

Implementing container freight derivatives trading

*Lessons for container shipping companies can be drawn from the dry cargo and tanker derivatives markets, argues financial risk manager **Finn Dalheim***

A company starting to use container freight swaps can gather valuable information from the experiences of the participants in the dry cargo and tanker derivatives markets. Dry freight index futures contracts started trading on BIFFEX in 1985, OTC dry bulk FFAs in 1992 and tanker derivatives on Imarex in 2001, so there is quite a lot of experience accumulated during this period. Here are some tips for what to avoid and how to have success with the introduction of container freight swaps into an organization.

One of the strengths of derivatives is that they are efficient. A large position, short or long, can be established quickly, at low cost and with a minimal amount of legal and administrative work. This is also one of their weaknesses if they are not handled with care.

Common mistakes can be avoided

Unclear responsibilities, a lack of routines and procedures will be the top criteria for problems and losses resulting from derivatives use. The natural place to start when introducing container freight swaps into an organization is therefore to make sure that there is no doubt about authorities and responsibilities and that there exists a clear, written and well understood policy on the company's use of derivatives.

So what exactly have companies done in the past that has led to damaging losses in freight derivatives trading?

Over-confident position-taking based on »feeling« that the market »must go up« or »must go down« has often been at the beginning of many deals gone horribly wrong. This applies as much for the contracting of new vessels as for derivatives deals. When the market then goes against your position, the safe option is of course to accept a small loss and get out of the deal. But, in the absence of clear routines, a very common reaction from inexperienced or undisciplined derivatives traders is actually to increase the position in order to try to recuperate the loss.



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I don't have statistical hard facts to prove this, but it is my impression that chartering managers tend to be generally optimistic about their market. This could explain why they are so often bullish, preferring long positions. It could also explain why »Texas hedges« occur so often, where a company is long in physical positions and then takes a derivatives position in the same, not opposite direction.

Since it is always unpleasant both to take a loss and to admit a loss, if the reporting routines and systems are not sound, this is when losing positions tend to be hidden or go unreported if that is at all possible. If losing positions are impossible to hide the next most common reaction is to re-classify them from speculative positions to hedges and let them keep on losing even more. A similar mistake that also happens frequently is to re-define an actual hedge into a »for profit« trading position and close it out if it happens to be solidly in the money for a while. When the market then continues in the same direction for a long time, as it often does, the deal remains unhedged and significant losses may accumulate.

In the past many losses came from poorly understood counterpart risk. This is much less of a problem in today's freight derivatives markets. There is now much more awareness of the extent of counterpart risk and about 95 % of the OTC deals in both dry and tanker FFAs are now cleared by one of the clearing houses.

Calculation mistakes or a »wrong model« has led to many large losses. At least one leading Capesize player took a beating when the dry cargo market rose to new highs in 2008. Their short hedge positions were intended to lock in attractive rates for their physical vessels. However, when the market continued to go up, partly because of port congestions, they had to pay out cash on their FFA positions while their vessels were stuck waiting in port and unable to profit from the high spot market. The physical/derivatives correlation didn't work in practice, and what had seen like a prudent and sensible hedge at first glance became a horrible deal in reality.

Another classic has been to hedge a contract of affreightment with freight swaps or FFAs, but not hedge the bunker cost element correctly. This has led to losses in both rising and falling oil markets.

The cash flow characteristics of a cleared freight swap are quite different from a timecharter or contract of affreightment, due to the margin requirements from the clearing houses. Margin payments have to be made immediately on a negative derivatives portfolio, while profits from physical contracts are realized much later. This is usually not important in a market with small to moderate price fluctuations, but in the case of a big spike in prices this can lead to serious cash-flow problems which also happened in 2007 and 2008.

The »liquidity problem«

One of the most often stated reasons for not starting to use freight derivatives at an early stage in the market development has been that »there is not enough liquidity for our purposes«.

