

## The economic crisis and the maritime and port sector

This bulletin, prepared by Ricardo J. Sanchez and Gabriel Pérez Salas of the Natural Resources and Infrastructural Division, examines the impact of the economic crisis on the maritime and port sector. For more information, please contact [trans@cepal.org](mailto:trans@cepal.org)

Today, fifteen months since the beginning of the current economic crisis, is a good time to analyze its impacts and provide some thoughts regarding the maritime and port sector. According to the United Nations Economic Commission for Latin America and the Caribbean (ECLAC), the world is facing the worst crisis since the 1930s, which has been characterized by huge losses of both financial and non-financial wealth, most notably in developed countries, but in emerging economies as well. Despite measures taken by monetary authorities to inject liquidity, restore confidence and spur aggregate demand, this unfavourable climate has given rise to lower investment and consumption levels resulting in a slump in labour markets which has had social impacts.

Governments have implemented a broad range of measures according to their individual abilities. Many Latin American countries have viewed infrastructure investment as a useful tool for providing liquidity and reactivating demand. However, these efforts focus mainly on rebuilding existing roads and not on new infrastructure projects which would support future growth and rebalance the current (and unsustainable) modal split.

The volume of trade in Latin America and the Caribbean is expected to drop by 13% in 2009, exceeding the 10% decline in world trade forecast for this year. This figure confirms that the sector most affected by the global economic crisis in the region is trade, which is suffering an unprecedented contraction. Consequently, maritime transport and port activity in our region will be severely affected as well.

The volume of exports from the region will decrease by 11%, the worst figure in 72 years (since 1937 in fact), while imports will drop by 14%, the steepest drop in 27 years (since 1982). This trade slump has been caused by a strong contraction in world demand, lower prices for some basic commodities, difficulties in obtaining financing for trade and the pro-cyclical performance of intra-regional trade flows, particularly in South America. Commodity-export countries, particularly exporters of oil and minerals, have been the most heavily affected by the deterioration in the terms of trade. Mineral and oil exports from the region fell by 50.7% during the first semester of 2009, while the export of manufactured and agricultural products dropped by 23.9% and 17%, respectively. The steepest drops were found in exports to the European Union (-36.3% in total) and to the United States (-35.3%). Exports to other countries in the region also dropped sharply in the first semester of this year, with a 33% decrease in the value of exports compared with the same period last year. These figures confirm the traditionally pro-cyclical nature of intra-Latin American exports.

GDP for Latin America and the Caribbean will contract by 1.9% this year, raising unemployment to 9% and worsening poverty levels. With the normalization of financial markets, improved outlooks and the ongoing recovery of some economies, ECLAC suggests that economic recovery in the region may begin gradually during the current semester. The region could see positive growth rates again in 2010, but with an estimated average rate of only 3.1%, a very moderate rate compared to previous years, and insufficient to reverse the levels of unemployment and growth of the informal labour market expected for this year. According to Mrs. Alicia Bárcena, "policies to reactivate trade are urgently needed, since the post-crisis future will continue to reward economies that have a greater focus on exports, competitiveness and technological innovation".

However, this general overview must be accompanied by a specific analysis of the maritime sector. In recent months, transport has been severely affected by the repercussions of the international financial crisis, which hit the sector during a phase of expansion, characterized by heavy investment in equipment, supra- and infrastructure in response to the continued expansion of demand in recent years. Currently, signs of over-tonnage have appeared, certain infrastructure projects are being revised or suspended and freight rates have declined sharply, especially during the last quarter of 2008 and the first half of 2009. Overall, the proportion of laid-up fleet is increasing and the immediate future is uncertain.

Several specific aspects of maritime markets, such as a lack of understanding of the shipping cycle and its consequences for supply/demand ratios and freight rates, have had world-wide impacts.

## Disregard for the maritime cycle in business plans

Despite empirical evidence of the well-known maritime cycle has existed since 1869, some companies have continued to disregard this issue, ordering more capacity than is reasonable and ignoring the market signals that began in late 2007.

The maritime or shipping cycle consists of a sequence of balances and imbalances in supply and demand for services in the shipping market. Prices and output behave cyclically, so that if prices exceed the equilibrium level in any given period, supply in the following period will exceed the equilibrium level as well. Once supply exceeds the equilibrium level, prices will fall to below the equilibrium level, and so on, illustrating the typical inelasticity of supply within this market. The cycle functions in this way due to the lack of synchronization of ship production (changes in supply) in a context of extremely dynamic exogenous demand. When freight rates are low there is less shipbuilding and increasing numbers of ships are scrapped. As demand increases and more transport services are needed, supply (in terms of effective transport capacity) cannot be adjusted rapidly, freight rates rise and shipbuilding begins again, which subsequently produces excessive supply and a decrease in freight rates. A number of studies have historically recognised this shipping cycle.<sup>1</sup>

Since waterborne transport is a multi-product industry, each segment of the industry must be analysed separately.<sup>2</sup> Both dry-bulk and container markets will be now be briefly reviewed.

