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FREIGHT RATES, THE MARITIME CYCLE AND TRANSPORT CAPACITY IN LATE 2006

The previous edition of the FAL bulletin presented the price indices of maritime transport in three main market segments.

This edition includes an analysis of the maritime cycle and trends in the transport capacity of the routes that in turn serve the routes of Latin America and the Caribbean. Patterns in prices and capacity bear some relation to maritime cycle theory.

This bulletin is based on the studies of Ricardo J. Sánchez and Maricel Ulloa, of the ECLAC Natural Resources and Infrastructure Division. For further information, please contact Ricardo J. Sánchez at Ricardo.SANCHEZ@cepal.org

As editor of the FAL bulletin, I hereby inform readers of my decision to take early retirement. I would like to take this opportunity to bid readers farewell and thank them for their attention. I am also grateful to ECLAC for enabling me to serve this position for almost 20 years. Sidney Rezende.

1. THE MARITIME CYCLE

Figure 1 shows recent developments in the most well-known variables of the maritime cycle in terms of the world market in container transport. The figure includes a line for container freight rates (maritime transport prices), which drive naval construction decisions. This is how supply reacts to price incentives: the transport capacity “ordered” in a given period represents the ship construction

orders driven by drops or increases in prices. As a result, the sign (positive or negative) of prices and construction orders is the same, as shown in figure 1.

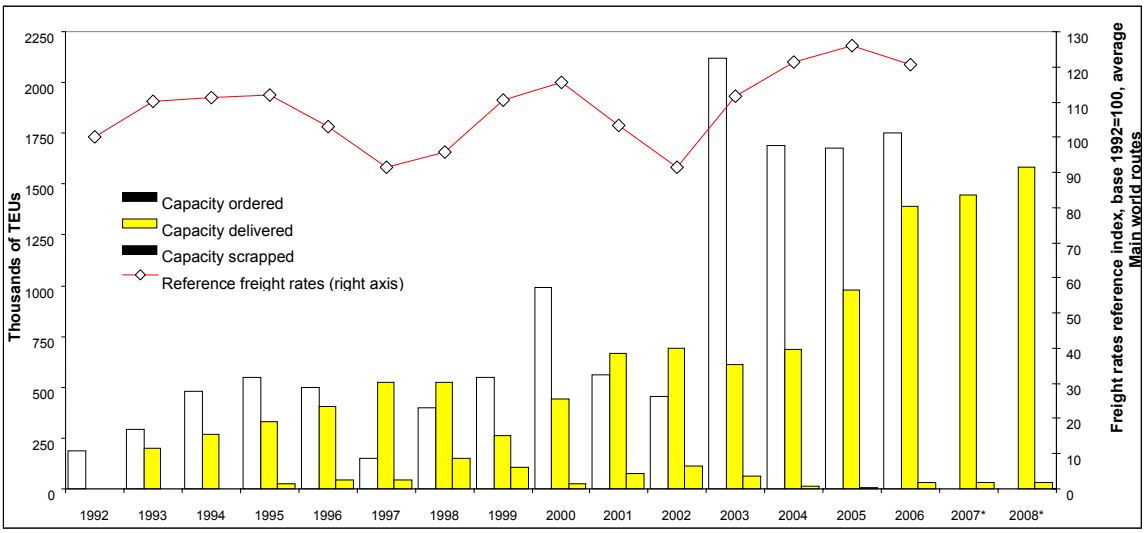
For further information on patterns in freight rates, see FAL bulletin 246, February 2007.

The number of ships that are demolished or scrapped (and the corresponding transport capacity) has the opposite sign to the above-mentioned variables. There are fewer incentives to scrap part of the fleet, i.e. to reduce transport capacity, when the prices of transport services are rising.

The final variable presented in figure 1 is delivered capacity. This represents the transport capacity that is added to the world fleet every year as construction orders (capacity ordered) are carried out in shipyards and delivered to shipping companies.

Figure 1

MARITIME CYCLE VARIABLES (1992-2008)



Source: Ricardo J Sánchez and Maricel Ulloa, on the basis of data from Clarkson, Container Intelligence Monthly and CI-online (information service portal for the container industry (www.ci-online.co.uk)).

