

Implications of the Qingdao Metals Scandal for Commodity Repurchase Agreements

**Bachelor Project submitted for the obtention of the Bachelor of Science HES in
Business Administration with a Major in International Management**

by

Dmitry MINKO

Bachelor Project Advisor:

Robert PILLER, HES Lecturer

Geneva, May 31st 2016

Haute école de gestion de Genève (HEG-GE)

Business Administration (International Management)

Declaration

This Bachelor Project is submitted as part of the final examination requirements of the Haute école de gestion de Genève, for the Bachelor of Science HES-SO in Business Administration with a Major in International Management.

The student accepts the terms of the confidentiality agreement if one has been signed. The use of any conclusions or recommendations made in the Bachelor Project, with no prejudice to their value, engages neither the responsibility of the author, nor the adviser to the Bachelor Project, nor the jury members nor the HEG.

“I attest that I have personally accomplished this work without using any sources other than those cited in the bibliography. Furthermore, I have sent the final version of this document for analysis by the plagiarism detection software URKUND using the address supplied by my adviser”.

Geneva, May 31st 2016

Dmitry MINKO

Acknowledgements

I would like to sincerely thank Mr. Robert Piller for his support and guidance throughout this work, as well as for inciting me to go further in my reasoning, which made the exercise even more interesting. I am grateful for what I have learned in his Commodity Trading major and the Trade & Commodity Finance course which he taught with passion and which made my final year at the HEG a memorable one.

My sincere gratitude also goes to the persons who have agreed to dedicate their time and talk about the sensitive topic of the Qingdao scandal. This allowed me to better understand the issues around this event and its consequences.

Executive Summary

In May 2014, it was discovered that Dezheng Resources, a Chinese trading company, had multiple warehouse receipts issued for metal stored in the ports of Qingdao and Penglai in Shandong province. Approximately 400'000 tons of alumina, aluminium and copper worth around \$380 million were used to obtain \$4.2 billion in financing from 18 Chinese and 7 international banks. The fraud was discovered in the course of a government corruption investigation of a Party official. The warehouses have been put under lockdown and have not reopened since.

A large part of the financing had been done in the form of commodity repurchase agreements, or repos. These instruments are ownership structures, in which title to the goods and risks pass from the trader to the financier for the duration of the transaction, as opposed to secured lending, in which the goods are pledged to the lender who has a security interest in them. Among the many lawsuits that followed the scandal, the most prominent one was *Mercuria v Citibank* that was expected to be a test of a key principle of repos, that of the true sale.

The objective of this report is to study the consequences of the scandal for commodity repo financing. We start by examining the functioning of these instruments and the context in which the scandal happened. Based on that knowledge, we analyze how Qingdao has affected the use of repos and draw up recommendations regarding the legal and operational aspects of setting up these deals.

We find that while in *Mercuria v Citibank* the issues of true sale and whether it is possible to contract out of attornment to effect delivery were not considered by the judge, the repo structure as such was upheld and remains fundamentally viable. In addition to complying with true sale, the structures should be reviewed by lawyers to ensure that they work across the jurisdictions governing the sale and repurchase contracts and that of the country where the goods are located. In order to reduce the risk of fraud, the lenders should have visibility over the goods' origin and engage in financing of trading flows that serve to satisfy a real industrial or commercial demand, conduct due diligence on counterparties and warehouses, make use of collateral management agreements and actually visit the storage locations. It is critical not to deal on documentary basis only, but to be aware of the reality of the goods one acquires and the risks to which they are exposed.

Contents

Implications of the Qingdao Metals Scandal for Commodity Repurchase Agreements	1
Declaration.....	i
Acknowledgements.....	ii
Executive Summary	iii
Contents.....	iv
List of Tables	vi
List of Figures	vi
1. Introduction	1
1.1 Research Question	1
1.2 Methodology	2
2. Commodity Repurchase Agreements	4
2.1 Overview.....	4
2.2 Benefits and Risks.....	5
2.2.1 <i>Benefits for the trader</i>	<i>5</i>
2.2.2 <i>Benefits for the bank.....</i>	<i>6</i>
2.2.3 <i>Risks of ownership.....</i>	<i>7</i>
2.3 Legal Aspects	10
2.3.1 <i>Passing of title</i>	<i>10</i>
2.3.2 <i>Delivery of goods</i>	<i>11</i>
2.3.3 <i>Title document status.....</i>	<i>12</i>
2.3.4 <i>Lex situs</i>	<i>12</i>
2.3.5 <i>True sale and recharacterization risk</i>	<i>13</i>
2.3.6 <i>Bankruptcy proceedings.....</i>	<i>15</i>
2.3.7 <i>Repo documentation.....</i>	<i>16</i>
2.4 Accounting Treatment.....	17
2.4.1 <i>Off-balance sheet effects</i>	<i>17</i>
2.4.2 <i>Qualifying for off-balance sheet treatment.....</i>	<i>18</i>
2.5 Regulatory Issues.....	20
2.5.1 <i>Capital relief.....</i>	<i>20</i>
2.5.2 <i>Regulated activities.....</i>	<i>20</i>
2.6 Tax Aspects	20
2.7 Repo Structure Examples	21
2.7.1 <i>Rabobank</i>	<i>21</i>
2.7.2 <i>Poland, 2014, crude oil</i>	<i>22</i>
2.7.3 <i>Australia, 2009, grain</i>	<i>22</i>
2.7.4 <i>Brazil, 2004, frozen concentrated orange juice</i>	<i>22</i>
3. The Qingdao Metals Scandal	23
3.1 Context: Chinese Commodity Financing Deals.....	23
3.1.1 <i>Origins</i>	<i>24</i>
3.1.2 <i>Commodities involved.....</i>	<i>25</i>
3.1.3 <i>Profit drivers.....</i>	<i>27</i>
3.1.4 <i>Effects on the markets and economy</i>	<i>30</i>

3.2	The Scandal	31
3.2.1	<i>Extent of the scandal</i>	<i>32</i>
4.	Qingdao Consequences.....	36
4.1	Legal Issues	36
4.1.1	<i>True sale.....</i>	<i>37</i>
4.1.2	<i>Passing of title and delivery</i>	<i>38</i>
4.1.3	<i>Jurisdiction issues.....</i>	<i>39</i>
4.1.4	<i>Changes in contractual documentation</i>	<i>40</i>
4.2	Practical Implications for Inventory Financing.....	40
4.2.1	<i>Who is providing financing</i>	<i>41</i>
4.2.2	<i>Counterparties & due diligence</i>	<i>41</i>
4.2.3	<i>Transaction conditions</i>	<i>42</i>
4.2.4	<i>Changes in warehousing</i>	<i>43</i>
4.3	Effects on Metal Markets	45
4.3.1	<i>Prices</i>	<i>45</i>
4.3.2	<i>Imports.....</i>	<i>46</i>
4.4	Recommendations.....	48
5.	Conclusion.....	50
	Bibliography	51
	Interviews	62
	Appendix 1: Strength of the true sale argument.....	63
	Appendix 2: LME settlement prices of selected metals in 2014.....	64
	Appendix 3: Thematic table of interviews	65
	Appendix 4: Interview with Mr. William Hold	66
	Appendix 5: Interview with Mr. Jan de Laat.....	71
	Appendix 6: Interview with Mr. X.....	75
	Appendix 7: Interview with Mr. Y.....	76
	Appendix 8: Interview with Mr. Philippe Ziegler.....	79
	Appendix 9: Interview with Mr. Samir Zreikat.....	82

List of Tables

Table 1 Differences in “value density” across commodities	11
Table 2 Banks affected by the Qingdao scandal.....	33

List of Figures

Figure 1 A repo transaction	5
Figure 2 Impact of financing on revenues and profitability	6
Figure 3 Returns and volatility of major asset classes	9
Figure 4 Effect of repos and secured loans on the trader's balance sheet	17
Figure 5 Breakdown of China's GDP growth	23
Figure 6 China's share of global commodity consumption.....	24
Figure 7 Overseas bank loans to China.....	25
Figure 8 China's imports and stocks of iron ore, soybeans and copper	27
Figure 9 China's copper stocks and foreign exchange loans	27
Figure 10 China and US benchmark interest rates	28
Figure 11 USD/CNY exchange rate.....	29
Figure 12 Profitability of Chinese commodity financing deals	30
Figure 13 LME warehouses in Southeastern Asia	44
Figure 14 Commodities used in CCFDs	45
Figure 15 Year-on-year changes in Chinese copper imports	46
Figure 16 Chinese copper stocks in bonded warehouses.....	47
Figure 17 Chinese nickel and zinc exports	47
Figure 18 Chinese metal demand.....	48

1. Introduction

In May 2014, reports emerged about a case of fraud involving metals in Qingdao, the world's seventh largest port and China's second busiest. Warehouse receipts for 400'000 tons of base metals worth about \$380 million at current prices were allegedly fraudulently duplicated to obtain multiple rounds of financing. On May 28, authorities ordered to seal off the Dagang bonded storage area in the port of Qingdao and a part of the port in Penglai, a city in the same province, on June 8.

As the lenders identified their exposures, it turned out that 18 Chinese banks were facing potential losses of \$3.2 billion. 7 International banks had exposures of \$1 billion, the total amount of \$4.2 billion meaning that 10-11 times more funds were raised than the metal stocks were worth. The exact quantities involved are unknown, since the warehouses have remained under lockdown until today. Some of the metal possibly never even existed.

Fraud has always been an issue in trade finance and it is one that tends to become more prevalent in difficult times. In the 2015 ICC Global Trade and Finance Survey, 18.5% of respondents indicated an increase in allegations of fraud linked to trade finance instruments compared to 2014, a development similar to that in 2008-2009 as commodity prices decreased across the board (ICC, 2015). There were fears that the scandal might be more widespread and could also affect Shanghai, the major center for metals trading in China, but it turned out to be limited to the ports of Qingdao and Penglai and perpetrated by just one company, Dezheng Resources. Nevertheless, the case struck me because of its magnitude and made me wonder just how this could have happened. What also made it interesting was a prominent lawsuit between Mercuria and Citibank that was expected to test the validity of the legal structure of commodity repurchase agreements. These financing instruments constituted the bulk of the transactions in question, which is why I decided to focus on them in particular.

1.1 Research Question

The objective of this bachelor project is to explore the consequences of the scandal. The research question can be formulated as follows: "What are the implications of the Qingdao metals scandal for commodity repo financing?" While writing the report, I realized that there were relatively few issues that concerned repos exclusively. A far greater number of them were relevant for inventory finance in China in general, be it with repos or secured lending. Given the repos' importance in the case, I found that it

was more interesting to focus on this narrower topic, which allowed me to explore more in detail the functioning of these instruments and the technical legal issues around the passing of title, delivery and true sale, rather than to do the opposite: to discuss inventory finance broadly and only address repos as a secondary topic.

1.2 Methodology

This report contains three parts. First, we will first look into the functioning of commodity repos in order to understand the extent and the significance of the scandal's consequences. Repurchase agreements are ownership structures in which title of the goods passes to the financier for the duration of the transaction. In our analysis, we will highlight their differences with the other type of inventory financing, secured lending, in which the goods are pledged to the bank. This will allow us to discuss the additional potential risks associated with ownership of the goods, as well as the possibilities for their mitigation.

Then, we will present the sequence of the scandal's events, as well as the context in which it took place. There are factors that had contributed to the rise in commodity-backed financing in China and others that could have led some companies to commit warehouse receipt fraud.

Finally, we will present and discuss the consequences of the scandal, for repos in particular as well as for metal financing in China in general and will formulate recommendations for addressing the legal and operational issues that arise with repos.

Work on the report started by collecting information on the above topics in industry reports, as well as in financial and business journals. In the process, we drew up a list of questions that remained unanswered or elements that required further clarification or validation. These questions were used as the base for the interviews that constituted our primary research. The interviews were semi-structured, based on open questions with discussions that developed based on the interviewees' responses (Qualres.org, 2016). The transcripts are presented in Appendixes 4-9. They are much shorter and were based on notes when the person preferred the interview not to be recorded. Indeed, the Qingdao scandal is a sensitive topic given the magnitude of the event, its recency as well as the fact that investigations are still ongoing and once they are concluded further lawsuits are expected to follow. In some instances, this led the person to decline the invitation for an interview, especially when a business partner or a client was involved. Appendix 3 is a table that presents the results by providing an overview of topics or ideas that were mentioned by each person. The table is not like a

survey response database: if a topic is not marked, it means that the person has not mentioned it, so he could have agreed with the idea or not. Some views were expressed by several persons and are highlighted with color – there are ideas that were mentioned by 5 persons out of 6 and constitute important points for our discussion.

2. Commodity Repurchase Agreements

In order to better understand the issues that arose following the Qingdao scandal, we will first examine how commodity repurchase agreements function. Starting with an overview, we will move on to the more specific aspects such as the legal, accounting, regulatory and so on.

2.1 Overview

Commodity repurchase agreements, or repos, are instruments used in commodity finance, specifically in inventory financing. In the course of their activities, trading companies acquire stocks of physical commodities that can be stored for various reasons, such as:

- Pending an ordinary sale to a customer
- Waiting for favorable changes in the market structure expected by the trader
- Constituting stocks of the various components used in blending operations
- Waiting to be transformed in a processing facility

These stocks tie up the company's capital. In order to improve liquidity, cash circulation and better manage the working capital, trading companies can have their stocks financed by banks or other financial intermediaries. There are two major techniques: secured lending, where the goods or the documents representing them (warehouse receipts) are pledged to the lender, and ownership structures (repos), in which the bank actually acquires the goods.

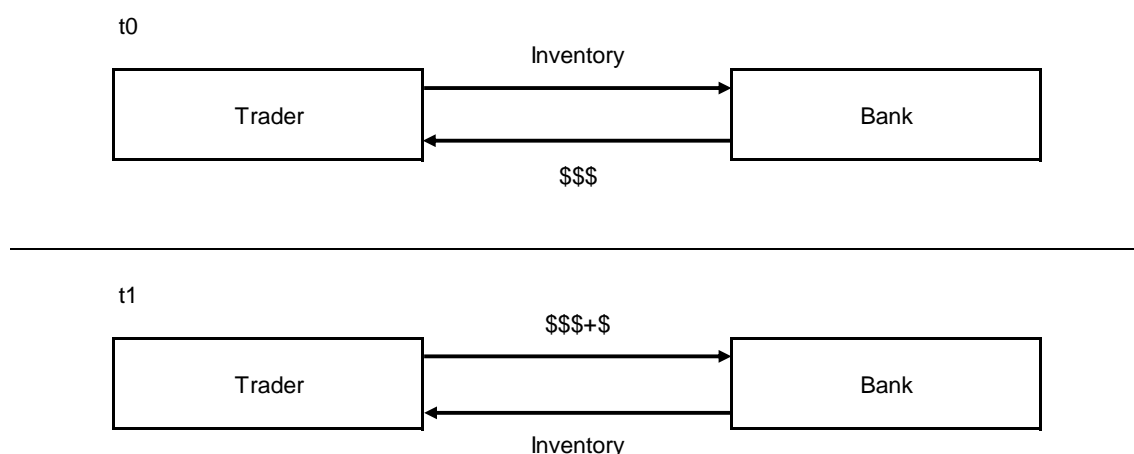
Repos have been widely used with money market and fixed-income securities in the United States since 1917, long before commodity repos, and today they are a multi-trillion US dollar market (McCormick, 2015). The Financial Times Lexicon defines a repo as: *"a type of short-term loan (...), whereby the seller of a security agrees to buy it back at a specified price and time. The seller pays an interest rate, called the repo rate, when buying back the securities."* (Lexicon.ft.com, 2016). The following elements characterize this transaction:

- It starts with a sale – title to the security or the goods, along with all rights, obligations and risks resulting from ownership, passes from the seller to the buyer.
- The seller undertakes to repurchase the goods at a later time – as we will see, there can be variations as to the conditionality of the repurchase.

- The repurchase price – it is typically higher than the sale price, the difference being effectively the interest rate on the financing provided.
- Despite being a sale and repurchase agreement in form, in substance the transaction is essentially a short-term loan. This has implications for the legal and accounting treatment of repos that we will examine, with differences across jurisdictions.

Commodity repos were introduced by Merrill Lynch in 1991 and were known as "Commodity Inventory Purchase Obligations", or CIPOs: *"agreements that allow Merrill Lynch to take title to your inventories until they're needed."* (Reichard, 1995). The figure below illustrates the basic principle:

Figure 1 – A repo transaction



2.2 Benefits and Risks

2.2.1 Benefits for the trader

Repos are attractive financing instruments, as they offer a range of benefits both to the "borrower" and the bank. Overall, inventory financing improves the company's liquidity ratios, its use of capital and shortens the working capital conversion cycle. This is of particular importance for trading companies which are involved in a high volume, high turnover, low margin business. The table below provides a simplified example of the difference between a company financing its inventories with equity and one that was able to have 80% of them financed:

Figure 2 – Impact of financing on revenues and profitability

	No financing	80% inventory financed at 3% p.a. interest
Equity	100 USD mio	100 USD mio
Financing	0 USD mio	400 USD mio
Purchasing power	100 USD mio	500 USD mio
Transaction duration	45 days	45 days
Annual turnover	800 USD mio	4000 USD mio
Profit margin	1%	1%
Gross profit	8 USD mio	40 USD mio
Finance costs	0 USD mio	12 USD mio
Net profit	8 USD mio	28 USD mio
Return on equity	8%	28%

We see that the revenues increased fivefold (as the trader only financed one-fifth of its turnover) and the net profit more than tripled – the effect depends on whether the finance costs are greater than the profit margin, as well as on the transactions' duration (how many times the trader turns his inventory in a year). A repo offers even more advantages because of the off-balance sheet treatment as inventories leave the trader's books and are replaced by cash (Trade Finance, 2014b). However, this is subject to approval by the company's auditor and we will see the requirements in section 2.4.2. Other characteristics of repos are primarily beneficial for the banks, but turn out to be advantageous for the traders as well, as they ultimately allow the financing costs to be lower.

2.2.2 Benefits for the bank

Compared to secured lending when the goods are pledged to the bank, ownership provides the bank with better protection in case of default. When financing with a pledge, depending on the jurisdiction governing the goods, the bank may first have to obtain a court decision authorizing it to effect the sale, which results in a loss of time. The sale might have to be carried out in a public auction, which can result in monetary losses as well. In contrast, being the owner of the goods allows the bank to sell them immediately when problems arise. Furthermore, the pledge is vulnerable under certain circumstances, such as the bankruptcy of the debtor which negates the security interest under Chapter 11 of the US Bankruptcy Code. Finally, ownership is much easier to acquire than to properly create and enforce a security interest in goods.

These aspects seem to be accounted for in the regulatory treatment of repo transactions as reflected by the lower amounts of capital that the banks need to set aside. As a result, the costs of financing can be reduced by between 10 and 50 percent, depending on the profile of the client and the commodity. Smaller trading companies with lower credit ratings (who would be penalized under a loan), as well as commodities with more developed, liquid markets could benefit from a bigger discount (Gulfbase, 2014).

2.2.3 Risks of ownership

Along with the benefits come the risks of ownership of commodities. Many of them are specific to dealing with physical goods and call for a high level of awareness and expertise – the trade finance / structured commodity finance department is oftentimes the only one in the bank that faces them. We will present the most relevant risks below, but how some of them are dealt with may have implications for the validity of the true sale. This is a key principle in ownership structures, failure to comply with which results in a risk of the transaction being recharacterized as an unsecured loan – we will therefore review them in greater detail in section 2.3.5.

2.2.3.1 Acquiring title

In sales transactions, the moment when title passes is agreed on by the parties in the sales contract, unless otherwise prescribed by the law (more on this in section 2.3.1. As the provisions vary widely from one legal system to another, the analysis in this report will be based on English law, unless specified otherwise). In addition to ensuring that the title passes from the trader to the bank properly, the first challenge is to track the origins of the goods and ascertain whether the client had clean title himself in the first place (Wynne, p.169). Where the commodity is coming from can make a big difference in terms of the risks the bank is taking, including that of fraud.

For example, a batch of metal stored in a bonded (prior to customs clearance) warehouse in China may have been imported by the trading company after having being acquired directly from the smelter a couple of months ago. The bank has had a long-standing relationship with its client and the smelter is a well-known producer. The client is able to present his purchase contract and demonstrate that he had paid for the goods in full (if the bank financed that purchase it would have seen the money go out of its client's account) and that there are no third-party interests in or charges on them. In this situation, the bank has visibility over the goods' origin and the chain of ownership of the metal.

It would be a completely different case if the metal was acquired by the client from a small local metal trader, unknown by the bank. The client has his purchase contract, but he is not sure where did his seller obtain the metal from. It is known that the previous owner is a pure trading company that does not have production plants, is not part of a large industrial group and the goods most likely had passed through several intermediaries. In such a case, there are higher risks of the bank's client having issues with the title that he acquired and it is not possible to trace the goods in a satisfactory way. The buyer is somewhat protected by the English Sales of Goods Act 1979, section 23: *"When the seller of goods has a voidable title to them, but his title has not been avoided at the time of the sale, the buyer acquires a good title to the goods, provided he buys them in good faith and without notice of the seller's defect of title."* (Legislation.gov.uk, 2016), but this may not be the case in other jurisdictions.

We can see that the risk around title is therefore a function of:

- the goods' origin (whether they were coming directly from a producer or after a chain of transactions took place),
- the counterparties involved (whether they are reputable and well-known),
- the number of sales/purchases (the more transactions there were, the more difficult it is to track the passing of title),
- and time – if the goods had been used for financing purposes for a significantly longer time than what is expected in an ordinary consumption cycle, in combination with the above factors there is a higher risk of fraud.

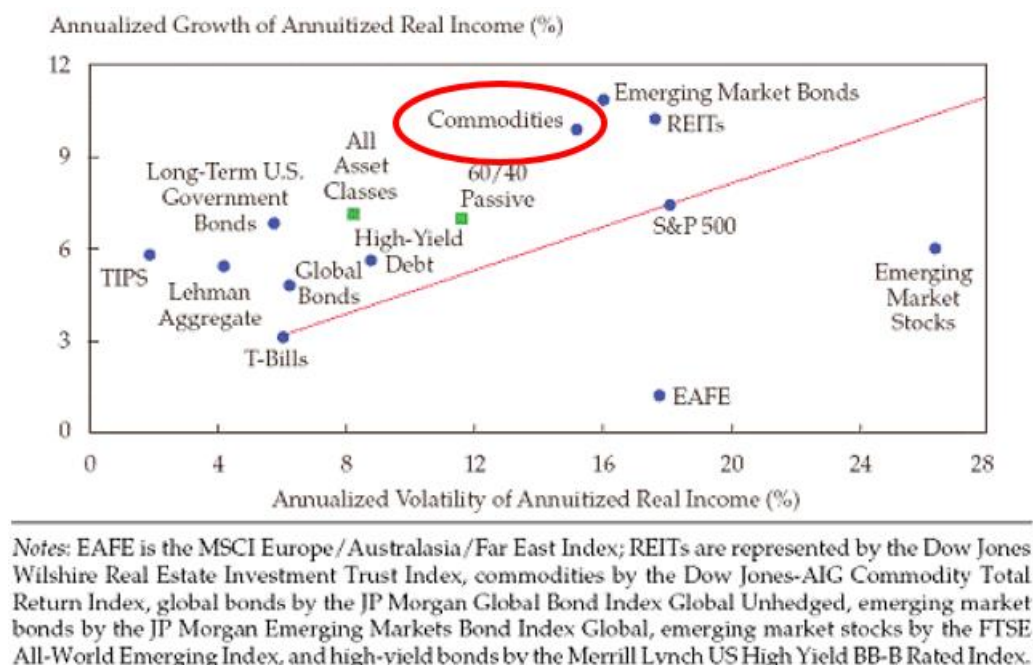
In his interview, Mr. Ziegler emphasized the importance of the first two elements (Appendix 8). It is critical that the banks not only know their customers, but that they also know their customers' suppliers and clients, truly understand their business and know which transactions are consistent with it.

