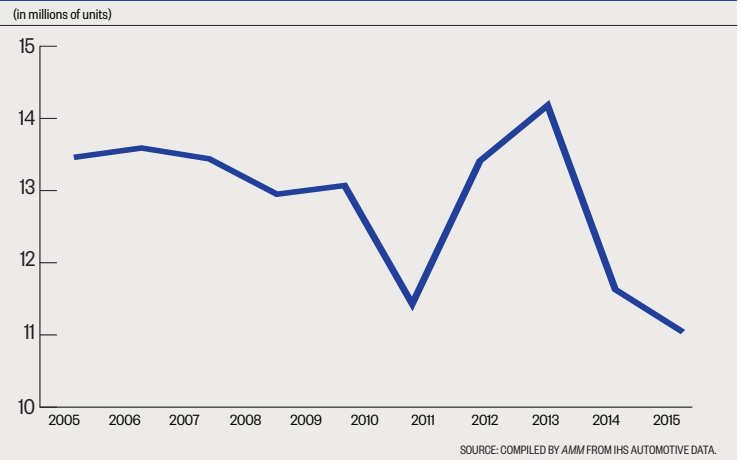


Unsealed. Wealthy Max Ltd. publicly opened and sampled 13 tonnes of mutilated U.S. coins in Hong Kong. The pennies, dimes, quarters and half dollars come from piles of metal generated by automotive shredders and via incinerated waste streams.

US ALUMINUM SCRAP EXPORTS TO CHINA



VOLUME OF US VEHICLES SCRAPPED



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Kong), down 20.4 percent from more than 1.2 million tons the prior year.

REDS, SILVERS AND GOLDS

Hidden among these container shipments of zorba are countless coins from across the world, most of which will eventually be hand sorted by color—reds, silvers and golds—by workers at a zorba processing facility and sold to coin recyclers like Wealthy Max. The other metals will be grouped and traded or melted down and cast into ingots.

Wealthy Max sources its coins from Du Chi Bu, a mutilated coin broker who handles coins from his family’s scrap operations and other zorba reclamation facilities throughout southern China. Upon delivery to his facility, the coins are washed and dried to facilitate hand sorting.

Mounds of coins from throughout the world litter long wooden tables in a dimly

lit warehouse belonging to Wealthy Max. Each of the piles is quickly picked through by workers, who in a matter of seconds can register the country, denomination and appropriate basket to toss the coin into. Like a slot machine in slow motion, the jingle of coins being hand sorted and simultaneously tossed echoes for an instant and then is suddenly muted by the sheer size of the room. Here, less than a dozen trained workers can sort through some 2 tonnes to 3 tonnes of coins each day, according to Wong.

MUTILATED MASTERPIECES

The coins redeemed under the program are either the gravy for some waste incinerators, automotive shredders and heavy media plants or the mangled masterpieces of ingenious, clandestine and presumably well funded criminal organizations rooted deep in China—or maybe

a mix of both.

What complicates the situation further is that retired die striking machinery, previously used by the Mint to manufacture coins, was sold to Chinese buyers within the past 40 years through government surplus auctions, according to American Numismatic Association museum curator Douglas Mudd. Adding to the concern is that clad coins can be reverse engineered, according to allegations made by the U.S. government in its complaint against Wealthy Max.

Coin counterfeiting is not a new issue, according to Mudd, who said that throughout history counterfeiters could generally be lumped into to three categories—artists showing off their skills, vigilantes destabilizing a country’s currency and crooks looking to ride the easy train.

Moy said without hesitation that “it’s not feasible to counterfeit most coins ... it’s

a high-volume, low-margin business. When you look worldwide, most efforts focus on high-denominated coins. ... Counterfeiting coins is a more costly and complicated process than counterfeiting paper money,” he said.

Counterfeiting something like a quarter points to a large-scale operation, according to Mudd. “The tendency today is for larger-denomination coins to get counterfeited because you get more bang for the buck.”

A counterfeiting operation targeting lower-denomination coins like quarters and dimes would need to tap into the economies of scale to lower the production costs of each coin, similar to the U.S. Mint. The agency manufactured 16.2 billion circulating coins during fiscal 2015, which ran through Sept. 30, with the unit cost of a quarter at 8.44 cents and a

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Credit: American Metal Market/ Brad MacAulley



Buried treasure. Family owned scrap operations in China look through shipping containers of mixed nonferrous metal every day.

Reclamation chain. Shipments of zorba and other mixed metal waste pass through a series of screening and flotation techniques before being hand sorted by metal grade. Coins go to coin recyclers, while the other metals will be grouped and either traded or melted and cast into ingots.



Credit: American Metal Market/ Brad MacAulley

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dime at 3.45 cents. To achieve this figure, a rate of circulating coin production not seen since pre-recessionary levels of 2006, the Mint added a third shift to the Philadelphia and Denver operations and brought on additional personnel, Matthew Rhett Jeppson, the Mint's principal deputy director, said in the agency's 2015 annual report.

Coin collectors have been particularly hit hard over the past two decades, with increasingly higher-quality counterfeits of rare coins wreaking havoc on the trade, Mudd said.

"Fifteen years ago, any Chinese counterfeit that came across the table was easy to spot; that's not the case now," he said. "Counterfeiters are getting better and better. The new generation of (counterfeit rare) coins is more difficult to distinguish. There's no technology impediment to counterfeiting modern coins, in fact it's probably easier."

REPERCUSSIONS

While Wealthy Max is not officially banned from redeeming coins through the U.S. Mint's program, the company has not sent any shipments to the United States since March 2015, according to Wong. However, over the past year it has continued to purchase and separate U.S. coins for redemption, with inventories gradually rising. Wong was unable to specify an exact volume of U.S. coins accumulating at his and other scrap facilities throughout China, but estimates the total value could easily exceed \$50 million.

U.S. waste incinerators, auto shredders and heavy media plants are just as anxious as Wong and other Chinese-based recyclers and coin dealers to have the program and its resultant lucrative revenue stream restored. On a per-pound basis, a pile of damaged coins returned to the Mint easily overshadows

most other metals pulled from the waste stream; and at a time when metals recyclers are struggling to stay afloat amid steep drops in commodities prices and lingering uncertainty about a recovery in the market, all sources of income are crucial. As a result, the piles of coins collected by U.S. companies are growing every day, with the industry literally banking on the program's resumption.

Regardless of the authenticity of the seized coins, the ripple effects from the Wealthy Max case and subsequent modifications to the U.S. Mint's buyback program could have implications for everyone involved in the mutilated coin trade. The ramifications promise to resonate from waste incinerators, heavy media processors and automotive shredders in the United States to the workers in some far off time zone who glovelessly sort through heaps of waste.

Future investigations by AMM

will feature further interviews from shredders, heavy media plants, waste incinerators and numerous other parties involved in the coin recycling industry.

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Editor's note: This story was updated March 24, 2016, to clarify that Steven L. Gomez is director of FormerFedsGroup, a for-profit sister company of non-profit FormerFedsGroup Freedom Foundation.



Credit: American Metal Market / Brad MacAulay



Hand sorting. Fewer than a dozen trained workers can sort through some 2 tonnes to 3 tonnes of coins each day, quickly dividing global coins by country and denomination.

Piling up. While other countries continue to buy back their mutilated currency, U.S. coins valued in excess of \$50 million have accumulated in scrap facilities throughout China since March 2015.



Credit: American Metal Market / Brad MacAulay