Note: * Estimated data. The line of reference for freight rates is a Laspeyres-type price index constructed on the basis of average all-in prices for 20-foot container transport (charges include all loading/landing/break-bulk operations and traction to the storage terminal) on the three main maritime trade routes, known as Transatlantic, Transpacific and Asia-Europe.

It should be noted that each year the delivered capacity is behind the capacity ordered. As can be intuitively expected, construction orders take time to fulfill, and an increase in delivered capacity therefore corresponds to ordered capacity from one or two years previously (depending on the period) and vice versa. This is a significant characteristic of the maritime cycle.

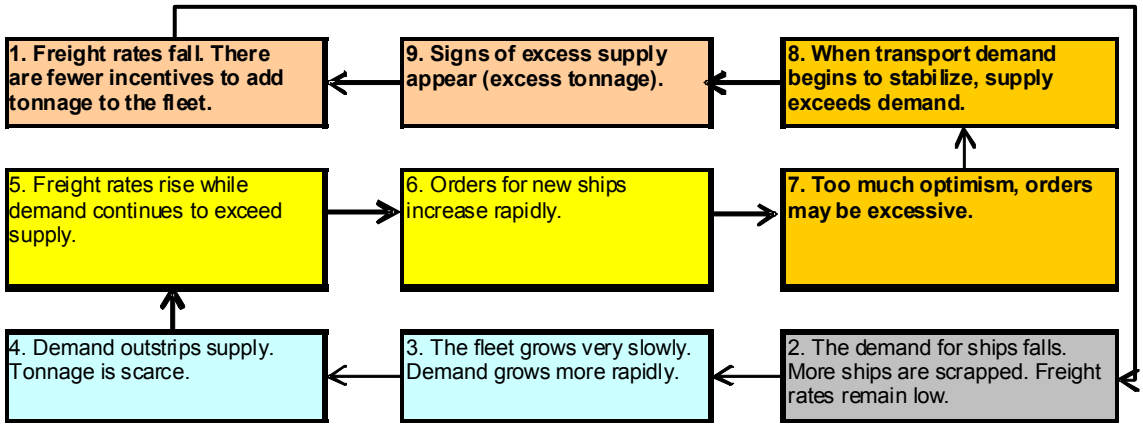
The maritime cycle consists of a certain time sequence of balances and imbalances in supply and demand for services from the maritime markets.

Economic theory defines this as a cobweb cycle, in which price and output behave cyclically: in a given period, prices are above the equilibrium level, which means that supply in the following period will be higher than the equilibrium level. Once supply is above the equilibrium level, prices will be below that equilibrium level, and so on.

The maritime cycle is a combination of price incentives and the typical inelasticity of supply within this market. The cycle operates due to the lack of synchronization of ship production (changes in supply), in a context of very dynamic and exogenous demand (that responds to changes in production and trade). When prices (freight rates) are low, there is less construction in the maritime sector and increasing numbers of ships are scrapped. As demand increases and more transport services are needed, the supply (in terms of the number of ships and/or availability of effective transport capacity) cannot be adjusted rapidly, freight rates rise and construction begins again, which subsequently produces excess supply and a lowering of freight rates. Figure 2 provides a simplified diagrammatic representation of the maritime cycle:

