

**Using Fraud Models and Ratios to Improve Cross-Border Forensic Analysis: Examples
with Chinese IPO and RTO Companies.**

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In the United States, many of the standards for corporate governance regulation and enforcement have been developed after major scandals and financial crises. The Sarbanes Oxley Act of 2002 was passed in response to the corporate and accounting scandals in 2000-2002 involving firms such as Enron, Tyco International, Adelphia, and WorldCom. The act set new or enhanced standards for boards, management, and public accounting firms. These standards dealt with certifications of the accuracy of the financial statements, the independence of outside auditors, and an increased oversight role for boards of directors.

Eight years later in 2010, the Dodd Frank Wall Street Reform and Consumer Protection Act was passed in response to the financial institution failures and financial crisis of 2007-2010. This act brought changes to financial regulation to promote financial stability by improving the accountability and transparency in the financial system and by protecting financial consumers.

Unfortunately, neither of these acts completely prepared the U.S. for the forensic and financial analyses, corporate governance, and risk management issues that have come with increased globalization. An important lesson learned from the 2007-2010 crisis is that the world's financial and economic markets are now interrelated to a much greater extent. For example, the financial and economic problems of a relatively small country like Greece have caused major problems for the European Union, as well as the United States stock market. As another example, the failures and near failures of some United States financial institutions had major adverse consequences for the financial markets in the rest of the world.

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The impacts and the associated problems of this increased globalization are now evident in the world's investment markets. As more and more stocks of foreign companies are listed on international exchanges, the risks of the lack of corporate governance, control, and risk management are increased. For example, while foreign firms that list on a United States stock exchange have to comply with Sarbanes Oxley and Dodd Frank, the regulations of their home countries may dilute some of the regulatory protection expected from these United States acts.

This paper will examine a number of Chinese company stocks that have been listed on United States exchanges with either initial public offerings (IPOs) or reverse mergers, often called reverse take-overs (RTOs). Their shares were initially well received in the market, especially as China's economy continued to grow at rates much higher than the rest of the world's countries, with increasing stock prices creating significant gains for their investors. However, in spite of these firms' apparent compliance to the U. S. regulations, there is now evidence of fraud, poor auditing, and a lack of corporate control. The resultant stock price declines have led to billions of dollars of losses for investors, and some of these Chinese firms have subsequently been delisted by U. S. stock exchanges. In this paper, we will show that had auditors, boards of directors, and financial analysts, as well as forensic accountants, used some well accepted fraud models and ratios, these problems could have been identified earlier than they were. Perhaps some of the investors' losses could have been prevented.

Major U.S. Listed Chinese Company Frauds

On April 4, 2011, Luis Aguilar, one of the five commissioners of the U.S. Securities and Exchange Commission (SEC), reported that there were 150 reverse merger transactions between 2007 and early 2011 in which Chinese companies merged with U.S. domiciled shells to obtain a listing on a U.S. stock exchange. A reverse merger or RTO is a backdoor strategy in which a

Chinese or other non-public company buys a public U.S. shell company and assumes its stock ticker, thus avoiding an S-1 registration statement for an IPO as required by the SEC and related expensive investment bank and other fees. A shell company is practically extinct but it is incorporated and, in some cases, its listed stock is maintained by an owner or speculator for sale to an interested party.

Shell companies are marketed to Chinese companies as a quick and easy way to obtain an overseas listing without SEC scrutiny. An example of such scrutiny was the Groupon IPO. The SEC required three revisions or amendments to Groupon's S-1 registration statement, primarily to eliminate the gross (versus) net revenue method and to eliminate Groupon's newly created profitability metric: Adjusted Consolidated Segment Operating Income (ACSOI) which really meant just keep adding back enough expenses until a net loss is converted into a net profit! Groupon's estimated IPO of \$30 billion subsequently became an actual IPO of \$16.5 billion. ("The Missed Red Flags on Groupon," A. R. Sorkin, The New York Times, October 17, 2011.)

The following five major Chinese IPO and RTO companies had listed on U.S. stock exchanges, and they represented approximately 20% (\$4.1 billion) of the \$21 billion market capitalization (cap) destruction by Chinese companies listed in North America. These five firms were all mentioned in an article about five major short sellers who published research reports exposing Chinese financial reporting fraud. One of these short sellers, listed as Muddy Waters Research, said that his success had made him and his wife a target for threats, and he had recently moved his main base to the West Coast from Hong Kong but did not exactly say where. Also, he increased security measures, including removing his firm's phone number from the Muddy Waters Research website and listing a false address. ("The Shorts Who Popped a China Bubble," D. Bases, R. Vlastelica, C. Baldwin, and M. Bendeich, Reuters, August 5, 2011).

The five Chinese companies analyzed in this paper are Longtop Financial Technologies, China MediaExpress, Harbin Electric, China-Biotics, and Deer Consumer Products. The only IPO was Longtop as the other four companies were RTOs. Longtop represented over one-half (\$2.4 billion) of the \$4.1 billion market cap destruction by these five companies and over 10% of the \$21 billion market cap destruction by Chinese companies listed in North America. As a result of possible Chinese financial reporting frauds, some of these companies were delisted by U.S. stock exchanges, some of their auditors quit, investors filed class action lawsuits, and the U.S. SEC pursued investigations. Brief circumstances of each of the five firms follow.

Longtop Financial Technologies Ltd.

On October 23, 2007, Longtop Financial Technologies Ltd. went public on the New York Stock Exchange (NYSE) and sold 10.4 million American depositary shares at \$17.50 per share, raising \$182 million. By the end of the first day, the stock had risen to \$32.40 per share. Goldman Sachs and Deutsche Bank led this initial public offering (IPO) with Deloitte Touche Tohmatsu, a “Big 4” audit firm, serving as the auditors. Longtop was a Chinese software developer and technology services provider based in Xiamen, China. It provided technology services and created both standardized and custom-designed software for banks in China, including three of the four largest state-controlled banks: China Construction Bank, Agricultural Bank of China, and Bank of China. Morgan Stanley led a 2009 secondary offering of more shares. In November 2010, Longtop’s market capitalization peaked at \$2.4 billion (56 million shares at \$42.86).

On April 26, 2011, Andrew Left of Citron Research, a short seller, published a report on his website, accusing Longtop of widespread fraud: “Citron introduces a story that has all the markings of a complete stock fraud---with off balance sheet transactions that created outsized

margins and management with backgrounds unsuitable to run a public company. The most obvious risk factor in the China space, and the factor that has linked so many of these collapsed stocks, is obviously that the story is too good to be true. In this report, Citron outlines several concerns which should be considered by the auditors as they prepare Longtop's annual audit. It is the opinion of Citron that every financial statement from its IPO to this date is fraudulent...read on to understand." (Citron Research Report, "Citron Reports on Longtop Financial," April 26, 2011.)

Major topics in Citron's report were margins far in excess of competitors, an unconventional staffing model, key management background misdeeds, non-transparent management transactions, and a note to analysts: "Citron says do what you are paid to do...Start ANALYZING. The last thing Wall Street needs is more discounted cash flow analysis based on asking for management's forecasts. Citron challenges you to answer these concerns without starting with the phrase: after discussions with management. Do Longtop's margins truly pass the smell test in cost-competitive China? Does the staffing story make perfect sense to you? How about management's stock gifts? If not, what are the risks of massaged revenue recognition and/or the ugly implications of related party impacts on acquisitions, cost accounting, and stock transactions?" Citron's report also noted nonsensical answers the company had given which left critical investors thinking "they are just making it up as they go along." Also, Citron and other short selling research firms were asking why Longtop needed such large amounts of cash and they were even questioning whether such cash existed. ("The Shorts Who Popped a China Bubble," D. Bases et.al., Reuters, August 5, 2011).

