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Edited by the Asquance team in Hong Kong

Recession has knocked transportation flows sideways. Have your cost arbitrages changed?

Door to door AIR and SEA transportation costs dropped 45% and 55% respectively in a few months.

As we mentioned in our newsletter #1 2009, the Baltic Dry index dropped from its record high of 11793 in July 2008 to a bottom of 680-720 in December - January 2009. It has since recovered to 1400-1800 in April (source : Bloomberg). The drop is just as impressive for container SEA transportation, with some forwarders giving away the ocean transit portion for free and paying themselves on ancillary services only.

Will this have changed AIR / SEA choices?

We observe real costs, trends and set a few rules to improve profitability. You will remember that back in January we had recommended the renegotiation of all your transportation agreements. That is not all.

To start with, a few facts:

1- Transportation trends

Containers flows and storage
As you already know China exports a lot of mostly low cost goods and imports fewer high cost goods, meaning that a lot of the containers that leave China full will have to come back empty. As a result freight rates are cheaper to than from China.
Volume data:

- Hamburg harbour manages 2.4 million twenty foot equivalent units (TEU) from China per year.
- China exported 25.5 million TEU in Q1 2009 (-12.8%)
- HK exported 6.9 million TEU in 2008 (-1.5%)
- As of the end April 2009 450 000 empty TEU were in buffer storage in Shenzhen, 700 000 were n Shanghai, representing a +50% increase compared to the same period in 2008.

Air freight
Worldwide volume is approximately 5 billion kilometre tons per month since November 2008, a drop of 25% compared to previous periods. It has stabilised at this level.

Container transportation capacity
Container ships carry up to 10 000 TEU. With a low rotation rate (10 per ship per year to the US), a single ship can carry 100 000 TEU per year. Dozens of 10 000 TEU ships ordered in the exuberant mid-00's are reaching service this year and next.

Air transportation capacity
As we mentioned previously volume carried dropped 25% in Q4 2008, to 15 billion kilometre tons. The drop was so sudden that operators could not immediately withdraw capacity but this has now started, forcibly sometimes. The price and volume drops seem stabilised, IATA having recently released March 2009 data that show continued -25% carried volume.

Rail capacity:
For Europeans, the trans-siberian railway carried a record 274 000 TEU in 2008 according to Russian railways. Since Russian railways use a unique broad gauge (also used by Finland but not by China or the rest of the EU), some trans-shipment is necessary at the Russian border. Still, Hohhot - Frankfurt transit is only 15 days. The more traditional Vladivostok – Moscow / Helsinki route is most used, according to Russian railways. Finland is a popular warehousing location for the Russian market due to customs rules. Note also that Japanese car manufacturers have shown a consistent interest in the route, for the Russian market itself mostly, but expect more as solutions develop.

2- Impact on transportation cost

SEA rates have dropped. Several sources reported evidence of zero cost on the ocean portion in the period December - January.

Air freight dropped less than ocean.

As we mentioned previously, air capacity has been reduced faster than sea capacity. Hundreds of cargo ships are hibernating in Singapore and Hong Kong, but the combination of a more rigid industry with a just ending boom in ship building means that sea freight costs will remain depressed longer than air freight costs.

- Examples of transportation costs (source : Drewry Shipping and others). These costs are from the Pearl river Delta, Shanghai being very slightly more expensive.

		Cost / 1 CBM (USD) *		
40' container (24 CBM)	Transit	Apr-07	Apr-08	Apr-09
HK - US West Coast	20 day	95	121	63
HK – EU	35 day	169	206	40

* assuming 40' container = 24 pallets of 1 cubic meter (CBM) each

* assuming 40' container is full

		Cost / 1 CBM (USD) *	
1 Pallet LCL (1 CBM)	Transit	Apr-08	Apr-09
HK - US West Coast	20 day	250	200
HK – EU	35 day	210	150

		Cost / 1 CBM (USD) *	
Air (1 CBM = 167kg)	Transit	Apr-08	Apr-09
HK - US West Coast	5 day	760	500
HK – EU	5 day	750	470

* LCL pallet and air transportation are net volume

* air freight assumed by weight at industry rate of 1 CBM = 167 kg

- The trans-siberian route costs are half-way between air and sea, with a transit time approximately half way too. It is a viable option in volatile times, when transit time and freight cost reduction are both necessary, as we will see next.