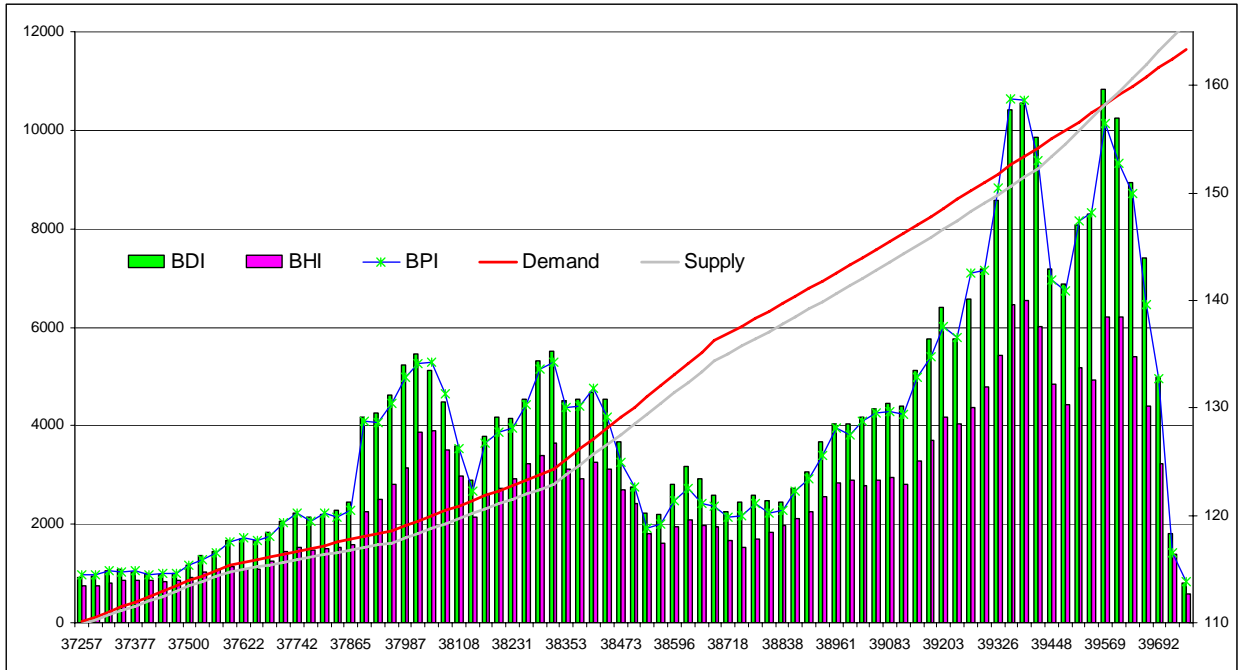
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<sup>1</sup> See Stopford, 1997; Clarkson, 2004; Sánchez, 2004; Hoffmann, 2005; Boon & Sánchez, 2005; Scarci, 2007, among others.

<sup>2</sup> Ideally, each transport route within each segment should be analysed individually.

In the case of the dry-bulk market (Figure 1), the red curve represents the accumulated variation in demand for dry-bulk transport, while the grey curve displays the equivalent variation in supply. As shown, accumulated demand outstripped supply (capacity) beginning in 2002 —converging in 2008—, putting upward pressure on freight rates. The red-over-grey line represents that pressure, with associated price behaviour (BDI, BHI and BPI are relevant for commodities). Clearly, together with the effects of the current crisis, the effects of supply and demand are reinforced by falling demand.

