

# Macro Report

# Q4 12



**W**elcome to the new edition of the Macro Report. The objective of the Macro report is to review reliable data available for the container shipping industry each quarter and to provide customers and partners with an independent opinion on the container-shipping sector, based on objective and reliable data.

## Who is Philippe Hoehlinger?



worked at GESeaCo/Genstar (General Electric Group) for 13 years both in Paris and London as Risk Management Director and Strategy Director. Before that, I worked for L'Oreal Paris, Hoechst in Canada and Sudden in Abidjan.

## Areas of expertise

My areas of expertise include Macroeconomic analysis and Strategic Risk management, focusing on the shipping industry and now on the energy business. I am the founder and previous Editor of B2C magazine and the founder and Editor of the Macro Report. I have been a speaker in numerous regional or global liner conferences and a columnist in Containerisation International magazine.

## Academic background

I graduated from Sciences-Po Paris (MBA) and Strasbourg Master in Econometrics, as well from NYU in New York and McGill University in Montreal. I have been working at a senior level in the shipping industry since 1996.

## Work experience

I have been working as an independent consultant since 2008 in Counterparty Risk and Macroeconomics essentially for customers in the container shipping industry (Gem Containers Ltd), bunker hedging & energy trading (Danske Commodities A/S). I have been working with SeaAxis as Vice President Corporate, Risk management & Finance and previously

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# Q4 12

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# Macro Report Q4 2012: At a crossroads

## Once again, the shipping industry is at a crossroads

The third quarter of 2012 evidenced an improvement in performance, but to a disappointing extent again.

**The four most correlated macroeconomic variables to load factors displayed mixed results.** “US trade deficit” and “China trade growth to the US” continued to indicate negative developments, while “US Inventory” and “US Dollar index” indicated positive ones. Again, this all means that Demand evidenced some growth, but at a lower pace than it should have, at this time of the year. The overall picture remained mediocre, but at least none of the macroeconomic variables entered into the lowest tier of the range.

**Interest rates remained low.** Base rates from “advanced” countries’ central banks remained so low that room for maneuver was limited to the use of “quantitative easing” as the only way to slightly boost the economies. Major emerging countries still have high base rates but the central banks of those countries did not intervene in the last three months. This could be seen as a positive sign, at least as per the perception of their own economies.

Interest rate spreads remained high but have proven to be quite stable over the last three months. There are no signs that the current situation will change significantly over the coming three months. Stock market volatility remained low, despite the end of the summer and despite the US presidential elections.

Liners’ stock prices, on the other hand, have been quite volatile during 2012, having gained up to more than 50% in the first quarter of the year. In the last three months, they declined and they are now back to the level they were at the beginning of the year. We note that the situation is fragile and that the outlook for those stocks is weak. There are disparities between shipping lines. OOCL and CSAV have been the best performers of the year so far, for different reasons: one for having a presumably stronger business model and the other one for completing successfully its Balance Sheet restructuring.

**Financial performance of the liners in our sample continued improving.** According to current estimates and information available at the time of the publication of this report, it appears that our sample generated net profits in Q3 12, for the first time since 2010. The

level of net profits, however, remained low, notably as compared to what the industry generated in the last three quarters of 2010. We note, nevertheless, good progress, due to both more favorable conjecture and cost cutting measures implemented. In our sample, operating performance was positive for all carriers in Q3 12 and on average EBITDA was getting closer to meet debt obligations at least for the quarter. Leverage remained stable, due to the combined effects of Equity increasing in parallel with borrowings. The industry remains a relatively highly leveraged one, but the situation has not deteriorated in 2012.

**Trade-by-trade analysis evidences upcoming challenges,** at least until the end of the first quarter of 2013. With the exception of intra-Asia that is expected to hold on to decent levels of volumes and freight rates, fundamentals become negative on all major trades. Europe-Asia trades, and more specifically trades from Asia to the Mediterranean are the most challenging. In the last three rolling months, freight rates from China to Mediterranean lost 28% of their value, while freight rates from China to North Europe lost 17%. The situation is not expected to improve on that trade before March or April 2013.

Transpacific and Transatlantic trades are also expected to weaken in the coming 6 months, but to a much lesser extent, for different reasons. Most containerized cargo shipped eastbound from Asia to the US is covered by annual contracts limit the decline in Transpacific trade rates. Transatlantic trades evidence oscillations with less width, as they are more balanced in terms of volumes Eastbound and Westbound. Intra-Europe trades’ performance has been stable over Q3 12 as compared to Q2 12 at a low level, although slightly higher than the corresponding period of 2011. Short-term fundamentals have a poor outlook at least for the coming 6 months, if not longer (as per OECD latest forecasts).

**Global Demand continues being revised downwards.** Latest forecasts from IMF and OECD continue forecasting lower global growth than previously anticipated. Current IMF scenario expects 2012 global growth of 3.3% and 3.6% in 2013 (OECD is more pessimistic than IMF). Those growth rates should translate into cargo volume growths as 6.0% for 2012 and 7.4% for 2013, based on Macro report’s own econometric model.

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We note that depending on the source consulted, Europe is expected to surf in and out of a slight recession.. Emerging countries (and particularly China)



continue being the main contributor to world's growth. Some sources stated that China represents over 40% of the world growth by itself. Regarding global Demand, there is little good news: the US and the UK are performing slightly better than

forecasted and business people are less glum about the future than 3 months ago, as evidenced by The Economist's global business barometer. Finally, measurable risks highlighted by the IMF, such as inflation, market volatility, spreads and oil prices are not getting worse, if not slowly improving.

**Global Supply also revised downwards.** Limited capacity delivery over the last three months, higher idle fleet, stable capacity absorbed by slow steaming and increasing capacity scrapping, all influenced the slight decrease in effectively used vessel capacity. In 2012, the latter is expected to increase by 5.5% and by 7.7% in 2013. All those buffer effects implemented to face global oversupply situation are expected to absorb between 1.55 million TEUs at the end of 2012 to 1.68 million TEUs a quarter later, and down to 1.05 million TEUs by the end of 2013. As expected, shipping lines have started timidly to order new vessels again. In this cycle, a trough will be reached when new orders represent 18% of total fleet, which compares to historical average observations of 20%.

**As a result, the Supply/Demand situation is relatively balanced** up to the end of 2013. Over 2012 and 2013, growth in the effectively used vessel capacity is expected to exceed growth in cargo volumes only in the first and the last quarter of 2013. Obviously, the industry remains characterized by a chronic oversupply, but the situation is not expected to change much until the end of 2013. As a result, freight rates have been stable on a global basis in the third quarter as compared to the second quarter. From the third quarter and up to the end of the first quarter of 2013, freight rates are expected to decline. The current cycle of rate rise announcements begin to attempt to compensate for the deterioration of the situation, especially on the trades from Asia to Europe but those rate increases only work if those imposing them don't offer cuts to gain market shares.

**Operating costs decreasing.** For the first time in a couple of years, operating costs are actually slightly decreasing. Oil prices may be higher than last year on

a rolling basis, but they currently are below last year's levels at the same time of the year. The situation is fragile and most analysts believe it is only temporary until the next disruption of supply. In any case, bunker charges are not increasing again.



Other operating costs, such as charter hire rates and container prices are decreasing. Considering that close to half of vessel fleet employed is on charter hire and that charter hire rates have been low at least since the beginning of 2012,

carriers should definitely have started to feel the consequences of price reductions at the time of the renewal of their charter contracts. Container prices, either dry van or "specials", such as tanks and reefers are at relatively low levels, driven by low metal prices as well as the low season.

## OUTLOOK

The third quarter evidenced some positive developments in terms of carriers' operating performance and a stabilization of leverage. The industry is now entering seasonal stormy waters. It is in the best interest of the shipping industry to make sure to continue taking corrective measures to adjust its offer to global growth. I believe that depending on policy and action taken, the outlook could well improve as compared to what is depicted in this report. Red flags are, however, clearly raised on Europe Asia trades that now seem the most vulnerable of all trades. The industry situation is expected to increase significantly in April 2013 and, barring Demand shocks, the second quarter of 2013 could very well be the light at the end of a long dark tunnel that the shipping industry entered in 2008 with a slight remission in the last three quarters of 2010. Once again, the shipping industry finds itself at a crossroads: It can wait and see what happens, passively, and remain vulnerable and hope for the best or it can take more long-term and more effective measures to make sure that the past years' poor performance does not repeat itself in the foreseeable future.

## Underlying fundamentals remain favourable for future growth

*Despite cyclical squeezes and short term expected challenges, the underlying fundamentals for container shipping remain largely favourable in the midterm with the forging of global supply chains, the rise in merchandise trade and the emergence of BRIC and CIVETS countries still creating Demand for the future.*

Philippe Hoehlinger.

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# Macroeconomic variables

As compared to a quarter ago, the evolution of the selection of macroeconomic variables has provided mixed results (inconclusive). The evolution of US Trade deficit and China trade to the US continued indicating negative developments in Demand. US Inventory and US Dollar indicated positive developments in Demand. Globally, the Demand has been mediocre in Q3 12.

Out of a total of 25 variables monitored, those are the four macroeconomic variables which are most correlated to load factors in the container shipping industry, according to Macro report econometric models.

**US Dollar index**  
23/11/12

**US Trade deficit**  
Sep-12

**US Inventory**  
Sep-12

**China trade to US**  
Sep-12



A weaker US Dollar correlates with high load factors. In the last quarter, US\$ has been weaker than previous rolling quarter, which translates into a positive signal for Demand.

Historical observations indicate the larger the deficit, the higher the load factors. As at Sep 2012, the deficit decreased slightly as compared to June 2012, which translated into a slightly negative signal for Demand.

High inventory levels historically correlate with high load factors. The US inventory continued increasing, which usually correlates with increased Demand. (503.0 vs. 494.0 in June-12)

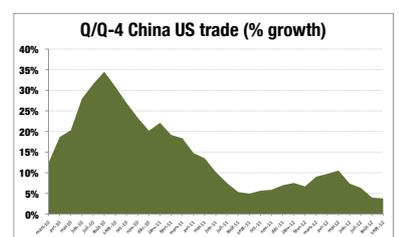
The China exports to the US decelerated in the last 3-month period ending Sep-12 to 4% (7% end of June-12) as compared to same period last year, which usually translates into lower Demand.

**Average**  
Positive trend

**Average -**  
Negative trend

**Positive**  
Positive trend

**Average -**  
Negative trend

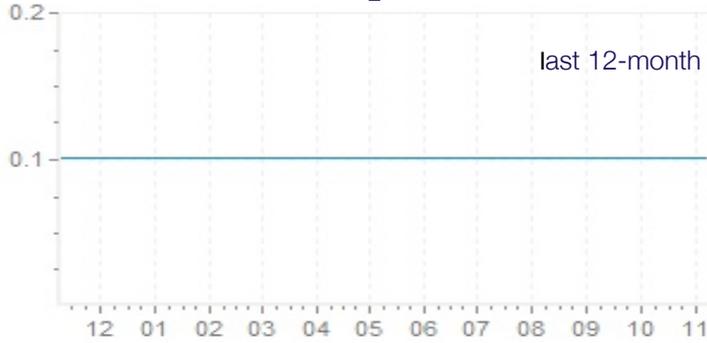


Sources: NY Board of Trade for US Dollar Index. The index is a geometrically averaged calculation of 6 currencies. All other variables sourced from US Census Bureau

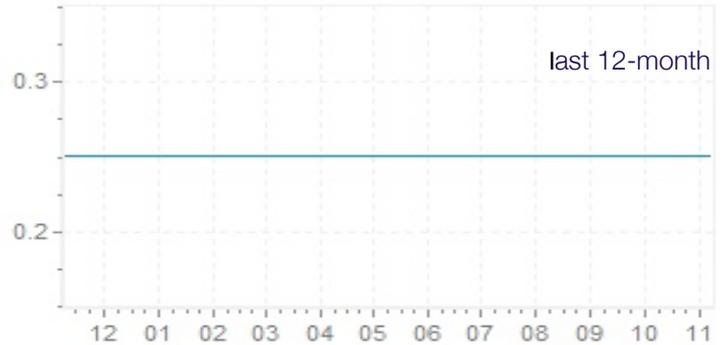
# Interest rates

Globally, low rates and Quantitative Easing continued supporting the weak economy growth in Advanced economies. Emerging countries' Central Banks continue easing base rate to provide a stimulus to the economy but base rates have been relatively quiet in the last quarter.

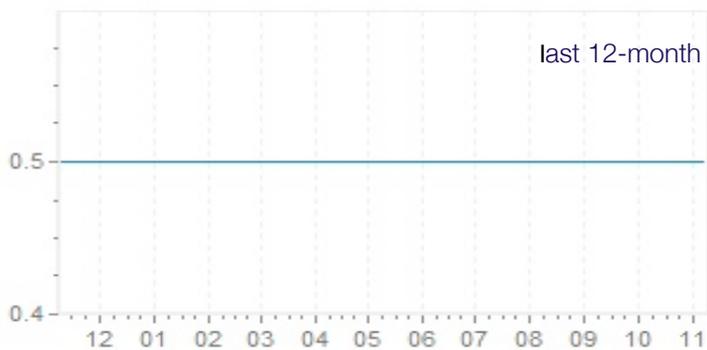
## Base rate Japan



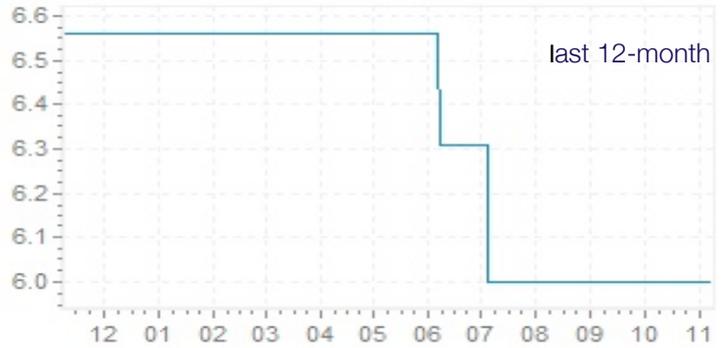
## Base rate US



## Base rate UK



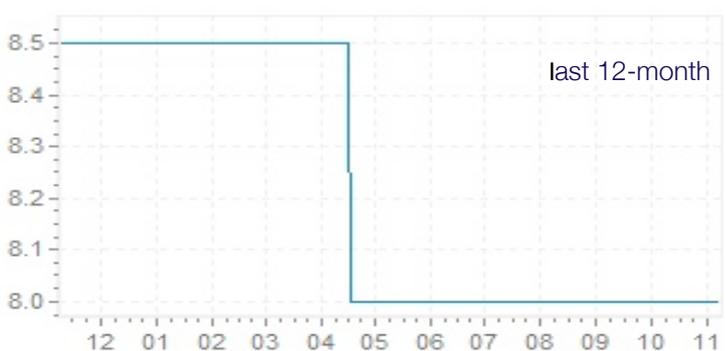
## Base rate China



## Base rate Euro zone



## Base rate India



- Base rate or «Target rates» have been stable in the last three months in so-called «**Advanced economies**». They currently stand at such low levels that room for maneuver is limited.
- Therefore, Central banks use «Quantitative Easing» («QE») to stimulate the national economy, as conventional monetary policy has become ineffective. Bank of England's program of QE remains at a total of £375bn (\$600bn). Expectations of further stimulus evaporates after the U.K.'s gross domestic product rose by an unexpectedly strong 1% in the third quarter, ending a 9-month recession. ECB has been forced to salvage the currency union, which is almost equivalent to rounds of quantitative easing. Bank of Japan expanded its asset-purchase program twice in two months by \$138bn and the Fed started its third round that should exceed \$600bn.
- China and India's Central Banks via direct interventions can still ease base rate but haven't done so in the last quarter.