2.2.3.2 Market risks – price fluctuations

Repos with financial instruments are usually conducted with low-risk (highest credit rating) money market and bond securities whose market value only fluctuates a little. In addition, a significant part of these transactions are very short-term, some of them as short as overnight (one business day). With commodity repos, the situation is the opposite: commodity prices are very volatile and maturities extend up to weeks and months, which means that at the time of resale, the prices may be significantly different

from those at the inception. The figure below illustrates the commodities' risk and return profile compared to the other asset classes:

Figure 3 – Returns and volatility of major asset classes



Source: (Mauldin, 2006)

The risk of price fluctuations can be dealt with in two ways. First, the purchase price can include a discount to market value in order to provide the bank with a security buffer. However, a large discount that makes the price deviate significantly from the goods' fair (market) value can be problematic for the transaction's true sale status (section 2.3.5). Unless the price of the forward leg of the repo is fixed from the start, the bank would have to hedge its price risk exposure by entering into short derivatives positions to offset its long physical one.

2.2.3.3 Storage and insurance

After acquiring ownership of the goods, the bank becomes responsible for their preservation. Ideally, it would have to arrange for the storage and insurance services independently, but this may not be the most practical solution (Wynne, p.174). Typically, the goods would already be stored in a warehouse and it would not be convenient to move them to another location because of the additional costs. However, whether the warehouse is operated or controlled by the trader or if he had contracted for these services with an independent company may have implications for the validity of the true sale and we will discuss them in the corresponding section.

Other risks include the deterioration of quality and the losses due to spoilage of perishable goods. This is more of a concern for agricultural commodities, such as wheat, barley, corn and soybeans. Although they can be stored for years under the right conditions, losses could quickly arise if there is a failure to maintain the required storage regime. Oil, its products and metals do not spoil as such, but can also suffer from losses in quality (oil products contaminated in tanks) or damage (hot briquetted iron that can self-ignite when piled incorrectly) (Belton, 2015).

2.2.3.4 Liability to third parties

Financing physical commodities results in a number of risks that are not encountered in financial repos. Specifically, damage to property and the environment can arise as a result of mishandling certain goods (Wynne, p.174). Commodities vary widely in their risk profile. Oil and its products, as well as chemicals can cause great harm directly as a result of leakage, combustion or explosion. Metals do not tend to be problematic, with exceptions such as mercury or uranium. Agricultural commodities, while not dangerous as such, can nevertheless cause harm when they are used for human or animal consumption and there are quality issues. For example, in 2008, the European Union restricted imports of Ukrainian sunflower oil after it was discovered that it was contaminated by mineral oil, possibly in storage tanks (Jones, 2008). The risks of third party liability can be mitigated through insurance. However, there is also the reputational risk of having financed the goods involved, with bad publicity that may harm the bank regardless of whether it owned the goods or they were only pledged in its favor.

2.3 Legal Aspects

2.3.1 Passing of title

As a repo involves a sale and a subsequent repurchase of commodities, title will pass from the trader to the bank and conversely at the maturity of the transaction. This will be governed by the sales and purchase contract between the parties. In most jurisdictions, they are free to define the moment when title passes according to what best suits their needs. Should the contract be silent, however, most local laws provide a default position (Zonneveld, 2012). For example, in the United States and China, title passes at delivery (§2-401 US Uniform Commercial Code (LII / Legal Information Institute, 2016a), Contract Law of the People's Republic of China, Article 133 (WIPO, 1999)), while under English law, by default, title passes at the time of payment with which delivery is concurrent (Sale of Goods Act 1979, Section 28 (Legislation.gov.uk,

2016)). In international trade there are indeed departures from the default law provisions as payment is often deferred.

2.3.2 Delivery of goods

A sale implies that delivery of goods will take place. Under English law, delivery may be effected by transfer of either actual or constructive possession. When it is actual, the goods are physically delivered to the buyer. Arguably, it is not practical for the bank to accept delivery of tens and hundreds of thousands of tons of metal, oil or agricultural products, unless it is involved in the physical commodity trading business itself and owns or leases warehouses or storage space. Precious metals (gold, silver, platinum and palladium) are an exception, as their value-to-weight ratio is very high compared to that of other goods. At current prices, a ton of copper is 13 times more valuable than a ton of soybeans or crude oil. Silver, however, is more than 1'500 times more valuable than oil and gold 117'000 times – a single standard 12.5kg gold bar is worth more than USD 500'000. Precious metals of huge value can therefore be stored effectively in a very small space. Bank vaults are sufficient for this purpose and actual delivery is practical, as the transport and storage costs only amount to a tiny fraction of the goods' value:

Table 1 – Differences in “value density” across commodities

Commodity	Price	Units	Price, USD/MT	Value relative to Crude Oil
Gold	1275	USD/Troy oz	40'992'171	117354
Silver	17.13	USD/Troy oz	550'742	1577
Copper	4660	USD/MT	4'660	13
Soybeans	10.63	USD/bushel	391	1.1
Crude Oil	47.85	USD/bbl	349	1

Sources: Finviz.com, Metric Conversion, Lme.com (2016a), U.S. Grains Council (2016)

Most commodities, however, are stored in warehouses owned or leased by the trading companies, or operated by independent warehousing firms. With delivery by transfer of constructive possession, the goods do not have to move by an inch. It can be accomplished by handing over a title document that represents the goods, such as a Bill of Lading or a warehouse receipt (if recognized under the relevant law as a transferable title document) – known as “symbolic” delivery. Alternatively, if the goods are “*in possession of*” a third party, for example a warehouse operator (a bailee), that party may declare that it is holding the goods to the order of the recipient – known as attornment (Sale of Goods Act 1979, Section 29 (Legislation.gov.uk, 2016)). The word “possession” here simply means that the goods are kept by that person and equates to

physical control. The following quotation illustrates the difference with constructive possession: *“It is common ground (...) that, at the time of each sale, the goods in question were in the possession of a third party (one of the warehouse operators) as bailee for the seller, the seller having constructive possession of the goods.”* (Bailii.org, 2015b, §54).

2.3.3 Title document status

The status of documents representing the goods will determine the delivery mode that is possible under the repo. Once again, this may differ across legal systems. Under English law, a warehouse receipt is not a document of title (Monk and Turner, 2014). Merely handing them over to the bank therefore will not constitute a valid delivery of goods and attornment from the warehouse operator will be required in addition. This was one of the key issues in the *Mercuria v Citigroup* case that we will examine later on. However, there are exceptions when warehouse receipts can *“acquire the status of title documents through trade custom or usage or by Acts of Parliament”* (Antcliffe et al., 2011). One is the notable example of the LME warrants. Henry Bath, a leading warehousing firm, issues warehouse receipts that convey title to the goods as per an Act of UK Parliament from 1890 (Henrybath.com, 2016). On the other hand, warehouse receipts are indeed considered documents of title in the United States, as per the Uniform Commercial Code, §7-104 (LII / Legal Information Institute, 2016b), as well as in China (Moser and Yu, 2014).

2.3.4 Lex situs

In commodity trading, sales and purchase contracts are often governed by the English law, a jurisdiction elected because of the certainty offered by its long-dating case law, as well as proven impartiality when it comes to the treatment of parties in court. In a case where a company A based in country X is selling goods being loaded in a port in country Y to a company B based in country Z, such a jurisdiction constitutes an acceptable compromise. Indeed, in emerging markets, where a large part of the business is conducted, the legal systems may not be sufficiently practical and reliable if the interpretation and enforcement of the law is not clear. Furthermore, the local courts may treat the home country's party more favorably as a matter of principle or because of corruption to which they are more vulnerable as well.

However, in inventory finance, it is practically impossible to avoid the involvement of local laws, since the goods are stored in a warehouse in a given country for a certain period of time. In the case of Qingdao, the sales or purchase contract could be

governed by the English law, as was the case with Mercuria and Citigroup, but the laws of the PRC could also apply to the goods if the matter was brought before a Chinese court as a matter of non-contractual claims such as tort or civil liability. In addition, local laws may regulate their activities of warehouses, define their licensing requirements and the status of the documents representing the goods, such as warehouse receipts, and whether the parties can elect another jurisdiction to govern their contract. All this can lead to a situation in which different parts of a dispute could be heard by different courts which could arrive to contradicting conclusions (Mr. Hold, Appendix 4).

Since several jurisdictions can apply to a transaction, the parties seek legal opinions from law firms prior to going ahead. In these reports, the lawyers comment on the feasibility of the deal: whether it would be in compliance with the legal systems involved, whether these systems work together, whether title could pass properly and so on (Mr. Hold). They are a critical step in setting up the deal and have to be requested on a regular basis because each transaction is unique.

2.3.5 True sale and recharacterization risk

While the repurchase structure involves sales of goods, it is important to remember that it ultimately remains a financing instrument. The business motivation behind a repo is to monetize one's inventory while it is not needed and use the thus freed up funds in other business operations. At the repo's maturity, the inventory will return to the "borrower" and he will have incurred a cost in the difference between the sale and the repurchase price. From an economic standpoint, this is similar to the interest paid on a loan advanced against the security of the commodity. There is therefore a difference between the form of the agreement (sales with transfer of ownership) and its substance (financing). Furthermore, since between the trading company and the bank the latter is less an expert in dealing with the commodity itself, there is an incentive for the lender to try and pass back to the trader as much risk and responsibility arising from ownership as possible through contractual arrangements. It is critical to ensure that such measures do not undermine the true sale principle.

For example, when a lender has to take over the inventory following the borrower's default or other problems, if the true sale principle was not complied with, the repo transaction may be recharacterized as a loan. The bank will no longer have ownership and will be considered to have attempted to take security over the collateral whose status will be examined to determine whether the security interest had been properly established. This is known as attachment and allows the lender to enforce his rights against the borrower. However, a second step, called perfection, is frequently required

in order to be able to enforce the security against third parties who may have claims on the collateral or against other creditors in the case of bankruptcy. Local laws may require additional actions to perfect the security such as registration of the pledge in a public registry. It is not likely that such measures would have been taken by the parties when setting up a repo deal, as the transfer of ownership through a sale does not require them. As a result, the lender may find itself in a position where his security interest would either not be enforceable in the absence of perfection, or non-existent altogether, depending on the jurisdiction (Wynne, p.176).

Recharacterization defeats the very purpose of the repo – in particular, ownership is often much easier to acquire and document than a pledge. It also allows the lender to dispose of the collateral as soon as a default event occurs without going through the procedures prescribed by the local laws for security interests. In addition, the lender would have to reimburse to the borrower any sale proceeds in excess of the amounts owed (Wynne, p.168). For these reasons, repos are preferred in certain countries or contexts and indeed, comprised most of the financing deals involved in the Qingdao scandal (Curran, Inman and Iosebashvili, 2014). A table in Appendix 1 provides an overview of the major elements that can strengthen or weaken compliance with the true sale principle. Overall, the bank should assume its role of the goods' owner to the greatest extent possible and not seek to pass responsibility and risks back to the trader (Wynne and Koshy, 2015). We can further comment on some of the points in the table:

- Purchase price: there is a conflict between the recommendation to have it as close as possible to the market price and the bank's interest to impose haircuts on collateral in order to have a buffer protecting it from market fluctuations. While margins and haircuts are the norm with secured lending, they are not desirable with repos. The bank should instead assume the price risks and take the necessary hedging measures.
- Transaction duration: there have been cases of abuse of the repo structure when they were used primarily to embellish the balance sheet of the company and create an appearance of a healthier liquidity situation. We will expand on these issues in section 2.4.1 covering the accounting aspects of repos.
- An option to repurchase: the fact that the trader only has the right, but not an obligation to buy back the inventory at repo's maturity makes a big difference for the transaction's form. It takes away the certainty that ownership of the goods will be recovered and introduces the possibility that the bank will keep them. Under these circumstances, the initial transfer of title acquires a more

sustainable status, because it will endure unless the trader chooses to exercise his call option. In the normal course of business, the bank does not wish to keep the goods, as its main activity is to provide finance and not to trade in physical commodities. In this context, in addition to being a buffer for price fluctuations, the lower price paid for the goods in comparison to prevailing market prices acts as an incentive for the trader to buy these stocks back. Finally, some banks are active in physical commodity trading as well (although the US banks have been exiting the business as of lately due to regulatory pressures) and they may actually be adequately equipped to deal with any goods that should remain in their ownership. In any case, the option to repurchase strengthens the structure and there is a “strong understanding” between the parties that it will indeed be exercised by the trader (Mr. Ziegler).

- Different seller and re-purchaser: According to Wynne (p.180), this is the single most important point strengthening the true sale argument, so much that the structure could be upheld even if some other aspects are not in accordance with it. Mr. Hold explained that the issue is also whether the two legs of the repo are connected. In the repurchase contract, it should not be stated that the goods have to be those same goods that were sold. The wording should limit itself to saying: “we sell you back 500 tons of steel bars with specifications a,b,c,d” and the same in the sales contract. This way, the goods will indeed most of the time be the same ones, but it would just be a coincidence. Resale obligations could also be satisfied if another batch of goods meeting the description and quality specifications was delivered.

There was a notable legal case on recharacterization – *Welsh Development Agency v Export Finance Company*, but it dealt with sales of book debts and not commodities (Sullivan & Worcester, 2015). It was held that a transaction could be recharacterized when the contract is a sham, that is, when it does not adequately reflect the intentions of the parties and if its terms do not allow to achieve the legal effects that they are targeting (swarb.co.uk, 2015).

2.3.6 Bankruptcy proceedings

Recharacterization has additional implications in the case of bankruptcy proceedings as there are significant differences between the treatment of secured lending and ownership structures. In the UK, secured loans are recognized and the pledged assets are segregated from the bankruptcy estate. However, this is not the case in the United States, where the Chapter 11 bankruptcy code Section 362 prevents a lender, even

secured, from “*exercising remedies against the debtor or the lender’s collateral*” – this is known as the automatic stay (McCollough and Gratton, 2014). Although in the case of a repo, the lender who would only have a contractual obligation to resell the commodity to the bankrupt entity, by virtue of the same Section 362: “*the automatic stay would prohibit any action by the non-debtor to terminate a contract, to recover claims against the debtor or to offset mutual debts with the debtor*” (Dunetz, 2012b). However, Section 556 exempts certain commodities and forward contracts that include repos from the automatic stay. As a result, the bank is no longer bound by its obligation to resell the goods to the trader and instead will be allowed to “liquidate” the contract by selling them onto the market. It will even be entitled to claim from the estate any damages resulting from an adverse difference between the contract price and that realized on the sale (Campbell, 2002, p.4).

We can see that while repos are well-protected with regards to bankruptcy, it is even more important to ensure that the structure complies with the true sale principle in order to avoid losing these benefits in case of recharacterization.

2.3.7 Repo documentation

The documentation used to set up a repo structure is quite different from that used both in secured lending as well as with financial repos. Typically, rather than entering into just one repo, the trader and the bank may have multiple ongoing transactions at any given moment with different batches of commodities. At maturity, there is not always an end buyer aligned to purchase the goods. In that case, the repo might be rolled over into a new one. In this context, it is not practical to draft extensive sales and repurchase contracts every time. Instead, there is a Master Agreement which sets out the general terms and conditions, that is complemented by confirmations for the individual transactions. Such confirmations may hold on a single page and the modern master agreements can be as brief as five pages. In comparison, the documentation required in setting up a loan and a security interest is much more extensive (Zonneveld, 2012).

In financial repos, their relatively longer history and a higher degree of standardization has enabled the development of a common documentation framework. There are now three major documents covering repos: the Global Master Repurchase Agreement (GMRA), based on the U.K. legal precedent, the Master Repurchase Agreement used in the U.S. and the European Master Agreement (Osterberg, 2011). In commodities, because of the high degree of heterogeneity among the structures and the need to tailor them to a unique business context, an equivalent standard document does not

exist. The master agreements are bespoke and negotiated between the parties, although financial institutions may have a base draft that is adapted for each situation. Further, since commodity repos involve goods rather than securities, the master agreements reflect the national legislation applicable to the sales transactions, such as the Sale of Goods Act 1979 under English law (Nowinski, 2012).

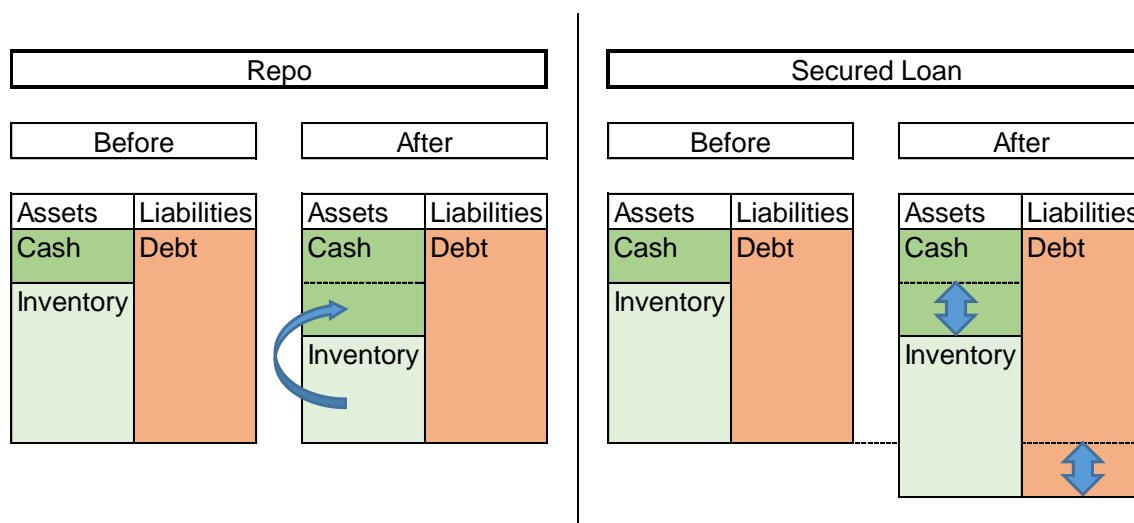
2.4 Accounting Treatment

There is no doubt that commodity repos are useful for traders, because they allow to optimize the use of one's inventory while preserving operational flexibility. However, they are even more appealing, because they also allow to improve the company's liquidity and raise cash without generating new debt (Trade Finance, 2014b).

2.4.1 Off-balance sheet effects

In secured lending structures, inventory only serves as collateral and remains on the trader's books. New liquidity coming in the form of cash is balanced by a corresponding increase in liabilities. With repos, however, no new balance sheet liabilities are created and there is only a shift of funds on the asset side from the inventory to cash account. These effects on the current assets and liabilities on the balance sheet are illustrated below:

Figure 4 – Effect of repos and secured loans on the trader's balance sheet



There were cases when repos were abused to give the appearance of a healthier financial position than it was the case, in particular at the end of the quarterly and annual reporting periods.

Lehman Brothers

The bank abused an exception granted by paragraph 218 of the Statement of Financial Accounting Standards (FAS) No. 140 which deals with the reporting of repo financing in the United States. When securities are sold with a standard haircut of 1-2%, repos are treated as secured loans. Instead, Lehman sold fixed-income and equity securities with larger haircuts of respectively 5% and 8%. This had the result that the bank would be giving up effective control over the securities which would then be derecognized from the balance sheet, as the proceeds of the sale alone were insufficient to buy them back. This came to be known as Lehman's "Repo 105s" (from the 5% haircut) and by May 2008, the bank had moved \$50 billion of debt off its balance sheet in this way, reducing its net leverage from 13.9 to 12.1, which is a substantial difference that would have raised analyst concerns (Smith, 2011, Wynne, p.165-166).

Enron

Under pressure to deliver ever growing profits every quarter, Enron had used so-called commodity "prepays" that allowed it to raise debt, but "transformed" the cash flows from financing into cash flows from operations. Although these instruments actually involved special purpose vehicles, they gave bad publicity to commodity repos because sales of inventories were involved in both cases (Wynne, p.166). In 2000, Enron had \$10 billion in debt on its balance sheet and \$4 billion in unrecognized prepays that would have increased its indebtedness by 40% if accounted for properly (Smith, 2011).

2.4.2 Qualifying for off-balance sheet treatment

We will now review the requirements for derecognition of assets under IFRS and US GAAP.

2.4.2.1 IFRS

The off-balance sheet treatment of a repo is based on the IASB Framework definitions of assets and their recognition. An asset is defined under §49 (a) as: ***"a resource controlled by the entity as a result of past events and from which future economic benefits are expected to flow to the entity"*** (emphasis added).

An asset should be recognized, according to §89, when: ***"it is probable that the future economic benefits will flow to the entity and the asset has a cost or value that can be measured reliably"*** (kuap.ru, 2009).

The highlighted terms define the cumulative conditions that must be met in order to derecognize the goods from the seller's balance sheet (Bollebakker, 2015):

1. Future economic benefits

- The purchaser will derive economic benefit from the goods when the repurchase option is exercised and the goods are resold for cash; or
- Alternatively, the purchaser may have to sell the goods in the open market or on a commodities exchange.
- The prices must be fixed based on fair values and not on a “cost plus” basis.

2. Control

- The purchaser is exposed to the price risk from fluctuations in commodity’s value and to the counterparty risk of failure by the client to repurchase the goods.
- The purchaser has the right to sell or pledge the inventory it acquired.
- The purchaser assumes the risks of loss or damage to the goods and possibly insures them.
- The purchaser is responsible for the storage costs.
- The seller no longer has access to the goods and cannot transport them.

3. Value measurement

- The value of the goods must be ascertainable reliably. This is normally the case, as there is a purchase price available at which the commodity was bought.

Under IFRS, an obligation to buy back the goods, rather than an option, disqualifies the repo from derecognition.

2.4.2.2 US GAAP

In a similar fashion to the IFRS rules, the bank must assume the risk of price fluctuations during its period of ownership and the sale and repurchase must take place at market prices. The seller cannot be involved in any price risk mitigation and hedging actions undertaken by the bank. As an additional requirement, the duration of the repo must be “long enough” so that the bank’s price risk is real and material. It would not be allowed, for example, to structure a series of weekly repos so that the bank only advances amounts corresponding to the goods’ current value. On the other hand, in contrast to IFRS, an obligation to buy the inventory back instead of having an option to do so is not an obstacle to derecognition under US GAAP (Bollebakker, 2015).

Under US GAAP, it is more difficult to achieve off-balance sheet treatment when structuring the transaction with special purpose vehicles. One of the major reasons is because an SPV would have to be consolidated with the trader when it is created solely for the purpose of holding inventory acquired from the former and such inventory comprises the majority of the vehicle's assets.

We have seen that from a legal standpoint, certain minor elements of the repo structure may not be in compliance with the true sale principle provided that they are mitigated when other, more important elements are compliant. On the other hand, in order to achieve derecognition of inventory, the accounting requirements have to be complied with strictly. According to Mr. Y (Appendix 7), traders are interested in using repos even when they cannot achieve derecognition of inventory, because the financing can be cheaper as the banks pass on the savings they make by having to set less capital aside.

2.5 Regulatory Issues

2.5.1 Capital relief

Under Basel II and III, banks are required to set aside less capital for repos than for loans (Dunetz, 2012a). This is a consequence of having a more direct recourse in the case of default (no need to enforce the security interest). According to Mr. de Laat (Appendix 5), this is really a key advantage of repos. In particular, cash-and-carry structures (explained in 2.7.1) provide significant capital relief, because the bank owns the goods and has no obligation to sell them back to the client. The calculation of the amounts is very complicated, because it is now based on models rather than defined percentages. With the same interest rates charged to the client, the bank's return on capital can be twice as high as in secured lending.