On April 28, 2011, Longtop's Chief Financial Officer (CFO) tried to reassure financial analysts that the fraud claims were bogus. He wrapped himself in the prestige of his company's

auditor, Deloitte, a “Big 4” audit firm, saying that those who questioned Longtop were “criticizing the integrity of one of the top accounting firms in the world.” He also said that his relationship with Deloitte was “very close, third only to his relationship to his family and the CEO.”

On May 4, 2011, Longtop’s CFO resigned his post as head of the audit committee of the heavily anticipated Renren IPO. Also, a Morgan Stanley analyst wrote: “Longtop’s stock price has been very volatile in recent days amid fraud allegations that management has denied. Our analysis of margins and cash flow gives us confidence in its accounting methods. We believe market misconceptions provide a good entry point for long-term investors.” At the time of these reports, Deloitte was in the process of completing its Longtop audit for the fiscal year ending March 31, 2011. It had previously given unqualified or clean audit opinions to Longtop for six consecutive years and apparently was well on its way to providing a seventh clean opinion. (“The Audacity of Chinese Frauds,” F. Norris, The New York Times, May 26, 2011).

On May 9, 2011, Citron Research posted another Longtop report: “How could anyone charged with verifying the accuracy of Longtop’s Financials look at these documents and dismiss the reasonable concern (not to mention professional skepticism) that Longtop’s largest expense line item is being transacted through a related party with full transparency?...Lastly, it is Citron’s opinion that believing an unrelated third party ran your human resource business to make \$30,000 a year (according to filings) is as crazy as believing that a Chairman of a company would just give away \$80 million in stock to his employees because money doesn’t really mean that much to him (as per the CFO’s explanation). We hope this can end any debate as to whether the company has been deceiving its investors. It is not the time to host any more conference calls or cover ups. The excuses have run their course. It is now time to confess, let the auditors

figure out the necessary restatements, and let the real Longtop Financial Technologies stand up.” (Citron Research Report, “Longtop Financial Final Proof of Undisclosed Related Party Transactions,” May 9, 2011.)

On May 17, 2011, Deloitte did not say why but expanded its procedures related to cash, the largest balance sheet item. Cash totaled \$423 million or 57% of Longtop’s assets. Within hours of beginning this new round of cash confirmations to bank headquarters, rather than to the local branches that had previously confirmed Longtop’s cash balances, Longtop stopped the confirmation process and told the banks that Deloitte was not really its auditor. Despite these Longtop efforts, Deloitte learned that Longtop did not have the cash it claimed and that there were also significant bank borrowings not included on Longtop’s books. In the U.S., electronic audit confirmations have been adopted by more than 8,000 accounting firms and all of the Top 10 banks. In China, the Big 4 and other auditing firms and the Big 4 banks need to get together to work out a system for online confirmations. (“Auditing Cash in China,” P. Gillis, China Accounting Blog.com, April 20, 2011.)

On May 20, 2011, Longtop’s chairman told Deloitte’s Eastern Region Managing Partner that “there were fake revenue in the past so there were fake cash recorded on the books.” The chairman did not answer when questioned as to the extent and duration of the discrepancies. When asked who was involved, he answered: “senior management.” Such irregularities resulted in Deloitte resigning and the NYSE suspending trading of Longtop’s stock. The final trade on the NYSE was at \$18.93 for a market capitalization of \$1.1 billion versus the peak of \$2.4 billion just six months earlier (“The Audacity of Chinese Frauds,” F. Norris, The New York Times, May 26, 2011).

On May 22, 2011, Deloitte sent a resignation letter to the chairman of Longtop's Audit Committee who was also the CFO of NYSE-listed Xinyuan and a director of NASDAQ-listed eLong. Deloitte wrote that "we bring these significant issues to your attention in the context of our responsibilities under Statement on Auditing Standards (SAS) No. 99, Consideration of Fraud in a Financial Statement Audit. The reasons for our resignation include: 1) the recently identified falsity of Longtop's financial records in relation to cash at bank and loan balances and also now seemingly in the sales revenue, 2) the deliberate interference by the management in our audit process, and 3) the unlawful detention of our audit files. These recent developments undermine our ability to rely on the representations of the management which is an essential element of the audit process; hence our resignation." ("Longtop Teaches Deloitte How to Discover A Chinese Stock Fraud. Again," B. Bishop, digicha.com, May 22, 2011).

May 25, 2011, a lawsuit, alleging Longtop overstated profit margins and concealed adverse facts, was filed by the New York-based Rosen Law Firm. This firm had previously filed about 20 investor suits against Chinese companies listed in the U.S. by reverse mergers or reverse take-overs (RTOs). At least 370 reverse merger companies had obtained U.S. listings since 2004.

On August 29, 2011, the New York Stock Exchange delisted Longtop Financial Technologies Limited finding that the American depositary shares were no longer suitable for continued listing and trading.

November 11, 2011, the SEC charged Longtop with failing to comply with its reporting obligations because it failed to file an annual report for its fiscal year that ended March 31, 2011. Furthermore, Longtop's independent auditor stated in May 2011 that its prior audit reports on Longtop's financial statements contained in annual reports for 2008, 2009 and 2010 should no

longer be relied upon. The SEC previously had filed a subpoena enforcement action against Deloitte Touche Tohmatsu CPA Ltd. in Shanghai for failing to produce documents related to the SEC's investigation into possible fraud by Longtop, the audit firm's longtime client.

China MediaExpress Holdings, Inc.

On October 18, 2007, China MediaExpress Holdings, Inc. did a reverse merger or reverse take-over (RTO) to become a publicly traded company in the U.S. Its business consisted of placing television screens on Chinese buses in China and selling advertising on such screens. It was in the development stage until 2009.

On December 4, 2009, the company engaged Deloitte Touche Tohmatsu, Hong Kong, a Big 4 audit firm, to serve as its independent auditor, effective immediately upon this same-day dismissal of its prior auditors, who had issued clean audit opinions on the 2008 and 2007 financial statements.

On March 10, 2010, Deloitte issued a clean audit opinion for the 12/31/2009 financial statements. However, Deloitte was not engaged to re-audit the 2008 or 2007 financial statements but only to review the retrospective adjustments to the 2008 and 2007 financial statements to revise earnings per share calculations which it said were appropriate. Also, the nine month, September 30, 2010, financial statements were the last ever issued to the SEC by China MediaExpress.

On January 28, 2011, China MediaExpress shares traded at a 52-week high of \$23.97. Australian short seller, John Hempton, noted a key red flag for China MediaExpress: how exactly could such a simple business model earn the company \$31 million on \$57 million in revenue for the third quarter of 2010? He called it, "the fattest margin and fastest growth media

company I have ever seen.” (M. Weinschenk, “Another Day...Another Chinese Scam Stock,” Wall Street Daily Insider, March 16, 2011.)

On January 30, 2011, Citron Research explicitly called China MediaExpress a “phantom company.” While digging into industry reports on mass transit advertising in China, Citron found no references to China MediaExpress. Articles that listed industry competitors didn’t list China MediaExpress, despite the fact that the company claimed \$155 million in revenue for the nine months ended September 30, 2010. The company also claimed double the revenue per television screen as its competitors.

On February 3, 2011, the short seller, Muddy Waters Research, alleged more improprieties. Among them, it said the company only booked \$17 million in revenue for 2009 with the SAIC (State Administration for Industry and Commerce of the People’s Republic of China) while reporting \$95.9 million in its 10-K report to the SEC. It also said that the company was lying when it claimed to have a deal with Apple.

On February 7, 2011, the company released a letter, basically reaffirming its financial statements and operating practices.

On March 11, 2011, NASDAQ halted trading in China Media Express shares, pending a company announcement.

On March 13, 2011, another short-seller, The Financial Investigator, posted a video that it claimed was a tour of the China MediaExpress offices. The video featured sleeping employees, empty offices, and a business that was not the growth machine that China MediaExpress claimed.