Sources: Bloomberg, Internal

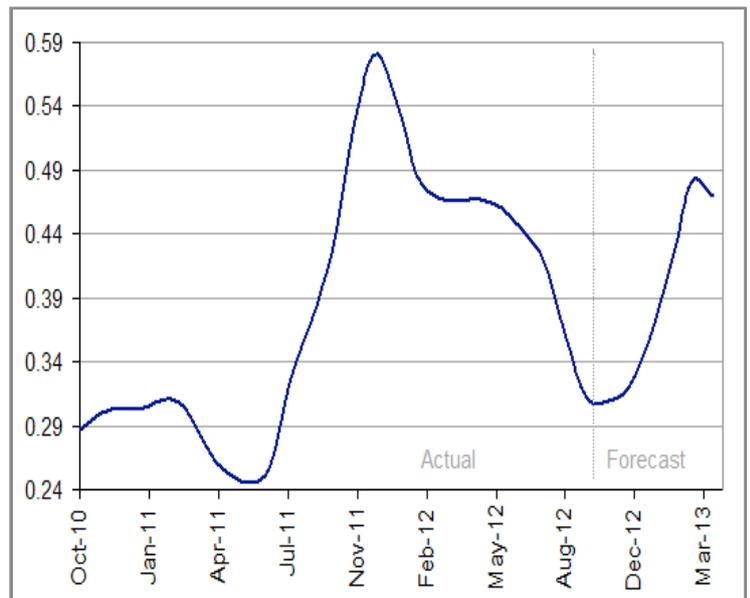
# Interest rates

Spreads are still high, due to reignited fears over Euro zone economies. Third round of quantitative Easing from Fed could be the last one, according to analysts. LIBOR rates expected to rise continuously up to March 13

## US Key rates

	Current	Year Prior
<b>Fed Funds rate</b>	0,17%	0,06%
<b>Fed Reserve Target</b>	0,25%	0,25%
<b>Prime Rate</b>	3,25%	3,25%
<b>USD Libor 1-Month</b>	0,21%	0,25%
<b>USD Libor 3-month</b>	0,31%	0,47%

## London LIBOR 3 months



## Monthly spread



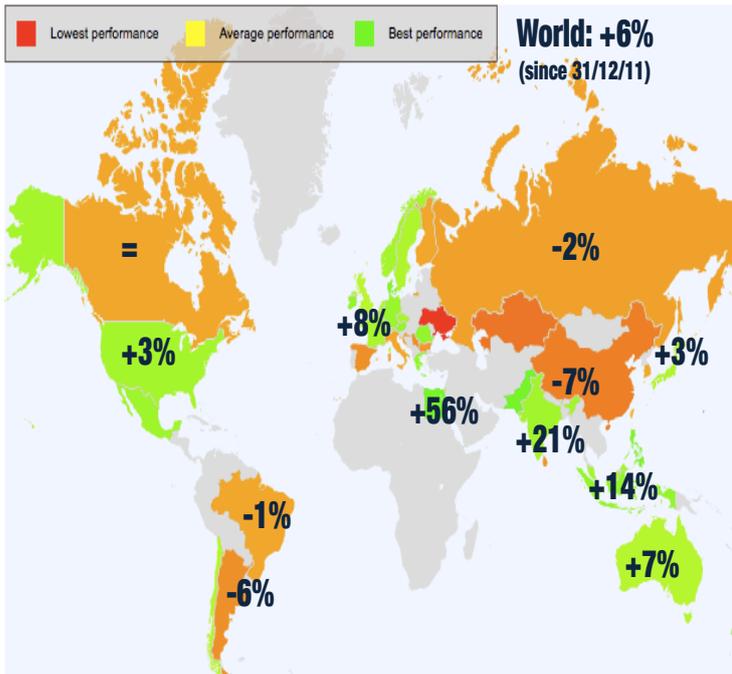
- In the US, «Cliffs are in fashion this fall». There are fiscal cliffs, earnings cliffs, revenue cliffs and there has been a political cliff with the US presidential election. The Fed, however, promised to continue its stimulative policies for a considerable time after the economic recovery strengthens and not stop it abruptly.
- Spreads have been high and are expected to remain to that level as fears were reignited that Europe's troubles could flare anew as Greece and its lenders are continuously changing agreement as how to bring debts down to a sustainable level.
- Analysts now predict a sharp increase of LIBOR 3 months rates from Nov-12 to increase from 0.31% to 0.49% by Mar-13

Sources: Federal Reserve, Bloomberg, forecasts.org, Internal

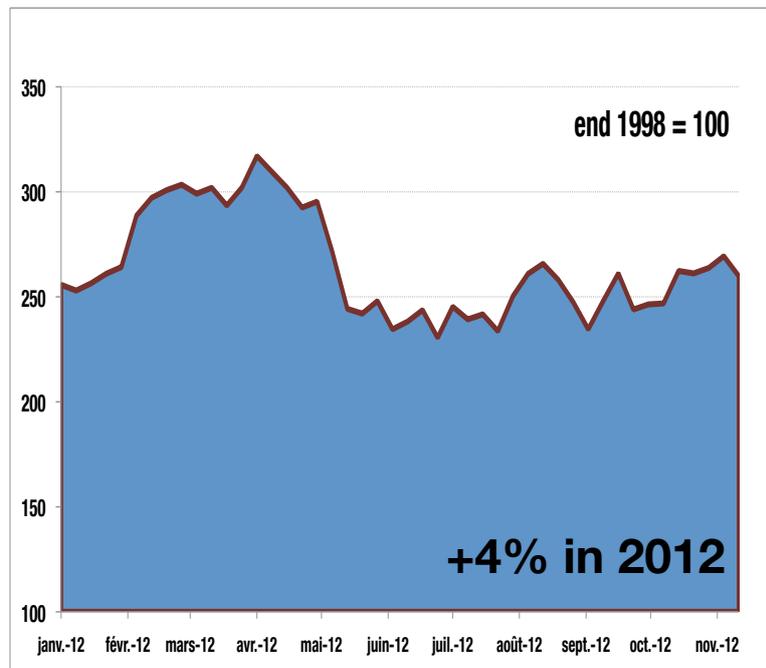
# Financial markets

Stock market volatility remained low. Container shipping companies' stocks are currently more or less in line with all other industries on average but are expected to fall from now to February 2013.

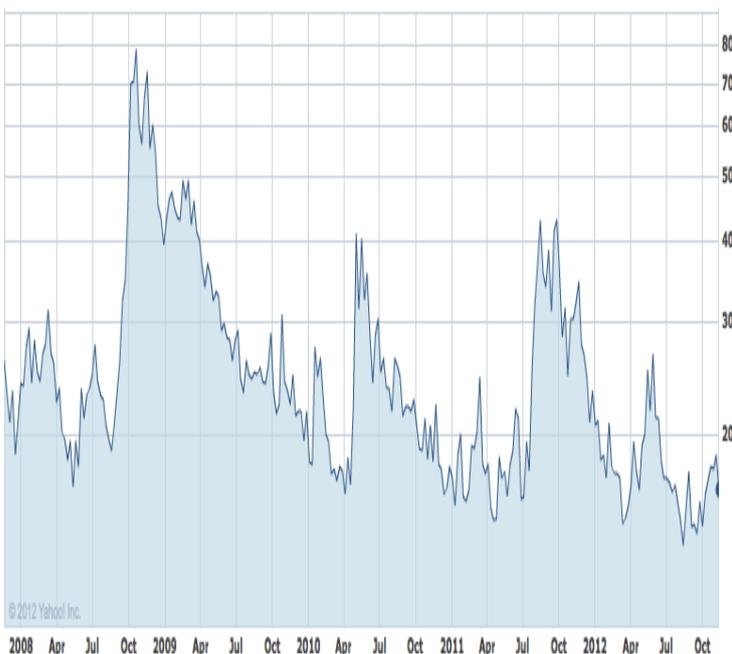
## Stock exchanges



## Clarksons index



## Stock market volatility



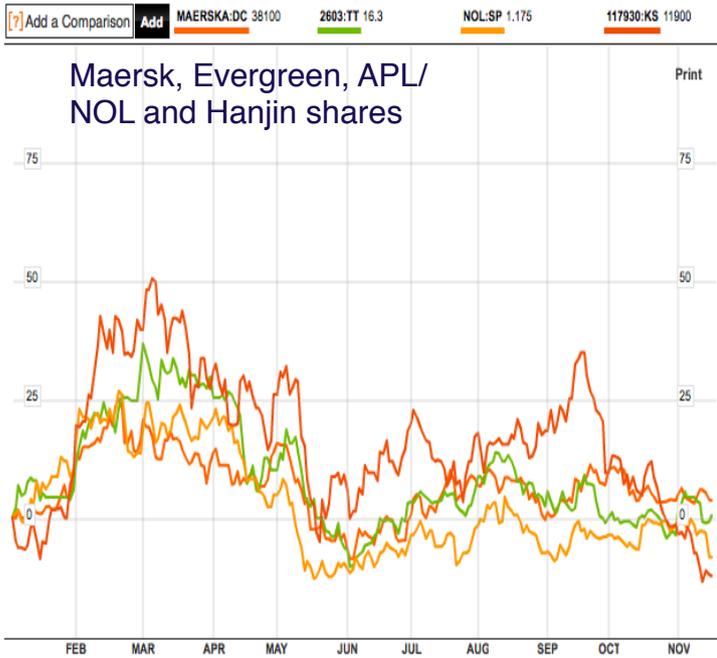
- Stock Market volatility is low. Volatility in the US stocks, for example, shrunk to its lowest level in six years (which Bloomberg claims to coincide with incumbent parties keeping the US presidency since 1900).
- Clarksons index gained 4% only in 2012 at the time of this report, as compared to 6% in world stock exchanges gained during the same time.
- The index evidenced that Liner share price were riding much higher than other industries during the first six months of the year and adjusted back in the second part of the year. The Macquarie analysts expect stocks to enter stormy seas and most analysts now advise investors to sell container shipping stocks. As a result, Clarksons index is expected to decrease.

Sources: Container Intelligence Quarterly, Clarkson Research Services, yahoo, mapsofworld, Economist, Internal

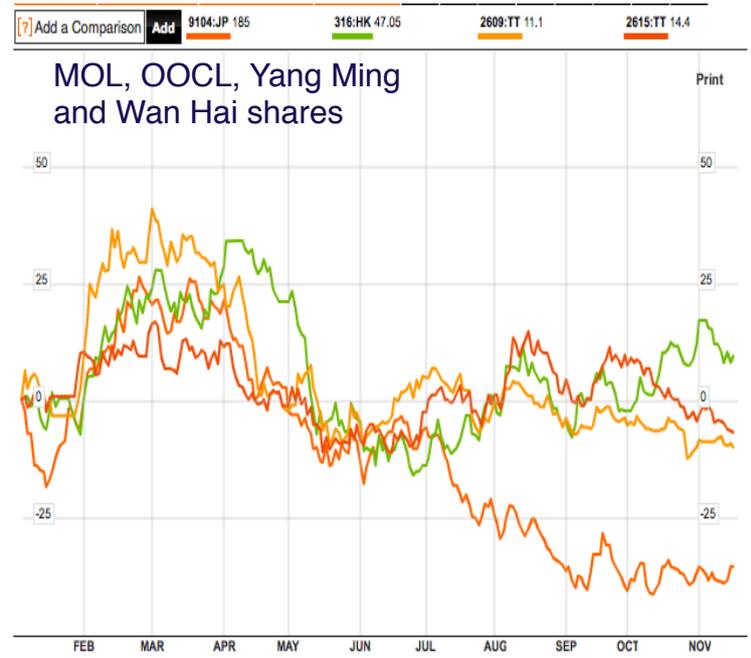
# Financial markets

As expected, shipping companies' stocks lost in the last three months the value they gained in the beginning of the previous rolling quarter. CSAV and OOCL are 2012 best performers, while Japanese carriers have been performing poorly.

## Large carriers



## Asian carriers



## Chilean carriers



- Carriers stock prices are more or less at the same levels than at the beginning of 2012, having riding a rollercoaster in the year. They have been increasing by up to 50% up to the end of March, then have lost all their gains in the second quarter, before increasing again but at a slower pace in the third quarter and back to January levels as at mid November. Year-to-date:

Best performers: CSAV, OOCL  
 Average performers: Evergreen, YML, Wan Hai, CSAV, APL/NOL, Hanjin  
 Poor performers: Japanese carriers  
 Worrying: CCNI

- CSAV managed to complete US\$1.2bn of capital increase, which clearly reflected in its share value prices. We note, however, that its stock lost close to 25% of its value in the last three months.

Sources: Bloomberg, Internal

# Last financials available

Most of the shipping lines in our sample published financials up to the third quarter of 2012, to the exception of CCNI, Cosco and OOCL. Q3 12 estimates now indicate small net profits for the first time since 2010.

## Financials available as at November 30th, 2012

Last financials	Q4 11	Q1 12	Q2 12	Q3 12
APL/NOL				
NYK				
MOL				
Hanjin Shipping				estimate
K Line				
CSAV				
Wan Hai				
RCL				
CCNI				N/A
CSCL				estimate
Cosco				N/A
OOCL				N/A
Yang Ming				

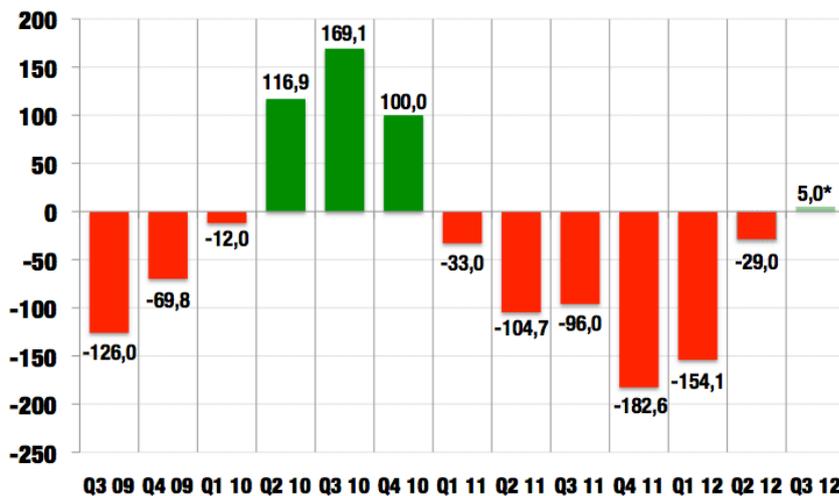
In our sample, at the time of the report, quarterly financials of CCNI had not been published.

