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### *QUICK VOYAGE ESTIMATION ON A SPOT VESSEL*

Despite all above, in today’s daily practice AND ESPECIALLY WHEN A VESSEL IS SPOT, we encounter the problem of comparing two or more proposed orders, different in quantity, stowage factor, loading/discharging rates, port call expenses...

For example, our vessel, a 12,650 toner is open in the Black sea and we are proposed the following two orders both on vessel’s dates.

First order is for about 12,000 mtons bulk wheat, stowing about 46’, Constanza/Rotterdam, 2000 tons load rate and 4000 tons discharging rate, with Charterers’ ideas of freight Usd 20/mton fiot.

The second order is: 6-7,000 mtons sunflower seeds in bulk stowing 90’, Odessa/London with 1500 tons load rate and 1800 tons discharging rate, with Charterers’ freight ideas Usd 38/mton fiot.

The question is: which one, we as Shipowners, to choose and immediately concentrate on, since (*as completely different*) they cannot be directly compared. The comparison can only be obtained after having calculated both orders in order to find what is their respective Time Charter Equivalent (*TCE)*, and then compare these two (*comparable*) figures. It is very important, one to be ready for a quick Voyage Estimation to verify whether the proposed orders are within the scope of interest and which one is preferable.

The following is a simplified example for an easy calculation:

### VOYAGE ESTIMATION TO DEFINE THE T/C EQUIVALENT

M/V “BLUE MOON” 12.650 TDW at 8,50 draft, Greek flag, Single/double skin - 3/3 HO/HA Gearless 15000 CBM capacity – Average speed 12.3 knots on daily consumption of 13 tons F.O.+1 ton M.G.O., port consumption 1 Ton M.G.O.

The above ship is open SPOT in Casablanca, and we are proposed the following cargo order:

* 12,000 mtons minimum/maximum bulk phosphate.
* Casablanca/Kavala - No draft restrictions -1 safe berth both ends.
* Lay/Can: Vessel’s dates.
* 4000 ts load shinc. / 3000 ts disch satshex-Friday 17:00 / Monday 08:00 not to count eiu. - N.O.R. To be tendered during office hours only.
* Laytime to commence 14:00 if morning NOR – 0800 next working day if NOR afternoon.
* Charterers’ Freight idea USD 18,00 /mtn fiot. - Commission 5% total.

**Required Results**:

the TIME CHARTER EQUIVALENT for the above employment considering also that:

* + Vessel is already in Casablanca- so no ballast. Distance to Kavalla 1,868 miles
	+ D/As: load port USD 17,500. - /disch port USD 14,500.-
	+ Average Bunker prices: Fuel: USD 450/tn / M.G.O. :USD 750/tn
	+ Bunkers on board on commencement of voyage: 160 mts F.O. and 40 mts M.G.O., sufficient to reach the port of discharging.

### Voyage Estimation Example

**T I M E**

* Steaming 1868 miles/12.3 knots (a) 6.3 days
* Steaming time margin about 10 % (b) 0.7 days
* Total steaming at sea (a)+(b) 7 days
* Loadport time: 12000/4000 = (c) 3 days
* Dischport time: 12000/3000 = (d) 4 days
* Margin time in Ports: = (e) 6 days
* **Total Port Days (c)+(d)+(e) =13 days**
* **Duration of the voyage (a)+(b)+(c)+(d)+(e) = 20 days**

**E X P E N S E S**

 Bunkers consumed:

* At sea: Fuel 7 days by 13 tons

 By US $ 450/ton (1) …………… = 40,950.-

* At sea and in ports: (MGO)

 20 days by 1 ton by $750/t (2) ……………… = 15,000. -

 Port Call Expenses

* D/A Load-port (3)……………….. = 17,500. -
* D/A Disch-port (4)……………… = 14,500. -

 Other expenses

* Unexpected (5)………………… = 3,000. –
* **Total Voyage expenses (1)+(2)+(3)+(4)+(5) = US $ 90,950.-**

**I N C O M E**

* Freight 12,000t by $ 18/t

 Less 5% commission = Gross voyage income US $ 205,200.-

* **Net Voyage income** US $205,200 - $90,950.- US $ 114,250.-

* Net income of US $ 114,250 divided by voyage duration of 20 days =

**TIME CHARTER EQUIVALENT US $ 5,712.50/per day**

**Remarks**

1.Margin on steaming time is subject to many factors, such as duration, area of voyage, season (*winter-summer*), prevailing winds/currents etc. (*for professional “METOCEAN” forecasts and information visit www.tidetech.org*)

2.Margin in ports depends on Charter party Laytime clauses, and the prevailing weather conditions, namely:

* when can Notice of Readiness be tendered after vessel is “arrived”?
* when time commences counting after a legal N.O.R. is tendered?
* what periods, beyond weather, are excluded (*SHINC … SATSHEX...)*
* weather conditions (*dry, rain, snow, storms...)*

3.Beyond “unexpected”, other expenses can be canal transiting fees (*Suez, Panama...)*, extra port call for bunkers supply, extra holds cleaning...

**Reverse calculation**

Sometimes Charterers are not disclosing their freight ideas by insisting on “Best offers are invited”. In this case the above calculation is modified accordingly, that is: given the Time Charter Rate (target) of the Owner we try to calculate what freight per ton is required, in order to represent the Owners’ target time charter rate.

This means that the hires of the 20 days voyage duration are ADDED to the EXPENSES. So, we have, on the above calculation, Total voyage expenses US $ 90,950. - to which we add the hires US $ 5,712.50 /day by 20 days US $ 114,250. - and we have a grand total of $ 205,200. - which represents the net freight for 12,000 tons or $17.10/ton or if we add the 5% commission of $ 0,90, it comes to $18.- which is the payable freight.

If the Owner’ target daily hire rate is higher or lower, then the freight of $18.-/ton will increase or decrease respectively.