On March 14, 2011, both the company’s CFO and Deloitte resigned. Based upon these resignations, the company then filed a notice of late filing for the 12/31/2010 financial

statements with the SEC. China MediaExpress shares then traded at \$11.88. Subsequently, the company admitted that Chinese branch bank managers had falsified cash confirmations, just like the Longtop scandal. (M. Weinschenk, “Another Day...Another Chinese Scam Stock,” Wall Street Daily Insider, March 16, 2011.)

On May 1, 2011, NASDAQ delisted China MediaExpress’s shares.

On March 1, 2012, the SEC deregistered China MediaExpress’s securities.

On January 31, 2013, a Hong Kong arbitration panel ruled that China MediaExpress was a fraudulent enterprise and awarded a shareholder \$77 million in damages.

On June 1, 2013, the SEC charged China MediaExpress and its CEO with misleading investors. The SEC asserted that the company misrepresented its cash on hand: the 2009 annual report reported cash of \$57 million but was actually \$141,000 and in the third quarter of 2010, the cash was reported as \$170 million but was actually \$10 million. The company’s audit committee hired a forensic accountant from Hong Kong to investigate and the company’s CEO offered a \$1.5 million bribe to the investigator which was rejected and reported to authorities.

Harbin Electric, Inc.

On August 20, 2005, Harbin Electric became a public company in the U.S. after completing an RTO. Headquartered in Harbin, China, Harbin Electric developed and manufactured electric motors, including rotary motors, linear motors, and specialty micro-motors. The company had manufacturing facilities in Xian, Weihai, Harbin, and Shanghai, China. It was a development stage company until 2005.

On October 1, 2010, the Harbin Electric CEO and a private equity firm made a \$750 million buyout offer to take the company private.

On June 16, 2011, Citron Research posted a report on Harbin Electric, claiming a buyout loan fraud and the documents to prove it. It said that the future of Harbin's stock price was currently propped on the crutch of a purported \$24 per share buyout offer from its Chairman/CEO who owned 40% of the common stock. It stated that the Harbin Chairman/CEO had a history of fraudulent loan guarantee documents. It claimed the offer was a sham with the CEO obtaining a signature loan for \$400 million to buy out the remaining 60% of publicly-held shares at a 40% premium. The purported lender bank, China Development Bank, had become associated with China stock frauds, most recently the Sino-Forest fraud. Citron questioned what bank would provide hundreds of millions of dollars in high-risk financing to fund a huge premium to pay off U.S. investors. Citron said that Harbin Electric's SAIC filings showed losses for both 2009 and 2010 while its SEC filings showed profits of \$20 million and \$77 million, respectively. Citron also claimed that the company had significantly understated its liabilities and overstated its revenues in SEC filings as compared to its SAIC filings. (Citron Research Report, "Harbin Electric: Loan Fraud and the Docs to Prove It," June 16, 2011.)

On June 25, 2011, an Asian Times reporter also questioned this buyout offer, saying the NASDAQ stock price was still stubbornly stuck at about \$15 per share. He pointed out that in recent months, bashing and shorting Chinese RTOs had become something of a cottage industry. As a result of RTO transgressions, investigations, and short-sellers' attacks, Bloomberg's Chinese Reverse Merger Index had declined over 40% in the last year. He wrote that "for some Chinese RTOs, the trip to Wall Street has turned into a prolonged swim in a sewer of suspicion, innuendo, disdain, and exposure and prospects of U.S. financing that, if available, would be grudging, onerous, and expensive. It is therefore not too surprising that Harbin Electric's CEO

might decide to extract his company from the RTO morass by taking it private.” (P. Lee, “Another Sewer Swim for Harbin Electric,” Asia Times, June 25, 2011.)

On September 22, 2011, another short seller wrote about the customer footnote in Harbin Electric’s 2010 annual report, saying that his firm reads such footnotes to seek insights about revenue concentration and potential threats to corporate balance sheets and cash flow statements from problematic receivables. He found that Harbin did not have the customer volume that was claimed in this footnote which disclosed that Jiangsu Liyang Car Seat Adjuster Factory was its second largest customer, accounting for 10% (\$22 million) of 2009 revenues and 16% (\$19 million) of 2008 revenues. This short seller hired an American investigator living in Beijing to conduct interviews with this customer, posing as a buyer for a fictional American auto parts wholesaler. He found out that this customer barely did any manufacturing of electric car-seat adjusters and that what little electric business it did was primarily with a China-based unit of Johnson Controls. This customer said that 98% of its business was selling manual, not electric, car-seat adjusters and its total sales were \$27 million in 2009 and \$30 million in 2010. Thus, the electric motor sales to this customer that Harbin asserted “represents a big disconnection.” (R. Boyd, “Harbin Electric: The Annuals of Fraud,” seeking alpha.com, September 22, 2011.)

On November 1, 2011, NASDAQ suspended trading of Harbin Electric stock and filed a notification of removal of listing and registration with the SEC.

On November 3, 2011, Harbin Electric completed closing of its going private transaction and became a privately-held company. No final details of the \$750 million transaction were provided.

On December 1, 2011, the company’s auditor, Frazein Frost, agreed to be shut down by the SEC without admitting guilt. This firm had issued clean audit opinions for Harbin’s financial

statements from 2006 through 2010. The SEC said the reason for the auditor shut-down was improper professional conduct in connection with the annual audits and quarterly reviews of the company's financial statements.

China-Biotics, Inc.

On August 10, 2006, China-Biotics became a public company in the U.S. after completing an RTO and was in the development stage until 2007. It was a Shanghai-based maker of probiotic yogurt cultures.

On August 30, 2010, Citron Research issued a very negative report on China-Biotics which stated: "It would be easy to look at the gross discrepancies between the company's SAIC and SEC filings. It would also be possible to show pictures of the half-finished over-budget manufacturing facility side-by-side with company claims that it was already in production or the photos of their current production facilities the size of a bathroom where the acidophilus pills drop out of a machine two by two. Most compelling, it would be simple to question how a company who sells the bulk of their product through distributors, who then purportedly resell them to Wal-Mart (as claimed by China-Biotics) can generate EBITDA margins of 40-45% when their competition is at 27% max." ("China-Biotics Mentioned Negatively At Citron Research," R. Nachman, Benzinga.com, August 30, 2010.)

On September 14, 2010, Citron Research issued another report. It said that it had been writing about stock fraud the last nine years and admitted that it has made research mistakes but has never been wrong about a fraud. Thus, "Citron is confident to state China-Biotics is a fraud. If we are lying, then please sue us and we will prove it in court. Or, put out a press release defending yourself and explicitly blame Citron Research, and we will sue you proactively to

prove that you are committing securities fraud on the investing public.” Citron questioned the network of 111 retail stores claimed by China-Biotics in years’ worth of SEC filings and determined that their list of “branded stores” were not stores; 95% of them were just supermarkets and retail outlets that carried China-Biotics products on small shelf space or did not carry such products at all. Citron then hired two private investigators to take pictures and prove what Citron knew. Citron noted that China-Biotics claimed to have \$160 million in the bank in its June 2010 SEC filing yet reported interest income of just \$87,876 (0.0005%) while interest rates on free cash balances in China earn 1% for 3 month to 1 year term deposits. Citron also noted large differences in the 3/31/2008 SAIC and SEC filings which were too large just to be due to different reporting standards as follows:

	<u>SAIC</u>	<u>SEC</u>
Cash	\$ 100,000	\$ 64,300,000
Accounts Receivable	1,000,000	13,200,000
Revenues	500,000	42,300,000
Gross Profits	200,000	30,000,000
Net Income	(1,200,000)	17,500,000

Such large discrepancies between SAIC and SEC financial reports have served as warning signs or red flags for potential fraud among other Chinese companies as well. Citron concluded: “As far as lying to the Chinese government but not the SEC, you want us to believe that management who lives and pays taxes in China, where white collar crime can be punishable by death, will lie to the Chinese government but they will not lie to the SEC?” (Citron Research Report, “China-Biotics is a Fraud—Now Sue Citron—We Dare You,” September 14, 2010.) For example, Zeng Chengjie, a Chinese businessman, was executed on July 12, 2013 by lethal injection for illegal fundraising and financial fraud. He allegedly defrauded more than 57,000 investors out of \$460 million of which he had already returned \$280 million, or 60%, at the time of his execution, as compared to Bernie Madoff’s lifetime jail sentence for his \$50 billion Ponzi

scheme. (“China’s Bernie Madoff Was Executed for Fraud---and Nobody Told His Family,” R. Lu, The Atlantic, July 16, 2013.)