Hanjin Shipping and CSCL only provided some incomplete figures that we used for estimates.

Cosco and OOCL don't provide quarterly updates nor indications that could be used.

## Yearly update (Quarterly update)

Financial performance (Index 100 for Q4 2010)



Figures indicated are index based (Q4 2010 net profits = 100)

According to current estimates, our sample generated a slight net profits for the first time since 2010. This represents a significant progress as compared to the previous six quarters but it remains insufficient.

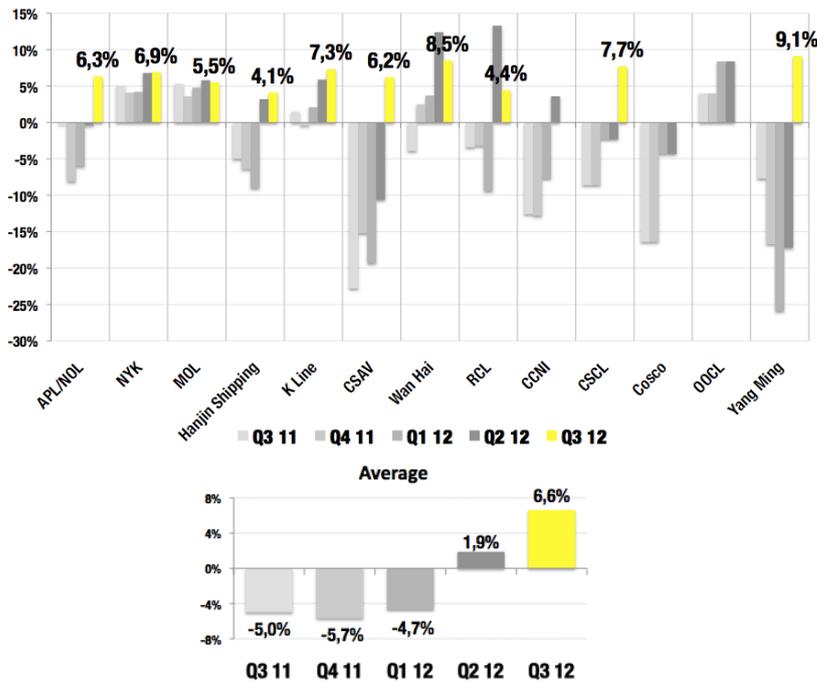
In the last 3 years, Q3 12 is only the fourth quarter that has displayed positive results, albeit weak ones.

Sources: Sample consists of APL/NOL, NYK, MOL, Hanjin, K Line, CSAV, Wan Hai, RCL, CCNI, CSCL, Cosco, Yang Ming and OOCL. Those lines represented slightly less than 1/3 of worldwide vessel capacity.

# Last financials available

Operating performance continued improving in Q3 12 and is now close to be able to meet debt obligations (on average). Average leverage remained stable for the third quarter just above 1.5x, which is still a relatively high level.

## Profit & Loss: EBITDA as % of total revenues

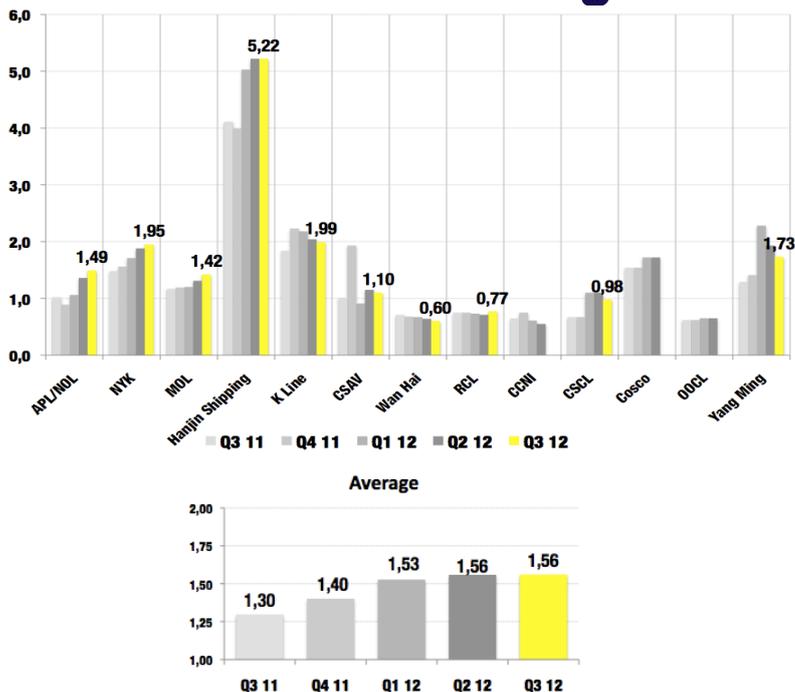


In our sample, on average, Operating performance continued its improvement to represent 6.6% of total revenues in Q3 12, as compared to 1.9% in Q2 12 and -5.0% in the corresponding quarter of the previous year.

This level of operating performance became closer to be able to meet debt obligations.

Top 3 known performers of the quarter are Yang Ming, Wan Hai and CSCL in terms of operating performance

## Balance Sheet: Leverage



In our sample, leverage (defined as Debt/Equity) stabilized at 1.56x. Borrowing continued increasing but was offset by increase in Equity (due to retained profits).

Top 3 known performers (lowest leverage) at the end of the third quarter are Wan Hai, RCL and CSCL.

Sources: Sample consists of APL/NOL, NYK, MOL, Hanjin, K Line, CSAV, Wan Hai, RCL and CCNI for quarterly figures. It also includes CSCL, Cosco, Yang Ming and OOCL for half year and whole year figures. Those lines represented slightly less than 1/3 of worldwide vessel capacity.



# Trade-by-trade analysis

The third quarter was weaker than expected, but decent. Industry is entering the usual trough of its yearly cycle. 2013 is expected to be decent. Positive fundamentals are not expected before the second quarter of 2013.



	Q1 12	Q2 12	Q3 12	Q4 12	Q1 13	Q2 13	Q3 13	Q4 13
Intra Asia	Light Green	Light Red	Light Green	Light Green	Light Green	Dark Green	Dark Green	Light Green
Transpacific	Dark Green	Light Green	Light Green	Light Red	Light Red	Dark Green	Dark Green	Light Red
Europe Asia	Dark Green	Dark Green	Light Red	Dark Red	Dark Red	Dark Green	Light Green	Light Red
Intra Europe	Light Green	Light Green	Light Red	Light Red	Light Red	Light Green	Light Red	Light Red
Transatlantic	Light Green	Light Green	Light Red	Light Red	Light Green	Light Green	Light Green	Light Red
DEMAND	Light Green	Light Red	Light Green	Light Red	Light Red	Dark Green	Dark Green	Light Green
SUPPLY	Light Red	Light Green	Light Green	Light Green	Light Red	Light Green	Light Red	Light Green
S/D BALANCE	Light Red	Light Green	Light Green	Light Red	Light Red	Light Green	Light Green	Light Red

Weaker vs. Q-1	Slightly weaker	Slightly stronger	Stronger vs. Q-1

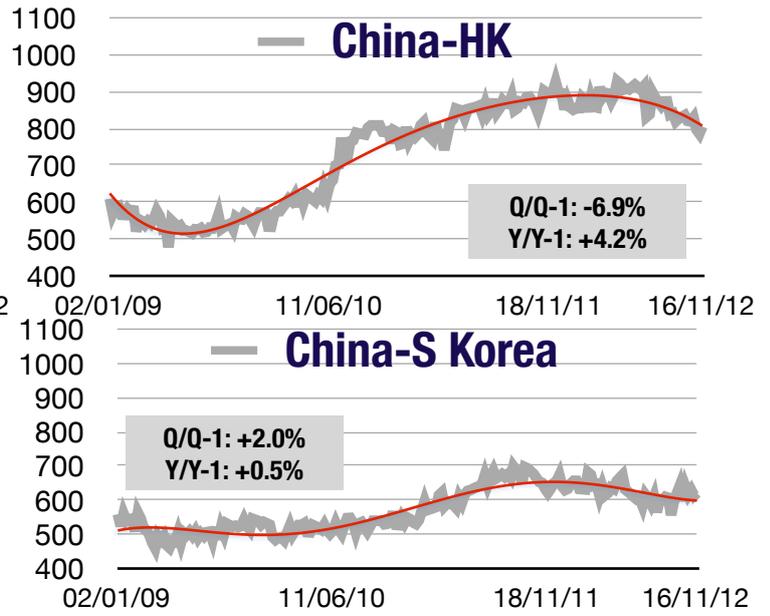
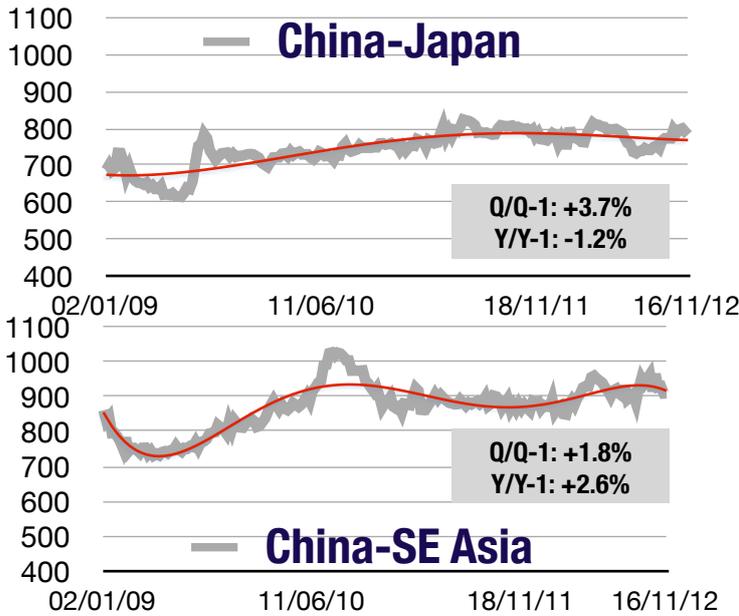
Sources: Internal

# Intra Asia trades (32.4% of world cargo trade)

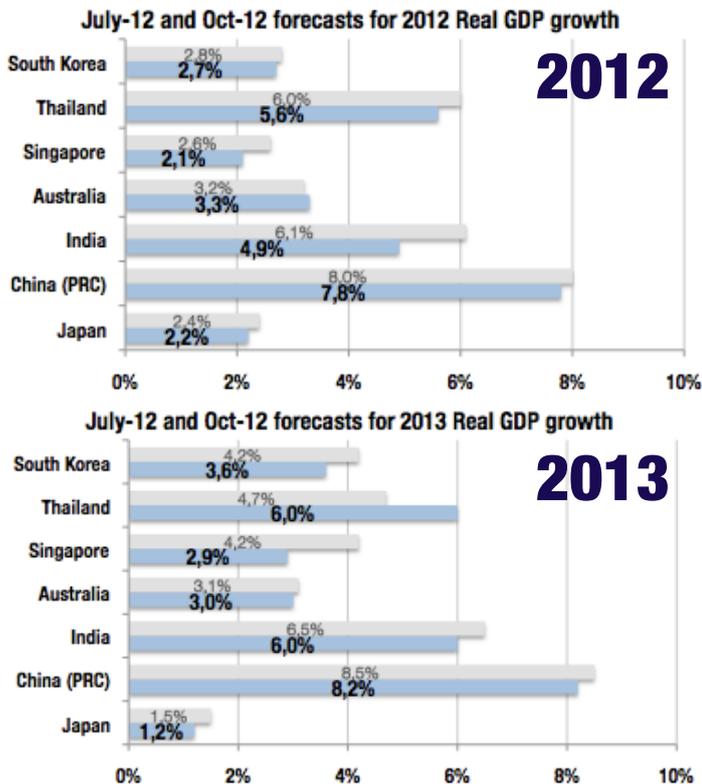
Steady small growth in the last 3-month period as strong local underlying economic fundamentals offset Demand deceleration and increased cascading supply.

## Freight rates

weighted average  
Q/Q-1: +0.5%  
Y/Y-1: +0.7%



## Real GDP growth



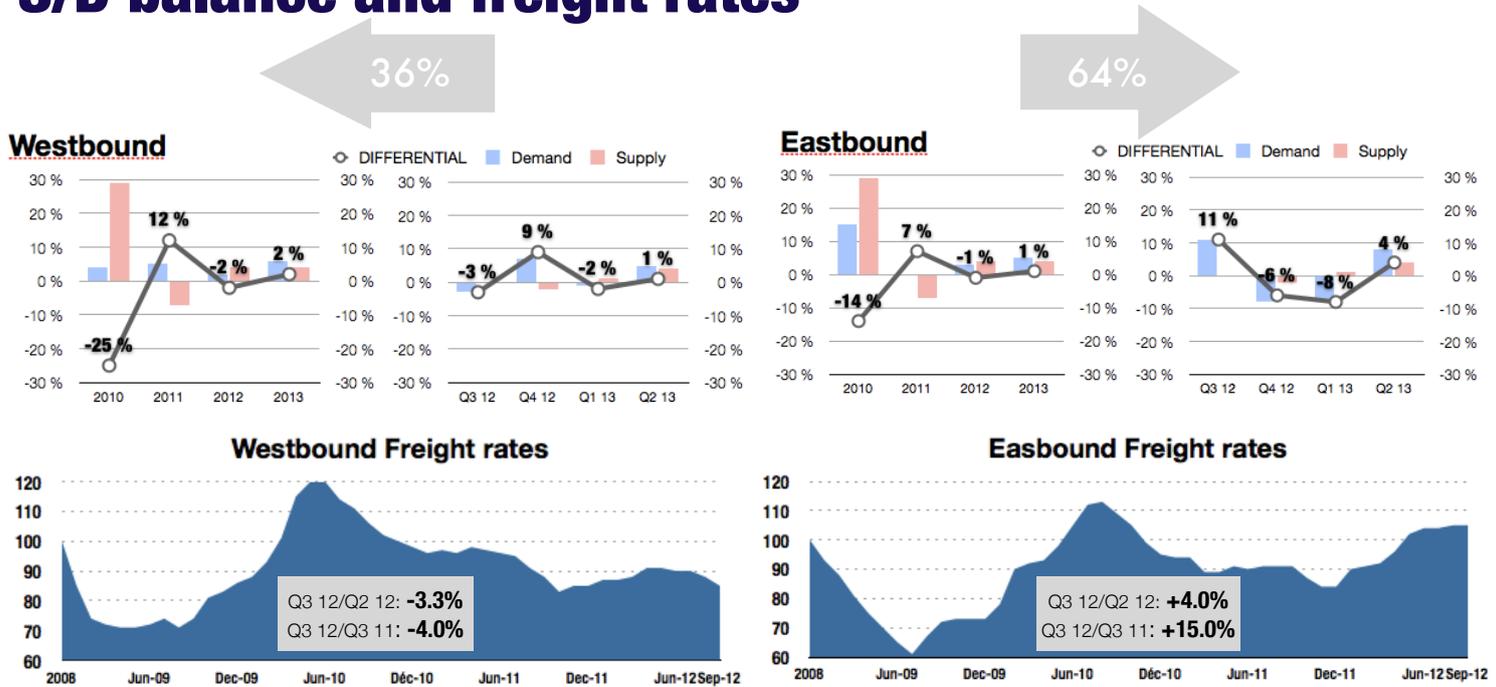
- Intra Asia freight rates performed decently in the last rolling quarter as compared to the previous one, to the exception of China/Hong Kong trade that lost close to 7%
- As compared to last year, intra Asia freight rates are slightly higher in 2012 apart from China/Japan, which is, however, filling its gap.
- Intra Asia trades have been suffering from the combined effects of global economic slowdown and the delivery of large vessels that has pushed smaller tonnage on to intra-Asia trades.
- Strong underlying fundamentals including sustained growth in middle-class consumption, manufacturing and a relatively better economic scenario than the rest of the world offset the impact.
- Over the last 4 years, intra Asia freight rates have evolved in a more stable way than long haul trading lanes.