3- Transit time, cost, financial cost and opportunity cost

Transit times

- Ocean:
  China - EU: 35 to 40 days
  China - US: 20 to 25 days

- Air: 5 days

- Rail: To Europe only.
  15 days from Hohhot (Inner Mongolia) to Frankfurt or from Vladivostok to Moscow. A test run on the route Vladivostok – Moscow in 6 days succeeded at the end of 2008. The improvement is due to better scheduling, and is being considered for introduction.

Financial costs: Cash is King

- The crisis has both increased the cost of credit and reduced its availability, although obtaining a Letter of Credit is again an easier process than it was in November – December 2008. The cost of credit went from very low in Q1 2008 (nearly zero above central bank rates, i.e. approximately 5% in the EU) to 6 – 7% above central bank rates (source: Reuters). Preserving cash is therefore much more important than last year, and will stay this way for the foreseeable future. Reducing inventories, including inventories in transit, is an obvious source of cash.

- If financing is not available, then the optimisation of freight costs becomes second priority to cash preservation.

<u>Financial cost comparison by freight method</u>

- Let us use our example 1 CBM pallet as a benchmark. Below is the financial cost of holding it during its transit period, for different shipment values and interest rates.

Financial cost SEA		Transit (days):	35
Value $	rate 6%	rate 13%	rate 27%
5000	29	58	117
25000	146	292	583
50000	292	583	1167
100000	583	1167	2333

Financial cost AIR		Transit (days):	5
Value $	rate 6%	rate 13%	rate 27%
5000	4	8	17
25000	21	42	83
50000	42	83	167
100000	83	167	333

Risk and opportunity cost

Beyond freight and financial costs, your choice of different transportation methods is also linked to the risk that goods will lose value over time. We are not talking about the risk of accident, for which insurance can be purchased, but rather the risk that goods will depreciate or that their unavailability will carry a cost in lost sales for example (or that the cash could have been better employed for something else than sitting in a container for weeks). Because different transportation methods have different transit times they carry different costs. This is most sensitive in industries with short product life cycles and high price volatility, and for companies that cannot sell goods before arrival at destination, e.g. most of the retail branch.

- The cost of this risk is quantified by the weighted average of probability and cost of risk over the range of probable outcomes. Risk is an important factor in industries such as electronics hardware were the average price drop is steep (3% per month *on average*), and product life cycle is just a few months.

Final comparison: full cost

Let's take the example of a 1 CBM pallet of electronics goods. Say that our pallet contains 500 products with a value of USD 50 each, i.e. the pallet is worth USD 25000. The financial cost is 13% p.a., risk is 3% per month.

(USD)	Freight cost	Financial cost	Cost of risk	**TOTAL**
AIR	470	42	125	**637**
SEA (LCL)	150	292	875	**1317**
SEA (FCL)	40 *	292	875	**1207**

* FCL SEA cost assumes a 40' container full of 24 1 CBM pallets

Air freight is cheapest despite having the highest freight cost by far.

This example is a bit extreme obviously, but it illustrates perfectly the need to consider full costs when arbitraging between different freight choices. We all know this instinctively. However in volatile times it is worth putting all assumptions on paper and tracking evolutions carefully.

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Conclusions

- Always consider full costs to make the right choices.

- For shipments below 1 CBM air freight is usually the best solution.

- Above 1CBM freight cost is nearly always lower by sea. And the cost of sea freight plunged the most recently. Even if rumours of rates hikes are appearing the overcapacity in sea shipment capability probably means that cost increases will have difficulty sticking until activity picks up very significantly.

- Financial costs have increased dramatically.
    - Some companies see reduced access to credit, and at worst no access : cost = ∞
    - Credit can be accessible at high rates, 2% per month = 27% /year
    - In such conditions taking a hit on the cost of goods by using higher priced freight is useful.

- If importing to Europe from North China, the trans-siberian route is an option.

Action plan

- Integrate this simple data in a spreadsheet and update it regularly to stay ahead of the game

- Do not forget to put forwarders in competition. Also remember that actual ocean transport charges are a very small portion of total sea freight costs.

- If you import from China to Europe, consider using the trans-siberian option as it represents a useful mid point between financial cost and transit time, i.e. risk of depreciation in transit.

Best regards,

Thuy Marchal
President

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From its bases across China, France, Vietnam and India the Asquance team employs robust collaborative tools to optimise client supply chain and product development.

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