On September 15, 2010, China-Biotics released a press release commenting on its stock. The company didn’t defend their alleged stores claim explicitly but instead stated that there were “market rumors” and blamed the shorts for stock price declines, similar to Enron’s strategy. Citron commented: “Don’t forget the old adage: at every poker game there is a sucker, and if you don’t know who the sucker is, it is you!” (Citron Research Report, “China-Biotics is a Fraud—Now Sue Citron—We Dare You,” September 14, 2010.)

On June 15, 2011, NASDAQ halted trading in China-Biotics stock when the company failed to file its 10-K annual report with the SEC.

On June 24, 2011, China-Biotics’s CFO resigned and its auditor, BDO Limited, also resigned, citing irregularities it discovered that “likely constitute illegal acts.” BDO said that its auditors, attempting to review online bank records, were directed by staff of China-Biotics to “access a suspected fake web site” that supposedly belonged to the bank in question where the company kept one of its major cash accounts. In its 3/31/2010 balance sheet, the company had reported \$156 million in cash which was approximately 150% of its market cap. Also, BDO stated that the company had forged sales documents and misstated interest income and failed to take “appropriate remedial actions.” BDO had been the company’s auditor for the last three financial years, March 31, 2008-2010, and had issued clean audit opinions for all three year but refused to certify the March 31, 2011 numbers. Also, on this day, NASDAQ delisted the China-Biotics stock. (“China-Biotics Fraud Casting Doubt on All Chinese RTOs,” I. Bezek, seeking alpha.com, June 24, 2011.)

On July 18, 2011, an investor lawsuit was filed against China-Biotics.

On October 8, 2013, China-Biotics asked the SEC to reinstate its securities registration which was revoked in 2012 by the SEC because the company failed to file some of its required financial reports. The company said it had hired a new auditor, filed all of its missing reports, and was now fully up-to-date in its filings. An attorney from the SEC's enforcement division urged the SEC commissioners not to reinstate the company, saying that the company had refused to identify when its filings would become current and had taken over a year to fix these issues. As of June, 2013, the SEC had filed more than 65 fraud cases and deregistered the securities of more than 50 companies, including China-Biotics. ("Deregistered Chinese Company Asks U.S. SEC for a Second Chance," S. Lynch, Reuters, October 8, 2013).

Deer Consumer Products, Inc.

On September 10, 2008, Deer Consumer Products, Inc. became a public company in the U.S. after completing an RTO. The company was a manufacturer of blenders, juice makers, soymilk makers, and rice cookers. Its auditor was Goldman, Kurland and Hohidin LLP, a favorite auditor for Chinese RTOs per Alfred Little, a short seller.

On June 1, 2009, the company was up listed to NASDAQ. It had been a development stage company in 2007.

On March 9, 2011, Alfred Little issued his first report on Deer Consumer Products. He wrote that the company had impossibly high gross margins and operating margins at the same time as very low selling expenses. Also, the return on investment was impossible on a \$40 million plant. He had hired an independent third party research group in China. They counted the number of brands and prices at various Suning stores, mentioned as one of Deer's product sellers in its December, 2010 financial statement notes. The researchers found that Deer products were not available at these stores. Also, Little challenged Deer's revenue recognition policy on a

“commission basis” at other distributors’ stores and asserted that Deer should wait to recognize revenue until its products were sold in these stores, not at the point of shipment to these stores, which he called “channel stuffing” and not permissible under U.S. generally accepted accounting principles (GAAP). Accordingly, he noted a disconnection between net income and operating cash flow. (“Deer in Headlights: Latest Alleged Chinese Reverse Merger Fraud,” T. Durden, zerohedge.com, March 9, 2011.)

On March 14, 2011, Alfred Little issued his second report on Deer Consumer Products. He claimed Deer had substantially inflated both sales and profit margins and had failed to disclose direct competition from entities related to its chairman. His report was organized into the following sections: high profit margins are impossible, extensive 10-city, 60-store channel check confirms very weak domestic retail sales, questionable revenue recognition inflates sales and accounts receivable, 2009 SAIC filing shows a much smaller and less profitable business, and direct competition from Deer’s chairman who is an unconsolidated related party. (“The Problems With Deer Consumer Products,” A. Little, seekingalpha.com, March 17, 2011.)

On March 21, 2011, Alfred Little issued his third report on Deer Consumer Products. He wrote: “Virtually every fraudulent company I have uncovered finds ways to steal money from its U.S. investors. Deer appears to be no exception.” In its 10Q filed November 10, 2010, Deer disclosed that it had purchased \$22.2 million of land use rights for construction of a new factory (inflated to \$23.2 million under Intangible Assets). Little stated that his legal team in China discovered that the direct purchaser of this land right use was a new subsidiary recently set up by Deer and that official records showed a purchase price of \$11.3 million, not \$22.2 million. He wrote: “It was insane for Deer to buy land to build a new factory when it still had a lot of excess capacity. Existing facilities can support \$320 million in revenue versus \$174 million revenue

estimated for 2010. So it was of little surprise to me to find Deer exaggerated the cost of this land purchase by almost 100%. The money was either diverted (stolen) for some other purpose or the cash never existed in the first place---either scenario at Deer is possible.” (“Deer Consumer Products Report,” A. Little, sbwire.com, March 21, 2011.)

On April 30, 2011, a securities class action lawsuit was filed against the company and certain directors and officers. Plaintiffs charged that Deer had misrepresented its financial performance, business prospects, and financial condition to investors, citing inconsistent Chinese regulatory filings versus U.S. regulatory filings and GAAP.

On May 2, 2011, Deer issued its own press release and asserted that it had “evidence of continuing illegal short selling in its stock and also asserted that its common stock has been manipulated in collusion among naked short sellers.” The press release also asserted that the class action lawsuit was part of the attempted manipulation. Deer further asserted that “the supposed analyst, Alfred Little, is a fictitious character whose phony identity is a disguise used by one or more illegal short sellers in the short seller sale scheme.” Deer claimed that the purported reports of Alfred Little were “published in collusion with short sellers to intentionally create fear in the general public to drive down Deer’s share price.” The press release also asserted that all of the allegations in the supposed Alfred Little reports were false and that the company intended to seek sanctions against the law firm that filed the lawsuit. (“Are Short Sellers Fabricating the Accounting Fraud Allegations Involving U.S.-Listed Chinese Firms?” dandodiary.com, May 3, 2011.)

On September 6, 2011, Chinese officials confirmed that both Harbin Electric and Deer Consumer Products committed multi-million dollar land fraud. Both companies had listed their land right uses under intangible assets, starting in 2007 for Harbin Electric and 2010 for Deer.

(“Chinese Government Officials Confirm HRBN and DEER Committed Multi-Million Dollar Land Fraud---Time for U.S. Regulators to Act,” A. Little, labemp.wordpress.com, September 6, 2011.)

On August 13, 2012, NASDAQ halted trading in Deer Consumer Product shares. Alfred Little had hired an independent third party to visit Deer’s two Yangjiang factories. He took pictures and noted that there was no sign of any production activity or workers, other than security and maintenance personnel. (“Deer Consumer Products Shares Halted After Factories Idled,” A. Little, seekingalpha.com, August 14, 2012.)