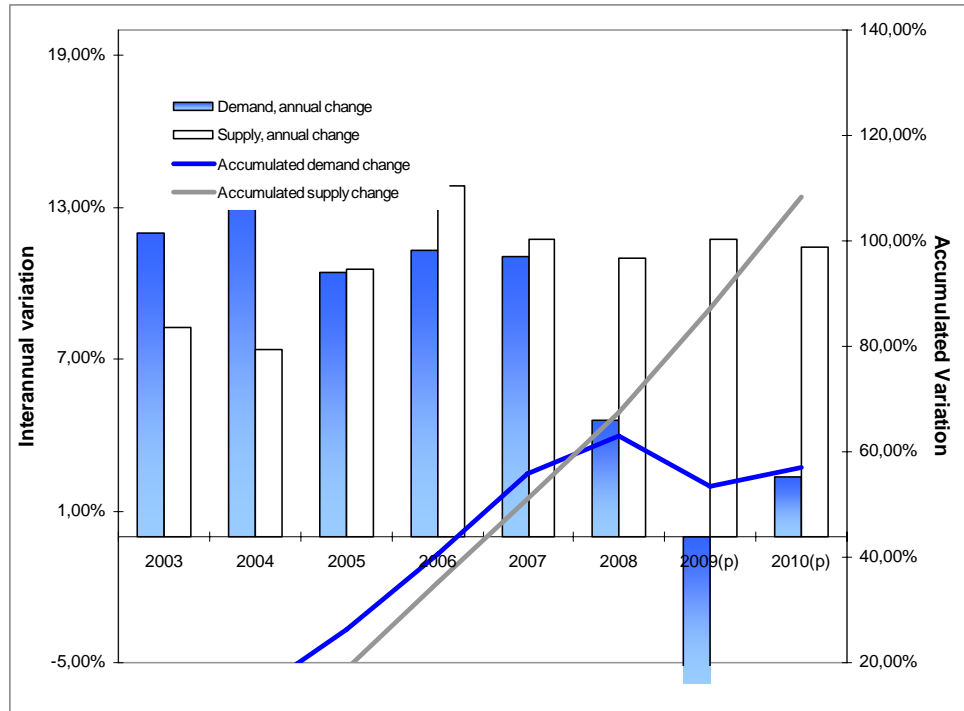
**Figure 1: Supply and demand: pressure on freight rates**



Source: Ricardo J. Sánchez, UNECLAC.

Figure 2 illustrates the container market situation, where accumulated demand outstripped supply. This pressure influenced prices, causing the well-known upward trend in freight rates. According to the ECLAC Container Freight Rates Index for Latin America (base 2<sup>nd</sup> Quarter 2002=100), a maximum of 164 was reached during the second quarter of 2008.

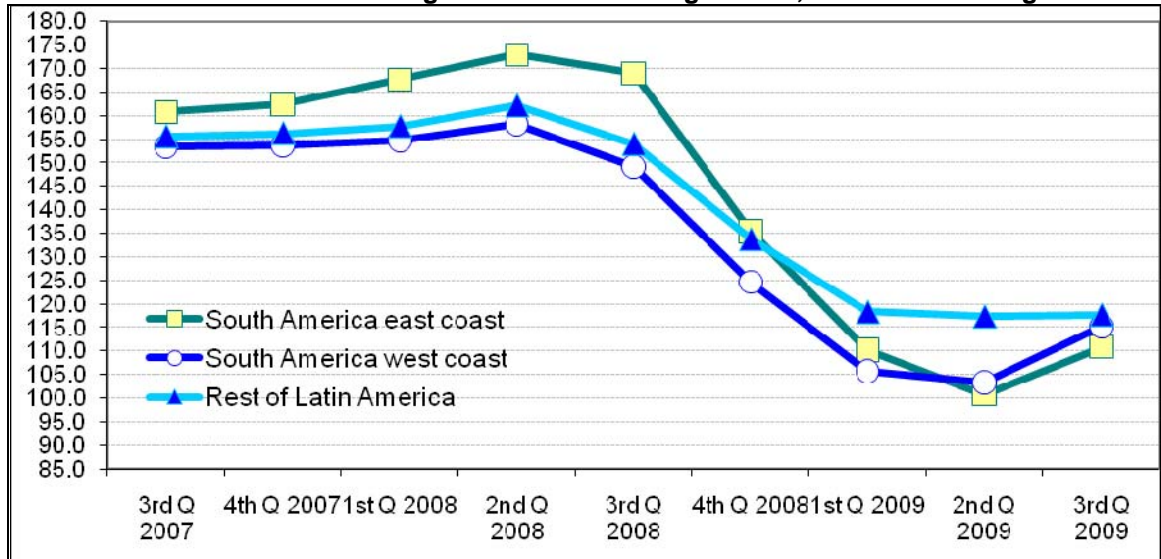
Figure 2 Container market: variation of supply and demand



Source: Ricardo J Sanchez and Maricel Ulloa, UNECLAC

Figure 3 illustrates price behaviour prior to and during the crisis; as shown, freight rates have fallen sharply.<sup>3</sup> Nevertheless, a change of trend may be observed beginning in the second half of 2009.

Figure 3 Container freight rates, before and during the crisis



<sup>3</sup> ECLAC index were 157, 131, 111 and 107, for next quarters.