2.5.2 Regulated activities

Owning commodities may result in the bank being subject to local regulations that apply to these goods. They may involve rules that govern the purchase and sale, license requirements to own commodities such as crude oil or reporting obligations such as REACH in the European Union for chemicals (Wynne and Koshy, 2015).

2.6 Tax Aspects

As owner of the goods, the bank can become liable for taxes such as the tax on profits, withholding tax, stamp duties or VAT (Wynne and Koshy, 2015). Conducting repo

financing requires understanding of these tax consequences. For example, VAT systems can be greatly complex or reimbursements can be as slow and unreliable as to become a major obstacle to the deal. This is notably an issue for repo financing in the Russian Federation (Belozertsev, Rutten and Hollinger, 2011).

2.7 Repo Structure Examples

Commodity repos take very diverse forms as they are not governed by a standardized contract and their exact structure varies widely depending on:

- The bank's policy and selection of markets/locations to do repos,
- The client's needs and
- The laws and regulations that apply

Below, we provide some examples that illustrate this diversity.

2.7.1 Rabobank

In his interview, Mr. Jan de Laat talked about three types of repo structures used by Rabobank:

1. Buyback agreements

This is a classical repo structure with the prices of the sale and repurchase being fixed from the start, so the bank does not have to hedge the price risk, but is exposed to it if the trader defaults on his obligation to buy back the goods.

2. Floating prices

The client sells inventory to the bank and buys it back at a floating price based on a benchmark. The bank thus has a price risk and puts in place the necessary hedges, in line with its role of the owner.

3. Cash-and-Carry

The bank buys goods from the client, but there is no repurchase obligation. It hedges the price risk for the planned duration of the transaction. At maturity, the bank offers the goods to the client who can buy them back or decide not to do so. If he refuses the goods, the bank delivers them onto an exchange. It follows that this specific product is best-suited for exchange-traded commodities with deliverable contracts and goods stored in regulated warehouses that are part of the exchange system. These are the so-called "terminal markets" and include non-ferrous metals traded on the LME or cocoa on the Intercontinental Exchange with qualified warehouses around the world

(Theice.com, 2016). The transactions typically have to be longer than three months in order to justify the administrative work and their actual duration depends on the market conditions – how profitable is the storage play based on the contango. The bank also makes sure that there is sufficient liquidity available in order to be able to hedge effectively.

2.7.2 Poland, 2014, crude oil

PKN Orlen, one of Central Europe's largest oil refiners, monetized the inventory that it had to maintain under Poland's minimum strategic reserve requirements that weighed heavily on its liquidity. The regulations allowed it to contractually assign ownership and maintenance of reserves to third parties. The oil was sold for 19 months, with an option to repurchase at any time to allow access when necessary. The deal involved 7.4 million barrels of oil valued at \$736 million and featured complete hedging of price risk and interest rates (Tfreview.com, 2015b).

2.7.3 Australia, 2009, grain

ANZ led a syndicate that set up a five-year syndicated inventory finance repurchase facility for AUD 475 mio of grain. The grain was sold to a trust established by the banks, stored in third-party warehouses and could be purchased back whenever required for shipments to the client's customers (Tfreview.com, 2011).

2.7.4 Brazil, 2004, frozen concentrated orange juice

ABN Amro entered into a \$55 million two-year revolving forward purchase agreement with Citrosuco, a Brazilian orange juice exporter. The bank bought the goods with 90-day repurchase options at prices that were fixed based on a bespoke formula that the bank developed with models of forward prices. The goods were removed from the balance sheet of Citrosuco (Trade Finance, 2004).

We can see how the above deals reflect the various characteristics of repos including elements compliant with the true sale, such as:

- Derecognition of inventory and improvement of liquidity;
- The repos have a valid purpose and serve a specific business need;
- The options to repurchase;
- Hedging of price risks.

Having examined the functioning of repos, we can now move on to the events of the Qingdao scandal.

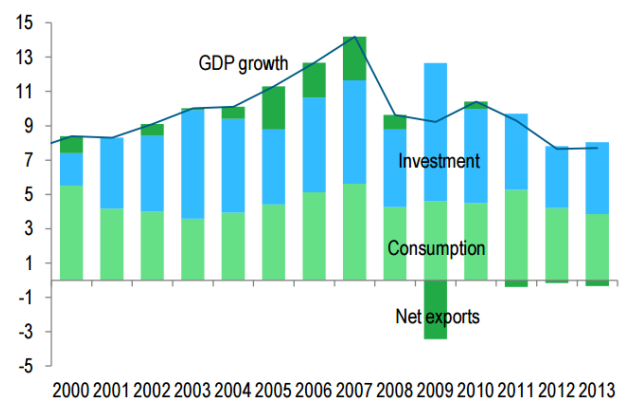
3. The Qingdao Metals Scandal

From our interviews, we learned that fraud is neither a new nor rare phenomenon in trade finance. In fact, it is the biggest risk in this business and one of the most difficult ones to deal with if someone deliberately decides to commit it. It is not possible to avoid it completely. Another point is that fraud does not always happen simply because malevolent people set out with a specific goal to enrich themselves. Be it in commercial activities or finance, oftentimes it starts when companies or individuals find themselves in a difficult situation and at some point make the decision to start cheating. This was the case with Nick Leeson who single-handedly brought down the Barings Bank in 1995 after having lost more than one billion US dollars. It had started with a tiny loss that he hid in an error account and that ballooned out of control as he was doubling down on his losing positions (Beattie, 2008). The infamous RIAS case of grain that disappeared from silos in Russia has also been linked to the problems that the company experienced after the government imposed a ban on grain exports following a severe drought and a failed harvest (Helmer, 2011). In a similar fashion, in Qingdao, there were factors that help to explain why was the fraud committed and why at that moment. Before turning to the scandal itself, we will examine the context in which it happened.

3.1 Context: Chinese Commodity Financing Deals

China, the world's second-largest economy and an industrial powerhouse, has experienced tremendous economic growth over the last decades. Although it slowed down in the years following the Great Financial Crisis of 2008, it remains significantly higher than that of many emerging markets:

Figure 5 – Breakdown of China's GDP growth

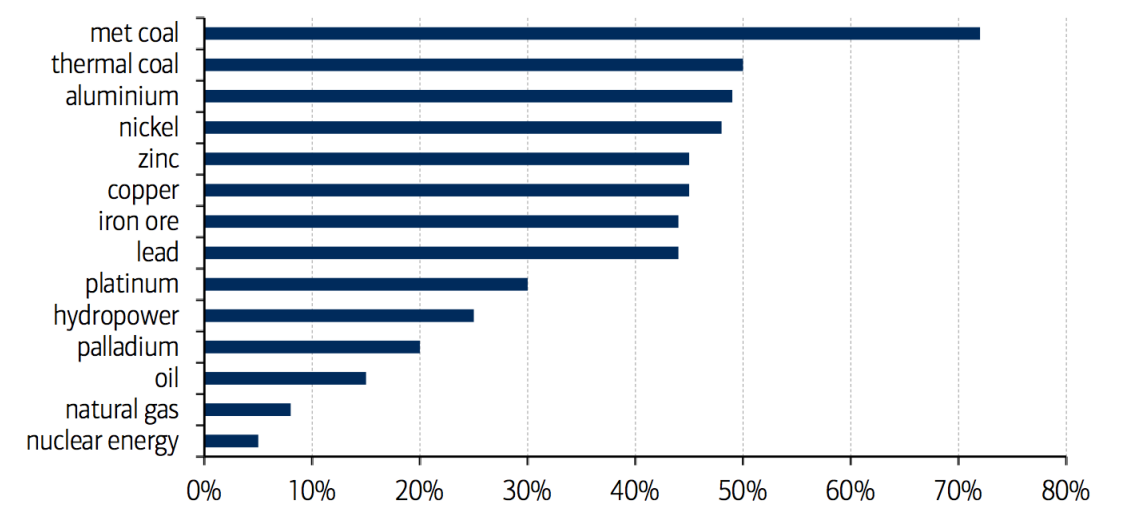


Source: CEIC, Standard Chartered Research

Source: Jha et al. (2014)

A large part of it is attributed to investment in fixed assets which led to a boom in the industrial, infrastructure and real estate sectors. As a result, China became the world’s leading consumer of raw materials and it currently accounts for over 40% of the global demand of many key commodities:

Figure 6 – China’s share of global commodity consumption



Source: BP, Antaike, IAI, ICSG, INSG, CRU, Woodmac, Metal Bulletin, BofA Merrill Lynch Global Commodity Research

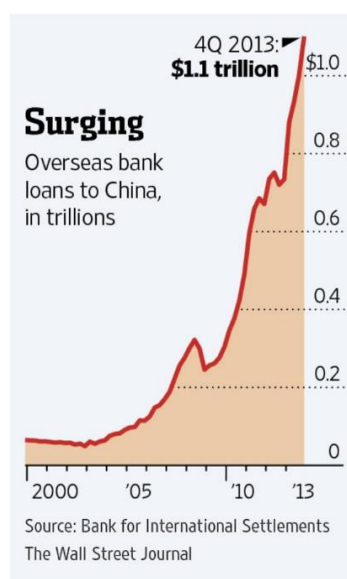
Source: Ro (2015)

3.1.1 Origins

In 2007, the Chinese Property Rights Law was revised. One of the changes was that banks could now use stocks of movable property, including raw materials, as collateral for loans (Frangos, 2016). Prior to the revision of the law, the main form of acceptable collateral was land and immovable property and private firms had great difficulties in accessing finance in the domestic credit market (Roache and Rousset, 2015). This created a new type of commodity demand in China. Goods such as metals were imported not only to be transformed or consumed, but also simply to be kept in bonded warehouses in ports, where they were not subject to import duties, as security for financing. This practice was initially viewed favorably by the government, as it helped to fuel the economic growth which was becoming more credit-driven (Curran and Steger, 2014).

The new financing deals truly boomed as in 2008 China unleashed a four trillion US dollars stimulus package in response to the financial crisis. Foreign loans, which included financing of commodity stocks, also increased more than threefold from \$300 billion in 2009 to \$1.1 trillion in the end of 2013:

Figure 7 – Overseas bank loans to China



Source: Yap (2014)

A key point is that the funds so obtained were not necessarily employed in activities that were related to the commodity supply chains. A significant part of the proceeds went into the shadow banking sector (Tang and Zhu, 2016) – an informal and unregulated lending system between companies that substituted traditional banking sources of funding (Elliott, Kroeber and Qiao, 2015). Commodity-based lending was no longer financing only real trade flows – the practice came to be known as Chinese commodity financing deals (CCFDs) (Vulcan, 2014). Goods were imported into China under letters of credit and once they were in the country repos came into play to extend the financing beyond the term of the L/C. In a deal that serves to finance a trading flow, a trading company would enter into a repo transaction whose maturity would be set at a date when a sale to a customer was planned. Instead, repos were rolled over continuously and there was no business rationale for these transactions other than obtaining finance.

3.1.2 Commodities involved

As fungible, non-differentiated goods, commodities are well-suited for use in financing. In addition, the following characteristics are required (Yuan et al., 2014, p.11):

- Established liquid markets – this makes the commodity easier for the financier to sell in case of the borrower's default and allows to determine with certainty and monitor the value of the collateral.
- High value-to-density ratio – the commodity is relatively cheaper to store; this is particularly the case of metals.

- Goods must be non-perishable – so that they preserve value over time, especially when tied in financing schemes for a longer period than what their normal transformation cycle would warrant.
- Established large seaborne markets towards China – existing infrastructure and logistical facilities (port terminals, warehouses) can be used to accommodate the additional import flows rather than having to prepare them for a new market.

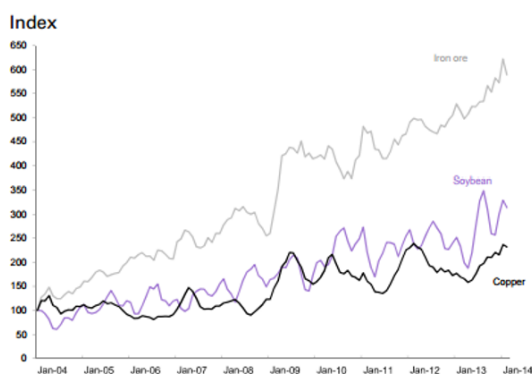
In practice, the following commodities have been used (Yuan et al., 2014, p.13):

- Copper
- Iron ore
- Aluminium
- Zinc
- Nickel
- Gold
- Soybeans
- Rubber
- Aromatics (gasoline blending components) (South China Morning Post, 2014a)
- Palm oil
- Semiconductors (Doi, 2014)

Semiconductors are a curious outlier in the above list, reflecting the borrowers' eagerness to obtain finance and that of the lenders to do business at that time: *"Anything can be used if it has a high price and it's a product with real demand that banks will readily issue letters of credit for"* (Doi, 2014). Analysts at investment banks have linked the growth in Chinese imports of commodities such as copper, iron ore and soybeans to increases in the stocks of these materials in bonded warehouses, as well as in short-term foreign exchange loans in China:

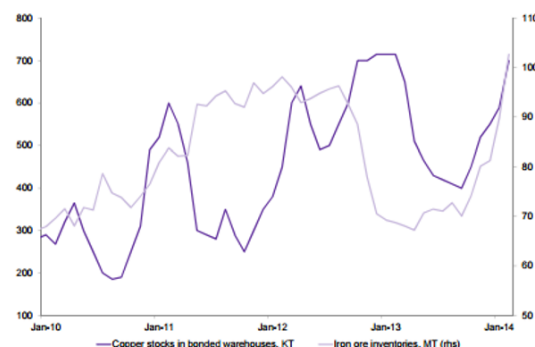
Figure 8 – China's imports and stocks of iron ore, soybeans and copper

Exhibit 31: China's imports of iron ore, soybeans and copper have been rising strongly...



Source: CEIC, Goldman Sachs Global Investment Research.

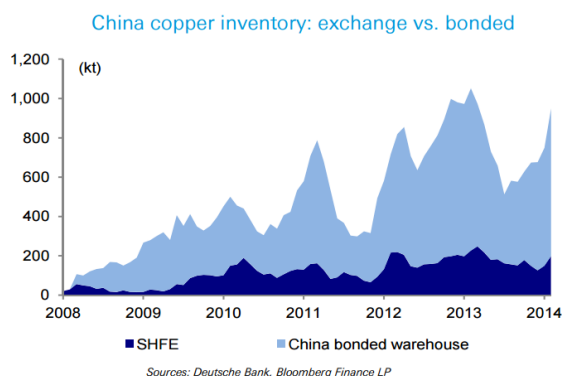
Exhibit 32: ...while inventories are also building up at bonded warehouses, potentially reflecting financing deals' prevalence in these commodities
kt; mt



Source: Bloomberg, Goldman Sachs Global Investment Research.

Source: Yuan et al. (2014)

Figure 9 – China's copper stocks and foreign exchange loans



Sources: Deutsche Bank, Bloomberg Finance LP



Source: CEIC

Source: Lewis, Hsueh and Fu (2014)

In the beginning of 2014, there was four times more copper stored in bonded warehouses (700'000-800'000 metric tons) than within the Shanghai Futures Exchange system.

3.1.3 Profit drivers

The profitability of the CCFD deals is driven by the following factors:

- The interest rate differential between the currency of funding, USD, and the local currency, CNY, in which the proceeds were converted:

Figure 10 – China and US benchmark interest rates



We can see that interest rates were brought close to zero (0.25%) in the United States in response to the financial crisis of 2008 and stayed at that level for almost seven years until the first interest rate hike at the end of 2015. In China, the rates were lowered during the crisis as well, but much less. With an economic rebound driven by credit growth, rates actually had to be raised again as soon as in 2011 and stayed at 6% until the end of 2014. With CCFDs, the difference between the cost of funding and the actual returns earned on the shadow banking products or loans systematically attained 10 percentage points per annum (Wong, Yam and Burton, 2014).

- Currency exchange rate between the US dollar and the yuan:

Figure 11 – USD/CNY exchange rate



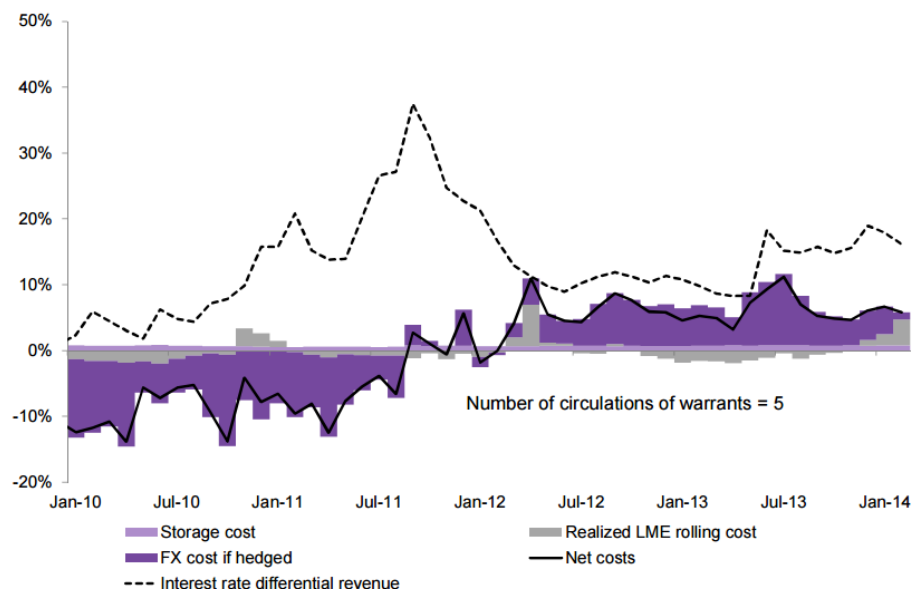
Source: Tradingeconomics.com (2016)

The above figure shows how much yuan is one US dollar worth. Over the last ten years, up until the beginning of 2014 there was a pretty much one-way trend of yuan appreciation against the dollar. This added to the profitability of the financing deals, as ever less yuan were needed to reimburse the loans denominated in US dollars. One would normally hedge the currency risk exposure on loans or investments, but the trend's consistency over the years encouraged market participants to retain the FX risk which was in their favor. When the trend finally reversed in 2014, exchange rate gains turned into losses. One article states that “*Chinese policy makers have engineered a decline in the renminbi, or yuan, currency (...) in a bid to reduce hot-money inflows*” (Curran and Steger, 2014) which originated from CCFDs as well.

Goldman Sachs provides an overall view of CCFD profitability with the example of copper that takes into account the effects of currency hedging for those who did hedge, as well as factors such as storage costs (which were negligible) and the roll yield from rolling over the hedges on the LME. One is long the physical commodity and goes short the futures in order to hedge the price risk. The roll yield is positive when the market is in contango, as one buys back the front contract before it goes into expiry and sells the next contract that is trading at a higher price. It is negative in backwardation, as the front contract trades above the next one:

Figure 12 – Profitability of Chinese commodity financing deals

Exhibit 1: Chinese commodity financing deals are still profitable - annual return for copper still well over 10%
 \$/t of copper profit on CCFD per annum as% of copper price



Source: LME, Wind, Bloomberg, Goldman Sachs Global Investment Research.

Source: Yuan et al. (2014)

3.1.4 Effects on the markets and economy

Just how important was the CCFD phenomenon? According to Goldman Sachs, “in 2013, ‘hot money’ accounted for c. 42% of the growth in China’s monetary base of which we estimate that CCFDs contributed \$81-160 billion or c. 31% of China’s total FX short-term loans. Given this, it is crucial for the government to manage the immediate impact of ‘hot money’ flow changes on the economy and markets.” (Yuan et al., 2014). Recently, the topic started to be covered in academic literature. Previously, researchers were primarily concerned with the impact of financial actors on price dynamics in commodity markets through derivative instruments. New literature now studies the impacts on the physical markets when physical stocks are tied up as collateral for financing. One paper attempts to quantify the impact of the onshore-offshore interest rate differential on the carry trade: “For every 1 basis point increase in the onshore-offshore interest rate differential, copper carry trade positions increase by \$1.5 million” (Zhang and Balding, 2015).

Another studies the effect on prices: “a one-standard-deviation increase in collateral demand increases metal prices by about 3% in China and by about 4% in developed

markets. The same change in collateral demand increases nonmetal commodity prices by about 1.3% in China and 2.9% in developed markets.” (Tang and Zhu, 2016).

And another: “a 1 percentage point (ppt) surprise increase in China’s bank lending results in statistically significant price increases of 10-12 percent for some base metals, including copper. This contrasts with a 1 ppt shock to China’s industrial production which leads to a statistically significant change of 7-9 percent [in prices] of aluminum, copper, and crude oil. We suggest that one reason for the large influence of China’s credit aggregates may be the important role that some commodities play as collateral for lending in a financial system still bedeviled by information asymmetries, particularly for private sector borrowers” (Roache and Rousset, 2015).

3.2 The Scandal

It is interesting that the fraud in Qingdao, the world’s 7th busiest port (World Port Source, 2016) and China’s largest iron ore port (Hornby and Rice, 2014), was not discovered because a bank or a trader realized that there was a problem with metal in the bonded warehouses. Instead, it started with a government corruption probe in Xining, a city 1’000 miles away. The city’s Party secretary, Mao Xiaobing, was investigated for “serious discipline violations”, a term used to denote corruption. In the course of the investigation, authorities also investigated people associated with the party official, among which Chen Jihong, an aluminium and alumina trader and chairman of Dezheng Resources (Yam, Wong and Burton, 2014). The company presented itself as *“China’s lowest-cost aluminium producer, with smelters sited alongside power plants and open pit coal mines in Inner Mongolia and elsewhere”* (Hornby and Rice, 2014). Besides non-ferrous metals, it was also active in real estate and set up two companies in 2006 as China’s housing market was booming: Qingdao Jinxiu Qiancheng Investment Co. and Qingdao Jiaxin Real Estate Co (Yap, 2014). Dezheng engaged in CCFDs to raise finance and in line with the theory discussed above, the proceeds went into real estate instead of being employed in the industrial or trading activities of the firm (Hongyuran, 2014).

Suspensions arose that the company engaged into duplicating warehouse receipts to obtain multiple rounds of financing against the same batches of metal (Yam, Wong and Burton, 2014). A separate probe was launched and banks began to worry when Mr. Chen was detained in late April 2014 (Hongyuran, 2014). On May 28, authorities ordered to seal off the Dagang bonded storage area in the port of Qingdao (Home, 2014a) and a part of the port in Penglai on June 8 (Bailii.org, 2015b, §34). The

warehouses have remained closed down ever since. Two years later, investigations are still ongoing and there are no indications that the facilities have been reopened.

We have mentioned before that fraud, rather than an end in itself, may be a consequence of adverse changes in the company's environment. While the exact details and the circumstances of Dezheng's fraud are unknown, there were indeed factors that could have led the company to committing it. In July 2013, the Chinese Ministry of Industry and Information Technology ordered 1'400 companies in 19 industries to reduce excess production capacity and close outdated facilities. The major energy-consuming and highly-polluting industries such as steel, electrolytic aluminum, cement, as well as copper and lead smelting were the priority targets. The deadline to comply was short – end of 2013. Many of these companies were already in a difficult financial position and faced with a decrease in production, their capacity to pay off the official banking sector loans was threatened. Under such circumstances, it would not be surprising if some of these companies turned to alternative financing schemes, including those involving commodities (Lelyveld, 2014). And if the company had already maxed out the potential of such deals, it could turn to fraud.

3.2.1 Extent of the scandal

3.2.1.1 Volumes and value

The scandal involved about 400'000 tons of base metals: 300,000 tons of alumina, 70,000 to 80,000 tons of aluminium ingots and 20,000 tons of copper (South China Morning Post, 2014b). At that time, these quantities were worth about 380 million US dollars. There are big differences in the prices of these metals: alumina was only worth about \$330 per ton (Yam, 2014a), while aluminium was trading at \$1850 per ton and copper at \$7000 per ton (Appendix 2). This means that the actual value could be greater if it turned out that the proportions of the more valuable copper and aluminium were larger than 5% and 20% respectively. As long as the warehouses remain closed, it is impossible to know how much metal there was in the first place.