Sources: IMF, CCFI, Internal

# Transpacific (13.5% of world cargo trade)

Transpacific trades are expected to enter more difficult environment until the second quarter of 2013, due to seasonal effects, but limited by long-term contracts. Rates are holding up for time being. Fundamentals are slowly getting better but full effects will not be seen before March-April 2013.

## S/D balance and freight rates



## Yearly S/D balance

EASTBOUND		2010	2011	2012	2013
Demand		15 %	0 %	3 %	5 %
Supply		29 %	-7 %	4 %	4 %
<b>DIFFERENTIAL</b>		<b>-14 %</b>	<b>7 %</b>	<b>-1 %</b>	<b>1 %</b>
WESTBOUND		2010	2011	2012	2013
Demand		4 %	5 %	2 %	6 %
Supply		29 %	-7 %	4 %	4 %
<b>DIFFERENTIAL</b>		<b>-25 %</b>	<b>12 %</b>	<b>-2 %</b>	<b>2 %</b>

## Quarterly S/D balance

EASTBOUND		Q3 12	Q4 12	Q1 13	Q2 13
Demand		11 %	-8 %	-7 %	8 %
Supply		0 %	-2 %	1 %	4 %
<b>DIFFERENTIAL</b>		<b>11 %</b>	<b>-6 %</b>	<b>-8 %</b>	<b>4 %</b>
WESTBOUND		Q3 12	Q4 12	Q1 13	Q2 13
Demand		-3 %	7 %	-1 %	5 %
Supply		0 %	-2 %	1 %	4 %
<b>DIFFERENTIAL</b>		<b>-3 %</b>	<b>9 %</b>	<b>-2 %</b>	<b>1 %</b>

Most containerized cargo shipped eastbound to the US is covered by annual contracts (90% of that trade is still set by annual service contracts that renew around May every year).

- Fundamentals have been good Eastbound in Q3 12, which translated into 4% increase in freight rates as compared to previous quarter or 15% increase as compared to corresponding period of 2011
- Westbound fundamentals were more challenging and freight rates decreased by around 3% quarter-on-quarter and 4% decrease as compared to Q3 11.
- Q4 12 expected to be a balanced quarter, while the outlook is weaker for Q1 13.
- Overall consequences of the change in fundamentals are limited, due to the long-term contracts
- 2013 seems reasonably promising

Sources: CTS, Container Intelligence Quarterly, Clarkson Research Services, own estimates

# Europe Asia (12.6% of world cargo trade)

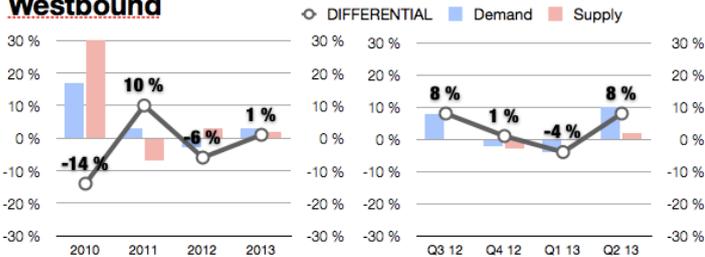
Q2 12 was the strongest quarter in history in terms of freight rates recovery. Freight rates have been under pressure at the end of the third quarter of 2012 and are clearly expected to remain so until the second quarter of 2013. Mediterranean trade rates suffering more than North European ones.

## S/D balance and freight rates

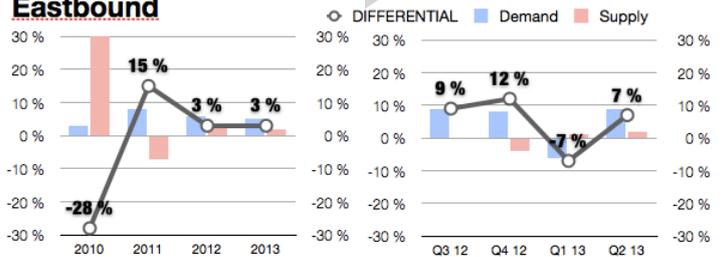
67%

33%

### Westbound



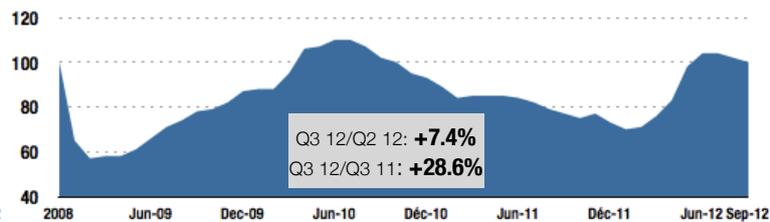
### Eastbound



### Westbound Freight rates



### Eastbound Freight rates



## Yearly S/D balance

<b>EASTBOUND</b>	2010	2011	2012	2013
Demand	3 %	8 %	6 %	5 %
Supply	31 %	-7 %	3 %	2 %
<b>DIFFERENTIAL</b>	<b>-28 %</b>	<b>15 %</b>	<b>3 %</b>	<b>3 %</b>
<b>WESTBOUND</b>	2010	2011	2012	2013
Demand	17 %	3 %	-3 %	3 %
Supply	31 %	-7 %	3 %	2 %
<b>DIFFERENTIAL</b>	<b>-14 %</b>	<b>10 %</b>	<b>-6 %</b>	<b>1 %</b>

Contract maturities are more flexible on the Europe Asia trades than on the Transpacific trades, with a mixture of three, six and 12-month agreements. This gives both sides greater scope to renegotiate terms throughout the year.

## Quarterly S/D balance

<b>EASTBOUND</b>	Q3 12	Q4 12	Q1 13	Q2 13
Demand	9 %	8 %	-6 %	9 %
Supply	0 %	-4 %	1 %	2 %
<b>DIFFERENTIAL</b>	<b>9 %</b>	<b>12 %</b>	<b>-7 %</b>	<b>7 %</b>
<b>WESTBOUND</b>	Q3 12	Q4 12	Q1 13	Q2 13
Demand	8 %	-2 %	-4 %	10 %
Supply	0 %	-3 %	0 %	2 %
<b>DIFFERENTIAL</b>	<b>8 %</b>	<b>1 %</b>	<b>-4 %</b>	<b>8 %</b>

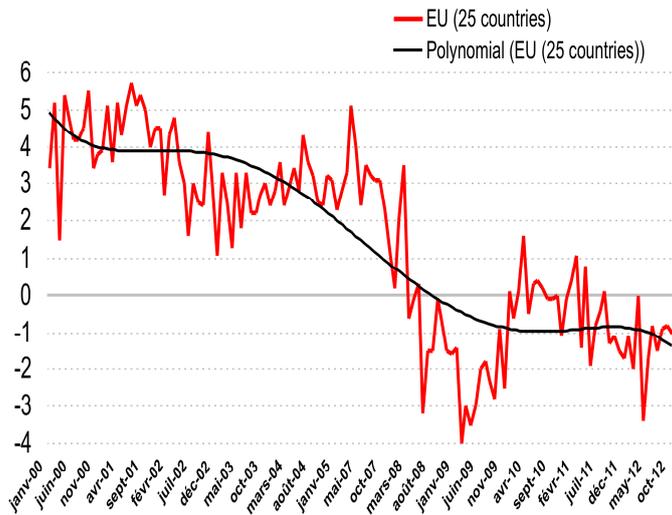
- Europe Asia trades have been very volatile in 2012. Over the third quarter of 2012, situation deteriorated, driven by weak Westbound trades, especially to the Mediterranean.
- Fundamentals are expected to deteriorate until expected surge in Q2 13.
- Until then, all rates will come under renewed pressure
- 2013 as a whole is expected to be decent but no improvement expected before Q2 2013

Sources: CTS, Container Intelligence Quarterly, Clarkson Research Services, own estimates

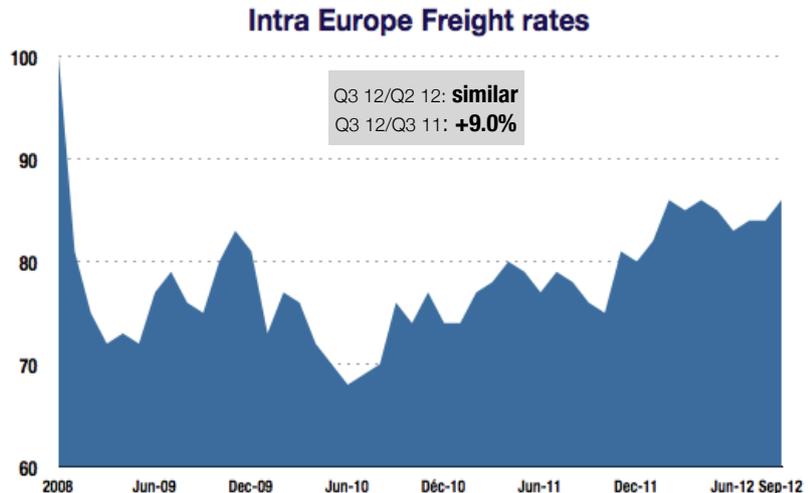
# Intra Europe trades (5.0% of world cargo trade)

Another weak but stable third quarter in 2012. Freight rates still remain well below 2008 levels and no improvement in sight before a year at minimum, evidenced by poor EU retail growth, notably.

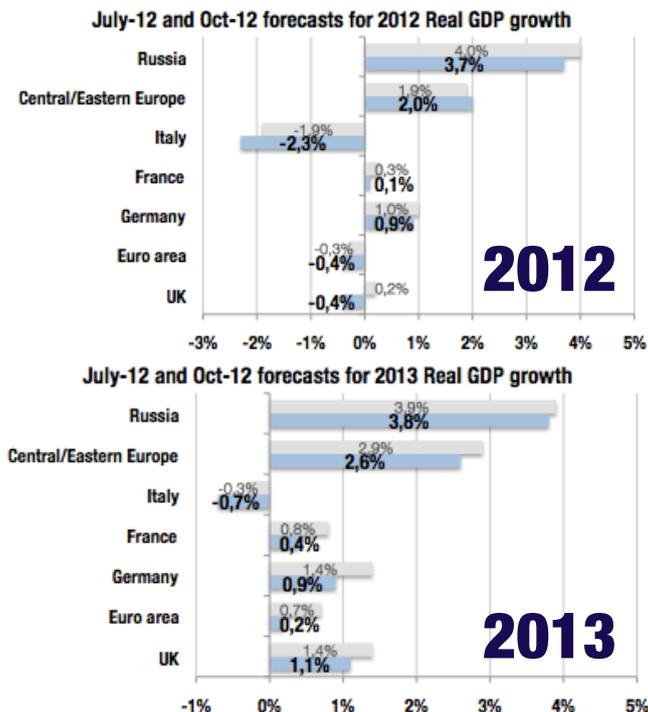
## EU Retail growth (t/t-12)



## Freight rates Intra Europe



## Real GDP growth



- Again, no significant change in freight rates in Q3 12 as compared to Q2 12. Freight rates have been 9% higher than in the corresponding period of the previous year but remained well below 2008 levels (around 15% weaker).
- Short and medium-term fundamentals are weak, as evidenced by EU retail growth evolution and poor Real GDP growth in Europe in 2012 and in 2013, that should translate into another slump in Demand
- Long-term fundamentals are still moderately good, as cargo continues to be switched into seafreight.