In my view this is a mistake. The safest, cheapest and most efficient way for a company to develop the capability to use freight derivatives is to start with small scale trading. Even if the market volumes were huge, a new participant in container derivatives should not try to do large hedging transactions before they are really sure that all parts of the organization are trained and ready for it.

One other reason why I personally always liked trading in low-liquidity markets is that the imperfections and trading opportunities were usually better than in the more established, more liquid markets. As long as one had a plan for how to manage the deals from start to finish, knowing that entrance and exit would take time, the risk/return ratios were significantly above average.

The best ways to start

The by-far greatest potential in derivatives trading lies not in profits from derivatives activities in isolation, but in the use of derivatives integrated into normal operations to expand and improve the existing physical business.

The companies that are really successful with their derivatives activities have some key factors in common.

»In reality, lowering risk is not a key objective in the early phase of introducing derivatives into an organization«

They start small. They first use the price information from the derivatives market as a help to get the best possible understanding of the status and dynamics of their part of the global freight market.

They also use the information from a derivatives broker whom they trust primarily to understand how responses to market events are different in the derivatives market from the physical market. One of the reasons for fluctuating spreads between the »paper« market and the physical market is that some of the participants in the paper market are not necessarily active in the physical market but may use the freight derivatives market as a proxy for macro bets and portfolio optimization.

Next, derivatives prices become a factor in decisions about actual physical deals and an aid for effective pricing of customer contracts.

Success factors

Derivatives eventually become a tool for improving customer service and rapidly discovering and executing profitable transactions which earlier were more difficult to discover and execute. All of this happens without requiring any significant change in the company's operations or overall risk profile. The main new requirement is to have some in-house capacity for quantitative analysis, for hedge and arbitrage calculations and e.g. to price the option value in a time-charter deal correctly in relation to the freight swaps forward curve.

In a company with many chartering or freight trading desks, it seems that the best results with derivatives have been obtained when one desk executes all external freight swaps transactions on behalf of the other trading units and also acts as a broker for intra-company transactions.

Brokers and exchanges speak mainly about lowering risk when they promote derivatives to potential clients. In reality, lowering risk is not a key objective in the early phase of introducing derivatives into an organization. In the best case the effect of the changes is risk-neutral, but usually the initial net effect including new operational risks is a slight increase in the company's overall risk exposure.

When the organization has accumulated experience with derivatives trading and understands clearly how to use these instruments, it's ready for designing and executing hedging operations with the aim of reducing overall portfolio risk.

However, I have said sometimes to tanker owners that given their massively long position in vessels, one of the most effective ways they can improve their risk/return ratio is to allow some of their freight traders/charterers to trade speculative positions in the FFA market but only from the short side. These positions should then be treated as purely »for-profit« trading, not as a hedge. The overall result would, however, be similar to a deliberate hedging operation, but easier to manage and probably less expensive.

Derivatives are not a necessary tool for risk management. It is certainly possible to quantify and manage a container shipping company's portfolio risk without using

freight swaps or other derivatives. In practice, however, derivatives are the cheapest, most efficient and most flexible instruments available for modifying and optimizing market risk exposure. And it is possible to demonstrate a number of advantages for liners, forwarders and shippers alike from using an index linked (floating) price contract plus derivatives instead of a fixed annual contract.

Will container freight swaps succeed?

When I first heard that management in some of the large container lines appeared to have a rather negative attitude towards container freight swaps, it reminded me of a brief meeting during an IP-week lunch in London in February 1983 with the President of the New York Mercantile Exchange (NYMEX), John Elting Treat, and Chairman Michel Marks. They said they were in London to promote a new futures contract on NYMEX, the WTI light crude oil contract. At that time I was manager for crude oil and condensate in Norsk Hydro's oil refining and marketing division. Upon my spontaneous remark that I thought this was a very good idea and would be helpful for the market, they said: »You are the first European oil executive who has said that. All the others we have met so far have been negative.« The WTI futures trading started in March 1983 and there is hardly any serious market participant now who wants to return to the pre-derivatives days in the oil market. Energy derivatives on NYMEX had a new all-time high daily volume again of 3,489,302 lots on 7 February 2012.