Figure 2

THE MARITIME CYCLE SIMPLIFIED



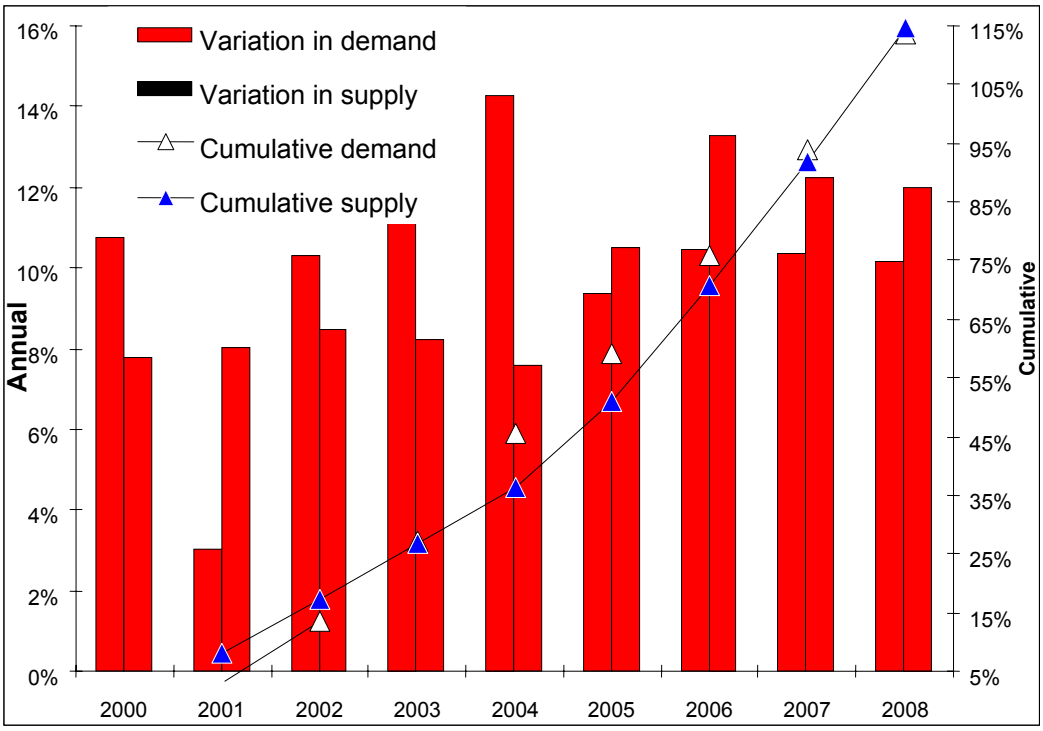
Source: FAL bulletin 228.

Figure 3 shows the maritime cycle in action within the container market segment. This figure shows that, according to the maritime cycle, between 2000 and 2008 (data for 2007 and 2008 are projections) demand patterns (exogenously determined) meant that supply temporarily fell behind demand, which pushed prices up during those periods when demand was higher. In almost all years up to 2005, year-on-year variation in demand was higher than variations in supply. As shown in figure 1, this caused a massive surge in orders from 2003, with a certain delay in effectively incorporating ships into the supply of maritime transport services. An accumulation of increases in transport demand and supply results in cumulative demand in excess of equivalent supply for every year between 2003 and 2008. This generates demand pressure, which is associated with the effect described in the maritime cycle. Between 2002 and

2006, demand for container transport grew at an annual average rate of 11.3%. During the same period, supply grew by 9.6% per year.

Figure 3

SUPPLY AND DEMAND IN CONTAINER TRANSPORT (2000-2008)



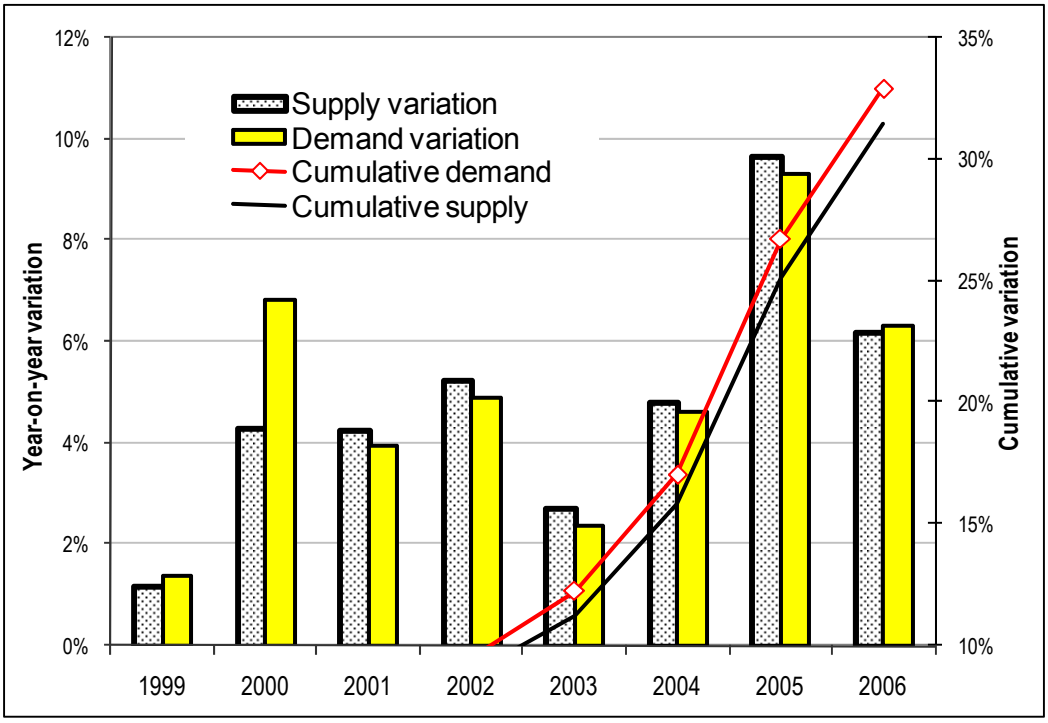
Source: Prepared by the author.