3.2.1.2 Exposure

Knowing that multiple warehouse receipts were issued for each batch of metal, the actual exposures and potential losses are much higher. The amounts announced in the press gradually grew and by July 2014 reached \$1 billion of exposure for international banks (Mason, Burton and Thomas, 2014) and \$3.2 billion (20 billion yuan) for Chinese banks (Bloomberg.com, 2014a), for a total of \$4.2 billion. If the above numbers on the physical volumes are correct, it means that metal was financed ten times on average. One article does mention that aluminium was pledged eight times over (Hotter, 2014).

3.2.1.3 Banks involved

The following banks were hit by the Qingdao fraud:

Table 2 – Banks affected by the Qingdao scandal

Chinese banks		
Bank of China	ICBC	Agricultural Bank of China
China Construction Bank	Bank of Communications	China Minsheng Banking Corp
China Citic Bank	China Exim Bank	Industrial Bank
China Merchants Bank	China Everbright Bank	Huaxia Bank
Bank of Weifang	Bank of Hebei	Weihai City Commercial Bank
Evergrowing Bank	Rizhao Bank	Qilu Bank
Foreign banks		
Citigroup	Standard Chartered	Standard Bank
ABN Amro	BNP Paribas	HSBC
Natixis		

Source: Wang (2014)

Among those with the largest exposures there were:

- Citigroup - \$270 million in aluminium and copper repos with Mercuria (Sanderson and Hume, 2014).
- Standard Chartered Bank - \$250 million exposure *“across multiple clients, multiple locations, multiple types of facilities, not all of which will be affected”* (Wong, Yam and Burton, 2014). The bank made \$175 million in provisions for losses (Morris, 2014).
- South Africa's Standard Bank – exposure of \$210 million, of which \$170 million in aluminium repos (Kotze, 2014) in Qingdao and another \$40 million in another port in Shandong province (probably Penglai, the second affected port). The bank believed that it alone was financing 80'000 metric tons of aluminium in Qingdao, which amounted to all aluminium kept in that port (Business Day Live, 2014).
- Industrial and Commercial Bank of China – *“suffered a loss of less than \$200 million”* (Lee, 2014).

In comparison, ABN Amro only had an exposure of \$22 million. The bank's global commodities head commented that some other lenders may have *“gone a bit too fast without proper checks and balances”* (Chanjaroen, 2014).

3.2.1.4 Fears of contagion

The immediate reaction was lenders hurrying to assess their exposures and trying to establish whether other locations were concerned. According to Deutsche Bank, Qingdao port only accounts for 1.8% China's imports of refined copper and alloys, compared to Shanghai with 77% (Curran, Inman and Iosebashvili, 2014). However, there were concerns that the fraud could be more widespread in terms of locations and companies involved. Luckily, it turned out that it was indeed a single, isolated case with just one company, Dezheng Resources. In fact, there are striking differences between the functioning and oversight of warehouses in Shanghai and Qingdao which partly explain why the fraud was easier to organize there.

First, the trade in Shanghai is largely conducted on the Shanghai Futures Exchange, which, like the LME, has a system of regulated copper warehouses (Eavis and Gough, 2014). There are strict protocols for issuance of documents for stored metal. In an interview to Financial Times, a copper analyst for China International Futures Co said that he could not think of a case where copper stored in Shanghai could be pledged several times. In contrast, in Qingdao: *"If the warehouse is not strict it might open more than one copy of the documents"* (Hornby and Rice, 2014) – the quotation makes it sound as if this fundamentally fraudulent practice was an almost casual phenomenon.

In addition, although well-known international companies are conducting warehousing business in China, a number of them outsource some of the activities to local firms because compliance with local regulations is complex. This also allowed to reduce costs (Burton and Wong, 2014). According to Mr. Y, in Qingdao, the option to operate the warehouse by oneself was not even available. Contrary to the practice in other ports, the port authorities insisted on operating the warehouses. This introduced a critical risk to the transactions as the warehousing company's control over the warehouse and the goods was strongly weakened if not non-existent. For example, Impala, the warehousing and logistics arm of Trafigura, was leasing storage space in a warehouse operated by Qingdao Hongtu Logistics Co. Ltd (Bailii.org, 2015a, §20). That company produced stock reports based on which Impala issued warehouse receipts for the traders and lenders (Bailii.org, 2015a, §90(2)). This proved to be the weakest link in the transaction, as one report identifies Hongtu Logistics as being an affiliate of Dezheng Resources (RepRisk, 2015).

In the case of Mercuria, it was alleged that Dezheng persuaded the Qingdao Dagang Port Company to issue fraudulent port receipts (called "rukudans") to the warehouse operators Impala, CWT and GKE, which are all well-known companies, who in turn

issued warehouse receipts to Citi (Bailii.org, 2015b, §26). To make things worse, bank staff only rarely went to see the warehouses or conducted checks of inventories when entering into financing deals. Realizing this, traders and warehouse operators had more possibilities to issue multiple warehouse receipts. In fact, due to a weakness of regulations, this could also have happened due to mistakes or negligence without there necessarily being a case of fraud. Finally, there was no credit monitoring system that would allow the Chinese banks to verify if the same goods were financed multiple times (Tian, 2014). However, as pointed out by Mr. Ziegler, even if such a system existed it would not have helped to prevent the duplication of warehouse receipts.

Although the metals scandal was limited to one company and two ports, it was part of a larger problem. The State Administration of Foreign Exchange has *“uncovered almost \$10 billion in fraudulent trade nationwide. (...) Companies “faked, forged and illegally re-used” documents for exports and imports”* to obtain funding overseas (Bloomberg.com, 2014b). These “hot money flows” mentioned in the Goldman Sachs report were directly targeted by the investigation. The fact that the fraud in Qingdao was discovered in the course of a government investigation and not by lenders or traders is worrisome, because it means that there could be other fraudulent schemes that have not been exposed yet.

4. Qingdao Consequences

In this chapter, we will review how the scandal has affected the use of commodity repos. As we will see, the response to this question involves only a limited number of elements that are exclusive to repos as such. A greater number of implications are broader and affect not only repos, but inventory and trade financing in general, be it with repos, secured lending or letters of credit used to import metal into China. We will start with the most specific topics and will then move on to the more general ones. First, we will examine the legal implications and issues related to ownership structures. Next, we will move on to how Qingdao has changed inventory finance in China. Then, in order to have a complete overview of the scandal's impact, we will discuss the broader market effects it had in terms of prices and flows of metal. Finally, we will conclude the chapter with a list of specific recommendations and measures to mitigate risks.

4.1 Legal Issues

The Qingdao scandal has resulted in a great net of lawsuits involving banks, traders and warehousing companies. The first target would normally be the company that committed fraud or defaulted, but warehouse operators could also be responsible if they had contributed to the fraud by issuing fake documents. Lawsuits are also influenced by the solvency of the defendants and the prospects of recovering funds. For example, when the borrower is bankrupt, there is an incentive to go after the warehouse manager instead. On the other hand, the storage contracts may include liability limitation clauses, whereby the warehousing company is only liable for a certain maximum amount. It could be \$100'000, whereas a 10'000 metric ton shipment of copper would be worth \$68 million at 2014 prices (Burton and Wong, 2014). In turn, further issues may arise, such as those of jurisdiction. In litigation between Impala and Wanxiang Resources, the latter had a very practical incentive to have the matter decided by Chinese courts and challenge their contract's jurisdiction clause by arguing that it was not duly incorporated in the agreement. This is because under the PRC law, the warehouse manager would be liable for the full amount of damages caused by the loss of goods, in that case \$8.9 million (Bailii.org, 2015a, §31), while an English court would have given effect to the contract's liability limitation clause which reduced them to \$1 million (Bailii.org, 2015a, §52).

A number of lawsuits were launched immediately. In many cases, there will be further litigation once the investigations in Qingdao are complete and the circumstances of the

fraud are better known. In China, civil lawsuits cannot proceed until these investigations are concluded, leading to great frustration among Dezheng's creditors. In November 2014, a bank executive said that he expected the case to drag on for another two to three years (Yam, 2014b).

4.1.1 True sale

The legal case whose decision was perhaps the most awaited was *Mercuria v Citibank*. Among the Qingdao lawsuits, it involved the largest amount at stake, close to \$270 million. More importantly, it concerned repos on aluminium and copper (Bailii.org, 2015b, §2) and the true sale principle was expected to be tested with commodity repos for the first time.

Somewhat disappointingly, it turned out that the repos being true sales in which title and risk passed to Citi was common ground between the parties (Bailii.org, 2015b, §2), so it was not part of the issues expressly considered by the judge. Nevertheless, it was reassuring that the court did not challenge the true sale status either and accepted the parties' position: *"It would be going too far to say that this observation could be used to support the argument of a true sale in future cases, but the fact that neither party took the point and that the court did not seem troubled by that approach is to be welcomed."* (Usher, 2015). We can note a number of points regarding the structure and what we have learned about the strength of the true sale:

- The repos were "obligated" (Bailii.org, 2015b, §2), so the repurchase was mandatory and not an option, which is less desirable.
- Insurance was contracted by Mercuria with Citi being named as co-assured (Bailii.org, 2015b, §17) – this is in line with the recommendations in Appendix 1.
- Substance of the transactions – while accepting that the repo legs were true sales, Citi simultaneously argued that the "commercial reality" of the transaction was: *"providing finance against the security of Mercuria's inventory of metal. (...) Such a lender should be able to deal with the transaction on a purely documentary basis and obtain repayment without having to concern itself with problems at the Storage Facility or otherwise deal with the warehouse operators."* (Bailii.org, 2015b, §63)

The last point is an explicit admission that the bank considered the transaction to be secured financing in substance, the sales and repurchases only being its form. This does not automatically result in recharacterization under English law, because one of its fundamental principles is that the courts enforce the parties' contractual intentions. A

transaction documented as a repo should therefore be recognized as such (principle of form over substance), unless there are indications that title and risks of ownership have not passed to the bank (Wynne, p.177). In his interview, Mr. Hold reminded that repos are used on a much more extensive scale with money market and fixed income securities and that since the true sale principle applies to them as well, a court decision challenging the true sale would have had an extensive impact on the financial industry. Having passed the legal test, commodity repos remain a fundamentally viable structure. Given their favorable regulatory capital treatment in many jurisdictions, they continue to be an attractive product for both traders and banks.

4.1.2 Passing of title and delivery

The question of what constitutes a valid delivery under a sales contract and more specifically whether the transfer of possession effectively took place was also examined in the *Mercuria v Citibank* case. The latter attempted to deliver by handing over blank endorsed warehouse receipts, but since they are not documents of title under English law, the judge ruled that delivery was not effected as the attornment from the warehouse operators was missing (Baillii.org, 2015b, §158 i). With the terminals locked down and the warehousing companies themselves not being able to access the premises (Baillii.org, 2015b, §34), it was not possible for them to confirm that they were holding metal to Mercuria's order.

Once again, it was not examined whether it would be possible to contract out of attornment (Baillii.org, 2015b, §80), so it remains uncertain if such a clause would be enforceable in court (Sethi, 2015). While the English law allows the parties to contract freely most of the time, some of the areas have been codified, for example the sales and purchases of goods, starting with the Sale of Goods Act 1893 (Saharay, 2010). One article offers potential solutions (Usher, 2015):

- At the time of sale, ask the trader to already deliver an attornment by the warehouse keeper for the future resale from the bank to the client, which the bank then keeps in escrow until it is required to deliver the goods. The bank will then no longer depend on a third party to issue attornment in times of distress. This looks like a form of "forward attornment".
- In the tripartite arrangements with the warehouse operator, have the bank appointed as its agent, so that the bank can issue an attornment to itself, on notice to the warehouse.

Without being able to comment on the legal enforceability of such clauses, I can only say that I have an impression that issuing attornment in advance or, in the second case, when the warehouses are under lockdown is an attempt to deal with the issues based on documentation and to sever the link with the physical goods. It is not certain that the warehouse operator would agree to confirm that he will be holding the goods at the trader's disposal in the future, because he cannot guarantee their existence at that time, for example in case the warehouse is destroyed in the meanwhile. As for the bank being the warehouseman's agent, we have seen that the warehouse operators in Qingdao were not able to confirm to Citi that the metal was available (Bailii.org, 2015b, §28), so the bank would not have the basis to affirm that it was either. In any case, there is still a risk that such provisions could be invalidated by the court. For example, Citibank had attempted to argue that there was an agreement with Mercuria that attornment would not be required based on the wording: "*without the need for any confirmation from the owner/operator of the Storage Facility*" in the Forward Sale confirmations (Bailii.org, 2015b, §62). In the alternative, they had also stated that contrary to Mercuria, who had to effect a real delivery, Citibank could be discharged by a "deemed delivery" of warehouse receipts only (Bailii.org, 2015b, §66). Neither of these clauses which were supposed to protect the bank actually worked.

4.1.3 Jurisdiction issues

4.1.3.1 Incorporation of contract clauses by reference

The Qingdao scandal served as a reminder of problems that can arise with jurisdiction. In the *Impala v Wanxiang Resources* case, the parties had an English law contract and the latter started proceedings in Chinese courts who ruled that the English jurisdiction clause did not apply (Bailii.org, 2015a, §2). The contract between the parties was embodied in the warehouse receipts that only had some of the clauses printed on them and for the rest referred to Impala's general terms and conditions available on their website. Among others, that is where the jurisdiction and liability limitation clauses were. The English court ruled that these clauses were part of the contract, while in China: "*Incorporation of terms by reference to them (...) is not generally possible (...) and the terms referred to (including arbitration clauses and limitation clauses) would not form part of your contract.*" (Jones et al., 2015). This could be the basis for the Chinese court to rule that there was no consensus as to the jurisdiction clause (Bailii.org, 2015a, §33).

4.1.3.2 Enforceability of foreign court decisions

In addition, again in *Impala v Wanxiang Resources*, even if the Chinese courts did recognize the English jurisdiction, there would have been no possibility to enforce the decisions made by a foreign court, as there was no reciprocal enforcement arrangement between the countries (Bailii.org, 2015a, §120). China has only signed very few such treaties, notably with Hong Kong and current or former communist countries such as Bulgaria or Vietnam (Uk.practicallaw.com, 2016). However, Hong Kong arbitration awards are enforceable in China, so that is a venue available to the parties to attempt to settle disputes (Seow and Pong, 2006).

4.1.3.3 Delivery

Because, as we have seen, the status of the warehouse receipts as documents of title varies across the legal systems, the same actions by Citibank (handing over of blank endorsed warehouse receipts) could constitute a valid delivery under the PRC laws, but not under the English law. This could lead to unexpected outcomes if a business dispute is examined before a court different than that of the jurisdiction on which the parties had agreed.

4.1.4 Changes in contractual documentation

There were mentions in the press of banks having made changes for their contractual documentation to include fraud (Sanderson and Hume, 2014). According to a presentation from Natixis, a bank affected by Qingdao, they changed their Master Repurchase Agreements in that sense (Mandell, 2015). Unfortunately, the details regarding the wording of the updated clauses are not publicly available. We must keep in mind, however, that attempts to reallocate some of the risks to the trader could be inconsistent with the bank's status of the goods' owner and could weaken the true sale status.

4.2 Practical Implications for Inventory Financing

In this section, we review the consequences of Qingdao for inventory finance according to the following categories:

- Who is providing financing (how has the scandal affected banks);
- to whom (changes for counterparties and in due diligence);
- for what transactions (which ones qualify for financing); and

- under what storage conditions (what has changed with the warehouses).

4.2.1 Who is providing financing

The scandal has led the banks to review their business models and resulted in some of them reducing or completely exiting metal financing in China. Among those were the banks that were the most hit by the scandal. Standard Chartered immediately stopped new financing and refinancing of existing deals (Watson, 2014). HSBC and Citic soon followed suit (Trade Finance, 2014a). Today, Citigroup is no longer involved in this business in mainland China (South China Morning Post, 2015).

A point mentioned by five interviewees out of six is that some of the most affected banks were not traditional trade finance actors with decades of activity in this area. Banks like Citigroup were the most aggressive in going after deals, some of which other financiers focused on transactional financing would not have engaged in at all. In fact, Citigroup had only entered the Chinese commodity repo market in 2011 (Berthelsen and Kent, 2014). In 2014, their financing book was \$400 million, meaning that the Mercuria repos were a highly concentrated position that comprised two-thirds of their portfolio (Tan, 2014).

Overall, trade finance in the region declined by 1.4% in 2014 compared with an increase of 43.8% the year before (Bermingham, 2015a). Many other factors coming into play, it is difficult to state what part of the decrease is attributable to Qingdao. The gap left by some of the big players was filled by other banks, such as ANZ, DBS and the Bank of China (Bermingham, 2015b). There were also new entrants – trade finance funds: *“I’m seeing tiny funds opening on an almost daily basis – most of which I’ve never heard of. They’ve got the money to lend and they see the commodity trade market here as a relatively easy one to enter”* said Philip Gilligan, finance and insolvency partner at Deacons, in an interview to the Global Trade Review (Bermingham, 2015a). These funds were not a new phenomenon (Mr. Zreikat, Appendix 9), but Qingdao increased the demand for their services, as the big banks made client acceptance stricter (Mr. de Laat, Mr. Y) and focused on top-tier clients. They had an additional advantage in that they offered highly tailored services, while the big banks could no longer dedicate as much attention to small and medium clients because of increasing regulatory costs (Bermingham, 2015b).

4.2.2 Counterparties & due diligence

Due diligence has become much more extensive. In addition to knowing one’s customer’s business, it also became necessary to know his suppliers, his clients and

his clients' clients in order to have more visibility over the supply chain. For example, it should raise concerns if an exporter's and importer's businesses are not related. In addition to authenticating warehouse receipts, it is a necessity to go and visit the warehouses (Lee, 2015). These were some of the points stressed by the majority of our interviewees.

Furthermore, Chinese banks have taken the initiative to build an informal information sharing system to keep track of what banks have lent against which warehouse receipts (Tradefinanceanalytics.com, 2015). It does not help, however, when there are duplicate receipts that appear to be authentic on their face – hence the need to actually visit the premises. For example, the *Mercuria v Citibank* case mentions that the warehouses only contained 60'000 to 70'000 tons of aluminium, while that bank alone was supposed to have 73'000 tons (Bailii.org, 2015b, §29). These kind of mismatches are easy to notice and conducting such checks at the very least reduces the possible number of duplicate receipts.

SWIFT launched a regional initiative in Asia to create a compliance repository where banks can submit and share know-your-customer (KYC) and anti-money laundering (AML) information (Tradefinanceanalytics.com, 2014c). This would particularly help smaller banks who do not benefit from economies of scale and for which the due diligence costs reduce the attractiveness of trade finance.

4.2.3 Transaction conditions

Transaction volumes have decreased because some banks reduced or stopped financing as a matter of policy, but also because the associated conditions became more stringent:

- Banks increased margins – while they used to be 10% on a letter of credit (L/C), they were raised to 30% when a company had a credit facility in place and no financing was provided without a facility (Tradefinanceanalytics.com, 2014a).
- The costs of financing rose (Sanderson and Hume, 2014). However, this was a very much local phenomenon that only concerned China as the risks in these transactions were now better accounted for. Mr. Y and Mr. Zreikat have not witnessed such effects in their business.
- China's State Administration of Foreign Exchange has ordered the banks to tighten lending conditions and not to process import L/Cs unless the traders could present the end-buyers in the country.

- This is why, processing times for L/Cs increased from two to three days to two to three weeks, as in addition to due diligence on their counterparties, the banks also had to ascertain whether there was a real trading flow.
- In particular, banks became reluctant to open L/Cs unless the cargo was still on the ship and turned away from metal that was already in warehouses (Trade Finance, 2014a).

4.2.4 Changes in warehousing

4.2.4.1 Operating models

Having fallen victim to a lack of control over the metal they were storing, the warehouse companies adapted their way of functioning.

At first, Impala did not exit the business in China and it qualified the impact of Qingdao as “not material”. Instead, it ceased operations in other South-Eastern Asian locations: Taiwan, South Korea, Malaysia, Vietnam and Thailand, as well as in Turkey and Italy by the end of 2014. However, it stopped working with third-party operators and focused on the sites that it leased or owned, with own staff in place (Onstad, 2014). A year later, it did end up exiting its metal warehousing joint venture in China, without commenting on whether the scandal had played a role (Desai and Onstad, 2015).

We have previously mentioned Steinweg, a veteran firm who has benefited from the scandal. They are said to have had inflows of more than 100’000 tons of copper – about one-fifth of all the copper estimated to have been held in bonded warehouses in Shanghai and as much as in the LME system worldwide (Burns, 2014).

4.2.4.2 Collateral management agreements

Qingdao has highlighted the importance of inventory being managed by an independent third party under a collateral management agreement, or CMA. These are tripartite agreements between the lender, the borrower and the collateral manager (Wynne, p.122) who can either be the warehouse operator himself or another company that would lease a part of the warehouse and take over the responsibility for the stocks. The collateral manager is responsible for activities such as (Drum Commodities Limited, 2016):

- *“Monitoring of goods to and from a port*
- *Warehouse/tank farm receipts that enable product to be pledged to a bank or a lender*
- *Stock reporting*

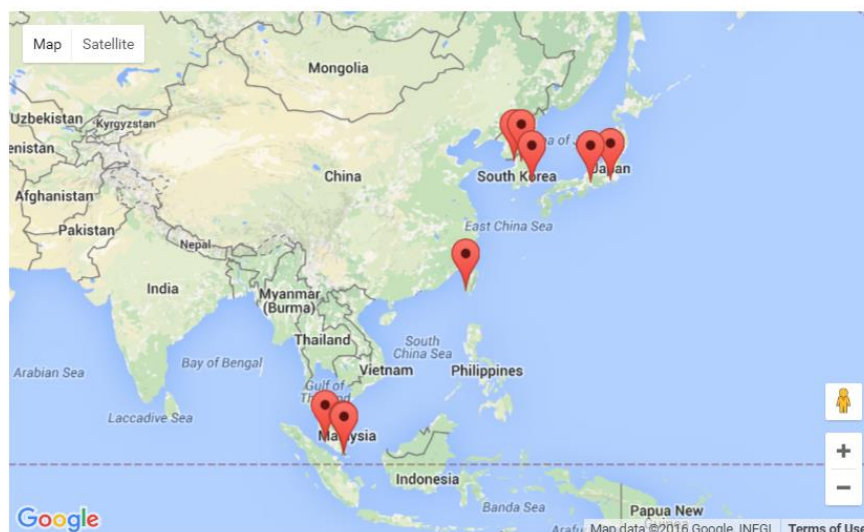
- *Release mechanisms for the bank when the borrower makes payments*
- *Marine and Cargo Services*
- *Further risk mitigation services”*

Mr. Hold and Mr. Zreikat mentioned that the service is becoming scarcer as it was affected by several prominent cases of fraud, with major players such as SGS and Intertek having stopped providing it (Floret, 2015) because of the high risks and relatively low fees involved. An event as publicized as Qingdao could convince the lenders that the additional costs for the safety it offers are well worth paying. An example of a company who took this business seriously is Drum Risk Management. Wary of the relations that could develop between people and pressures on collateral managers, they go as far as to move and rotate employees between locations and countries every two months or even every couple of weeks in high-pressure environments. The company guarantees that it does not trust anyone (Tradefinanceanalytics.com, 2014b).

4.2.4.3 LME

Less than one month after the scandal broke out, an LME spokeswoman said that the exchange was keen on entering that market. There was indeed demand for the security offered by its regulated warehouses, the most credible storage solution available for metals (Burton and Wong, 2014). The exchange has licensed warehouses in all the major locations in South-East Asia, except for China: Japan, Malaysia, Singapore, South Korea and Taiwan – most of the countries that Impala exited.