On October 2, 2012, NASDAQ delisted Deer Consumer Product shares for the following reasons: 1) Deer had made false and misleading disclosures regarding the operational status of its manufacturing facilities in Yangjiang, China, 2) Deer had failed to provide complete responses to NADSAQ staff’s questions regarding the Company’s customers, suppliers, and shippers, and 3) Deer was involved in a scheme to illicitly transfer corporate funds to a group of stockbrokers through a bogus consulting contract. (“The Bell Tolls For Deer Consumer Products,” A. Little, seekingalpha.com, October 10, 2012.)

On March 10, 2013, an investor filed a class action lawsuit against Deer’s auditor, Goldman Kurland and Mohidin, who had issued clean audit opinions for Deer’s financial statements in 2007 through 2010. The lawsuit alleged that Deer’s revenues were overstated in 2009 and 2010.

On April 1, 2013, a partial settlement of the securities class action lawsuit against Deer was reached for \$2,125,000.

Cross-Border Forensic Analysis Approach

A cross-border forensic analysis approach is advocated here as “lessons learned” from major Chinese company frauds in the U.S. stock markets. As Howard Schilit, a forensic accountant and financial analyst, has observed: “I read recently that the one lesson we have learned from history is that we have learned nothing from history. Yet my mantra remains that in order to find fraud, we must study the history of fraud. A common element in major frauds is that their warning signs were not hard to find; in fact, they were hard to miss.” (“Financial Shenanigans: Detecting Accounting Gimmicks that Destroy Investments,” H.Schilit, CFA Journal, December 2010, pp. 1-8). Another forensic accountant, Gordon Yale, recently commented: “All auditors must be forensic accountants in order to fulfill the responsibilities of SAS No. 99, Consideration of Fraud in a Financial Statement Audit.”

Six well known ratios and models for fraud prediction are advocated for use by financial analysts, forensic accountants, auditors, and risk managers. They are applied to five major Chinese IPO and RTO companies that had listed on U.S. stock exchanges. As noted earlier, these companies represented approximately 20% (\$4.1 billion) of the \$21 billion market capitalization destruction by Chinese companies listed in North America, and Longtop by itself represented over one-half (\$2.4 billion) of this \$4.1 billion destruction. Refer to the Appendix for explanations of these six ratios and models: Quality of Earnings, Quality of Revenues, Sloan Accrual, Altman Bankruptcy, Beneish, and Dechow Fraud Models.

Apply Fraud Models and Ratios for Red Flags Concerning Fraudulent Financial Statements at 5 Chinese IPO and RTO Companies

Were there any “warning signs” of fraud at Longtop from the IPO onward?

Using these six red flag ratios and models as an initial screening point, Longtop had six or seven red or yellow flags out of eleven possibilities (55% or 64%) in each of the four years, 2007-2010, that it was a public company before its delisting in August, 2011. See the following table. The yellow flags come from the uncertain ranges between non-manipulator companies and manipulator companies in the Old (Beneish) Fraud Model’s five input indexes or variables. More importantly, both the New (Dechow) and Old (Beneish) Fraud Models predicted fraud for Longtop in every year that it was public, 2007-2010, just as the Citron research reports had predicted!

Furthermore, to point out a specific potential fraud area, the Quality of Revenues Ratio also showed red flags in every public year, 2007-2010. Thus, forensic accountants, financial analysts, auditors, and risk managers could have expanded their work for investigating revenues and corresponding accounts receivable and/or cash inflows. Another red flag for expanding such work in these same areas was Beneish’s Sales Growth Index (SGI) which was either a yellow or red flag in all four public years, 2007-2010. A related red flag for these revenue recognition concerns was the issue raised by various short sellers. They were asking why Longtop needed such large amounts of cash and were even questioning whether such cash existed. A simple calculation of Longtop’s percentage of total assets in cash revealed the following for the four public years, starting with 2007 through 2010: 58.3%, 75.6%, 70.4%, and 54.8%, respectively. As previously noted, this percentage was 57% in Longtop’s preliminary 2011 balance sheet before the audit was terminated.

Interesting learning opportunities can also be derived from analyzing why a red flag model or ratio did not work. The major example here is the Altman Bankruptcy Model which did not predict bankruptcy in any of the four public years, thus supporting Deloitte's clean opinions with respect to any going concern or bankruptcy problems. The X4 input variable (Market Capitalization / Total Liabilities) is typically the main driver of Altman's five input variables. This variable contributed from 75% to 93% of the non-bankrupt prediction scores in Longtop's four public years, as shown in the following table. Such results typically reflect a lack of independence from the investment banks' "sell-side" analysts who help keep the stock price (and market cap) high for possible future fees from the company being analyzed. For example, Morgan Stanley had done the secondary stock offering for Longtop in 2009 and one of its analysts issued a buy recommendation for Longtop's stock on May 4, 2011, just 16 days before Longtop was delisted by the NYSE.

Another non-financial warning sign may have been a special relationship Longtop might have developed with its three major customers, three of the Big 4 Chinese banks. Because of the key focus on building long-term business relationships in China, these banks might not have been completely objective third parties and might have replied falsely to the auditor's cash confirmations.

Longtop Financial Technologies Ltd.				
Red Flag Summary				
Fiscal Years Ending 3/31	2010	2009	2008	2007
New Fraud Model	1.63	1.07	1.58	1.36
Altman Bankruptcy Model	10.55	15.86	16.43	6.68
0.6 * X4: Market Cap/TL	9.04	14.1	15.3	4.99
Percentage of Result	86%	89%	93%	75%
Old Fraud Model	-0.80	-1.65	-1.57	-1.45
DSRI	1.36	0.92	0.81	1.10
GMI	1.05	0.92	1.38	1.05
AQI	1.95	1.46	0.86	0.43
SGI	1.59	1.61	1.54	1.72
TATA	0.01	-0.04	0.02	0.02
Sloan Accrual	0.02	0.04	-0.13	-0.06
Quality of Earnings	1.07	0.98	8.50	2.50
Quality of Revenues	0.79	0.91	0.94	0.81
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Total Red (and Yellow) Flags	7	6	6	7
Percentage of 11 Possibilities	64%	55%	55%	64%

Were there any “warning signs” of fraud at China MediaExpress from the RTO onward?

Similar to the Longtop analysis, there were red flags from the New Fraud Model for the two years of financial statements and the last nine month report that China MediaExpress filed with the SEC. The Old Fraud Model also showed a red flag in the last nine month report, and there were red flags from both the Quality of Earnings and Quality of Revenues ratios for two of the three reporting periods. Also, similar to Longtop, the Sales Growth Index (SGI) showed red or yellow (possible) flags for all three reporting periods. The percentages of the eleven total possibilities for the three periods from the most recent report to the oldest year were 45%, 36%, and 43%. In the oldest year, 2008, the Old Fraud Model could not be fully applied since the company was still in the developmental stage. See the following table for details.

A typical non-financial warning sign occurs when one of the company’s top executives, like the CEO or the CFO, unexpectedly resigns. China MediaExpress’s CFO unexpectedly resigned the same day as its auditors resigned. Another example was Groupon’s CEO who wrote: “After four and a half intense and wonderful years as CEO of Groupon, I’ve decided that I’d like to spend more time with my family. Just kidding---I was fired today.” (“Groupon Dismisses Chief After a Dismal Quarter,” D. Streitfield, The New York Times, February 28, 2013.)