Sources: Eurostat, CTS, IMF, own estimates

# Transatlantic (3.7% of world cargo trade)

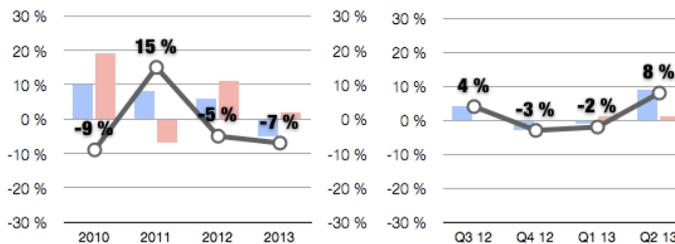
Slight deterioration in freight rates in Q3 12 as compared to previous quarter. Transatlantic trade is better balanced than other main East West trades, which limits the width of oscillations. No sharp improvement expected before Q2 13

## S/D balance and freight rates



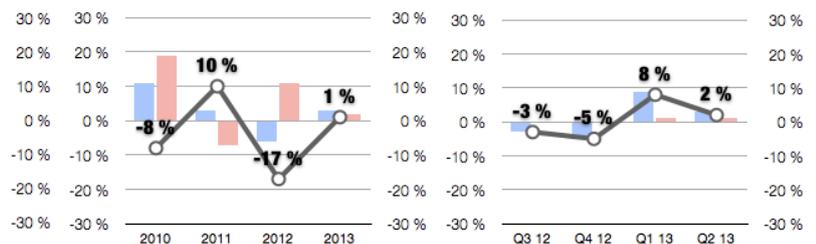
### Westbound

○ DIFFERENTIAL Demand Supply

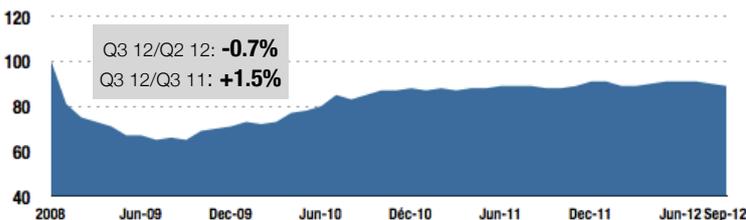


### Eastbound

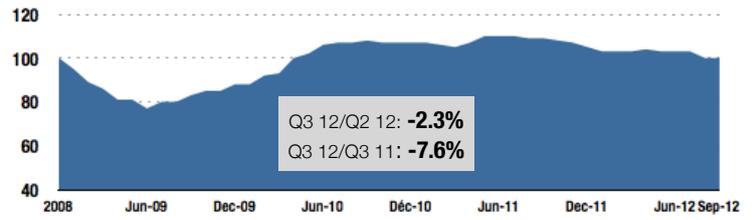
○ DIFFERENTIAL Demand Supply



### Westbound Freight rates



### Easbound Freight rates



## Yearly S/D balance

EASTBOUND		2010	2011	2012	2013
Demand		11 %	3 %	-6 %	3 %
Supply		19 %	-7 %	11 %	2 %
<b>DIFFERENTIAL</b>		<b>-8 %</b>	<b>10 %</b>	<b>-17 %</b>	<b>1 %</b>
WESTBOUND		2010	2011	2012	2013
Demand		10 %	8 %	6 %	-5 %
Supply		19 %	-7 %	11 %	2 %
<b>DIFFERENTIAL</b>		<b>-9 %</b>	<b>15 %</b>	<b>-5 %</b>	<b>-7 %</b>

Unlike most trades, the trans-Atlantic trade is relatively well balanced between Eastbound and Westbound shipments (even if more favorable WB) and is expected to remain so, which limits the oscillation of rates to a certain extent.

## Quarterly S/D balance

EASTBOUND		Q3 12	Q4 12	Q1 13	Q2 13
Demand		-3 %	-5 %	9 %	3 %
Supply		0 %	0 %	1 %	1 %
<b>DIFFERENTIAL</b>		<b>-3 %</b>	<b>-5 %</b>	<b>8 %</b>	<b>2 %</b>
WESTBOUND		Q3 12	Q4 12	Q1 13	Q2 13
Demand		4 %	-3 %	-1 %	9 %
Supply		0 %	0 %	1 %	1 %
<b>DIFFERENTIAL</b>		<b>4 %</b>	<b>-3 %</b>	<b>-2 %</b>	<b>8 %</b>

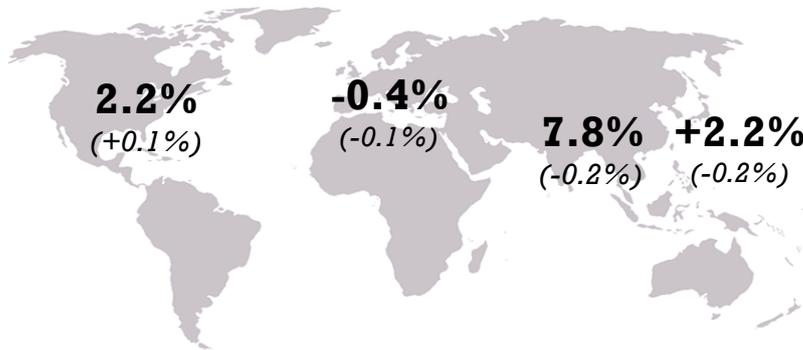
- Slight further deterioration in freight rates in Q3 12. Considering the poor economic performance of most European major countries that the trade serves, it is a good thing transatlantic trades have not collapsed.
- Falling european consumer spending contributed a fall in container shipments from both North America and Europe
- We note that fundamentals are slightly better from the second quarter of 2013.

Sources: CTS, Container Intelligence Quarterly, Clarkson Research Services, own estimates

# Global Demand

Real GDP growth forecasts down again to 3.3% in 2012 and 3.6% in 2013, according to IMF Oct-12 forecasts. Recently, new forecasts published more pessimistic figures (OECD at 2.9% in 2012 and 3.4% in 2013), hopefully remaining above the 2.6% threshold (that historically correlates with freight rate collapse)

## Real GDP growth in 2012

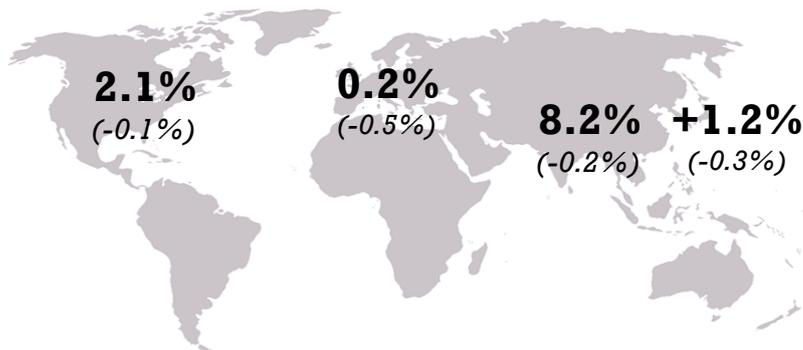


**World: +3.3%** (-0.2%)

**Emerging & Developing countries: +5.3%** (-0.3%)

**Advanced economies: +1.3%** (-0.1%)

## Real GDP growth in 2013

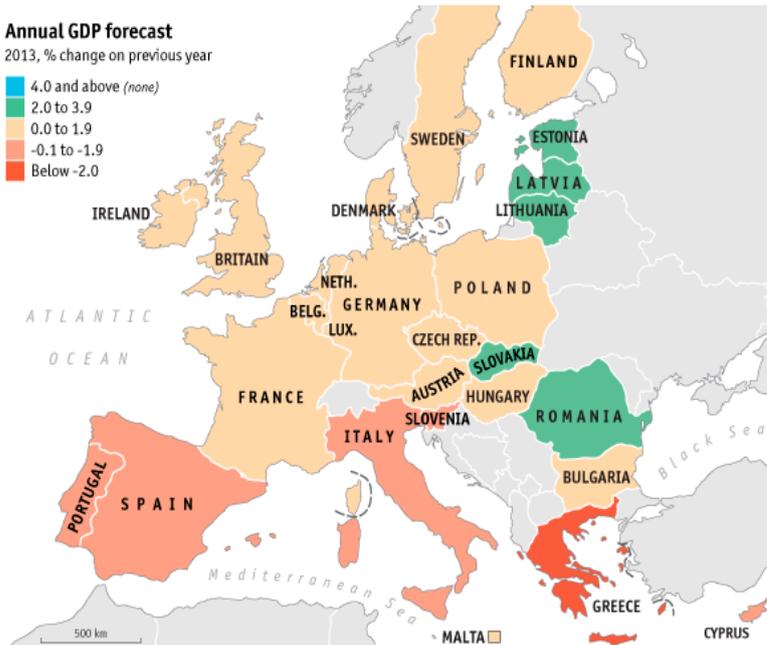


**World: +3.6%** (-0.3%)

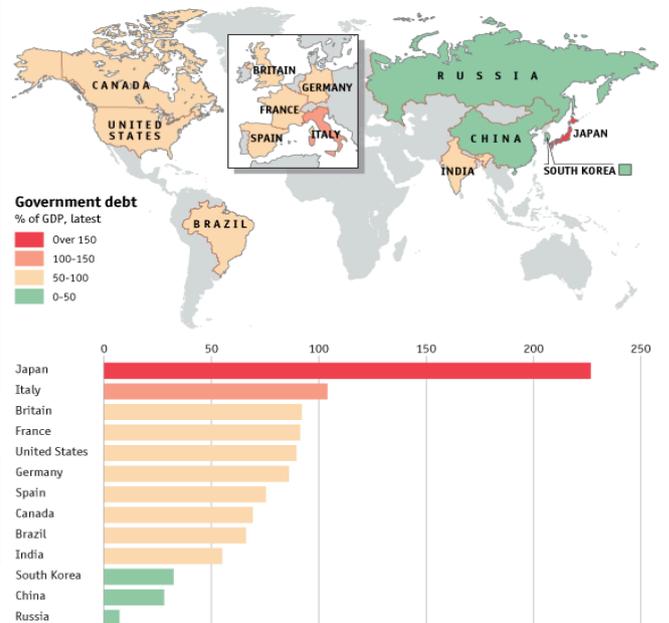
**Emerging & Developing countries: +5.6%** (-0.2%)

**Advanced economies: +1.5%** (-0.3%)

## Europe in 2013



## Public debt % GDP

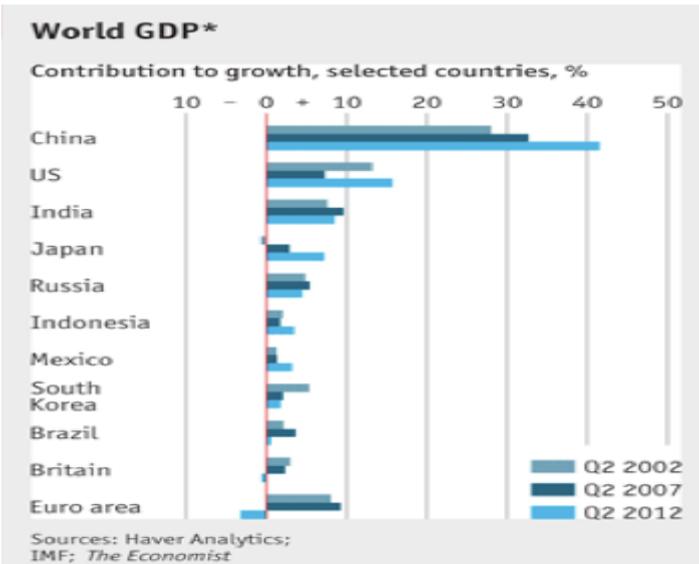


Sources: IMF, Economist, internal

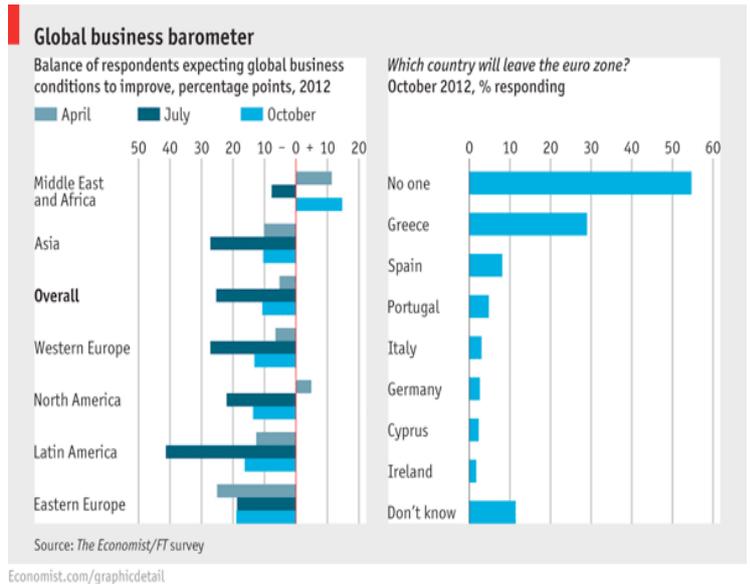
# Global Demand

Business confidence back slightly better than 3 months ago. US economy taking off slowly. China's contribution to global growth stood at over 40% in Q2 12 as compared to 28% ten years ago

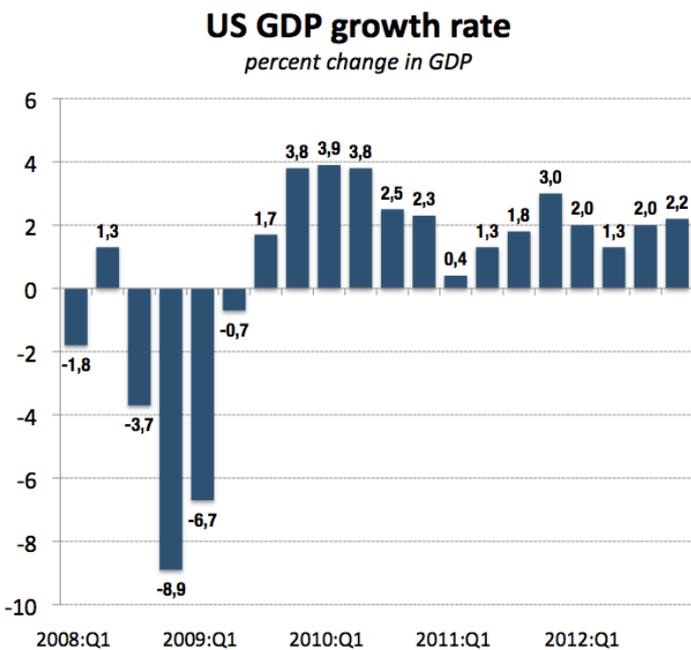
## Latest RGDP growth est



## Business confidence



## US Real GDP growth



Real GDP growth forecasts for 2012 and 2013 have been revised downwards in most major countries, with only minor exceptions.

- Global business barometer evidence that business people are less glum than 3 months ago. Sentiment improved in all regions except eastern Europe, but only in the Middle East and Africa have executives become bullish.
- On the euro, 55% of respondents think the currency union will stick together, while 29% say Greece will leave.
- US Real GDP growth accelerated again to 2.0% in Q3 and is expected to accelerate even further at 2.2% in Q4 12.
- In 1990 the US accounted for a quarter of the world's GDP and China just 4%. Today America's share is less than one-fifth, while China's has expanded to 15%. Yet in the latest quarter America made its biggest contribution to world GDP growth since 2005 (excluding periods of global recession).