Figure 13 – LME warehouses in Southeastern Asia



Source: Lme.com (2016b)

A year later, their view changed: LME still had not entered China because of regulatory obstacles, but also reputational risks: “*The LME does not want to open a warehouse where it might have any chance of being subject to a similar fraud in Qingdao. (...) That would be a disaster for the LME’s reputation internationally and undermine its infrastructure.*” (Tradefinanceanalytics.com, 2015).

4.2.4.4 Electronic warehouse receipts

The LME considered however expanding its electronic LMEsword system, which serves to prove the origin and title to metal, to warehouses outside its network as well (Cohen, 2015). They started testing a new system called LME Shield in December 2015. As LME warehouses tend to be located in the major consuming countries (which tend to developed countries with less political risk), the potential for its use was significant, for example in producing countries such as Chile (Onstad, 2015). LME Shield was rolled out in March 2016 in a warehouse of China Materials Storage and Transportation Development. Its ultimate test will be whether the banks will accept the electronic receipts as valid collateral for financing (Hume and Sanderson, 2016). Kynetix, the financial technology firm who helped to build LMEsword, is exploring the potential for application of the cryptographic security tools that are used in the blockchains of digital currencies such as Bitcoin (Burton, 2015).

4.3 Effects on Metal Markets

4.3.1 Prices

Although copper had the least quantities involved in the scandal, its prices were the most affected, because it was the second most popular metal used in Chinese commodity financing deals by value, after precious metals and before iron ore:

Figure 14 – Commodities used in CCFDs

	Total	precious metals and jewelry	Copper	Iron ore	Soybean	Natural rubber	Palm oil	Nickel	Zinc	Aluminum
Inventory (million tons)			0.63	30	5	0.3	1.2	0.01	0.01	0.01
Price (\$/t)			7300	115	515	2500	850	14000	2000	1800
Number of circulations (low)			3	2	2	3	2	5	5	3
Number of circulations (high)			10	4	4	7	3	10	10	7
Number of circulations (base)			5	3	3	5	2.5	7	7	4
Total notional value (bn USD, low)	81	50	13.8	6.9	5.2	2.3	2.0	0.7	0.1	0.1
Total notional value (bn USD, high)	160	80	46.0	13.8	10.3	5.3	3.1	1.4	0.2	0.1
Total notional value (bn USD, base)	109	60	23.0	10.4	7.7	3.8	2.6	1.0	0.1	0.1

Source: Goldman Sachs Global Investment Research.

Source: Yuan et al. (2014)

Copper prices dropped by 4.5% and the cash-to-three-months backwardation on the LME decreased from \$101 per ton at the end of May to \$3 backwardation on June 6

(Home, 2014b), reflecting less eagerness to take delivery of metal. However, prices immediately started to recover and by July were already higher than just before the scandal. Appendix 2 shows the price action in 2014 in copper and aluminium, but also in nickel and zinc, metals that were not involved in Qingdao, but were also used in CCFDs and experienced an interesting effect in imports. We can see that in beginning of June, when the fraud was discovered, only the prices of nickel decreased like those of copper, while those of zinc remained stable and aluminium prices even increased. One reason is that contrary to copper, aluminium's use in CCFDs was marginal, as shown in the table above.

4.3.2 Imports

In reaction to the scandal, metal was moved to safer locations, typically from bonded warehouses in China to LME warehouses in Korea, Singapore and Malaysia. In addition, less metal was needed for the financing deals whose flows have slowed (Reisman, 2015). As a result, while the Chinese refined copper demand grew by 14.1% in 2014, year-on-year copper import growth went from close to 90% as of May 2014 to a 15% decrease by August:

Figure 15 – Year-on-year changes in Chinese copper imports

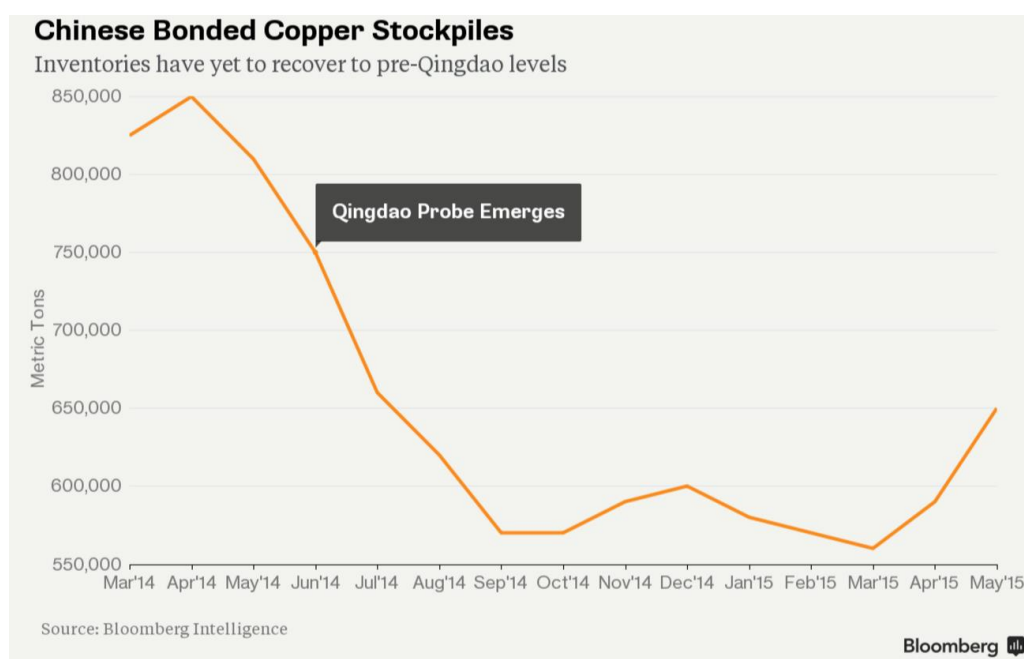


Sources: Citi (copper); London Metal Exchange (stocks)

Source: Mukherji (2015)

Overall, there were 10% less imports in the second half of 2014 than during the first six months (Store.eiu.com, 2015). Bonded warehouse stocks decreased by 25% from 750'000 to 575'000 metric tons between June and September, but started to grow again in March 2015:

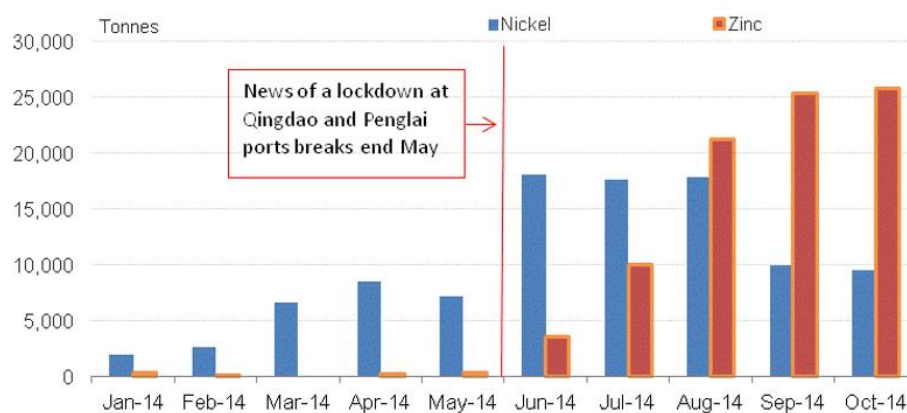
Figure 16 – Chinese copper stocks in bonded warehouses



Source: Bloomberg.com (2015)

In fact, the metals most impacted in terms of trade flows were nickel and zinc: China became a net exporter of nickel for the first time, with 73'000 tons exported between June and October, which contributed to dampening the price rally caused by a ban on exports in Indonesia. There was the same effect with zinc: China became a net exporter for the first time since 2008, with 86'000 tons exported between June and October compared to just 1'012 tons during the period between January and May (Home, 2014a):

Figure 17 – Chinese nickel and zinc exports



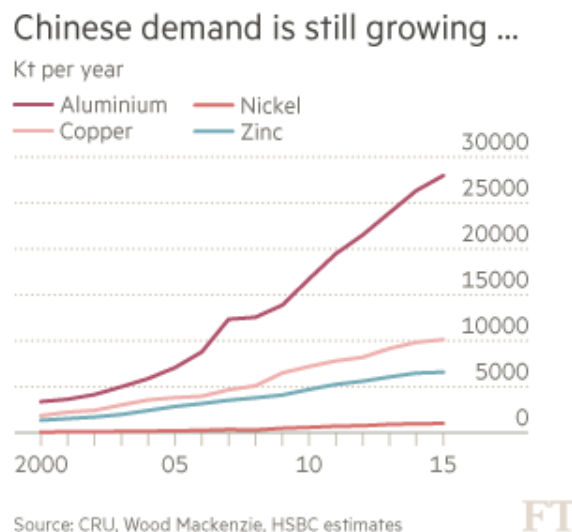
Source: China's General Administration of Customs. Andy Home 17/12/14

REUTERS

Source: (Orsal, 2015)

Although these trade flow reversals are interesting, the quantities involved are only a tiny fraction of China's demand of these metals. The 86'000 exported tons of zinc only account for about 1.3% of the demand and zinc exports for about 0.7% (Insg.org, 2016):

Figure 18 – Chinese metal demand



Source: (Sanderson, 2016)

Finally, we note that it is very difficult to comment on the impact of Qingdao beyond the first several weeks and months following the event. Market prices are thought to incorporate all information available at a given moment. This is why, while we can attribute the immediate effects to the scandal, as time goes, other factors take over in defining the current prices, such as the Chinese economy growth, the US monetary policy, mine closures and so on. The same applies to imports – the situation is ever-changing and the trade flows fluctuate based on the relative changes in China's demand growth on one hand and all the other demand and supply developments on the other.

4.4 Recommendations

The Qingdao scandal had two kinds of implications for repos: it was a legal test of the structure, as well a case of fraud. With regards to the legal points, it is important to:

- Make sure that the structure complies with the principle of true sale and that the bank's responsibilities are in line with its role of the goods' owner.
- Verify that the structure works well with all the legal systems involved and request legal opinions from lawyers.

As for fraud, knowing that this risk that cannot be eliminated entirely, what measures can be taken to reduce it as much as possible? We can formulate some practical recommendations based on what Qingdao has taught or reminded us:

Deal approach

- Only finance real trade flows as opposed to immobilized stocks (Mr. Y);
- Have vision over the goods' origin and be able to trace them back (Mr. X, Appendix 6; Mr. Ziegler);

Setting up the storage

- Build and maintain a database on warehouse operators and their track record (Mr. de Laat, Mr. X, Mr. Ziegler);
- Use collateral management agreements and appoint a second inspector to monitor the collateral manager (Mr. Hold, Mr. Ziegler);
- Make sure that the collateral manager is insured against employee fraud (Mr. Hold, Mr. Ziegler);
- Visit the warehouses and be aware of your collateral's state;
- Better labelling is needed to identify if the metal is pledged in favor of or owned by a financier and if yes, who (Tfreview.com, 2015a). This measure tackles the problem from an opposite direction than the electronic warehouse receipts do, as it addresses the goods themselves rather than the documents representing them.

It would have been good to have a safe and credible warehouse system in China similar to that of the LME, but the environment in the country is such that the exchange does not want to enter it at the moment. Since not much can be realistically expected to change quickly, the best solution is to remain vigilant and apply the above principles. One law firm has summarized the whole issue in just several lines:

“Despite the particular Chinese backdrop, it is clear that the Qingdao experience serves as a further reminder that notwithstanding the strength of the legal documentation, it remains the case that there is no alternative than to undertake proper due diligence on the counterparties, local legal system and underlying trade transaction and that this needs to be supported by trustworthy monitoring and access to the inventory during the life of the credit.” (Monk and Sachs, 2014).

5. Conclusion

Fraud is a risk that one should be prepared to face in trade finance. There have been other cases involving duplicate warehouse receipts before Qingdao (a collapse of a steel trader in Eastern China in 2013 (Hornby and Rice, 2014)), at the time of the scandal (mixed aromatics in Tianjin in July 2014 (Taipeitimes.com, 2014)) and there will be others, in China and elsewhere.

Commodity repos have passed a first test in the *Mercuria v Citibank* case, although we yet have to wait to see the questions of true sale and contracting out of attornment addressed directly. We have also seen how the scandal has affected trade finance in China and what changed in the way the deals are set up. There is more due diligence on the counterparties and the warehouses, but there are also lenders whose business in fact has not changed much, because they already had a rather conservative approach and would not have engaged in financing immobilized stocks in bonded warehouses in China.

It is likely that the increased standards of diligence are here to stay – at least until there is another commodity boom which would make people lower their guard. The reinforced demand for safety could lead the market players to accept higher fees for collateral management services, in line with the liabilities that their providers assume (Mr. Hold). This could improve the availability of these services and would be a welcome development for a healthier market.

Bibliography

- Antcliffe, P., Butac, G., Evagora, K. and Parson, R. (2011). What's in store? Exploring issues in commodity storage and warehousing | Lexology. [online] Lexology.com. Available at: <http://www.lexology.com/library/detail.aspx?g=87b14130-a9d4-4d7b-8a60-87a80ce84eeb> [Accessed 20 March 2016].
- Bailii.org. (2015a). Impala Warehousing and Logistics (Shanghai) Co Ltd v Wanxiang Resources (Singapore) PTE Ltd [2015] EWHC 811 (Comm) (25 March 2015). [online] Available at: [http://www.bailii.org/cgi-bin/format.cgi?doc=/ew/cases/EWHC/Comm/2015/811.html&query=\(impala\)+AND+\(wanxiang\)](http://www.bailii.org/cgi-bin/format.cgi?doc=/ew/cases/EWHC/Comm/2015/811.html&query=(impala)+AND+(wanxiang)) [Accessed 3 March 2016].
- Bailii.org. (2015b). Mercuria Energy Trading Pte Ltd & Anor v Citibank NA & Anor [2015] EWHC 1481 (Comm) (22 May 2015). [online] Available at: <http://www.bailii.org/ew/cases/EWHC/Comm/2015/1481.html> [Accessed 11 January 2016].
- Beattie, A. (2008). How did derivatives trader Nick Leeson contribute to the fall of Barings Bank? | Investopedia. [online] Investopedia. Available at: <http://www.investopedia.com/ask/answers/08/nick-leeson-barings-bank.asp> [Accessed 30 January 2016].
- Belozertsev, A., Rutten, L. and Hollinger, F. (2011). Commodity exchanges in Europe and Central Asia. [online] FAO INVESTMENT CENTRE. Available at: <http://www.fao.org/3/a-at655e.pdf> [Accessed 14 January 2016].
- Belton, M. (2015). SGS - Risks Associated With Minerals Trading. Presentation at HEG Geneva, 27 March 2015.
- Bermingham, F. (2015a). Goldman Sachs leads banks on commodities revenue | Global Trade Review (GTR). [online] Global Trade Review (GTR). Available at: <http://www.gtreview.com/news/global/goldman-sachs-now-the-worlds-top-commodities-bank-by-revenue/> [Accessed 2 March 2016].
- Bermingham, F. (2015b). Mind the gap. [online] GTR Asia. Available at: http://www.efa-group.net/assets/news/Mind_the_Gap_GTR_article_JulyAug2015.pdf [Accessed 21 February 2016].
- Berthelsen, C. and Kent, S. (2014). Citigroup Was Wary of Metals-Backed Loans. [online] WSJ. Available at: <http://www.wsj.com/articles/citigroup-was-wary-of-metals-backed-loans-1419194646> [Accessed 24 February 2016].
- Bloomberg.com. (2014a). China Banks Said to Have \$3.2 Billion Exposure in Qingdao Probe. [online] Available at: <http://www.bloomberg.com/news/articles/2014-07-16/china-banks-said-to-have-3-2-billion-exposure-in-qingdao-probe> [Accessed 30 March 2016].
- Bloomberg.com. (2014b). China Watchdog Finds \$10 Billion in Fake Currency Trade. [online] Available at: <http://www.bloomberg.com/news/articles/2014-09-25/china-foreign-exchange-watchdog-finds-10-billion-in-fake-trade> [Accessed 24 February 2016].

Bloomberg.com. (2015). Banks Balk at China Commodities Deals. [online] Available at: <http://www.bloomberg.com/news/articles/2015-06-17/banks-balk-at-china-commodities-deals> [Accessed 14 February 2016].

Bollebakker, J. (2015). TAQA - Off-balance sheet financing for commodity inventories. [online] [gasstoragebergermeer.com](http://www.gasstoragebergermeer.com). Available at: <http://www.gasstoragebergermeer.com/wp-content/uploads/2015/04/4-Flame-2015-Expert-Session-Commodity-Financing-by-PWC.pdf> [Accessed 21 January 2016].

Burns, S. (2014). Qingdao Warehouse Scandal Opens Door for Western Warehouse Operators - Steel, Aluminum, Copper, Stainless, Rare Earth, Metal Prices, Forecasting | MetalMiner. [online] Steel, Aluminum, Copper, Stainless, Rare Earth, Metal Prices, Forecasting | MetalMiner. Available at: <https://agmetalmminer.com/2014/07/30/qingdao-warehouse-scandal-opens-door-for-western-warehouse-operators/> [Accessed 16 March 2016].

Burton, M. (2015). HOTLINE: Exchanges, banks discuss cryptosecurity over dinner to prevent next Qingdao | Metal Bulletin.com. [online] Metalbulletin.com. Available at: <https://www.metalbulletin.com/Article/3509645/HOTLINE-Exchanges-banks-discuss-cryptosecurity-over-dinner-to-prevent-next-Qingdao.html?ArticleId=3509645> [Accessed 3 February 2016].

Burton, M. and Wong, F. (2014). After port fraud, China's vast warehouse sector under scrutiny. [online] Reuters. Available at: <http://www.reuters.com/article/us-china-qingdao-warehouses-idUSKBN0EX15P20140623> [Accessed 5 March 2016].

Business Day Live. (2014). Standard Bank has \$170m exposure to Chinese metal fraud. [online] Available at: <http://www.bdlive.co.za/business/financial/2014/07/10/standard-bank-has-170m-exposure-to-chinese-metal-fraud> [Accessed 24 January 2016].

Campbell, R. (2002). The Current Status of the Bankruptcy Code, Forward Contracts, and Safe Harbors. [online] Thompson & Knight, LLP. Available at: [http://www.tklaw.com/files/Publication/7f6478bf-e2d2-4df4-a43d-9c3846c7ad0d/Presentation/PublicationAttachment/61843acc-d044-4a05-9c2a-ffddadc51388/The%20Current%20Status%20of%20the%20Bankruptcy%20Code,%20Forward%20Contracts%20and%20Safe%20Harbors%20\(Cam.pdf](http://www.tklaw.com/files/Publication/7f6478bf-e2d2-4df4-a43d-9c3846c7ad0d/Presentation/PublicationAttachment/61843acc-d044-4a05-9c2a-ffddadc51388/The%20Current%20Status%20of%20the%20Bankruptcy%20Code,%20Forward%20Contracts%20and%20Safe%20Harbors%20(Cam.pdf) [Accessed 13 February 2016].

Chanjaroen, C. (2014). ABN Amro Unmoved by Qingdao Boosting China Commodity Finance. [online] Bloomberg.com. Available at: <http://www.bloomberg.com/news/articles/2014-09-29/abn-amro-commits-to-china-commodity-finance-growth-post-qingdao> [19 January 2016].

Cohen, L. (2015). LME to launch system to better track metals after Qingdao fraud. [online] Reuters. Available at: <http://www.reuters.com/article/lme-metals-qingdao-idUSL1N11S2YE20150923> [Accessed 2 April 2016].

Curran, E. and Steger, I. (2014). Citic Seeks to Secure Metal in Chinese Port of Qingdao. [online] WSJ. Available at: <http://www.wsj.com/articles/banks-cut-credit-to-chinese-metals-traders-1402316411> [Accessed 12 March 2016].

Curran, E., Inman, D. and Iosebashvili, I. (2014). Foreign Banks See Exposure to China Port Qingdao Topping \$500 Million. [online] WSJ. Available at:

<http://www.wsj.com/articles/foreign-banks-see-exposure-to-china-port-qingdao-topping-500-million-1404387558?mod=mktw> [Accessed 27 January 2016].

Desai, P. and Onstad, E. (2015). UPDATE 1-Trafigura's Impala Terminals scraps Chinese joint venture. [online] Reuters. Available at: <http://www.reuters.com/article/trafigura-metals-idUSL5N1103RQ20150825> [Accessed 25 January 2016].

Doi, N. (2014). Metal-based financing rattles China's commodities markets- Nikkei Asian Review. [online] Nikkei Asian Review. Available at: <http://asia.nikkei.com/Markets/Commodities/Metal-based-financing-rattles-China-s-commodities-markets> [Accessed 12 January 2016].

Drum Commodities Limited. (2016). Drum Commodities Limited | About Us. [online] Available at: <http://drumcommodities.com/about-us/> [Accessed 8 April 2016].

Dunetz, J. (2012a). REPOs And Agricultural Commodities – Part I. [online] Mayer Brown LLP. Available at: https://www.mayerbrown.com/files/uploads/Documents/ARTICLE-LI_ReposAg_Commodities.pdf [Accessed 13 February 2016].

Dunetz, J. (2012b). REPOs And Agricultural Commodities – Part IV. [online] Mayer Brown LLP. Available at: https://www.mayerbrown.com/files/uploads/Documents/REPOs_and_Agricultural_Commodities_Part_IV.pdf [Accessed 13 February 2016].

Eavis, P. and Gough, N. (2014). Banks Fear Missing Collateral in China. [online] DealBook. Available at: http://dealbook.nytimes.com/2014/06/11/lenders-fear-spread-of-chinese-commodities-fraud-case/?_r=0 [Accessed 1 February 2016].

Elliott, D., Kroeber, A. and Qiao, Y. (2015). Shadow banking in China: A primer. [online] The Brookings Institution. Available at: http://www.brookings.edu/~media/research/files/papers/2015/04/01-shadow-banking-china-primer/shadow_banking_china_elliott_kroeber_yu.pdf [Accessed 9 April 2016].

Finviz.com. (2016). Futures. [online] Available at: <https://finviz.com/futures.ashx> [Accessed 28 March 2016].

Floret, E. (2015). Où est passée la tierce détention?. [online] Agefi.com. Available at: <http://www.agefi.com/quotidien-agefi/suisse/detail/edition/2015-04-21/article/commodities-trading-consequences-pour-sgs-de-la-disparition-de-cargaisons-appartenant-a-deux-entreprises-du-bassin-396650.html> [Accessed 17 March 2016].

Frangos, A. (2016). To Divine Chinese Commodity Demand, Keep Eye on Credit. [online] WSJ. Available at: <http://www.wsj.com/articles/to-divine-chinese-commodity-demand-keep-eye-on-credit-1453109248> [Accessed 26 February 2016].

Gulfbase. (2014). Competition in commodity trade financing heating up. [online] Available at: <http://www.gulfbase.com/news/competition-in-commodity-trade-financing-heating-up/256707> [Accessed 15 February 2016].

Helmer, J. (2011). Hide And Seek In Russia's Grain Trade – Has Anyone Seen 350,000 Tons Of Grain?. [online] Business Insider. Available at:

<http://www.businessinsider.com/hide-and-seek-in-russias-grain-trade--has-anyone-seen-350000-tonnes-of-grain-2011-1?IR=T> [Accessed 11 March 2016].

Henrybath.com. (2016). Henry Bath Warehouse Receipts | Commodities | Main Site. [online] Available at: <http://www.henrybath.com/warehouse-receipts/> [Accessed 24 February 2016].