China MediaExpress Red Flag Summary Fiscal Years Ending 12/31	30-Sep 2010	2009	2008
New Fraud Model	1.57	1.69	1.12
Altman Bankruptcy Model	9.84	9.64	14.84
0.6 * X4: Market Cap/TL	6.2	4.96	14.84
Percentage of Result	63%	51%	100%
Old Fraud Model	-1.46	-2.75	n/a
DSRI	0.64	1.42	n/a
GMI	0.89	0.92	-1.70
AQI	0.78	0.59	n/a
SGI	2.42	1.52	3.32
TATA	-0.03	-0.28	-0.03
Sloan Accrual	0.09	-0.03	-0.01
Quality of Earnings	0.88	1.10	0.40
Quality of Revenues	0.95	0.93	1.00
Total Red (and Yellow) Flags	5	4	3
Percentage of 11 Possibilities	45%	36%	43%

Were there any “warning signs” of fraud at Harbin Electric from the RTO onward?

Similar to the Longtop and China MediaExpress analyses, there were red flags from the New Fraud Model for all the reporting years (five) that Harbin Electric filed financial statements with the SEC. The Old Fraud Model also showed red flags in the last four reporting years, and there were red flags from both the Quality of Revenues and Quality of Earnings ratios for four and two years, respectively. Also, similar to Longtop and China MediaExpress, the Sales Growth Index (SGI) showed red or yellow (possible) flags for all the reporting years. The percentages of the eleven total possibilities for the five years from the most recent to the oldest year were 45%, 64%, 64%, 91%, and 36%. Also, the Gross Margin Index showed red or yellow flags in the last four years, similar to the margin problems for these companies that various short sellers have pointed out. The Asset Quality Index was red in the middle three years, indicating larger amounts of intangible assets which was also pointed out as a problem by a short seller. This short seller indicated that both Harbin Electric and Deer Consumer Products were using various intangible asset purchases to transfer company cash out to related parties. See the following table for details.

Harbin Electric Inc. Red Flag Summary					
Fiscal Years Ending 3/31	2010	2009	2008	2007	2006
New Fraud Model	1.02	3.71	2.5	2.75	1.09
Altman Bankruptcy Model	3.94	3.01	2.93	7.99	4.2
0.6 * X4: Market Cap/TL	1.96	1.9	1.18	5.95	1.70
Percentage of Result	50%	63%	40%	74%	40%
Old Fraud Model	-1.45	-0.051	-1.08	0.25	-2.18
DSRI	0.48	1.68	0.7	1.57	0.90
GMI	1.08	1.16	1.24	1.63	0.63
AQI	0.97	1.82	1.79	2.10	0.54
SGI	1.91	1.84	1.86	1.63	1.67
TATA	0.06	-0.04	0.02	0.11	-0.04
Sloan Accrual	0.01	-0.09	-0.01	0.40	0.08
Quality of Earnings	1.21	3.15	1.68	0.53	0.89
Quality of Revenues	1.02	0.72	0.94	0.78	0.93
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Total Red (and Yellow) Flags	5	7	7	10	4
Percentage of 11 Possibilities	45%	64%	64%	91%	36%

Were there any “warning signs” of fraud at China-Biotics from the RTO onward?

Similar to the Longtop, China MediaExpress, and Harbin Electric analyses, there were red flags from the New Fraud Model for all the reporting years (three) that China-Biotics filed financial statements with the SEC. The Old Fraud Model did not show red flags but was close to the -1.99 fraud prediction cut-off in all three reporting years, and there were red flags from the Quality of Revenues ratio in the last two reporting years. Also, similar to Longtop, China MediaExpress, and Harbin Electric, the Sales Growth Index (SGI) showed yellow (possible) or red flags for all the reporting years. The percentages of the eleven total possibilities for the three years from the most recent to the oldest year were 27%, 55%, and 27%. Also, the Gross Margin Index showed a yellow flag in one year and was very close to the cut-off in the other two years, similar to the margin problems for these Chinese companies that various short sellers had pointed out. The Asset Quality Index was red in the middle year, indicating a larger amount of intangible assets which was also pointed out as a problem by a short seller. See the following table for details.

China-Biotics			
Red Flag			
Summary			
Fiscal Years Ending 3/31	2010	2009	2008
New Fraud Model	1.55	1.12	1.28
Altman Bankruptcy Model	2.96	4.94	5.89
0.6 * X4: Market Cap/TL	2.34	2.68	3.52
Percentage of Result	59%	54%	60%
Old Fraud Model	-2.65	-2.03	-2.63
DSRI	1.00	0.84	0.69
GMI	1.00	1.02	0.99
AQI	0.52	1.55	0.48
SGI	1.50	1.29	1.36
TATA	-0.17	-0.06	-0.07
Sloan Accrual	0.01	0.18	0.13
Quality of Earnings	1.75	1.15	1.06
Quality of Revenues	0.91	0.98	1.02
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Total Red (and Yellow) Flags	3	6	3
Percentage of 11 Possibilities	27%	55%	27%
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Were there any “warning signs” of fraud at Deer Consumer Products from the RTO onward?

Similar to the Longtop, China MediaExpress, Harbin Electric, and China-Biotics analyses, there were red flags from the New Fraud Model for all the reporting years (four) that Deer Consumer Products filed financial statements with the SEC. Also, similar to the Longtop and Harbin Electric analyses, the Old Fraud Model showed red flags in all the reporting years. (The only exception was the earliest year for Harbin Electric which was close to the -1.99 fraud prediction cut-off.) Similar to all four other Chinese companies, there were red flags from the Quality of Revenues ratio in three of the four reporting years for Deer (Longtop had four of four red flag years, both China MediaExpress and China Biotics had two of three years and Harbin Electric had four of five years.) Also, similar to Longtop, China MediaExpress, Harbin Electric, and China-Biotics, the Sales Growth Index (SGI) showed yellow (possible) or red flags for all the reporting years. The percentages of the eleven total possibilities for the four years from the most recent to the oldest year were 55%, 82%, 64%, and 55%. Also, the Asset Quality Index was red in the third year, indicating a huge amount of intangible assets which was also pointed out as a problem by a short seller. This short seller indicated that both Harbin Electric and Deer Consumer Products were using various intangible asset purchases to transfer cash out to related parties. See the following table.

Deer Consumer Products Red Flag Summary				
Fiscal Years Ending 12/31	2011	2010	2009	2008
New Fraud Model	1.29	3.18	2.05	2.84
Altman Bankruptcy Model	8.26	7.13	8.28	4.35
0.6 * X4: Market Cap/TL	5.37	4.84	6.33	2.59
Percentage of Result	65%	68%	76%	60%
Old Fraud Model	-1.79	10.09	-1.20	-1.33
DSRI	0.31	1.44	1.03	2.25
GMI	0.95	0.85	0.92	0.93
AQI	0.88	26.74	0.29	0.63
SGI	1.29	2.17	1.84	1.33
TATA	0.16	0.09	0.10	-0.11
Sloan Accrual	0.22	0.18	0.14	0.13
Quality of Earnings	0.15	0.37	0.08	1.00
Quality of Revenues	1.14	0.80	0.90	0.86
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Total Red (and Yellow) Flags	6	9	7	6
Percentage of 11 Possibilities	55%	82%	64%	55%

Guidance for Cross-Border Forensic Analysis

The prior analyses indicated red flags for possible fraudulent financial reporting by the five Chinese companies that contributed 20% of the total \$21 billion market capital destruction from Chinese companies listed in North America. As a starting point for both cross-border and U.S. fraud risk assessment, the following approaches are recommended for forensic accountants, financial analysts, auditors, and risk managers.