Sources: BEA, the Economist, IMF, internal, tradingeconomics

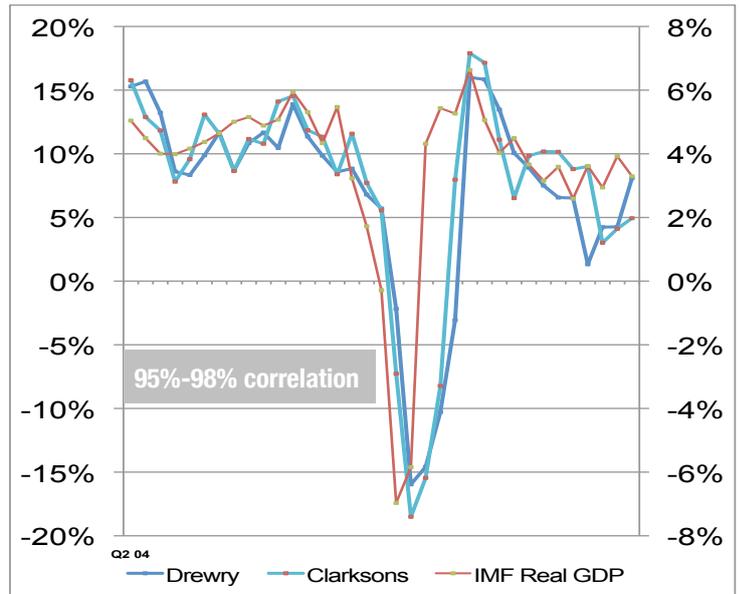
# Global Demand

Based on econometric models, cargo trade volumes is now expected to grow by 6.0% in 2012 and 7.4% in 2013, both of which is well below historical average of 10%; Measurable risks continue decreasing, barring Demand shocks such as Grexit.

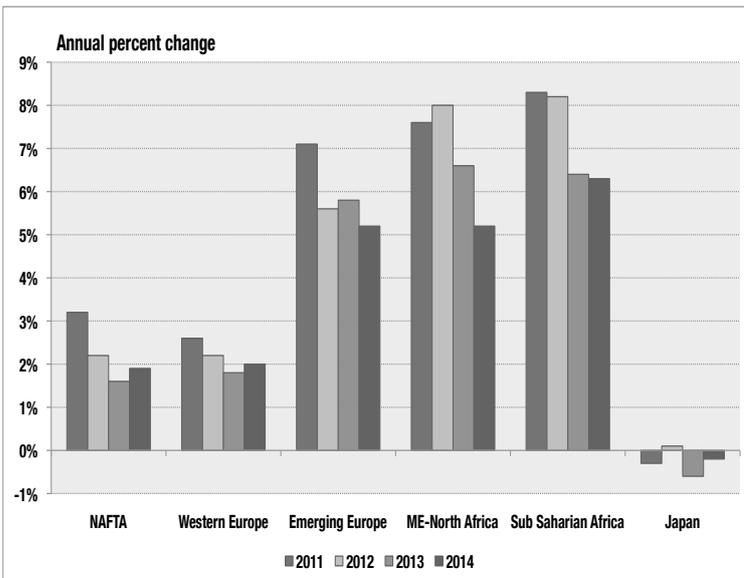
## Cargo growth

Cargo volume	Growth
<b>FULL YEAR 2011 versus 2010</b>	<b>8.0%</b>
<b>FULL YEAR 2012 versus 2011</b>	<b>6.0%</b>
<b>FULL YEAR 2013 versus 2012</b>	<b>7.4%</b>
Q1 2012	7.2%
Q2 2012	6.3%
Q3 2012	6.3%
Q4 2012	6.0%
Q1 2013	5.8%
Q2 2013	6.4%
Q3 2013	6.8%
Q4 2013	7.4%

## Cargo volumes/RGDP



## Inflation risk



Cargo trade volume growth remains 95% to 98% correlated with Real GDP growth, according to econometric models.

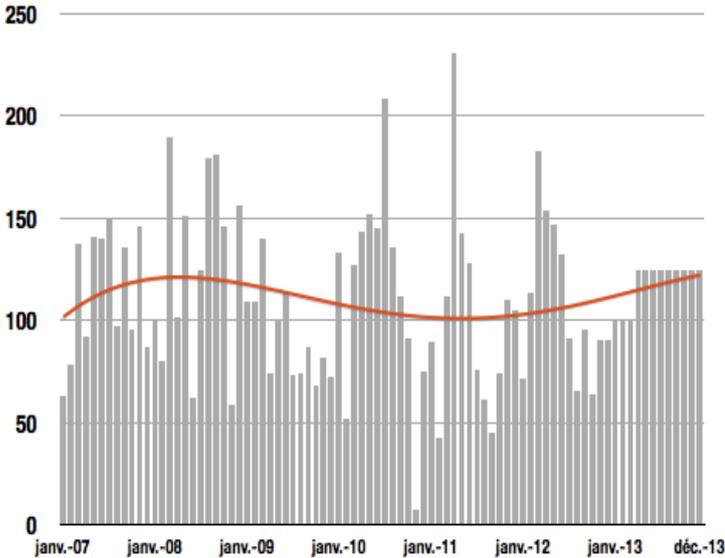
- Based on the latest Real GDP growth predictions, we now believe that cargo volume should grow by 6.0% in 2012 and 7.4% in 2013.
- Throughout 2013, cargo trade volume growth rates are expected to range between 5.8% and 7.4%.
- Most measurable downside risks continued reducing in the last three months or remained stable, i.e. inflation, S&P 500 evolution, oil prices and market volatility.

Sources: Drewry, Container Intelligence Quarterly, Clarkson Research Services, own estimates, IMF, ITCO

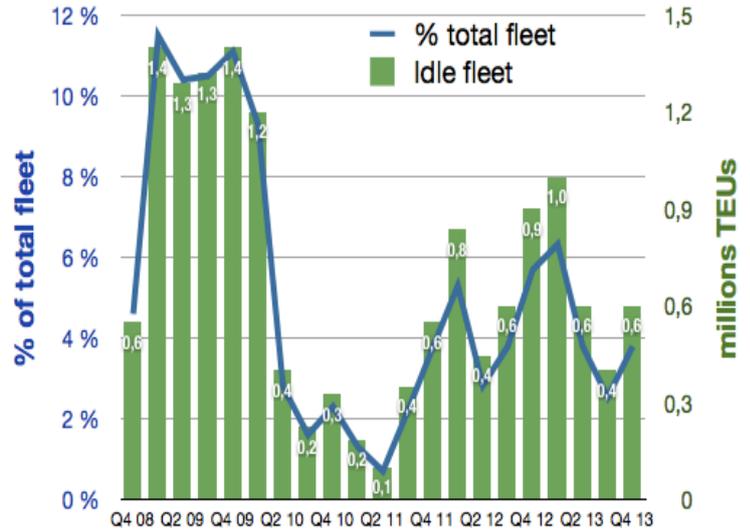
# Global Supply

Capacity delivery stable, remaining below average; idle fleet increasing; and scrapping stable for both 2012 and 2013

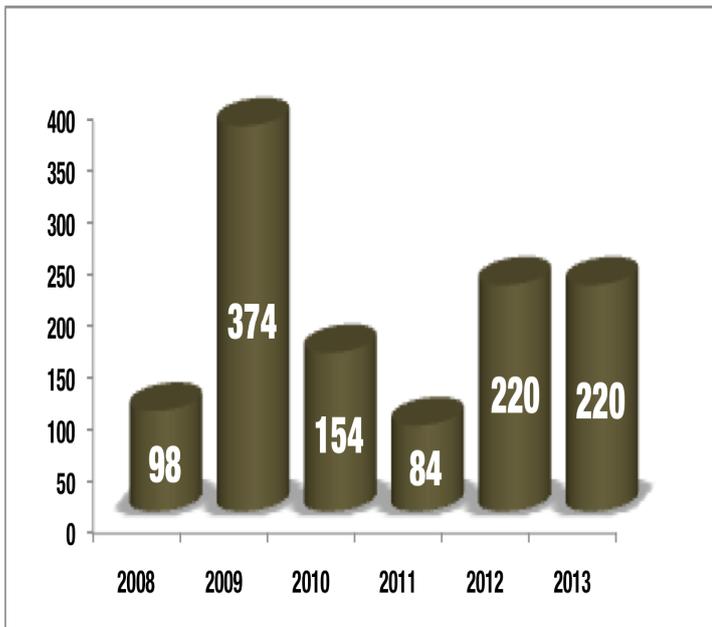
## Capacity delivery



## Idle Fleet



## Scrapping



Once again, we decreased slightly our forecasts on supply side (container vessel capacity effectively used) this time by 0.3% in 2012 and 0.6% in 2013

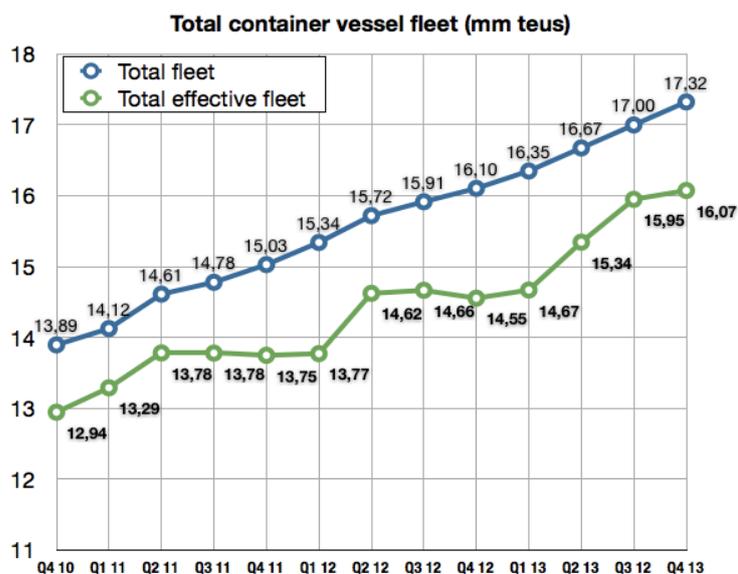
Supply is now characterized by:

- ➔ Capacity delivery was stable in Q3 12 as compared to previous quarter at around 240K teus, which is again below the historical average of 300K teus.
- ➔ Scrapping expectations reach 220K teus both in 2012 and 2013
- ➔ As expected, idle fleet capacity continued increasing to around 600K teus at the end of Q3 12 and is expected to reach 900K teus at the end of 2012 and 1mm teus at the end of Q1 13
- ➔ We believe that the capacity absorbed by slow steaming has been relatively stable since the beginning of 2011 around 650,000 teus with some minor exceptions and that some estimates in the industry are over evaluated.

# Global Supply

Effective vessel capacity growth revised slightly downwards, due to lower capacity delivered, increasing laying up of vessels and sustained scrapping.

## Total and effective fleet



## Fleet breakdown

mm teus	Q4 10	Q1 11	Q2 11	Q3 11	Q4 11	Q1 12	Q2 12	Q3 12	Q4 12	Q1 13	Q2 13	Q3 13	Q4 13
<b>Total fleet</b>	13,89	14,12	14,61	14,78	15,03	15,34	15,72	15,91	16,10	16,35	16,67	17,00	17,32
<b>Capacity delivered</b>	0,17	0,24	0,50	0,18	0,29	0,37	0,43	0,25	0,24	0,30	0,38	0,38	0,38
<b>Scrapping</b>	-0,04	-0,01	-0,01	-0,01	-0,04	-0,06	-0,06	-0,06	-0,06	-0,06	-0,06	-0,06	-0,06
<b>Idle fleet</b>	0,33	0,19	0,10	0,35	0,60	0,84	0,45	0,60	0,90	1,00	0,60	0,40	0,60
<b>Slow steaming</b>	0,63	0,65	0,73	0,65	0,68	0,73	0,65	0,65	0,65	0,68	0,73	0,65	0,65
<b>Total effective fleet</b>	12,94	13,29	13,78	13,78	13,75	13,77	14,62	14,66	14,55	14,67	15,34	15,95	16,07

## Capacity growth

Vessel capacity	Growth
<b>FULL YEAR 2011 versus 2010</b>	<b>10.8%</b>
<b>FULL YEAR 2012 versus 2011</b>	<b>5.5%</b>
<b>FULL YEAR 2013 versus 2012</b>	<b>7.7%</b>
Q1 2012	6.7%
Q2 2012	5.4%
Q3 2012	5.6%
Q4 2012	5.5%
Q1 2013	6.2%
Q2 2013	5.9%
Q3 2013	6.5%
Q4 2013	7.7%

Macro uses the concept of « effective fleet » to measure the growth of Supply. The effective fleet is the capacity that is fully utilized and excludes idle fleet and the additional capacity allocated to slow steaming.

- Effective fleet capacity is expected to have increased by 10.8% in 2011 and is expected to increase by 5.5% (-0.3% vs previous estimate) in 2012 and 7.7% (-0.6%) in 2013.
- Buffer effects are expected to remain effective in the coming year as quarterly vessel capacity growth is expected to oscillate between 5.4% and 6.5% during most of 2012 and 2013, to the exception of 7.7% in Q4 13.
- The difference between available fleet and effective fleet is expected to be 1.55mm teus at the end of 2012 and is expected to continue increasing to 1.68mm teus at the end of Q1 13 and then decrease to 1.05mm teus at the end of Q3 13.

Sources: Own estimates

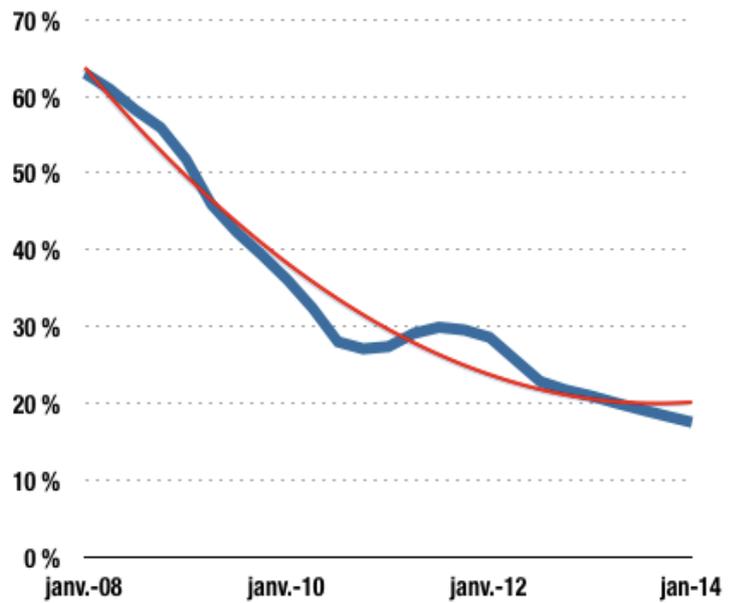
# Global Supply

New orders started timidly to rise again in Q3 12 and are expected to continue rising. In this cycle, trough will be reached when new orders represent 18% of total fleet as compared to 20% usually.