Note: Cumulative variations in supply and demand based on the year 2000.

Figure 4 shows changes in the supply and demand of dry-bulk maritime transport. For price patterns of dry-bulk transport, see FAL bulletin 246, February 2007.

Figure 4

SUPPLY AND DEMAND FOR DRY-BULK TRANSPORT (1999-2006)



Source: Prepared by the author.

Note: Cumulative variations in supply and demand based on the year 2000.

The case above also shows pressure on demand that exceeds increases in supply: between 2002 and 2006, demand for dry-bulk transport grew at an average annual rate of 5.7%, while supply rose by 5.4% per year.

2. VARIATIONS IN THE SUPPLY OF MARITIME TRANSPORT CAPACITY

In the container sector, distortions in transport supply in relation to demand have varying consequences that differ according to region, and these are reflected in the effective supply of capacity in those regions. At times of great distortion and the largest price hikes, there was a reduction in the supply of transport available to certain regions of Latin America.

The following tables present trends in transport supply, as measured by the total capacity in twenty foot equivalent units (TEUs) offered by area and route for the three main international routes and those for Latin America and the Caribbean.[*] The 100 base for the index is the supply capacity in September 2002. It is interesting to note the change in 2004, when the effects of the crisis in freight rates were more keenly felt.

Table 1

TRENDS IN TRANSPORT CAPACITY OFFERED, SELECTED MAIN ROUTES (2002-2006)

Routes - Area	Capacity in TEUs				
Main world routes	**2002**	**2003**	**2004**	**2005**	**2006**
East Asia - Asia north-east coast	99.98	137.04	135.93	143.07	403.30
East Asia - Asia south-east coast	96.78	120.34	106.11	117.08	394.30
Europe - Mediterranean	102.76	103.06	101.41	97.83	153.10
Mediterranean - North America east coast	104.81	121.04	112.86	110.45	151.38
Far East - North America west coast	100.41	96.97	107.54	111.26	115.35
Europe - Middle East	95.08	110.47	139.70	161.35	113.36
Europe - Far East	100.00	99.09	115.93	129.43	110.77
Far East - North America east coast	97.82	100.66	112.75	117.02	107.89
Far East - Mediterranean	104.44	113.10	123.07	135.70	106.79
Europe - North America east coast	104.30	89.65	94.03	104.75	106.41
Far East - India	101.49	100.15	107.46	100.06	69.66

Source: Prepared by the authors.
Note: End-of-year values throughout.

The main positive variation in allocated transport capacity corresponds to the connection between East Asia and the north-east and south-east coasts of Asia (which is linked to the growing participation of these markets in the world economy), followed by the Mediterranean and its connection with the east coast of North America. Other regions also showed a positive variation (albeit a more modest one), while there was a decline in transport capacity between the Far East and India.

Table 2

TRENDS IN TRANSPORT CAPACITY OFFERED, SELECTED ROUTES IN CENTRAL AMERICA AND THE CARIBBEAN (2002-2006)

Routes - Area	Capacity in TEUs				
Central America and the Caribbean	**2002**	**2003**	**2004**	**2005**	**2006**
Caribbean/Central America - North America west coast	102.70	84.57	77.29	101.38	246.34
Central America - Mediterranean	102.41	116.97	114.99	105.49	245.63
Caribbean/Central America - North America (Gulf)	111.19	117.52	124.80	142.96	207.88