Home, A. (2014a). Qingdao scandal casts a long shadow over metal markets: Andy Home. [online] Reuters. Available at: <http://www.reuters.com/article/us-qingdao-metals-ahome-idUSKBN0JW18620141218> [Accessed 16 March 2016].

Home, A. (2014b). Still no copper stocks shock-wave from Qingdao scandal: Andy Home. [online] Reuters. Available at: <http://www.reuters.com/article/us-home-copper-idUSKBN0EZ2OL20140624> [Accessed 22 March 2016].

Hongyuran, W. (2014). Inquiry into Qingdao Company's Loans Backed by Metals Collateral Continues. [online] English.caixin.com. Available at: <http://english.caixin.com/2014-07-01/100698198.html> [Accessed 5 May 2016].

Hornby, L. and Rice, X. (2014). Metals financing concerns rise in China - FT.com. [online] Financial Times. Available at: <http://www.ft.com/intl/cms/s/0/cb0165e8-ec9a-11e3-a754-00144feabdc0.html#axzz3xtqaOHuP> [Accessed 16 March 2016].

Hotter, A. (2014). Aluminium pledged as much as eight times in Qingdao, sources say | Metal Bulletin.com. [online] Metalbulletin.com. Available at: <https://www.metalbulletin.com/Article/3351043/Search/Aluminium-pledged-as-much-as-eight-times-in-Qingdao.html?ArticleId=3351043&ReservedReference=search> [Accessed 28 February 2016].

Hume, N. and Sanderson, H. (2016). LME strikes warehouse receipt deal with China — FT.com. [online] Ft.com. Available at: <http://www.ft.com/intl/cms/s/0/34092c28-ed12-11e5-bb79-2303682345c8.html#axzz49xilgWPq> [Accessed 22 April 2016].

ICC. (2015). Rethinking Trade & Finance. [online] Available at: https://www.google.ch/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&cad=rja&uact=8&ved=0ahUKEwjp6pri_7MAhWKuBoKHUWUA-AQFggjMAE&url=http%3A%2F%2Fwww.iccwbo.org%2FData%2FDocuments%2FBanking%2FGeneral-PDFs%2FICC-Global-Trade-and-Finance-Survey-2015%2F&usq=AFQjCNHpyOQmHytOnuG5BTw_hA_Xor_psw&sig2=6Pwk7YfTWHjcNkrJ4h04OQ [Accessed 15 April 2016].

Insg.org. (2016). International Nickel Study Group. [online] Available at: <http://www.insg.org/prodnickel.aspx> [Accessed 13 March 2016].

Jha, M., Amerasinghe, S., Narayanan, C., Calverley, J. and Chrysostomou, A. (2014). Special Report - Global Trade Unbundled. [online] Standard Chartered Bank. Available at: http://alternativelab.com/wp-content/uploads/standard-chartered-Global_trade_unbundled_10_04_14.pdf [Accessed 12 March 2016].

Jones, C. (2008). EU moves to restrict Ukrainian sunflower oil imports. [online] FoodNavigator.com. Available at: <http://www.foodnavigator.com/Ingredients/Fats-oils/EU-moves-to-restrict-Ukrainian-sunflower-oil-imports> [Accessed 8 April 2016].

Jones, S., Barber, W., Chan, C. and Chiang, I. (2015). Practical guidance on drafting and negotiating commodities contracts: Focus on Chinese counterparties with

emphasis on successful enforcement in China. [online] Reed Smith. Available at: <https://www.reedsmith.com/Practical-guidance-on-drafting-and-negotiating-commodities-contracts--Focus-on-Chinese-counterparties-with-emphasis-on-successful-enforcement-in-China-09-23-2015/> [Accessed 28 April 2016].

Kotze, C. (2014). Standard Bank estimates aluminium fraud exposures at R854m. [online] Mining Weekly. Available at: http://www.miningweekly.com/article/standard-bank-estimates-aluminium-fraud-exposures-at-r854m-2014-09-05/rep_id:3650 [Accessed 18 March 2016].

kuap.ru. (2009). Framework for the Preparation and Presentation of Financial Statements. [online] Available at: <http://kuap.ru/docs/ifrs/2009/en/framework.pdf> [Accessed 21 March 2016].

Lee, A. (2015). China metals scandal heightens collateral focus | IFLR.com. [online] Iflr.com. Available at: <http://www.iflr.com/Article/3446905/China-metals-scandal-heightens-collateral-focus.html> [Accessed 8 April 2016].

Lee, J. (2014). Potential losses in suspected China port metals financing fraud top \$1.2 billion. [online] Reuters UK. Available at: <http://uk.reuters.com/article/uk-china-qingdao-losses-idUKKBN0GT06E20140829> [Accessed 13 March 2016].

Legislation.gov.uk. (2016). Sale of Goods Act 1979. [online] Available at: <http://www.legislation.gov.uk/ukpga/1979/54> [Accessed 25 February 2016].

Lelyveld, M. (2014). Losses Mount in China Loan Fraud Tied to Missing Metals. [online] Radio Free Asia. Available at: http://www.rfa.org/english/commentaries/energy_watch/fraud-07212014104456.html [Accessed 22 January 2016].

Lewis, M., Hsueh, M. and Fu, X. (2014). Commodities Weekly. [online] Deutsche Bank Markets Research. Available at: <https://etf.deutscheam.com/DEU/DEU/Download/Research-Global/f87b231b-5f30-4b5c-91ad-c9f1b82ab26a/Commodities-Weekly.pdf> [Accessed 13 February 2016].

Lexicon.ft.com. (2016). Repurchase Agreement Definition from Financial Times Lexicon. [online] Available at: <http://lexicon.ft.com/Term?term=repurchase-agreement> [Accessed 13 March 2016].

LII / Legal Information Institute. (2016a). §2-401. Passing of Title; Reservation for Security; Limited Application of This Section. [online] Available at: <https://www.law.cornell.edu/ucc/2/2-401> [Accessed 28 April 2016].

LII / Legal Information Institute. (2016b). §7-104. Negotiable and Nonnegotiable Document of Title.. [online] Available at: <https://www.law.cornell.edu/ucc/7/7-104> [Accessed 13 March 2016].

Lme.com. (2016a). London Metal Exchange: Copper. [online] Available at: <http://www.lme.com/en-gb/metals/non-ferrous/copper/> [Accessed 4 March 2016].

Lme.com. (2016b). London Metal Exchange: Warehouse locations. [online] Available at: <http://www.lme.com/trading/warehousing-and-brands/warehousing/warehouse-locations/?location={505918B6-CA2A-4A94-A208-B384A129DF09}&product=> [Accessed 28 April 2016].

- Mandell, M. (2015). 2015 Energy & Commodities Conference. [online] energylawresourcecenter.com. Available at: <http://www.energylawresourcecenter.com/blog/wp-content/uploads/2015/10/Panel-2.pdf> [Accessed 20 January 2016].
- Mason, J., Burton, M. and Thomas, S. (2014). Exclusive: Goldman unit eyes foray into China amid metals financing scandal. [online] Reuters. Available at: <http://www.reuters.com/article/us-china-warehousing-goldman-exclusive-idUSKBN0FY09S20140729> [Accessed 21 March 2016].
- Mauldin, J. (2006). The Return of the Muddle Through Economy | John Mauldin | Safehaven.com. [online] Safehaven.com. Available at: <http://www.safehaven.com/article/6231/the-return-of-the-muddle-through-economy> [Accessed 15 April 2016].
- McCollough, A. and Gratton, S. (2014). The Treatment of Commodity-Repurchase Agreements - ProQuest. [online] American Bankruptcy Institute Journal. Available at: <http://search.proquest.com/openview/829672a721ead3d8d266b94b8e1529ae/1?pq-origsite=gscholar> [Accessed 8 April 2016].
- McCormick, E. (2015). The Repo Market. [online] Bloomberg View. Available at: <http://www.bloomberg.com/quicktake/the-repo-market> [Accessed 8 January 2016].
- Metric Conversion. (2016). Troy Ounces to Kilograms conversion. [online] Available at: <http://www.metric-conversions.org/weight/troy-ounces-to-kilograms.htm> [Accessed 24 January 2016].
- Monk, A. and Sachs, M. (2014). Inventory Finance and a View on Qingdao - Thomas Cooper LLP. [online] Thomas Cooper LLP. Available at: <http://www.thomascooperlaw.com/inventory-finance-view-qingdao/> [Accessed 25 March 2016].
- Monk, A. and Turner, R. (2014). The English Law Pledge - Thomas Cooper LLP. [online] Thomas Cooper LLP. Available at: <http://www.thomascooperlaw.com/english-law-pledge/> [Accessed 18 April 2016].
- Morris, S. (2014). Standard Chartered Provisions \$175 Million in China Fraud. [online] Bloomberg.com. Available at: <http://www.bloomberg.com/news/articles/2014-08-06/standard-chartered-provisions-175-million-in-china-fraud> [Accessed 20 January 2016].
- Moser, M. and Yu, F. (2014). Doing Business In China. [online] Google Books. Available at: <https://books.google.ch/books?id=MthIFAlf3BUC&pg=PT1426&lpg=PT1426&dq=document+of+title+china+warehouse+receipt+387&source=bl&ots=bqkYxF9Hr6&sig=G9tPcNLBKX9zaGcQ9mqQFrRV-N4&hl=en&sa=X&ved=0ahUKEwj5iti70frMAhWFhRoKHS9pCicQ6AEIHDA#v=onepage&q=document%20of%20title%20china%20warehouse%20receipt%20387&f=false> [Accessed 4 April 2016].
- Mukherji, B. (2015). China's Metal-Backed Finance Finds New Asian Homes. [online] WSJ. Available at: <http://www.wsj.com/articles/chinas-metal-backed-finance-finds-new-asian-homes-1433996474> [Accessed 16 March 2016].

Nowinski, R. (2012). Commodity finance: Is there a role for repurchase transactions?. [online] Journal of International Banking and Financial Law. Available at: http://www.lexisnexis.com/uk/lexispsl/bankingandfinance/document/397719/5855-5WT1-DYXR-R394-00000-00/Commodity-finance%3A-Is-there-a-role-for-repurchase-transactions%3F#00ZJ_1_2012.11JIBFL695:HTCOMM-JRNL [Accessed 13 March 2016].

Onstad, E. (2014). Trafigura to consolidate metals warehousing in three locations. [online] Reuters. Available at: <http://www.reuters.com/article/trafigura-impala-warehouse-idUSL6N0TS3DI20141208> [Accessed 22 March 2016].

Onstad, E. (2015). LME may expand electronic warehouse tracking system beyond metals. [online] Yahoo Finance. Available at: <http://finance.yahoo.com/news/lme-may-expand-electronic-warehouse-154021047.html> [Accessed 26 February 2016].

Orsal, C. (2015). Revisiting the Nickel Mining Industry | born2invest.com. [online] Born2invest.com. Available at: <http://born2invest.com/cdn/revisiting-the-nickel-mining-industry/> [Accessed 18 March 2016].

Osterberg, W. (2011). Implementing repurchase agreements in emerging markets. [online] Munich Personal RePEc Archive. Available at: https://mpra.ub.uni-muenchen.de/36011/1/MPRA_paper_36011.pdf [Accessed 16 January 2016].

Qualres.org. (2016). RWJF - Qualitative Research Guidelines Project | Semi-structured Interviews | Semi-structured Interviews. [online] Available at: <http://www.qualres.org/HomeSemi-3629.html> [Accessed 5 May 2016].

Reichard, R. (1995). Commodity repos - a new way to cut inventory costs. (commodity repurchase agreements). Purchasing. [online] Available at: <https://www.highbeam.com/doc/1G1-17316928.html> [Accessed 13 March 2016].

Reisman, L. (2015). Citi Mercuria Lawsuit to Rattle Commodity Trade Finance Landscape - Steel, Aluminum, Copper, Stainless, Rare Earth, Metal Prices, Forecasting | MetalMiner. [online] Steel, Aluminum, Copper, Stainless, Rare Earth, Metal Prices, Forecasting | MetalMiner. Available at: <https://agmetalmminer.com/2015/02/24/citi-mercuria-qingdao-lawsuit-shake-up-commodity-trade-finance-landscape/> [Accessed 16 March 2016].

RepRisk. (2015). RepRisk Special Report The Most Controversial Projects of 2014. [online] Available at: <https://www.reprisk.com/content/5-publications/1-special-reports/35-2015-04-08-reprisk-releases-report-on-most-controversial/2015-04-08-reprisk-releases-report-on-most-controversial.pdf> [Accessed 16 April 2016].

Ro, S. (2015). China is the world's largest consumer of most commodities. [online] Business Insider. Available at: <http://uk.businessinsider.com/chinas-share-of-global-commodity-consumption-2015-8?r=US&IR=T> [Accessed 27 March 2016].

Roache, S. and Rousset, M. (2015). China: Credit, Collateral, and Commodity Prices. SSRN Electronic Journal. [online] Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2709295 [Accessed 13 March 2016].

Saharay, M. (2010). Textbook on Sale of Goods and Hire Purchase. [online] Google Books. Available at: <https://books.google.ch/books?id=UwheCI7J6jcC&pg=PA2&lpg=PA2&dq=sale+of+goo>

ds+codified+english&source=bl&ots=PqO2-XPYIb&sig=Ta-7E0JXZFJBjCMMKPacRVSOg0&hl=en&sa=X&ved=0ahUKEwiKtKyFk4DNAhVHfhoKHa6WCIYQ6AEIKDAC#v=onepage&q=sale%20of%20goods%20codified%20english&f=false [Accessed 22 March 2016].

Sanderson, H. (2016). Commodities demand and China: an explainer - FT.com. [online] Financial Times. Available at: <http://www.ft.com/intl/cms/s/0/56a3dbce-bae6-11e5-bf7e-8a339b6f2164.html#axzz49yB5l8Rf> [Accessed 6 May 2016].

Sanderson, H. and Hume, N. (2014). Qingdao fraud case taints commodity financing — FT.com. [online] Ft.com. Available at: <http://www.ft.com/intl/cms/s/0/b3cc4dc4-86ba-11e4-9c2d-00144feabdc0.html> [Accessed 27 March 2016].

Seow, I. and Pong, B. (2006). Jones Day | Arrangements for Reciprocal Enforcement of Commercial Judgments Between Mainland China and Hong Kong. [online] Jonesday.com. Available at: <http://www.jonesday.com/arrangements-for-reciprocal-enforcement-of-commercial-judgments-between-mainland-china-and-hong-kong-08-31-2006/> [Accessed 17 May 2016].

Sethi, R. (2015). Redelivery requirements in repo transactions. [online] Lexisnexis.com. Available at: http://www.lexisnexis.com/uk/lexispsl/bankingandfinance/document/412012/5GB8-M691-DYW7-W1VH-00000-00/Redelivery_requirements_in_repo_transactions [Accessed 28 April 2016].

Smith, D. (2011). Hidden Debt: From Enron's Commodity Prepays to Lehman's Repo 105s. [online] Cfapubs.org. Available at: <http://www.cfapubs.org/doi/pdf/10.2469/faj.v67.n5.2> [Accessed 28 March 2016].

South China Morning Post. (2014a). Commodity financing probe extends to petrochemical imports. [online] Available at: <http://www.scmp.com/business/commodities/article/1546122/commodity-financing-probe-extends-petrochemical-imports> [Accessed 18 March 2016].

South China Morning Post. (2014b). Qingdao Port says 400,000 tonnes of metals involved in financing fraud. [online] Available at: <http://www.scmp.com/business/china-business/article/1590904/qingdao-port-says-400000-tonnes-metals-involved-financing> [Accessed 16 January 2016].

South China Morning Post. (2015). Citigroup withdraws from metals financing in mainland China. [online] Available at: <http://www.scmp.com/business/china-business/article/1815968/citigroup-withdraws-metals-financing-mainland-china> [Accessed 16 March 2016].

Store.eiu.com. (2015). EIU Store - Commodities. [online] Available at: <https://store.eiu.com/article.aspx?productid=960000296&articleid=632943647> [Accessed 20 January 2016].

Sullivan & Worcester, (2015). Commodity repo transactions and true sale considerations. [online] Lexisnexis.com. Available at: https://www.lexisnexis.com/uk/lexispsl/bankingandfinance/document/391290/5HFM-R5D1-F185-S331-00000-00/Commodity_repo_transactions_and_true_sale_considerations [Accessed 1 March 2016].

Swarb.co.uk. (2015). Welsh Development Agency -v- Export Finance Co Ltd; CA 1992. [online] Available at: <http://swarb.co.uk/welsh-development-agency-v-export-finance-co-ltd-ca-1992/> [Accessed 18 March 2016].

Taipeitimes.com. (2014). PRC financing fraud probe expands - Taipei Times. [online] Available at: <http://www.taipeitimes.com/News/biz/archives/2014/07/04/2003594278> [Accessed 25 January 2016].

Tan, L. (2014). NEWS - Citigroup reveals financing exposure to alleged Chinese port fraud - FastMarkets. [online] FastMarkets. Available at: <http://www.fastmarkets.com/aluminium-news/news-citigroup-reveals-financing-exposure-to-alleged-chinese-port-fraud-78583> [Accessed 27 March 2016].

Tang, K. and Zhu, H. (2016). Commodities as Collateral. [online] MIT. Available at: http://www.mit.edu/~zhuh/TangZhu_CommodityCollateral.pdf [Accessed 8 May 2016].

Tfreview.com. (2011). Deals of the Year 2010: Emerald Group | Trade and Forfaiting Review. [online] Available at: <http://www.tfreview.com/awards/deals/deals-year-2010-emerald-group> [Accessed 21 March 2016].

Tfreview.com. (2015a). Beyond Decheng Mining | Trade and Forfaiting Review. [online] Available at: <http://www.tfreview.com/feature/legal-regulatory/beyond-decheng-mining> [Accessed 5 May 2016].

Tfreview.com. (2015b). Winner: PKN ORLEN | Trade and Forfaiting Review. [online] Available at: <http://www.tfreview.com/awards/deals/winner-pkn-orken> [Accessed 21 March 2016].

theFinancials.com. (2016). LME Metals Prices. [online] Available at: <http://www.thefinancials.com/Default.aspx?SubSectionID=comquotes> [Accessed 15 April 2016].

Theice.com. (2016). Cocoa Futures | ICE. [online] Available at: <http://www.theice.com/products/7/Cocoa-Futures> [Accessed 21 March 2016].

Tian, L. (2014). Legal tussle highlights issues behind metal fraud. [online] Globaltimes.cn. Available at: <http://www.globaltimes.cn/content/898454.shtml> [Accessed 25 January 2016].

Trade Finance. (2004). ABN Amro provides Brazilian OJ-backed financing. [online] Available at: <http://search.proquest.com/docview/1517857891/64D4D6CC1EB343BDPQ/2?accountid=34529> [Accessed 28 April 2016].

Trade Finance. (2014a). Analysis: Will China's metals probe make commodity financing harder and more expensive. [online] Available at: <http://search.proquest.com/docview/1685913763/61BE1996D2AA4464PQ/25?accountid=34529> [Accessed 22 January 2016].

Trade Finance. (2014b). Market view: Use smart financing to secure supplies. [online] Available at: <http://search.proquest.com/docview/1517857891/64D4D6CC1EB343BDPQ/2?accountid=34529> [Accessed 8 April 2016].

Tradefinanceanalytics.com. (2014a). Analysis: Chiyoda Steel to sue BOC Hong Kong, new structures in “post-Qingdao” world | Analysis | Trade Finance. [online] Available at: <https://tradefinanceanalytics.com/articles/3397990/analysis-chiyoda-steel-to-sue-boc-hong-kong-new-structures-in-post-qingdao-world> [Accessed 22 January 2016].

Tradefinanceanalytics.com. (2014b). Collateral management post-Qingdao | News | Trade Finance. [online] Available at: <https://tradefinanceanalytics.com/articles/3386610/collateral-management-post-qingdao> [Accessed 16 March 2016].

Tradefinanceanalytics.com. (2014c). KYC/AML initiatives for the long-term compliance of trade | Analysis | Trade Finance. [online] Available at: <https://tradefinanceanalytics.com/articles/3438839/kyc-aml-initiatives-for-the-long-term-compliance-of-trade> [Accessed 24 February 2016].

Tradefinanceanalytics.com. (2015). China remains top dog in metals trade | Analysis | Trade Finance. [online] Available at: <https://tradefinanceanalytics.com/Articles/3437212/China-remains-top-dog-in-metals-trade.html> [Accessed 6 May 2016].

Tradingeconomics.com. (2016a). China Interest Rate | 1996-2016 | Data | Chart | Calendar | Forecast | News. [online] Available at: <http://www.tradingeconomics.com/china/interest-rate> [Accessed 25 February 2016].

Tradingeconomics.com. (2016b). Chinese Yuan | 1981-2016 | Data | Chart | Calendar | Forecast | News. [online] Available at: <http://www.tradingeconomics.com/china/currency> [Accessed 25 February 2016].

Tradingeconomics.com. (2016c). United States Fed Funds Rate | 1971-2016 | Data | Chart | Calendar. [online] Available at: <http://www.tradingeconomics.com/united-states/interest-rate> [Accessed 25 February 2016].

U.S. Grains Council. (2016). Conversion Factors. [online] Available at: <http://www.grains.org/buyingselling/conversion-factors> [Accessed 16 March 2016].

Uk.practicallaw.com. (2016). Enforcement of a foreign judgment. [online] Available at: <http://uk.practicallaw.com/9-518-8785?q=&qp=&qo=&qe=#> [Accessed 5 May 2016].

Usher, R. (2015). Turning on attornment | Trade and Forfeiting Review. [online] Tfreview.com. Available at: <http://www.tfreview.com/feature/legal-regulatory/turning-attornment> [Accessed 22 January 2016].

Vulcan, T. (2014). How Chinese Commodity Financing Deals Work, And The Worry Behind Them | ETF.com. [online] Etf.com. Available at: <http://www.etf.com/sections/features-and-news/5937-how-chinese-commodity-financing-deals-work-and-the-worry-behind-them?nopaging=1> [Accessed 16 February 2016].

Wang, X. (2014). China commodity finance costs spike after Qingdao fraud - Risk.net. [online] <http://www.risk.net>. Available at: <http://www.risk.net/asia-risk/news/2365218/china-commodity-finance-costs-spike-after-qingdao-fraud> [Accessed 20 January 2016].

Watson, N. (2014). Standard Chartered Suspends Some Metal Financing After Qingdao Port Probe. [online] International Business Times UK. Available at: <http://www.ibtimes.co.uk/standard-chartered-suspends-some-metal-financing-after-qingdao-port-probe>

<http://www.ibtimes.co.uk/standard-chartered-suspends-some-metal-financing-after-qingdao-port-probe-1451435> [Accessed 5 May 2016].

WIPO. (1999). CONTRACT LAW OF THE PEOPLE'S REPUBLIC OF CHINA. [online] Available at: <http://www.wipo.int/edocs/lexdocs/laws/en/cn/cn137en.pdf> [Accessed 18 March 2016].

Wong, F., Yam, P. and Burton, M. (2014). China's small commodity traders at risk if banks tighten financing. [online] Reuters UK. Available at: <http://uk.reuters.com/article/uk-china-qingdao-banks-idUKKBN0F12PS20140626> [Accessed 15 April 2016].

World Port Source. (2016). Port of Qingdao. [online] Available at: http://www.worldportsource.com/ports/commerce/CHN_Port_of_Qingdao_408.php [Accessed 16 March 2016].

Wynne, G. (Ed.). (2012). A Practitioner's Guide to Trade and Commodity Finance. London: Sweet & Maxwell. 446 p.

Wynne, G. and Koshy, A. (2015). When is a sale of commodities not a true sale?. [online] Sullivan & Worcester UK LLP. Available at: <http://www.sandw.com/assets/htmldocuments/B1867181.PDF> [Accessed 8 April 2016].