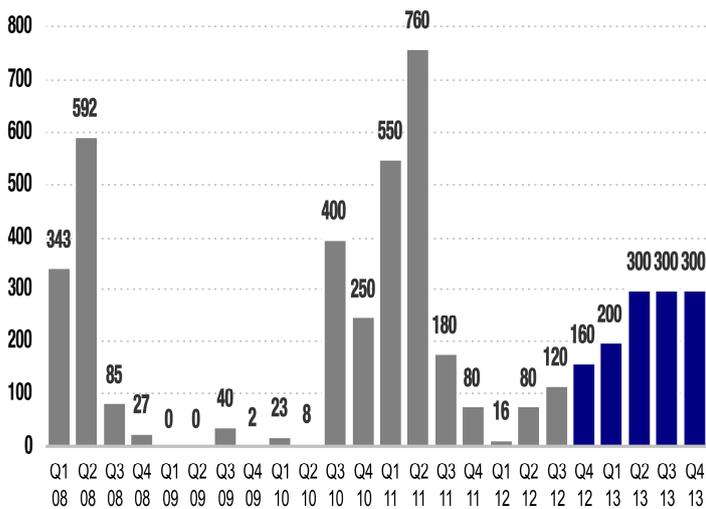
## Order book

mm teus	Q1 11	Q2 11	Q3 11	Q4 11	Q1 12	Q2 12	Q3 12	Q4 12	Q1 13	Q2 13	Q3 13	Q4 13
<b>Order book</b>	4,11	4,37	4,37	4,29	3,94	3,59	3,46	3,37	3,27	3,19	3,11	3,03
<b>Deliveries</b>	0,24	0,50	0,18	0,29	0,37	0,43	0,25	0,24	0,30	0,38	0,38	0,38
<b>New orders</b>	0,55	0,76	0,18	0,22	0,02	0,08	0,12	0,16	0,20	0,30	0,30	0,30
<b>% total fleet</b>	29 %	30 %	30 %	29 %	26 %	23 %	22 %	21 %	20 %	19 %	18 %	18 %

## % current fleet



## New orders



Historical observations have proved that shipping lines start to order significantly when order book represents close to 20% of total fleet.

- However, due to exceptional circumstances that have characterized the industry, we believe that new orders as compared to existing fleet will reach a trough at 18% in this cycle (polynomial average at 20%).
- Order book currently represents approximately 21% of total fleet. We note that new orders are timidly on the rise again.
- In 2012, we expect a total of 376K teus of new orders and 1.1mm teus in 2013.

Sources: Internal

# Global Supply/Demand

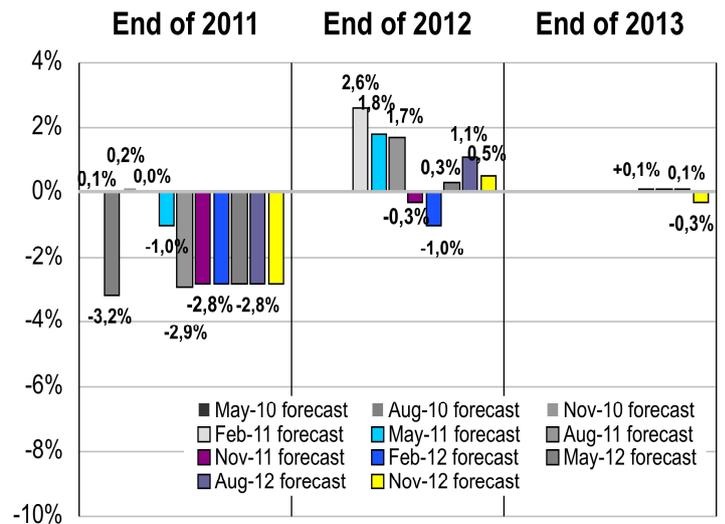
The overall Supply/Demand situation is expected to remain balanced, barring Demand shocks or erratic fleet developments



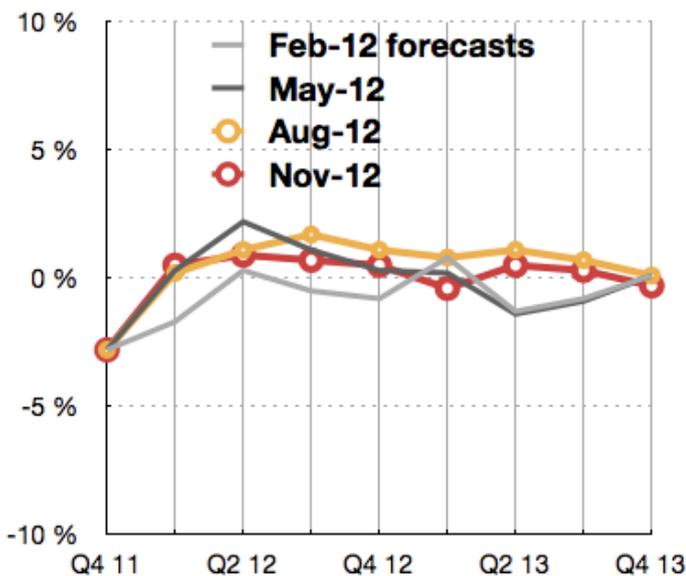
## S/D growth differential

DIFFERENTIAL	S/D balance
FULL YEAR 2011 versus 2010	-2.8%
FULL YEAR 2012 versus 2011	+0.5%
FULL YEAR 2013 versus 2012	-0.3%
Q1 2012	+0.5%
Q2 2012	+0.9%
Q3 2012	+0.7%
Q4 2012	+0.5%
Q1 2013	-0.4%
Q2 2013	+0.5%
Q3 2013	+0.3%
Q4 2013	-0.3%

## Yearly differential



## Quarterly differential



S/D differential is the difference between growth in Demand (cargo volumes) and Supply (vessel capacity). A positive S/D differential usually correlates with increasing freight rates

- The Supply Demand overall situation is relatively balanced in 2012 and in 2013.
- We note slight deterioration in 2012 as compared to previous estimates, predominantly driven by decreasing Demand, not entirely offset by decreasing supply. Same applies for 2013
- Growth in supply is expected to exceed growth in Demand in the first and last quarter of 2013.

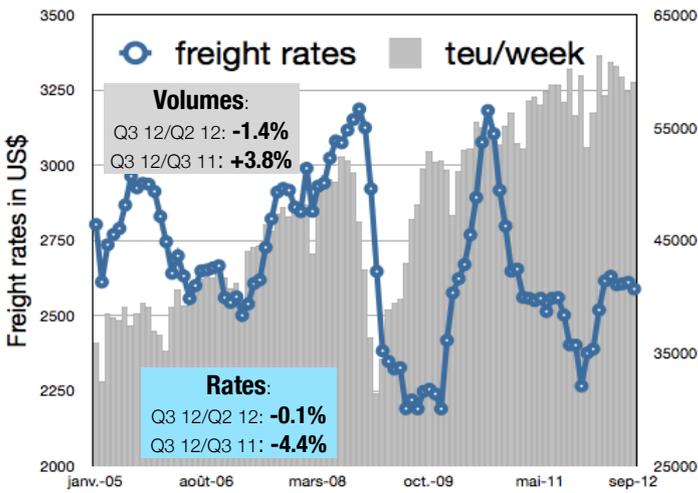
Sources: Internal



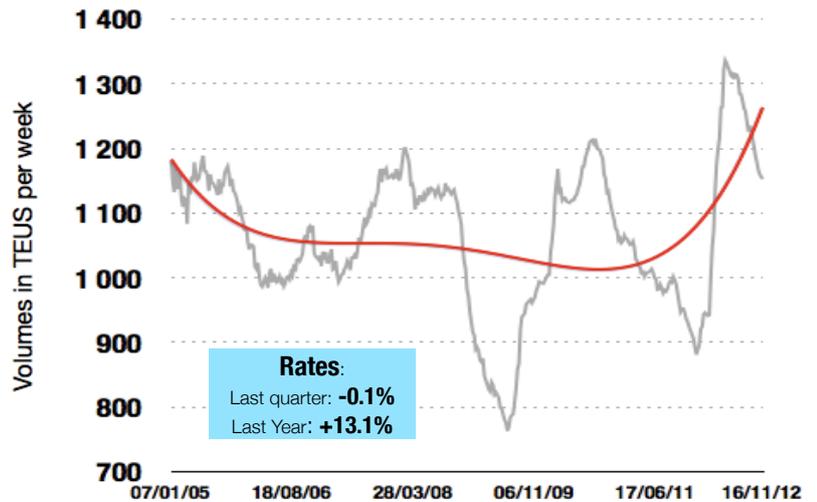
# Freight rates

Freight rates are still decent but they have been stabilizing in the last rolling quarter. CCNI freight rates (more an indication of North South rates) indicate freight declining but remaining around an historical average.

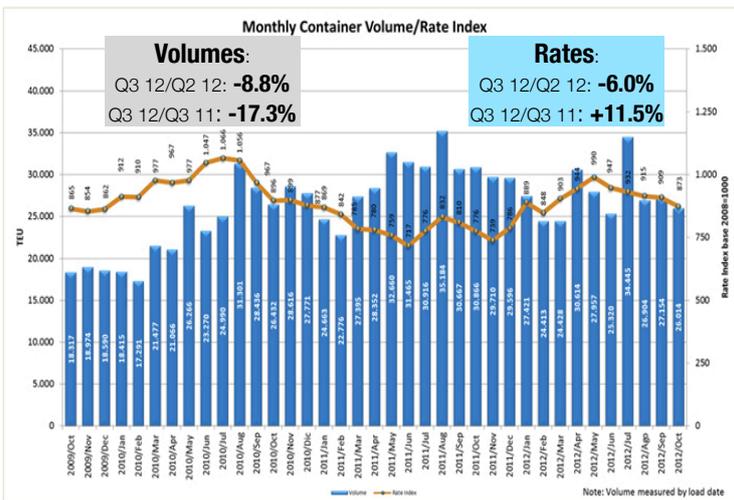
## APL/NOL freight rates



## CCFI



## CCNI



APL/NOL freight rates and volumes monthly figures remain the best global market references.

- In Q3 12, volumes decreased by 1.4% as compared to previous quarter, while they remained 3.8% higher than the corresponding quarter of the previous year.
- Freight rates increased significantly in the first 5 months of 2012, when they started stabilizing and consolidating. This is confirmed by CCFI global index (all trades to and from China) and APL/NOL freight rates indications.
- CCNI rates decreased by 6% in Q3 12 as compared to previous quarter

Sources: CCFI, APL/NOL, Internal

# Freight rates volatility (CCFI)

CCFI figures indicate a sharp decline in freight rates in Europe Asia trades, particularly to the Mediterranean. Transpacific freight rates lost steam but maintained at high levels.

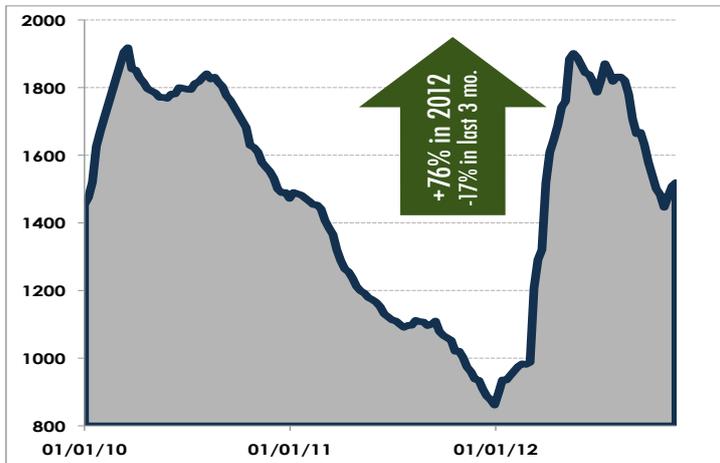
## China E/C America CCFI



## China W/C America CCFI



## China North Europe CCFI



## China Mediterranean CCFI



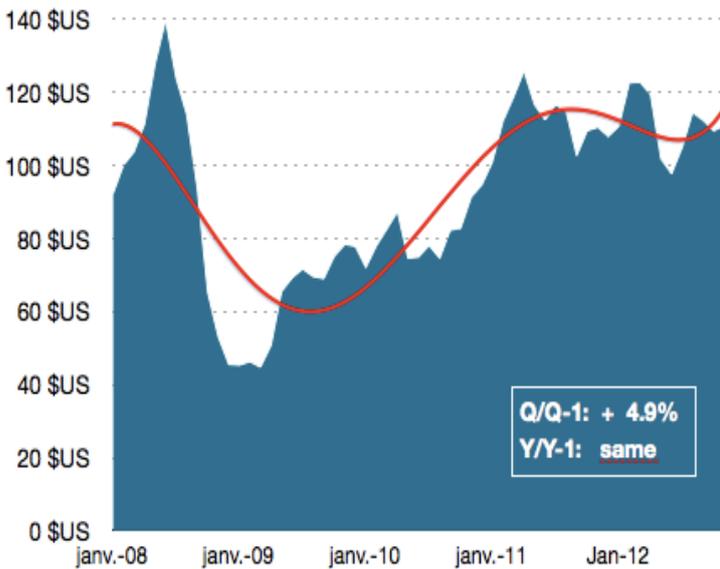
As per CCFI figures, China to America rates have lost steam in the last 3 months but remained between 18% (East Coast) and 34% (West Coast) higher in 2012 as compared to 2011.

Freight rates between China and Europe have decreased significantly in the last three months, even of they remain much higher in 2012 as compared to 2011 on average.

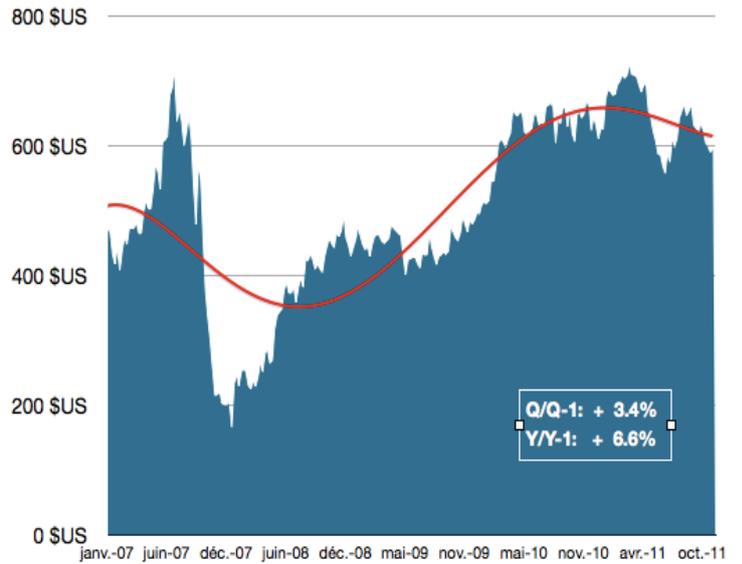
# Fuel Costs

Fuel prices oscillate around a higher average than in previous years. Even if analysts forecasts seem over pessimistic as compared to current prices, there are massive geopolitical concerns about disruption of supply that could well generate price increases.