1. Apply the New and Old Fraud Models to ascertain any predictions of fraudulent financial reporting. The New Fraud Model showed fraud predictions 100% of the time for all 19 reporting years of all 5 Chinese companies here. The Old Fraud Model showed fraud predictions 68% of the time over the 19 reporting years.
2. Calculate the Quality of Revenues since revenue recognition is usually the number one manipulation area in financial statements filed in the U.S. and elsewhere. For example, this ratio flagged the “channel stuffing” by one of these Chinese companies as receivables which were not yet billed cannot be collected. This ratio showed red flags 79% of the time over the 19 reporting years.
3. Reinforce this revenue analysis with the calculation of the Sales Growth Index. Per Steve Coburn, a public company CFO who dealt with Wall Street on quarterly conference calls for ten years: “Wall Street pays for two things: top line (sales) growth and operating leverage to get the top-line growth to the bottom line (net income).” This index showed

red or yellow (possible) flags in all 19 of the reporting years for these Chinese companies.

4. Use all four of these fraud models and ratios together. They predicted fraud or possible fraud 87% (66/76) of the time for these five Chinese companies. There were 19 reporting years analyzed with all four of these models and ratios for a total of 76 (19 * 4) possible red or yellow flags. See the following table.

This table also shows the \$4.1 billion market cap destruction by these five firms and the largest contribution of \$2.4 billion by Longtop Financial (over 50%). Longtop had 100% red or yellow flags from these four models and ratios, re-emphasizing the importance of this cross-border forensic analysis. When there are many such red flags, professional skepticism and analysis need to be expanded. As the short seller Citron stated in a note to analysts: “Citron says do what you are paid to do...START ANALYZING. The last thing Wall Street needs is more discounted cash flow analysis, based on asking for management’s forecasts. Citron challenges you to answer these concerns without starting with the phrase: after discussions with management.” (Citron Research Report, “Citron Reports on Longtop Financial,” April 26, 2011.) The lowest form of evidence is management’s representations and one of the highest forms is an independent expert’s own analysis, such as comparing SAIC data to SEC data.

The Altman Bankruptcy Model only showed one yellow flag out of nineteen chances, primarily due to the X4 input factor, which was driven by the high market cap for all five Chinese companies. As stated earlier, this factor was pumped up by the “sell-side” financial analysts who wanted to keep buy recommendations on these stocks to help earn additional

investment banking business from these firms. Concerning the other six fraud red flag ratios, both Quality of Earnings and the Gross Margin Index showed red flags 42% (8/19) of the time. The other four red flag ratios showed red flags 37% (7/19) of the time. The non-existent cash reported by several of these five Chinese firms in order to support increasing revenues would also have inflated their operating cash flows (OCF). However, even this fraudulent reporting did not completely defeat the Quality of Earnings and Sloan Accrual ratios which both use operating cash flows. These ratios still flagged reporting problems 42% and 37% of the time, respectively.

Eliminating the Altman Bankruptcy Model, due to lack of independence by the “sell-side” financial analysts, the other ten red flag models and ratios indicated red flags 58% (110/190) for the 19 years being analyzed. The typical fraud scenario of more red flags in subsequent years also was profiled here. The two companies with only three reporting years, China MediaExpress and China-Biotics, had red flags 40% (24/60) of the time. The two companies with four reporting years, Longtop Financial Technologies, and Deer Consumer Products, had red flags 68% (54/80) of the time, similar to Harbin Electrics’ 66% (33/50) red flags over five reporting years.

Key Red Flag Models & Ratios Signals
 5 Major Chinese Company Frauds and
 Market Capital Destruction

	Longtop Financial	China Media Express	Harbin Electric	China Biotic	Deer Consum	Total Signals & Accuracy (out of 19)
Most Recent Reporting Years	Four	Three	Five	Three	Four	
Signals:						
New Fraud Model	Four	Three	Five	Three	Four	Nineteen 100%
Old Fraud Model	Four	One	Four	None	Four	Thirteen 68%
Quality of Revenue	Four	Two	Four	Two	Three	Fifteen 79%
Sales Growth Index	Four	Three	Five	Three	Four	Nineteen 100%
Total Signals	Sixteen	Nine	Eighteen	Eight	Fifteen	Sixty Six 87% (66 of 76)

Market Capital Destruction (millions)

Number of Shares	56	33	31	20	34	
Max Stock Price	43	24	28	19	11	
Total	<u>\$ 2,408</u>	<u>792</u>	<u>118</u> *	<u>380</u>	<u>374</u>	<u>4,072</u> (rounded to \$4.1 billion)

* \$21 billion of market cap destruction occurred from Chinese companies listed in North America. These 5 Chinese companies represent \$4.1 billion of this total, after deducting \$750 million for the Harbin Electric bid for going private. \$4.1 billion is approximately 20% of this total market capitalization destruction.

Appendix: Red Flag Ratios and Models

Six various models and ratios have been used to develop a red flag approach in screening for and identifying fraudulent financial reporting and earnings management in publicly held companies in addition to traditional ratios. The models are available from the authors in an Excel file.

1. Quality of Earnings

The quality of earnings ratio is a quick and simple way to judge the quality of a company's reported net income. The ratio is operating cash flow for the period divided by net income for the period. The red flag benchmark is a ratio of less than 1.0 (Schilit 2003). Also, large fluctuations in this ratio over time may be indicative of financial reporting problems, i.e., Enron's quality of earnings ratios were 4.9, 1.4, and 2.3 over its last three years of operation. In its last year of operation, Enron forced its electricity customers to prepay in order to receive any electricity which dramatically increased its operating cash flows and quality of earnings ratio. Quality of earnings is also meant to measure whether a company is artificially inflating earnings, possibly to cover up operating problems. This ratio may indicate that a company has earnings which are not actually being converted into operating cash. Methods for inflating earnings (but not operating cash flows) include early booking of revenue, recognizing phony revenues, or booking one-time gains on sales of assets.

2. Quality of Revenues

The quality of revenues ratio is similar to the quality of earnings, except that the emphasis is on cash relative to sales rather than cash relative to net income. It is the ratio of cash collected from customers (revenues plus or minus the change in accounts receivable) to the company's revenue. Similar to the quality of earnings ratio, the red flag benchmark is a ratio of less than 1.0 (Schilit 2003). For example, Enron's quality of revenues went down from 0.98 to 0.92 in its last year of operation. Since manipulation of revenue recognition is a common method for covering up poor results, this simple metric can help uncover schemes used to inflate revenues without the corresponding cash collection. Common methods include extending increased credit terms to spur revenues but with slow collections, shifting future revenues into the current period, or booking asset sales as revenue.

3. Sloan Accrual Measure

The Sloan accrual measure (Robinson 2007) is based on the analysis of accrual components of earnings. It is calculated as follows: net income less free cash flows (operating cash flow minus capital expenditures) divided by average total assets. The red flag benchmark is a ratio of more than 0.10. For example, Sloan calculated that JetBlue had a ratio of 0.50 and his employer, Barclays Global Investors, shorted the stock and made over 12% in less than one year. This ratio is used to help determine the quality of a company's earnings based on the amount of accruals included in income. If a large portion of a company's earnings are based more on accruals, rather than operating and free cash flows, then, it is likely to have a negative impact on future stock price since the income is not coming from the company's actual operations. Since many of the accrual components of net income are subjective, managers are able to manipulate

earnings to make the company appear more profitable. Thus, the Sloan accrual measure is used to help determine the sustainability of a company's earnings.

4. Altman Z-Score

The Altman (2005) Z-Score is a multivariate statistical formula used to forecast the probability a company will enter bankruptcy within the next two years. The model contains five ratios which are listed below with their coefficients, based on Altman's research. The model was originally developed in 1968 for evaluating the bankruptcy risk of traditional public firms, such as manufacturing, energy, and retail, but it can also be applied to non-traditional and service public firms, such as software, consulting, and banking, as well as private firms. All three versions of the model are available on the Bloomberg software subscription package. The red flag bankruptcy prediction of the original model is a Z-Score of less than 1.8, with a score between 1.8 and 3.0 indicating possible bankruptcy problems. For example, Altman predicted that General Motors would "absolutely" seek bankruptcy protection and they come up very seriously in the Z-Score test into the bankrupt zone after a 30 to 60 day reorganization.