Yam, P. (2014a). Chinese alumina prices rise as smelters push up aluminium capacity. [online] Reuters India. Available at: <http://in.reuters.com/article/china-aluminium-alumina-idINL3N0RI3H420140918> [Accessed 21 March 2016].

Yam, P. (2014b). Creditors ask Beijing to speed up metal fraud probe-sources. [online] Reuters. Available at: <http://www.reuters.com/article/china-metals-qingdao-idUSL3N0T842H20141121> [Accessed 4 March 2016].

Yam, P., Wong, F. and Burton, M. (2014). INSIGHT-China port fraud probe prompted by corruption inquiry. [online] Reuters. Available at: <http://www.reuters.com/article/china-qingdao-idUSL4N0OS1XO20140613> [Accessed 25 March 2016].

Yap, C. (2014). Detainee in China Had Rapid Rise. [online] WSJ. Available at: <http://www.wsj.com/articles/detainee-in-china-had-rapid-rise-amid-commodity-boom-1402942102> [Accessed 22 March 2016].

Yuan, R., Layton, M., Currie, J. and Courvalin, D. (2014). Days numbered for Chinese commodity financing deals. [online] Goldman Sachs. Available at: <https://live-bullioninternati.netdna-ssl.com/blogs/koos-jansen/wp-content/uploads/2015/03/End-of-Chinese-commodity-financing-deals-2013-03-18-GS.pdf> [Accessed 20 January 2016].

Zhang, M. and Balding, C. (2015). Carry Trade Dynamics Under Capital Controls: The Case of China. SSRN Electronic Journal. [online] Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2623794 [Accessed 13 March 2016].

Zonneveld, P. (2012). Where nine-tenths won't do when it comes to commodities ownership | Trade and Forfeiting Review. [online] Tfreview.com. Available at: <http://www.tfreview.com/feature/commodities/where-nine-tenths-wont-do-when-it-comes-commodities-ownership> [Accessed 22 January 2016].

Interviews

Mr. William Hold, by phone, 19 May 2016

Mr. Jan de Laat, by phone, 17 May 2016

Mr. X, in person, 23 May 2016

Mr. Y, in person, 26 May 2016, Geneva

Mr. Philippe Ziegler, in person, 11 May 2016, Geneva

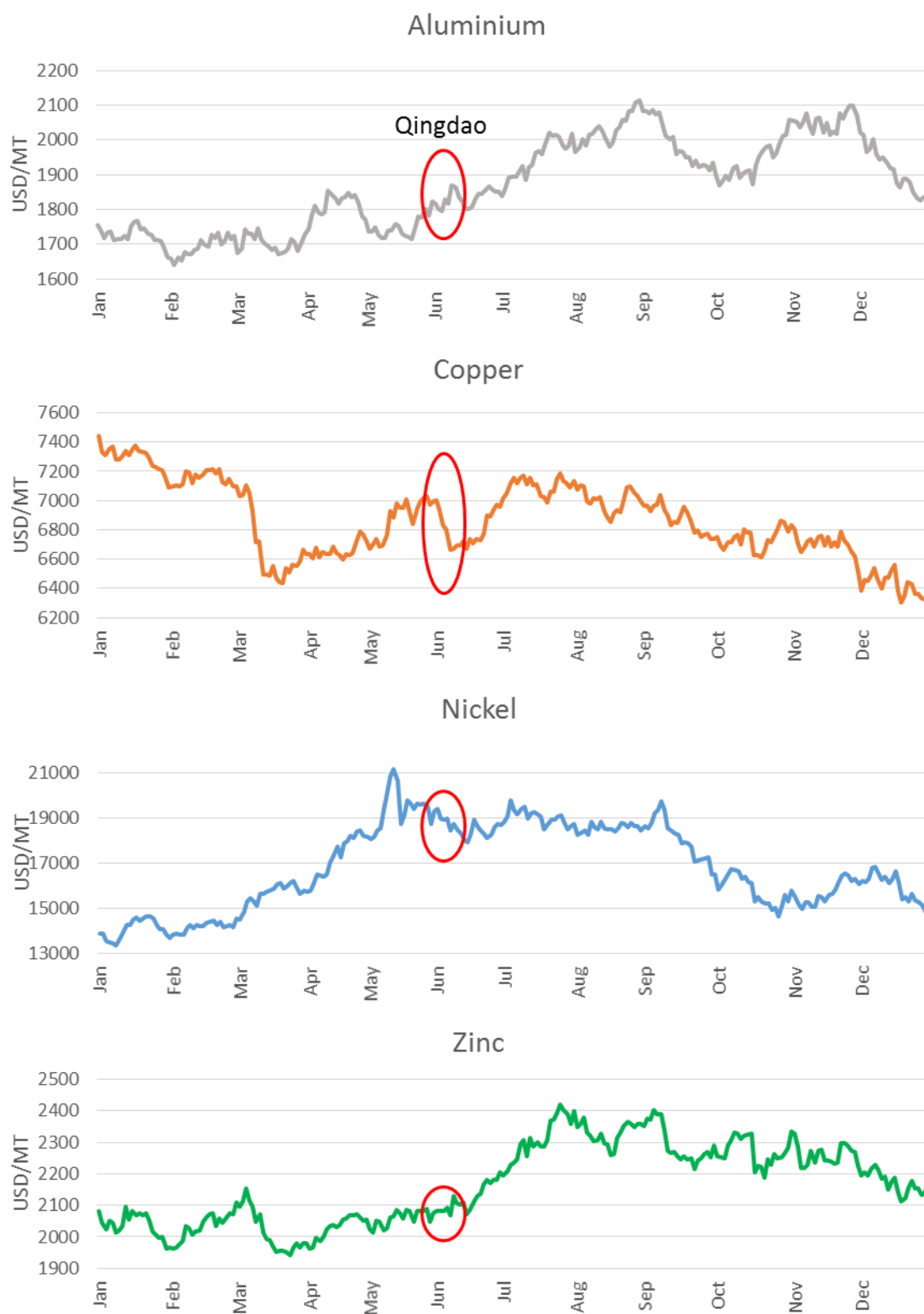
Mr. Samir Zreikat, in person, 12 May 2016, Geneva

Appendix 1: Strength of the true sale argument

Factor	Supporting true sale	Undermining true sale
1. Purchase price	The purchase price is close to the market price as of the date of the purchase. The resale price is close to the observable forward market prices, for example on futures exchanges.	The purchase and resale prices have little relation to the market prices.
2. Period of ownership	The period of the financier's ownership is aligned to match the trader's genuine inventory financing needs between the acquisition of the commodity and its resale to a buyer.	The period of the financier's ownership seems to have been chosen to achieve a more favorable accounting position at the relevant financial reporting dates (end of quarter, end of year).
3. Insurance	The bank procures insurance for the goods itself or is co-insured with the trader.	The goods are insured solely by the trader, but the bank is the policy's beneficiary.
4. Storage services provider	The bank arranges for storage with an independent warehousing company and has a direct contract with it.	The goods remain in a warehouse controlled or operated by the trader and their segregation is unsatisfactory.
5. Ability to pass title	The financier obtains the documents that allow him to pass title to another party at any time and give control over the commodity.	The trader retains control over the goods and the bank cannot effect a sale without his involvement.
6. Option to repurchase	The trader only has an option, but not an obligation, to repurchase the goods at repo's maturity.	The trader has an obligation to repurchase the goods, or has an "option" to do so, but it is exercised automatically.
7. Different seller and re-purchaser	The commodity is purchased from one company, but is resold to another entity at repo's maturity.	At maturity, the commodity is resold to the same original seller.
8. Price risk hedging	The bank makes its own arrangements to hedge the price risk arising during its ownership.	The repo documentation includes indemnities from the trader to compensate the bank for losses resulting from price risk.
9. License to own the commodity	The bank has obtained the required licenses or authorizations to own a commodity prior to entering in the transaction. The license is general and not specific to the transaction.	The transaction has been structured so as to avoid having to obtain relevant licenses or authorizations.
10. Purpose of repo	The trader uses the repo to obtain a specific cash flow that helps to optimize its business activities.	The only apparent benefit of the repo is to move the inventory off the balance sheet.

Source: (Wynne, p.178-180)

Appendix 2: LME settlement prices of selected metals in 2014



Source: LME data via theFinancials.com (2016)

Appendix 3: Thematic table of interviews

Themes and Ideas	Mr. Hold	Mr. de Laat	Mr. X	Mr. Y	Mr. Ziegler	Mr. Zreikat
1. Fraud in trade finance						
Fraud is the biggest risk in trade finance				x	x	
Fraud is neither new nor rare	x					x
It is not possible to have zero fraud risk	x					
Fraud is more likely in difficult times				x		x
The riskiest activity is financing immobilized stocks			x	x	x	
2. Approach to business						
Traditional commodity trade finance vs. newer financial entrants, transactional financing vs. deals not linked to real trading flows		x	x	x	x	x
You cannot rely on documents alone, need to go in the field					x	x
The bank does repos with exchange-traded commodities and terminal markets		x				
The bank is focused on transactions under 90 days				x		
Repos are an attractive product and the bank would like to do more of them		x				
3. Warehousing						
CMAs have become more expensive and inspection companies are reluctant to provide this service	x					x
It is not certain that liability limitation clauses always work and reputational damage is an issue	x					
The bank is using CMAs more often		x				
4. Due diligence						
Know your counterparty and the warehouse	x	x	x		x	x
The bank already had or has made its client acceptance more strict		x		x		
More stringent KYC and due diligence was already a trend before Qingdao		x	x	x	x	x
The tightening of policies is here to stay		x				x
5. Specific measures to reduce risk						
Appoint a second inspector to monitor the collateral manager	x				x	
Contract insurance against warehouse employee fraud	x				x	
Warehouse operator database and KYC		x	x		x	
Must have vision over the goods' origin, be able to retrace it			x		x	
It would be good to have a system similar to that of the LME					x	x
Only finance real trade flows				x		
6. What about external solutions?						
Not much can be realistically changed in the business environment in China in the near term. The solution is to be vigilant.				x	x	
Evolution of legislation or technology does not directly address the risk of fraud linked to physical goods				x	x	x

Appendix 4: Interview with Mr. William Hold

Mr. Hold is a Senior Associate in Holman Fenwick Willan's Geneva office. He regularly acts for trading companies in disputes involving a range of physical commodities and his practice also involves non-contentious commercial and trade finance work.

What trends have you observed in the market in the aftermath of the Qingdao scandal?

Companies who used to offer services as collateral managers are now finding this too risky to do. Some of them do not want to do it anymore and are getting out of this business, so it is becoming more difficult to obtain inventory financing when goods are used as collateral. There have been other cases of collateral disappearing before, last year there was a case in Liberia involving rice, a quantity enough to feed country for about 6 months. Qingdao involved large quantities of metal, made a lot of banks nervous and made a lot of press. The risk has always been there and the developments just accelerated after Qingdao because of the publicity around the case. There are basically two problems. The first is, if want to trade in commodities and cannot finance yourself, you will need to borrow funds and for that you will need collateral, because the bank will not lend 10-100 million US dollars unless there is some kind of security. Unless one has a full bank account, collateral such as a nice property in London or a strong guarantee from another party, the collateral will have to be the goods themselves. This leads to the second point: if you use goods as collateral, there are all sorts of issues about how to store them and that was the problem in Qingdao. No matter how the deal is structured, be it a normal trade finance deal or a repo or a sharia-compliant financing, there has always been the issue that someone has to store the goods in a safe place. So, I think that fundamentally not very much will change, because people will continue to use whatever they can as security. However, previously one could say: "we have the goods in a warehouse that is safe, someone is watching them and we trust that company, so it is fine". That is probably going to change, because people will not be as trusting, so they will ask people to go watch over those who are holding the goods, an extra set of eyes, and that of course has a cost. The cost of financing is going to go up in turn and the addition to the total costs of the goods will be ultimately passed on to the final consumer. It is the same thing for the actual warehouse agents or the collateral managers as well – up until now, their fees were very low compared to the value of the goods that they were storing. So, they were exposed to huge potential risks compared to the revenues that they derived.

It has gotten to such a point that big players like SGS do not want to do this anymore, it is too dangerous.

I think that in order for serious people to start doing the business again, the fees will have to go up, in line with the risks that they are taking. One of the ways in which these players can try to protect themselves is through contractual clauses that limit their liability if something happens, but these clauses do not always work and even if they do, this potentially involves a lot of reputational damage.

Another issue is the approach to insurance. I have been talking to insurance brokers and many people, including clients, are thinking very hard about how to insure against the risk of fraud, are looking at their insurance contracts to see if this kind of event is covered and if not what can they do.

How effectively can one insure himself against fraud? Is not there a problem, because there is an incentive to commit fraud if you are insured against it?

It depends: if the bank is insured, the people on the ground may not know that that is the case. Then, there is a difference between when the fraud is committed by the management of the company or if it is just guards who were corrupted to open the doors one night and let in a truck to load the goods. So if a junior employee somehow finds out where his boss keeps the keys and steals them, it probably does not make much of a difference to him whether there is insurance or not. But this is a very big topic and many people are wondering how to manage this. One senior banker told me that they are desperately looking for a solution, because otherwise the way they do business is going to change completely.

You mentioned that the trend was to try to get more warranties or try to pass back risks and liabilities through contractual arrangements onto the trader – would not that be contradicting the true sale principle, knowing that the financier should assume the risks that come along with ownership of the goods?

I was not talking about the warranties of the seller, what I meant is there are going to be much higher requirements towards the warehouse operators and collateral managers, which is entirely consistent with a normal repo structure. When I buy something, I want to make sure that it is indeed there before I pay for it. Everyone is doing a lot of due diligence, whether it is on the goods, the storage locations or the parties to the contract. There is another point which has to be made, that in cases like Qingdao or the Liberia rice case I mentioned earlier, it is highly probable (but still uncertain, because proceedings are ongoing in both cases) that the fraud was actually

a very organized one that involved a substantial number of people in important positions. When I say important, I do not necessarily mean directors of companies, but people in positions to help carry out the fraud, such as the person at the door who lets the truck in. Under those circumstances, there is no such thing as zero risk. You can reduce the risk by having checks and balances and having separate people in separate locations check on each other or having people check that the other people are doing what they should, but if several people get together and organize to commit fraud, effectively there is not very much that you can do about it.

The true sale argument is stronger if the goods are resold to another company – should it be another company within the client’s group structure or could it be a totally different counterparty in the market?

If the end party which buys the goods is a totally different party it is almost certainly a true sale. If I lend you something, you will have to give it back to me. But if I sold you the goods, you can do whatever you want with them. If that party is related to the first party, it can become a little bit more complicated. It depends on the exact legal framework, but if there is only very loose affiliation, it would probably be a true sale. I think the real issue is whether the two legs of the repo are connected. If for example it is exactly the same bars of metal or oil in tanks which is passed back and forth, there is more risk that the repo will be recharacterized as a loan. So if the contract expressly provides that it has to be the same goods, that can be dangerous. If, however, it is just a coincidence that the goods are the same, it is generally not a problem. If you think of steel bars, if the contract says that you have to sell me back 500 tons, it does not have to be the same bars. In practice, the bank is not a trader and does not want to move the goods, it is easier to keep them where they are, so they do tend to be the same. Each contract is unique, but often it says: “I will sell you 500 tons of steel bars with specifications a, b, c, d” and you have the same specifications on the second leg. The real issue is to make sure that the buyer does not have a right of recourse, the repo has to be set up so that once the goods are sold it is final and the buyer has the legal right to do what they want with them, but also assumes a certain amount of risk. One of the issues is gauging how much risk has to pass for sale to be recognized as a true sale. I would add that the precise legal nature of repos is actually being debated in many legal systems.

Just how important and useful was the *Mercuria v Citibank* case for the legal and banking community? It was the first time the principle of true sale was tested in

court with commodities, but the true sale status was common ground between the parties, so it was not expressly examined by the judge.

A lot of people were concerned that repos would be examined by the judge and that he could have come to an inconvenient conclusion. There was relief that the judge did not look at it in detail due to the fact that the parties had agreed on that point, so in that respect, repos were not really tested. My personal sense is that even if they were, the principle as such would have still been upheld. The reason for that is because repos are common in commodities, but they are used far more massively in financial transactions. If a bank or a company need short-term cash they can repo shares or US Treasuries. It is such a prevalent instrument in the financial markets, if suddenly it did not work anymore, a lot of people would have very big problems. They are more standardized than in commodities, but the basic idea, the principle of ownership passing is very much the same, regardless if you are using US Treasuries or crude oil.

How exactly does the local law (*lex situs*) of the country where the goods are located come into play and at what point?

That is a very complex question. Basically, the *lex situs* comes into play in two ways. The first one has to do with liability of the warehouse manager who is holding the goods. It may be that the only applicable law is the local one, then you have to see in that law whether the warehouse manager is liable and whether you can use a different law, for example English law, to enter in to a contract. The second way in which the *lex situs* was discussed was as to when title passes. In *Mercuria v Citibank* case, the question was whether title could pass through the delivery of the warehouse receipts. The court held that this is not enough on its own for the title to pass under English law and that attornment from the warehouse operator was required. However, I understand that it would not be needed under Chinese law, since warehouse receipts are considered documents of title and it is enough to transfer a warehouse receipt for the title to pass. There was another case with Impala Warehousing and Wanxiang Resources in which many of these issues were considered.

Can you avoid the local law completely if in your contract you agree on a jurisdiction different than that of the country where the goods are stored?

It depends on whether, and if so, to what extent, the local law will let you avoid it. Ultimately, when dealing with complex contractual structures, one has to look at what is permissible at the place where the goods are stored, because getting access to the goods is what counts the most. I think in China the situation was complicated, since the

warehouse managers were not operating the warehouses because of regulatory reasons. I understand that you need to be a Chinese company in order to run that business in China, so they were in effect subcontracting to Chinese companies, which raises more issues as well.

In *Impala v Wanxiang*, the latter started proceedings in Chinese courts and the other party said that this was not allowed under their contract and asked the English court for an anti-suit injunction. That is actually a very robust and strong measure that is rarely given out, because other party risks imprisonment when they come to England or Europe if they do not comply. Whether or not parties will be litigating in a Chinese court will depend very much on, firstly, the contract and if it provides for disputes to be heard by Chinese courts, that is where you will go. Second, it may happen when for example the situation is not clear as to when title has passed or when there are non-contractual claims, basically tort or civil liability.

So you may potentially have different outcomes under the different legal systems?

Potentially, yes, and it is a very unpleasant situation to be in for lawyers and for parties to proceedings.

What roles do the legal opinions play in structuring the deals?

They are part of the normal due diligence when setting up these deals, there is almost always a legal opinion from a local lawyer saying: “Yes, you have an English law contract, the local courts will recognize the contract and that the English law applies. Yes, this deal is acceptable under Chinese law” and one would expect them to look at whether the mechanics work, for example whether title would pass, under what conditions, and so on. They would also think about how these two different legal systems work together. Legal opinions are basically one of the conditions precedent to any contract being finalized. Nothing is signed unless the bank has a draft legal opinion saying that the deal works as contemplated. Once the contract is signed, the lawyer issues his final legal opinion and the money does not go anywhere until the final legal opinions are received by the bank.

Appendix 5: Interview with Mr. Jan de Laat

Mr. de Laat is Regional Manager, Trade & Commodity Finance (India – Middle East – Africa region) and Chief Executive Officer for Rabobank, Kenya. Before moving to Nairobi, Mr. de Laat was based in London as Managing Director, Trade and Commodity Finance (Emerging Markets) for Rabobank.

First, some questions about the functioning of commodity repos. Is the pricing of the transactions typically done on a fixed or floating basis?

There are different ways of financing stocks with ownership structures. There are the classical repo structures whereby the bank is buying stocks from a client under a buyback agreement and the client buys them back at a later point in time. The prices are fixed and the risk of bank is that of the client not to fulfill his repurchase obligation. Then, there is an alternative format, which is, the client is selling inventory to the bank who is responsible for price hedging and the client is buying back at a floating price. Any gains or losses on the physical goods are thus offset by those on the paper side. Finally, there is a third type, a structured inventory finance product called cash and carry whereby we buy stocks from the client and there is no repurchase obligation. In that case, we pay for the full value of the goods and hedge them. At maturity, we offer the goods to our client who has the right of first refusal. If he does not buy back, we deliver them on the exchange. This only works for commodities that are deliverable, for example copper on the LME with approved warehouses around the world.

Is there any kind of discount that is applied to the goods' value so that the bank only advances, say, 90% of the market price, or is the financing done on 100% basis?

With repo contracts it is a matter of negotiation, but the clients do expect that we finance 100%. If we have a commodity traded on an exchange, like the LME or NYMEX or CBOT, the hedge is straightforward. If it is a niche commodity, such as tea or nuts, then we do apply a discount. The liquidity of the commodity is also a factor that could influence the final advance rate.

What is the typical range of durations that are possible under repos?

Because it is a quite labor-intensive product and we need to manage the purchases, sales and hedging, we require durations of at least three months, so it does not work as well with fast-moving goods. It can go up to a year – it also depends on the contango conditions in the market, so it has to be profitable for the client to put the

goods away for this period of time. The gain from the forward sales price has to outweigh the storage and financing costs. On the bank's side, we also need to make sure that there is sufficient liquidity for us to hedge and that is normally the case for expiries of up to three to six months.

When the Qingdao scandal broke out, what was your immediate reaction as a bank?

The first reaction was panic. What we do is we immediately assess our exposure across the relevant branches. In that case we were not involved with repo structures, nor with cash-and-carry structures, but we were involved in straightforward stocks financing under a pledge and thankfully we were not hit by the scandal. After the initial investigation, we determined that we were not running a risk of loss there, which gave us a lot of comfort. Afterwards, we discussed internally to see how we can prevent such a situation in the future. We actually made client acceptance more stringent, are taking even more care of our stocks by using collateral management agreements and collateral monitoring contracts more often. It is another story for other banks, such as Citi. We were not involved to that extent and once again, we had not engaged in repos or cash and carry for Chinese stocks, because the warehouses are not part of a system such as the LME.

So it depends on the bank's risk appetite, because other banks did go ahead to finance stocks in bonded warehouses which involved a much greater risk?

Rabobank is one of the conservative banks and professional players in the field. We have very strict policies for financing stocks and structures such as repos or cash-and-carry. We only do it with first tier clients and it has to be with a third-party warehouse, not one leased or operated by the client. This is already taking away a lot of trouble. We insist on doing financing on a transactional basis, with 90% of our portfolio being in this category. In addition to conducting due diligence on our clients, we work with a list of pre-approved warehouses. A client can offer a new warehouse, in which case we will put it through our clearance process. We go there, talk to the owners and we want to see an established firm with a solid track record and reputation. If we have any doubts, we may still go ahead provided that a CMA is put in place, which makes the transaction more expensive. The collateral manager is then leasing the space in the warehouse and is fully responsible for the losses. You have to take care of the goods as a good house father.

Besides that, do you feel that you were already doing things “the right way” before?

We have a team of 25 people operating worldwide who are professionals with a long experience in the industry and are authorized to sell the Structured Inventory Finance product. They are running a multi-billion portfolio whose size fluctuates based on market conditions and opportunities. We spend a lot of time to cover all the risks involved and the deals are set up in line with the very strict policies under the supervision of our risk managers. This indeed allowed our portfolio to remain healthy despite the Qingdao disease.

When you are talking for example about stricter client acceptance, were these measures implemented for the long term, are they still in place now, two years after the scandal?

Generally, due diligence and compliance are becoming increasingly important, so our requirements have definitely remained at the new levels. The banks are becoming stricter overall and I expect it to stay this way. We are now after the end of the commodities boom cycle, it is an environment of low prices and low volatility, these are difficult times for our clients and we do have to be more careful in such a context. We are trying to avoid losing money at all costs and we have to take actions with regards to risky clients in our books. So our income is under pressure, but we want to keep the quality of our portfolio as high as possible.