## Brent Crude Oil rates

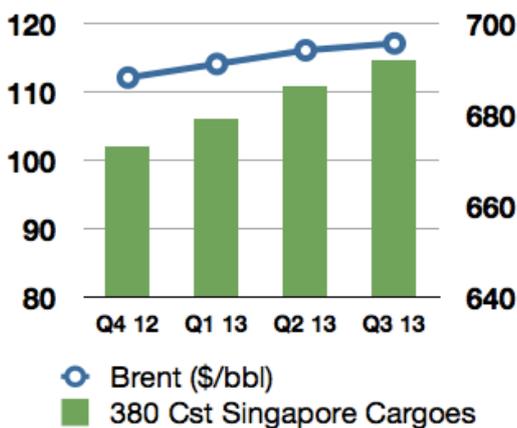


## Bunker prices



## Forecasts

	Q4 12	Q1 13	Q2 13	Q3 13
Brent (\$/bbl)	112	114	116	117
380 CST Singapore Cargoes	673	679	686	692



Price of oil bears a strategically significant role in how the shipping industry is performing as it is the carriers' largest operating cost and the largest risk in global growth and therefore to cargo volume growth.

- High bunker charges are here to stay. Bunker prices oscillated between \$580 and \$700 within 2012.
- Even if current bunker prices tend to evolve in the lower range currently, they still increased by close to 7% in the last rolling year
- Normally oil markets loosen in the last quarter of the year but oil is not trading on fundamentals the way some other commodities are because there are massive geopolitical concerns about the disruption of supply
- Even if analysts expectations are relatively high as compared to current evolution, a simple geopolitical spark could well increase prices dramatically

Sources: NYBOT, Dyna Liners, Global-Riskmanagement, internal

# Charter hire rates

Charter hire rates collapsed to historical lows in the last quarter for all size of vessels. Close to half of total fleet operated is chartered and the other half is owned.

## Harpex Index

## Harper Index



Description	Q/Q-1	Y/Y-1
HARPEX Index	- 11.0%	-44.7%
700 teus	-1.4%	-26.2%
1100 teus	-3.6%	-35.8%
1700 teus	-4.7%	-35.8%
2500 teus	-8.4%	-43.2%
3500 teus	-15.1%	-51.4%
4250 teus	-20.4%	-51.0%
6500 teus	-17.5%	-36.7%
8500 teus	-11.4%	-24.2%

## Top 20 shipping lines

Rnk	Operator	Total		Owned		Chartered			Orderbook		
		TEU	Ships	TEU	Ships	TEU	Ships	% Chart	TEU	Ships	% existing
1	APM-Maersk	2 591 081	605	1 298 839	233	1 292 242	372	49.9%	448 874	33	17.3%
2	Mediterranean Shg Co	2 202 039	454	1 043 438	194	1 158 601	260	52.6%	263 536	24	12.0%
3	CMA CGM Group	1 394 408	411	505 480	90	888 928	321	63.7%	130 144	15	9.3%
4	Evergreen Line	734 845	185	382 475	93	352 370	92	48.0%	376 876	38	51.3%
5	COSCO Container L.	719 652	160	393 057	105	326 595	55	45.4%	149 330	18	20.8%
6	Hapag-Lloyd	636 214	140	324 259	82	311 955	78	49.0%	92 183	7	14.5%
7	Hanjin Shipping	583 561	111	280 166	43	303 395	68	52.0%	178 444	25	30.6%
8	APL	573 726	126	232 947	43	340 781	83	59.4%	207 300	20	36.1%
9	CSC	554 607	142	410 412	85	144 195	57	26.0%	98 952	12	17.8%
10	MOL	509 065	111	245 178	41	263 887	70	51.8%	87 200	7	17.1%
11	OOCL	446 054	98	275 787	45	170 267	53	38.2%	132 576	12	29.7%
12	Hamburg Süd Group	416 795	102	214 283	43	202 512	59	48.6%	167 040	26	40.1%
13	NYK Line	411 066	97	300 513	54	110 553	43	26.9%	52 832	4	12.9%
14	Yang Ming Marine	359 411	84	221 393	48	138 018	36	38.4%	58 250	10	16.2%
15	Hyundai M.M.	353 320	61	100 646	17	252 674	44	71.5%	90 615	10	25.6%
16	K Line	347 414	71	112 968	20	234 446	51	67.5%	19 184	2	5.5%
17	Zim	318 180	84	147 826	31	170 354	53	53.5%	148 168	13	46.8%
18	PIL (Pacific Int. Line)	303 238	146	199 589	103	103 649	43	34.2%	58 012	16	19.1%
19	UASC	270 024	45	211 264	27	58 760	18	21.8%			
20	CSAV Group	266 904	59	48 178	10	218 726	49	81.9%	34 400	4	12.9%

- Charter hire rates continued decreasing significantly in the last quarter and reach historical lows.
- The need for additional vessel capacity remains low, due to lower than expected Demand growth and sustained overcapacity. The situation is not expected to change significantly before the end of 2013.
- TOP 20: At end November 2012, 50.3% of total fleet operated by top 20 largest shipping lines is chartered, while 49.7% is owned. 12.9% of fleet is on order.
- TOP 100: 51.1% of total fleet is chartered and 48.9% owned. 19.0% of fleet is on order.

Sources: Harper Petersen, AXS Alphaliner, Internal

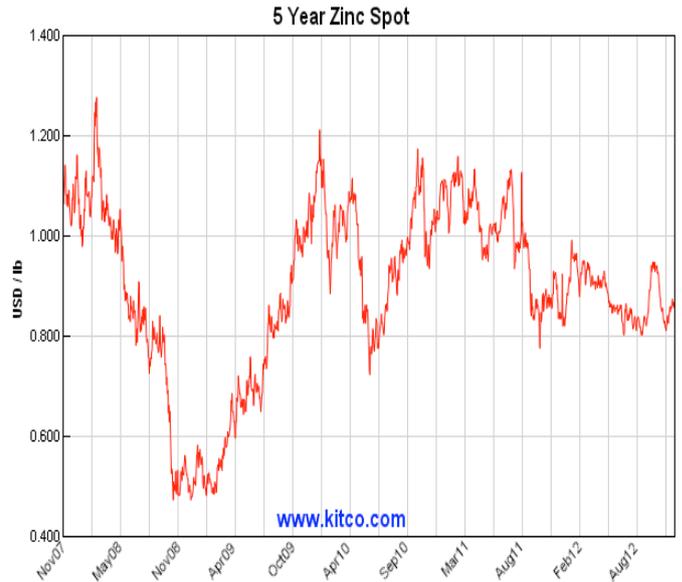
# Metal prices

Price of containers decreased in the last three months, as expected, due to underlying factors (metal prices) but also to the end of the peak season. Situation expected to remain at current level during the coming three months.

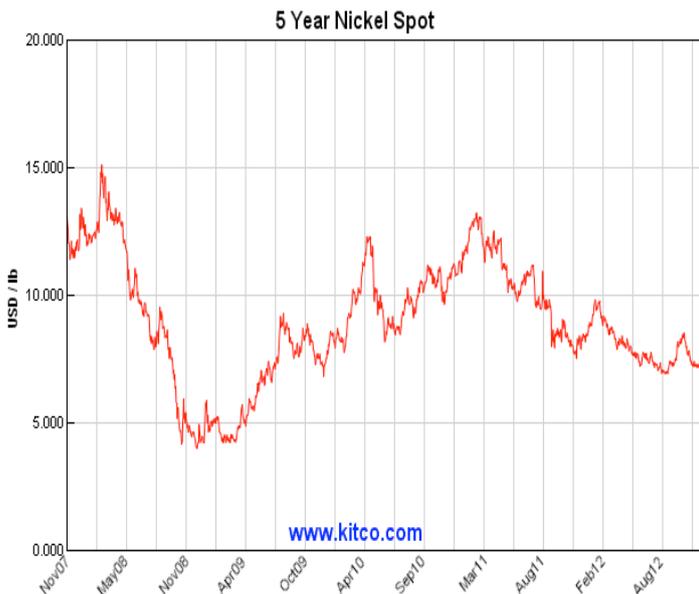
## London Metals Index



## Zinc prices



## Nickel prices



- Reefer and tank containers:** price of nickel with a 3-month lag is strongly correlated to the price of new equipment. Over the last three months, the price of Zinc and Nickel increased to an interim small spike and evolved back to same level as compared to the end of Aug-12. As expected, standard tank price decreased from 22,000 US\$ to around 21,000US\$. No significant changes expected by the end of Feb-13 as compared to current prices.
- Dry van containers:** Out of all macroeconomic variables available, the price of dry van containers is somehow correlated with steel prices (around 70%) and freight rates (around 60%). There are other exogenous factors influencing it, such as the oligopoly situation of the manufacturers, the number of shifts to produce, CNY, etc. Prices of dry van containers decreased from 2,600\$/20' three months ago to 2,200\$/20' currently, due to overall requirement for dry van equipment weakening again. Prices are back to what they should really be, based on real costs.

Sources: *kitco metals, Bloomberg, Containerization International*



# Glossary

By alphabetical order

**Asset value terms:** New-for-old replacement value; financial asset teu value multiplied by new-build 20' dv annualized at the survey date. Otherwise said, weighted average of asset value.

**BRIC:** Brazil, Russia, India and China

**CIVETS:** Colombia, Indonesia, Vietnam, Egypt, turkey and South Africa.

**Confidence Interval:** A confidence interval (CI) is an interval estimate of a population parameter. Instead of estimating the parameter by a single value, a whole interval of likely estimates is given. How likely the estimates are is determined by the confidence coefficient. The more likely it is for the interval to contain the parameter, the wider the interval will be. Confidence intervals are used to indicate the reliability of an estimate. For example, a CI can be used to describe how reliable survey results are. All other things being equal, a survey result with a small CI is more reliable than a result with a large CI.

**Correlation:** correlation, also called correlation coefficient, indicates the strength and direction of a linear relationship between two random variables.

**Correlation rate:** The absolute value of the correlation rate (CR) tells you how closely two variables evolve together. If the rate is negative, it means that, when the first variable increases, the second decreases. If the rate is positive, it means when the first variable increases the second increases as well. If the rate is nil, it means that the evolutions of two variables are completely unrelated.

**Dashboard:** is a business management tool used to visually ascertain the status (or "health") of an economic variable via key business indicators. Dashboards use visual, at-a-glance displays of data pulled to provide warnings, action notices, next steps, and summaries of business conditions. The variable described usually fall in the green band when load factors are above 85%; yellow band when 75% < load factors < 85%; red band when load factors are below 75%.

**Demand and Supply:** supply and demand describe market relations between prospective sellers and buyers of a good. The supply and demand model determines price and quantity sold in the market.

**"F":** Forecast

**Forecast Confidence Index:** Measured on a scale out of 5, it indicates the certainty of the forecast. 5/5 = pretty certain or correlation rate close to 100%; 4/5 = correlation rate close to 80%; 3/5 = correlation rate close to 60%; 2/5 and 1/5 are irrelevant.

**Harpex Index:** Harpex is the container ship index of the ship brokers Harper Petersen & Co. For eight classes of all container ships, rate changes in the time charter market are recorded weekly in both nominal and indexed terms. On the basis of the weighted individual indices, an additional overall index is calculated for the whole of the container ship market. It should be noted that Harpex Index is over 99% correlated with Howe Robinson Index.

**Libor:** The London Interbank Offered Rate is a daily reference rate based on the interest rates at which banks offer to lend unsecured funds to other banks in the London wholesale money market (or interbank market). LIBOR will be slightly higher than the London Interbank Bid Rate (LIBID), the rate at which banks are prepared to accept deposits

**“OS”** : OverSupply = Supply growing quicker than Demand. In our industry, it means global vessel capacity growing quicker than cargo trade.

**Polynomial average:** Let's start with a first degree polynomial equation:  $y = a*x+b$ ; This is a line with slope  $a$  and an intercept  $b$ . We know that a line will connect any two points. So, a first degree polynomial equation is an exact fit through any two points. If we increase the order of the equation to a second degree polynomial, we get:  $y = a*x^2+b*x+c$ ; Similarly, a linear trend has two dimensions, whereas a polynomial trend has more than two dimensions.

**Prime rate:** Prime rate is a term applied in many countries to a reference interest rate used by banks. The term originally indicated the rate at which banks lent to their most favoured customers, though this is no longer always the case. Some variable interest rates may be expressed as a percentage above or below prime rate.

**Real exports:** A broad summary measure of the prices of one country's goods and services relative to the prices of goods and services in that country's trading partners. It is typically calculated as a weighted average of the ratios of a country's domestic price index to the price indices of its foreign trading partners, where the indices are expressed in the same currency units.

**Real GDP:** Real GDP is Gross Domestic Product in constant dollars. In other words, real GDP is a nation's total output of goods and services, adjusted for price changes. Real GDP can be compared to nominal GDP, which is GDP in current dollars, i.e., the nation's output in actual dollars in a given year. By eliminating the effect of price changes, real GDP allows economists to make useful comparisons of a nation's output and services. Note that real GDP is also known as constant-price GDP and inflation-corrected GDP.

**Regression:** regression analysis examines the relation of a dependent variable to specified independent variables. The model of their relationship is the regression equation. The dependent variable is modeled as a random variable because of uncertainty as to its value, given only the value of each independent variable. A regression equation contains estimates of one or more hypothesized regression parameters ("constants"). These estimates are constructed using data for the variables. The estimates measure the relationship between the dependent variable and each of the independent variables. They also allow estimating the value of the dependent variable for a given value of each respective independent variable.

**Rolling Period:** Rolling period shall mean a period consisting of a specified number of sub periods of definite length in which the most recent sub period is substituted for the earliest sub period as time passes.

**Share Price Index:** Share Price Index price is an index of share price of a weighted portfolio of 24 shipping lines that are publicly traded on Stock exchanges. It is published on a monthly basis by Clarksons. The index was at 100 at the end of 1998.

**Supply/Demand Index:** S/D index measures the evolution of Supply compared to Demand. Clarksons and Drewry publish it on a monthly or quarterly basis. As valid for all index, it is only the trend it indicates that counts and not the value. If the index increases, it usually means that growth in Demand exceeds growth in Supply. If the index decreases, it indicates that growth in Supply exceeds growth in Demand.<sup>30</sup>

**Swap rate:** Swap rates are the borrowing rates between financial institutions, usually with credit ratings of A/AA equivalent. Swap rates are calculated using the fixed rate leg of interest rate swaps. Swap rates form the basis of the swap curve (also known as the par curve or LIBOR curve. In most emerging markets with underdeveloped government bond markets, the swap curve is more complete than the treasury yield curve, and is thus used as the benchmark curve.

**US Dollar index:** The US Dollar Index (USDX) is a measure of the value of the US\$ relative to a basket of foreign currencies. It is a geometric weighted average of the dollar's value compared to the Euro (EUR), Japanese Yen (JPY), British Pound (GBP), Canadian Dollar (CAD), Swedish Krona (SEK) and Swiss Franc (CHF).

**YoY:** Year on Year