Freight markets are, of course, much smaller than the energy markets, but the most likely development of the container freight swaps market is that it will show a growth curve similar to how dry bulk and tanker freight derivatives developed in the past. The growth is likely to appear slow initially, since even exponential growth can appear slow when you start from zero. But longer term these instruments will almost certainly see a broad acceptance from the market.

There are currently five broker companies investing in the promotion of container freight swaps: ICAP from their offices in London and Hamburg, Clarksons, FIS and GFI from London and DBS Vickers from Singapore. Clearing of container swaps is offered both by LCH Clearent and SGX,

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and one German and one Scandinavian bank are setting themselves up to participate in the container freight derivatives market. It is quite normal that it takes a long time to get a large number of companies set-up and ready for trading, but this is clearly happening in the container freight market now.

A market like we had in during most of 2011, with low, downward trending rates, is not a good time for introduction of a new derivatives contract. The brokers promoting container freight swaps have had to really struggle to develop momentum from potential users. But with new rate volatility in 2012 derivatives brokers ICAP report that they have had about the same amount of container freight swaps business during the first quarter of 2012 as the whole year 2011 and the number of accounts is now growing rapidly.

However, a fascinating development in the container freight swaps market is that the Shanghai Shipping Exchange (SSE) electronic trading platform now regularly reports trading about 100,000 lots per day of its Chinese Yuan (CNY) based contract. If this was a fully open, free market contract in a convertible currency, with this liquidity it would completely dominate the global container freight swaps market. As far as I know, this is the second time that a new commodity derivatives contract has grown much faster in China than in the traditional US or European derivatives markets. The rebar steel futures contract in Shanghai was the first. We may well be witnessing here a very interesting new trend in the derivatives markets.

Maybe a future integration of a very liquid Chinese freight swaps market with the western freight derivatives markets could result in a more liquid and more efficient global freight derivatives market than we could have foreseen before China entered this market?

Effect on industry structure

The »Maersk Manifesto« for changing the way we think about shipping« and the »Daily Maersk« initiative called for instant pricing to customers, but said little about the price/quality tradeoff. Prices are still highly important to liners, forwarders and shippers, and container freight swaps is the most efficient tool for being able to offer customers real-time updated prices. It may seem like some dominant market players

feel that their pricing power is diminished when the bid and offers in the derivatives market are published immediately worldwide. For a shipping company to make large changes to its pricing model, risk model and the way it distributes prices to its customers is no trivial task, but experience from dry bulk and tanker markets shows that this is of key importance to the profitability of the company.

Having a really transparent, real-time forward curve which both suppliers and customers can input into their calculations brings enormous efficiency benefits to the industry. It is hard to overestimate the value of the information content of the »market clearing price« to participants in the freight derivatives markets as well as to those who only use it as a reference for pricing. Those who think that container freight derivatives will revolutionize the container shipping industry are probably wrong. But those who think that container freight derivatives will not be important and can safely be ignored are probably equally wrong.

Will container freight derivatives have an influence on one of the liner shipping industry's largest problems, the over-investment in new vessels? Ideally, seeing a forward curve with prices that imply that new vessels will not be profitable should discourage investments. In practice this does not seem to have happened much in dry cargo or tanker shipping yet, even after so many years. Maybe it is because the derivatives volumes are still not large enough and the trading does not extend far enough forward to give arbitrage considerations an important place in investment decisions and ordering of new vessels.

Despite the bad reputation that some derivatives have gotten in parts of the media and public opinion, the conclusions of sober analyses of the effects of the introduction of derivatives trading into a new industry always seem to be that the efficiency of the industry has been improved. Thus, the tremendous growth over the last decades in commodity derivatives may well slow down for a period, but it is not likely to stop anytime soon. This is also the case for freight derivatives.

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