(Working Capital / Total Assets) x 1.2

This ratio is a measure of a firm's working capital (or net liquid assets) relative to capitalization. A company with higher working capital will have more short-term assets and, thus, will be able to meet its short term obligations more easily. This ratio is one of the strongest indicators of a firm's ultimate discontinuance because low or negative working capital signifies the firm may not be able to meet its short-term capital needs.

(Retained Earnings / Total Asset) x 1.4

This ratio is a measure of a firm's cumulative profits relative to size. The age of the firm is implicitly considered due to the fact that relatively young firms have a lower ratio and the incidence of business failures is much higher in a firm's early years.

(EBIT / Total Assets) x 3.3

A healthy company will be able to generate income using its assets on hand. If this ratio is low, it demonstrates that profitability is poor and the company is in danger of bankruptcy as it is more vulnerable to market downswings which affect earnings.

(Market Value of Equity / Book Value of Total Liabilities) x 0.6

This ratio adds a market emphasis to the bankruptcy model. The theory is that firms with high capitalizations would be less likely to go bankrupt because their equities have higher values. In addition, it will gauge the market expectations for the company which should take into account relevant future financial information.

(Sales / Total Assets) x 1.0

This ratio, also known as total asset turnover, demonstrates how effective the company is utilizing its assets to generate revenue. If this number is low, it indicates that the company is not being run efficiently which creates a higher bankruptcy risk.

5. Z-Score (Beneish Old Fraud Model)

Beneish (1999) developed a statistical model used to detect financial statement fraud and earnings management through a variety of metrics. There are five key ratios used in the model, which are the Sales Growth Index (SGI), Gross Margin Index (GMI), Asset Quality Index (AQI), Days Sales in Receivables Index (DSRI), and Total Assets to Total Accruals (TATA). Each of these measures with its model coefficient, based upon Beneish's research, is outlined below.

There is also a constant value in the model of -4.840. The red flag benchmark is a Z-Score greater than a negative 1.99, i.e., a smaller negative number or a positive number indicates possible financial reporting problems. For example, Enron had a fraud Z-Score of a positive 0.045 in its last year. Also, this model is the only one with fraud guidelines for each of the model's five inputs as follows:

	Non-Manipulator's Mean Index	Manipulator's Mean Index
DSRI	1.031	1.465
GMI	1.014	1.193
AQI	1.039	1.254
SGI	1.134	1.607
TATA	0.018	0.031

DSRI – Days Sales in Receivables Index x 0.920

This measure is accounts receivable divided by sales (DSRI) this year divided by DSRI last year. Companies that are trying to boost revenue and profit may allow customers to have greatly extended credit terms so that they will buy earlier. This practice increases revenue in the current quarter but may hurt future performance. This metric is meant to detect companies which make significant changes in their collection policies and/or recognize phony or early revenues.

GMI – Gross Margin Index x 0.528

This measure is last year's gross margin divided by this year's gross margin.

While not necessarily a direct measure for potential manipulation, companies that are experiencing declining gross margins may have increased pressure to improve financial performance. Such pressure may cause them to turn to fraud or questionable financial reporting to maintain net income margins.

AQI – Asset Quality Index x 0.404

This measure is the percentage of total assets that are intangible assets this year divided by the same percentage calculation for last year. An increase in this index may represent additional expenses that are being capitalized to preserve profitability. Rather than expensing various costs, such as research and development or advertising, these costs are being capitalized as intangible assets or goodwill is established in a merger and acquisition deal. Capitalization increases assets while helping to maintain the profitability of the company.

SGI – Sales Growth Index x 0.892

This measure is current year sales divided by prior year sales. It is meant to detect abnormal increases in sales which may be the result of fraudulent revenue recognition. If a company experiences a very large increase in sales from one period to the next, it may be due to shifting revenue to a later period or booking phony revenue.

TATA – Total Accruals to Total Assets x 4.679

This measure represents total accruals to total assets. Total accruals represent non-cash earnings and are measured as follows: change in working capital – change in cash – change in current taxes payable – current year depreciation & amortization.

Similar to Sloan's accrual measure and the accrual measure in the Dechow fraud model, an increase in accruals represents an increased probability of earnings manipulation and possible operating and free cash flow problems.

6. F-Score (Dechow New Fraud Model)

This F-Score fraud model (Dechow, Ge, Larson, and Sloan 2007) can be used as a test for determining the likelihood of financial reporting manipulation. Similar to the other models and ratios, a fraudulent score for this model does not necessarily imply such manipulation but it serves as a red flag for further analysis. The model contains measures to identify problems in accruals, receivables, inventory, cash sales, earnings and stock issuances as discussed below with their coefficients. There is also a constant value of -6.753 in the model. The resulting predicted value (PV) is used in an exponential equation: $e^{PV} / 1 + e^{PV}$ to get a company fraud probability. This probability is divided by the unconditional (and constant) fraud probability of all the sample companies' financial years: $494 / (143,452 + 494) = 0.0034$. The F-Score result is a fraud red flag if greater than 1.0. For example, the F-Score for Enron in its last year of operation was 1.85. This research is the more extensive of the two fraud models since it was based upon an examination of all Accounting and Auditing Enforcement Releases (AAERs) issued by the SEC from 1982-2005 while the older Beneish study was based only on AAERs issued from 1982-1992.

Accruals x 0.773

Firms that engage in earnings manipulation typically have abnormally high accruals. A significant amount of non-cash earnings results in inflated earnings and is a warning sign for earnings manipulation. This measure is a complex calculation based upon adding three accrual measures that reflect changes from last year to this year, essentially in the three sections of the statement of cash flows:

Change in working capital = current assets – cash – short-term investments –
(current liabilities – long-term investments)

Change in non-current operations = total assets – cash – long-term investments –
(total liabilities – current liabilities – long-term debt)

Change in financing = short-term investments - long-term investments – (long-
term debt – short-term debt + preferred stock)

The total of these three accruals measures is scaled by average total assets. Any business transactions other than common stock are reflected in accrual measures (Dechow et.al. 2007).

Change in receivables x 3.201

The change in receivables from last year to this year is scaled by average total assets. Large changes in accounts receivables may indicate revenue and earnings manipulation. Such manipulation can occur through the early or phony recognition of revenue and large swings in accounts receivable will distort cash flows from operations.

Change in inventory x 2.465

The change in inventories from last year to this year is scaled by average total assets. Large changes in inventory may indicate inventory surpluses, shortages, obsolescence, or liquidation. For example, if the company uses the last-in first-out (LIFO) method of accounting for inventory in a period of rising prices, selling older inventory will result in lower cost of goods sold, i.e., LIFO liquidation of inventory units or layers. This practice leads to inflated earnings.

Change in cash sales x 0.108

This measure is the percentage change in cash sales from last year to this year. For a firm not engaged in earnings manipulation, the growth rate in cash sales should approximate the growth rate in revenues. Thus, the change in cash sales is a key metric to monitor when evaluating the potential for earning manipulation.

Change in earnings x -0.995

This measure is a percentage calculated as earnings divided by total assets this year less the same measure last year. Volatile earnings may be indicative of earnings manipulation. According to Dechow et.al 2007, a consistent theme among manipulating firms is that they have shown strong performance prior to manipulations. The cause for such manipulations may be a current decline in performance which may be covered up by manipulating financial reporting.

Actual issuance of stock x 0.938

This measure is a dummy variable that is ON if additional long-term debt or equity securities are issued during the manipulation year and is OFF if no such securities are issued. Such issuances may indicate operating cash flow problems that need to be offset by additional financing or that managers are exercising their stock options. The exercise of stock options may signify that managers are selling their stock because they foresee future underperformance of the company. For example, Qwest and Enron insiders made \$2.1 billion and \$1.1 billion, respectively, by exercising and selling their stock options before their firms' financial reporting problems became public.

Appendix References

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