Trade finance tends to have low default and low loss rates, but the margins are low as well, so when you do have a loss of several tens or hundreds millions of dollars like with Qingdao, that really hurts – a single deal wipes out the profits made on many others.

You can fall into a trap if you take a short-term view, chasing after transactions and revenues on deals that are more likely to result in a loss. But nowadays banks are no longer driven by revenue, they are driven by the return they make on their capital. So if you experience many losses, the regulators require you to set aside more capital and you shoot yourself in the foot because your margins remain under pressure, but your return is going down. With cash-and-carry and repo structures, we get capital relief, so it is a very attractive option and you get a better return with the same margin.

More attractive compared with secured lending?

It depends, with the repo you have the client's obligation to buy it back, so you get less relief, because you still have the risk on your client. With cash-and-carry structures, there is a lot of relief, because there is no repurchase obligation, so that is a fantastic product.

Can you provide an estimation of how much less capital do you need to put aside for such products?

It is a very complicated calculation, not like in the old days when for example you did secured lending, so that was 8% of capital set aside for insolvency, 4% with a letter of credit, 0% for a standby letter of credit and so on. Those days are over, you now have a special model that has to be approved by the regulator in which you enter all the parameters, say, you are buying inventory stored in an LME warehouse and it gives you the number. It is very difficult to say, but in general, the relief could be for up to 90% of what you normally have. If you look at the returns that you make financing inventory in OECD countries, they are generally twice as high as those in secured lending. It makes a huge difference.

From what I see, there is not much that changed with regards to the functioning of repos after Qingdao and the instrument's viability was not compromised. It seems to be a question of what kind of deals are the lenders willing to engage in and how much risk they are willing to take.

The whole scam has not changed our views, we have not decided to exit this business. It was a confirmation that we had looked at our business in a proper way and had a sound policy framework. Structured Inventory Products that include repos and cash-and-carry are important for us and we would like to grow further with these products. At the moment, the markets are not giving us an opportunity, because you need a steeper contango and clients to be willing to do these deals. There are also places where the local legislation does not allow you to set these structures up, like in Brazil. This product does not work well in Africa neither because of a lack of acceptable warehouses and the gaps in the regulatory and legal systems. It is only applicable to a handful of locations in the world, mainly in OECD countries with prime clients, so the potential scope for expansion is small. We would like to have more of our financing through ownership structures, because you do not have the risk of someone else having claims on the inventory or having more rights to it. To emphasize how useful this product is if you do it the right way: we would have all of our stock in such structures if it was possible.

Appendix 6: Interview with Mr. X

Mr. X is a relationship manager in commodity trade finance. He requested to stay anonymous. The views shared below on repo and transactional financing are his own.

Transactional financing as opposed to repo financing of inventory allows to have visibility over the goods from their sourcing and origin to their intended use (end-buyer or destination). He stressed the risks of transactions that do not correspond with the above situation. The problem with repos is that there is a higher risk of fraud when the goods spend months or even years in a bonded warehouse without moving and the same warehouse certificate circulates between the bank and the trader. In a normal transaction, fraud would likely be discovered more quickly as the goods enter or leave the warehouse on their way to the next step in the supply chain. Inspections would then be conducted and new documents issued along the way, so that any other companies with duplicate warehouse receipts would be more likely to identify a mismatch in quality or quantity or realize that goods are missing.

A way to reduce the risk of situations such as Qingdao is to increase the due diligence on warehouses. Banks have due diligence process for approving counterparties and warehouses. Mr. X did not notice any changes in the Bank's approach to transactional financing because of Qingdao. Due diligence and compliance processes have continued to evolve over the last two years, but in an ordinary course of events rather than specifically in reaction to Qingdao.

Appendix 7: Interview with Mr. Y

Mr. Y is working in the commodity trade finance department (CTF) of a bank in Switzerland. He requested to stay anonymous.

- His department does not engage in repo financing, one of the main reasons being that under Swiss regulations, when banks are owners of a commodity, they have to set aside so much capital that the return on that product would be unsatisfactory.
- Another major reason is a matter of policy. The bank wants to only engage in financing real trading flows and not goods that are immobilized in a warehouse for the sole purpose of obtaining finance. In addition, they prefer to be involved in transactional deals with durations of 30-90 days as opposed to repos which could span over 6 to 12 months.
- The risks of fraud go up considerably with longer durations and when the goods don't move. In particular, it makes it easier for a warehouse operator to issue a duplicate receipt when he knows that the goods will not move for a certain time.
- Fraud is the main risk in trade finance. Oftentimes, it is not committed with the aim of enriching oneself, but as a way to try to get out of a difficult situation.

Why did the scandal happen in Qingdao

One of the reasons why it happened there and not somewhere else is because while all port authorities lease warehousing facilities to independent operators, in Qingdao, the port imposed its own management of the warehouses. At best, the storage companies would have a couple of people on the premises, in an office, issuing warehouse receipts based on the information provided by the port associates. The problem is that this way of functioning was not necessarily disclosed to the traders and the lenders who only saw and received a receipt issued by a well-known company. In my view, the warehouse receipt should have stated on which basis it was issued and contain a wording similar to what we have on container Bills of Lading – “said to contain”, because the ship's master cannot open the containers and see their contents. No one really complained, because this practice was being carried out in good faith and one would expect that the port authorities could be trusted. Further, these conditions were imposed to all participants, so there were not any competitors in a better position than yourself. There was an exception, the warehousing firm Steinweg, who refused to engage in storage activities under these conditions and insisted on

running the warehouse themselves, so they had to do this elsewhere. They had a big increase in their business when there was a flight to safety after the scandal.

Consequences of the scandal

In the short-term, prices of metals plunged and volumes of imports decreased, also because the Chinese regulators, in an effort to curb the phantom metal financing, ordered the banks to limit their financing to real trade flows only. Some banks stopped doing repos for some time or stopped all business in China for up to six months.

Did your bank increase interest rates or client margins / decrease advance rates?

We were not involved in Qingdao and we did not take action in terms of costs or leverage. We became more selective in our deals and we now have an additional and separate approval process for inventory financing in China, but before that we already had extensive due diligence on clients and warehousing companies.

I have not seen any news saying that the warehouses have been reopened, are they still under lockdown?

It is surprising that the port terminal remains closed down two years after the scandal. In Europe, investigations would have been long completed by now, but let us remember that we are talking about China. My personal view is that they want people to wait and let things calm down. Those who benefit from this are the warehousing companies, because when they have a potential huge liability arising from the scandal, it gives them time, for those willing to do so, to take out as much assets from their legal entity as possible, leaving an empty shell. The lenders are obviously much less content with this situation. The investigation's conclusion on who is responsible is needed in order to be able to proceed with litigation and to recover losses.

Is there something to be done to make the environment in China friendlier to warehouse financing?

The legal environment is difficult, there is no jurisprudence or clarity in this area and there are also problems with enforcing claims against Chinese companies and how you will be treated in local courts. So there is much to be done, but knowing that fraud is a big problem in China, you must be able to decide now with whom do you want to work there, if it is only with international companies and so on.

Do you think that technology can save us? How much hope do you put into new electronic instruments such as the LME Shield or Sword systems?

There are always advances in technology, the electronic documents can be a solution to verify the origin and the authenticity of a document and can help the transactions go faster. But this is on the document side, you must remember that there are also the physical goods behind the deal and this will not protect you from fraud or disappearance of inventory.

Finally, a detail on accounting treatment – are clients still willing to do repos when the off-balance sheet effect cannot be achieved?

Even in cases when off-balance sheet treatment cannot be achieved, it could still be interesting for traders to enter into repos as this structure may be cheaper.

Appendix 8: Interview with Mr. Philippe Ziegler

Mr. Ziegler is Founder and Managing Director of Captiva Corporate Finance SA. He was previously Head of Energy & Commodity Finance at BNP Paribas in Switzerland.

Quelle a été la réaction immédiate des acteurs du marché lorsque le scandale a éclaté?

À ce moment-là, je ne travaillais ni dans une banque, ni une société de négoce, ni en Chine, ni chez un transitaire. Si je peux répondre en tant qu'ancien banquier, quand vous faites du financement du négoce de matières premières, le risque le plus grand et le plus difficile à gérer est celui de fraude. Soit l'on détourne les produits de la vente, soit la marchandise, soit la marchandise n'a jamais existé, soit on fait des faux documents. Donc ce n'était pas tout à fait une surprise. La deuxième remarque qu'on peut faire c'est que le stockage de matières premières est le moment où ce risque est le plus grand. Vous avez dû voir qu'en Russie à Rostov il y a eu une fraude il y a quelques années avec la société RIAS. L'on a corrompu les propriétaires et les ouvriers qui travaillaient au silo pour faire de faux documents disant qu'il y avait des céréales alors qu'il n'y en avait pas. Quand une marchandise est sur un bateau, c'est difficile qu'elle disparaisse et c'est aussi le cas sur un wagon de chemins de fer.

Le risque de fraude est aussi lié au pays dans lequel vous faites du stockage. Il faut donc être conscient de ces risques et se prévenir en s'assurant que notre client ainsi que l'entrepôt soient sérieux. Toutefois, cela ne suffit pas, c'est pourquoi il existe encore d'autres méthodes pour réduire le risque. Une serait de faire contrôler par un inspecteur indépendant, un deuxième, l'existence de la marchandise dans l'entrepôt et sa conformité au niveau des quantités et de la qualité. On augmente donc le nombre d'intervenants, ce qui rajoute des coûts qui pourraient être de l'ordre de 10'000 dollars pour 5 ou 10 millions dollars de marchandise, donc ce n'est pas prohibitif. La deuxième mesure consiste à ce que l'entrepôt et la société d'inspection prennent une assurance contre la fraude de leurs employés.

Est-ce qu'il n'a pas un problème, parce que du moment qu'on a une assurance comme cela, il y a une motivation de commettre la fraude?

On ne dit pas aux employés qu'il y a une assurance. C'est comme quand vous faites une assurance-crédit, vous n'avez pas le droit de le dire, sinon il y a une tentation. Dans toutes les grandes entreprises il y a une assurance contre la fraude des employés, mais on n'en parle pas.

Comment est-ce qu'on choisit les entrepositaires avec qui on travaille?

À BNP Paribas, on visitait tous les entrepositaires et on leur faisait une notation. Avec certains c'était interdit de travailler, parce qu'il y avait eu des cas de fraude. D'autres étaient trop petits. Si vous déposez votre argent dans une banque, vous devez vous assurer qu'elle soit solide. Si vous déposez du métal chez un entrepositaire, c'est la même chose. Si l'un des employés fait des faux papiers dans le dos du chef, est-ce que la société sera capable de me rembourser? Si vous faites pour un million de financement, elle le pourra peut-être. Si vous faites pour 100 millions ou un milliard et qu'elle a 50 millions de dollars de fonds propres, vous aurez un problème.

Est-ce que vous savez s'il y a eu des changements et si oui, lesquels, dans les contrats de repos suite à Qingdao?

Je ne connais pas les détails de ces changements. Afin que le stock ne soit plus reconnu dans le bilan du trader, son engagement de racheter la marchandise doit être très vague. Il peut y avoir un « strong understanding », mais c'est une option. Si le wording de reprendre la marchandise est trop fort, les réviseurs vont remettre le stock dans le bilan. En fin de compte, le facteur le plus important reste celui de contrôler l'entrepositaire avec qui vous travaillez et s'assurer qu'il soit fiable. Un autre point auquel il faut faire attention, c'est de connaître l'origine de la marchandise. Par exemple, si on achète de l'aluminium à Rusal et qu'il vient par wagons depuis Krasnoyarsk, on le charge sur un bateau à Vladivostok, un B/L est émis, on l'amène en Chine et vous recevez des warrants après avoir payé, vous avez une légitimité d'avoir acheté cette marchandise. Rusal ne va jamais faire payer trois fois la même cargaison. S'il y a un deuxième warrant qui est émis deux semaines plus tard, vous pourrez démontrer que c'est votre marchandise parce que vous aurez des justificatifs, alors que le détenteur de l'autre warrant ne pourra pas démontrer son origine.

Est-ce que cela pourrait améliorer les choses en Chine si le gouvernement mettait en place un système d'enregistrement de collatéral pour permettre d'identifier les marchandises qui ont déjà été nanties?

Je pense que cela rendrait les choses plus lourdes, plus couteuses, mais je ne suis pas sûr que cela réduise le risque de fraude, car ce n'est pas par rapport à si on enregistre ou pas, c'est par rapport à l'émission de faux documents, de plusieurs jeux de documents. Donc il faut aller sur place pour contrôler lorsque vous les recevez. Finalement, pourquoi pas, mais il faudrait une solution qui soit souple, par exemple un

système semblable au celui du LME avec lequel on puisse négocier des warrants, cela pourrait être bien.

Est-ce que vous diriez que la situation est revenue à celle d'avant Qingdao, «business back to normal»?

Je ne suis pas un spécialiste de la Chine, mais je serais aussi prudent qu'avant Qingdao, même encore plus. Je serais toujours prudent de financer des stocks qui vont rester sur place ou qui sont depuis longtemps sur place et qui ne bougent pas.

Donc ce n'est pas tellement sur le plan des repos eux-mêmes qu'on peut agir, mais plutôt sur les conditions de stockage?

Il faut être dans le marché, connaître ses flux, mais on n'est jamais à l'abri de fraude ou de faux documents.

Appendix 9: Interview with Mr. Samir Zreikat

Mr. Zreikat is Global Head of Trade Finance at PeaKom SA. In the Commodity Trading business since 1986, Mr. Zreikat started in operations, trade finance and shipping and then moved to trading and hedging, with now a focus on Finance and Trade Finance.

Quelle a été la réaction immédiate des acteurs du marché lorsque le scandale a éclaté?

Pour nous c'était juste un cas de fraude de plus à l'étranger dans un marché dans lequel nous n'étions pas. Donc cela ne changeait pas notre méthodologie ou notre approche. Le marché se disait que ceux à qui c'était arrivé auraient dû savoir que cela pouvait se passer et ils n'avaient pas mis en place les bons protocoles de contrôle, n'avaient pas les bons partenaires de vérification et ils n'avaient pas forcément fait non plus la bonne due diligence concernant leurs contreparties en Chine.

Est-ce que les banques ont réduit les volumes de financement disponibles ou ont augmenté les taux d'intérêts à cause de cet événement?

Non, parce qu'une fois de plus, pour elles, cela fait partie de la nature humaine. Ce n'était pas une raison d'entrer dans une sorte de paranoïa en se disant que tous les traders qui mettent des produits en stock et qui les font financer sont potentiellement des criminels. Ce n'est pas cela qui a changé les termes du financement, si n'est que à force de voir ces cas se répéter, les collateral management agreements sont devenus beaucoup plus chers, parce que les inspecteurs endossent des obligations, donc prennent des risques supérieurs et doivent s'impliquer beaucoup plus en étant sur place. Les CMA sont devenus beaucoup plus contraignants et les banques sont devenues plus exigeantes quant à leur implémentation, si c'est la première fois qu'elles les utilisent avec un client. Elles vont commencer par une due diligence extrêmement poussée, mais c'était déjà le cas avant Qingdao.

Est-ce que Qingdao a accéléré cette tendance?

Pas à ma connaissance, pas dans le marché dans lequel j'étais. Peut-être dans les métaux et en Chine, donc c'est un phénomène plutôt localisé, spécifique à un lieu, un produit, une contrepartie.

Est-ce que vous avez des exemples concrets des précautions que les banques impliquées auraient pu prendre?

Je crois que les banques préfèrent maintenant traiter avec des contreparties contre qui elles peuvent faire recours. Il s'agit notamment de voir qui est solvable et suffisamment solide financièrement pour pouvoir lui réclamer les 10 millions, 100 millions, x millions qu'une négligence de la part de l'inspecteur pourrait leur faire perdre. Cela devient plus difficile, parce que les mesures en place sont de plus en plus juridiques, demandent de la réassurance et augmentent les tarifs des inspecteurs impliqués dans les CMA.

Comment expliquer que des banques comme Citibank ou Standard Chartered aient pris autant de risques?

Parce que ce sont principalement des acteurs financiers, pas physiques. Ce ne sont pas forcément des gens qui ont l'habitude des risques liés à la manipulation lors du stockage ou transport. Eux, ils voient des papiers de plusieurs pages avec des clauses que seuls les avocats peuvent maîtriser. Ils mettent en place surtout des montages financiers complexes, où ils pensent être couverts grâce à ces clauses qui vont être signées avec une contrepartie solide, comme Mercuria. Donc ils pensent avoir tout contrôlé essentiellement d'un point de vue formel. Ils oublient qu'il s'agit de matières premières dans des pays à risque avec une volatilité de prix qui peut parfois donner la tentation à une des parties de frauder pour se faire rapidement de l'argent. Ou cela peut être une contrepartie qui a un gros problème de liquidité et elle ne voit pas d'autre solution que de frauder. Malheureusement, cela arrive régulièrement.

Il y a donc une différence d'approche entre les banques comme celles-ci et d'autres qui sont des acteurs traditionnels du trade finance...

Celles qui font du transactionnel sont beaucoup plus proches de la réalité économique, logistique, du marché, de ce qu'elles financent. C'est possible qu'un account manager voyage avec vous pour venir voir le port et les acteurs locaux. Ceci, à la différence des montages structurés où les gens ne sont pas proches des fondamentaux d'exécution d'une transaction liée aux matières premières.

Est-ce que les mesures prises par les banques seront appliquées de façon durable, ou bien les choses vont revenir à comment elles étaient avant?

A mon avis, cela va perdurer. Cela va devenir de plus en plus standardisé, en fait ce sera: «oui, bien sûr, on fait du repo financing, voici notre schéma, cela se passe comme cela, voici nos coûts. Il faut d'abord remplir toutes les exigences de compliance, faire une analyse de risque, vous allez me dire ce que vous voulez que je finance et je vais vous dire s'il y a des coches que je peux décocher». Par exemple, si c'est un stockage en Europe, on connaît bien, on peut s'y rendre facilement et

appliquer des lois. Par contre si c'est dans un pays lointain ou une zone aux infrastructures obsolètes et où l'application de la loi est plus « exotique », où la corruption est endémique, où des phénomènes climatiques saisonniers pourraient rendre la transaction plus risquée (par exemple pour des flux qui passent par la Volga qui gèle en hiver), alors l'analyse du risque de financement de la banque change complètement. Et si c'est une marchandise périssable, il peut y avoir des problèmes liés au stockage ou à sa durée pouvant amener la valeur de la marchandise financée à se détériorer rapidement.

Est-ce que des changements au niveau de la législation en Chine pourraient rendre l'environnement plus favorable aux activités de stockage?

Les Chinois sont extrêmement pragmatiques dans les affaires. Jusqu'à preuve du contraire, un document écrit, que ce soit un contrat ou un texte de loi n'est pas la priorité pour eux, c'est la logique économique. Il faut se rappeler que c'est un pays soi-disant communiste avec de l'hyper-libéralisme et plein de contradictions. Si on change les lois, je ne sais pas si cela va vraiment changer quelque chose, parce qu'une loi, dans certains pays, n'a de valeur que si le gouvernement donne des moyens à son exécution. Et on n'est pas en Europe – il y a beaucoup de pays dans le monde où l'on change les lois en fonction de ses besoins et sans processus démocratique. Quand elles existent, si elles ne nous aident pas, on les oublie et on les interprète aussi un peu comme on veut. Donc je ne crois pas que ce soit une solution.

Si ce n'est pas sur le plan légal, quelles autres solutions pourrait-on mettre en place pour améliorer la sécurité du collatéral?

À un moment donné, on a créé un lieu de stockage le plus sécurisé possible, parce qu'on en avait justement assez de voir les stocks disparaître ou se détériorer. En l'occurrence, si je parle de stockage de l'argent, on a créé des banques qui deviennent des entrepositaires, mais pour vos économies. Dans le cas des instruments dérivés indispensables aux traders pour se prémunir des risques liés à la volatilité des prix, les «swaps» ont pris une importance capitale dans les techniques de «hedging». Au début c'était de gré-à-gré («over the counter»). Ensuite on a créé des «cleared swaps» au travers d'un organisme centralisateur, de contrôle et de sécurisation financière en faveur de ses membres (tel que la bourse CME). Ces membres ne peuvent par exemple y participer que si leur couverture financière (ou marge) est suffisante pour couvrir tout risque de pertes financières de leurs positions de swaps enregistrés dans ce marché régulé. Pour en revenir à votre question, l'idée d'un lieu de stockage

mutualisé ou reprenant les notions de marges mais pour des matières premières entreposées aux noms de plusieurs acteurs-traders serait à développer.

Sachant que les banques sont plus réticentes à travailler avec des contreparties moins connues ou plus petites, vers qui les petites et moyennes sociétés de négoce peuvent-elles se tourner lorsqu'elles font face à des difficultés à se financer?

Elles n'ont pas tellement de choix, mais il existe des structures alternatives aux banques, sans pouvoir cependant éviter la banque de « trade finance ». Ces structures proposent d'apporter le cash requis par la banque qui par exemple recevra ou ouvrira une lettre de crédit. Ce sont ces nouveaux partenaires qui couvriront donc la fameuse «marge», voire même la presque totalité de la cargaison, comme dans le cas des prépaiements de marchandise, soit avant le chargement. Le trader aura néanmoins toujours besoin de cash et surtout de crédibilité auprès de cette société alternative. Quand le trader se présentera, ce sera un peu comme une séance de speed-dating: vous avez un temps limité pour convaincre ce partenaire financier à vous apporter le financement dont vous avez besoin. Vous devrez apparaître comme un partenaire de confiance, professionnel et aguerri aux types de transactions que vous lui présentez. L'avantage pour le trader, si l'affaire se conclut, est que cette société ne fera pas face aux mêmes contraintes que les banques et aura certainement un système interne de contrôle et validation du risque bien plus souple. Le problème pour le trader sera de pouvoir répercuter les coûts financiers élevés de ces «fonds» sur son acheteur. Et si sa performance déçoit, ce nouveau partenaire aura vite fait de stopper net sa collaboration avec le trader.

C'est du financement alternatif, ces fonds et sociétés spécialisées ne peuvent se substituer à une banque, mais ils peuvent vous apporter cet effet de levier par l'apport du cash dont vous avez besoin avec votre banque.

Les services de ces acteurs seraient plus demandés en Chine après Qingdao?

C'est possible, mais cela dépend des volumes et valeurs à financer, parce que des fonds comme ceux-là ont d'habitude entre 100 et 200 millions de limite maximum de crédit, j'en connais certains qui gèrent de 60 à 100 millions, voire plus, ce qui n'est pas énorme quand on doit répartir ces fonds parmi plusieurs traders, pour des montants et des durées de risque très variés. Ils travaillent donc plutôt avec des sociétés de trading de petites tailles aux volumes et risques limités et roulements rapides (30-60 jours de financement maximum). Beaucoup se repose sur la confiance envers les compétences

et réseaux de leurs clients-traders. J'ai fait appel à l'un de ces fonds lors de mon précédent emploi. Je vais certainement les utiliser à nouveau dans mon nouveau job parce qu'ils me connaissent et que la confiance est mutuelle. Dans ce domaine, votre longévité dépend pour une bonne part de votre réputation. Tricher ou frauder une fois sera vite connu par vos pairs et partenaires, c'est un cercle assez restreint. Et si vous faites partie de ceux-là, de nombreuses portes, y compris dans le financement, se fermeront devant vous!

Du coup c'est difficile pour les sociétés qui sont des nouveaux arrivants.

Oui, à moins qu'au niveau des actionnaires et dirigeants il y ait des personnes connues, réputées et aux capacités financières importantes. C'est ce que regarderont les banques de financement du négoce en premier lieu.