The current crisis illustrates the traditional behaviour of maritime markets regarding fleet planning. Despite the existence of the shipping cycle and the obvious need to run a profitable business in a challenging market, ship-owners have tended to make mistakes that could lead to important distortions. Scarsi (2007) separates these mistakes into two types: an erroneous analysis of market needs (capacity and trends) and mistakes related to company structure itself.

The first source of mistakes associated with erroneous fleet deployment can be traced to flawed decision-making processes or attitudes, excessive optimism or pessimism, decisions made on the basis of intuition, or, for historical reasons, sentimental feelings or “herding” behaviour. All of these factors can lead to an overestimation of the growth in demand or cause scarcity of services, despite historical evidence of the shipping cycle. It is clear that in both cases the financial consequences are reflected in freight rates. The second source of mistakes can be found in company structure and managerial culture and is more a function of how decisions are made than whether or not they are correct. While experience is critical when designing appropriate investment plans, a cultural framework is also important. A clear understanding of the market, based on a scientific approach that allows dispersed information to be searched, sorted and analysed, is key and builds knowledge for the company.

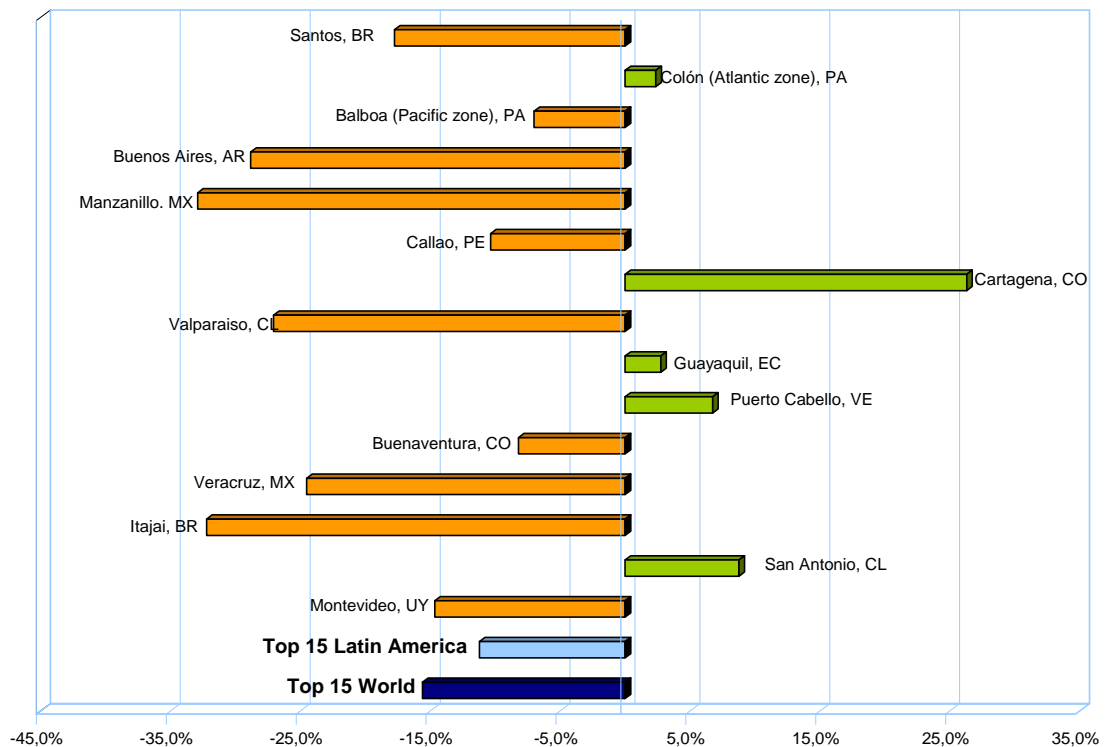
The consequences of both types of mistakes are reflected in deployed fleets and the sustainability of expansion plans. Decisions regarding the appropriate time to increase or decrease fleets should be made based on freight rates and ship prices, and must take into account the lag time between ordering and taking delivery of new ships (as indicated by the maritime cycle). A mistaken analysis of the maritime cycle or demand forecasts could lead to unfavourable freight rates for shipping companies, threatening their future survival and affecting overall market competitiveness. The same circumstances are at play when selling a ship on the second-hand market. When freight rates reach record highs and a collapse is imminent (according to the shipping cycle), selling could entail significant capital gains that could then be used to increase fleet size when ship prices fall.

## Port throughputs

Since the beginning of globalization, port activity has been on the rise and year-on-year performance growth has been recorded. This was true until 2008, when the throughput in some ports, including the traditional world-class ports of Hamburg, Los Angeles/Long Beach and New York, registered substantial slowdowns compared with the previous year. Latin American and the Caribbean was no exception: according to the 2008 ECLAC ports ranking, major regional ports —mainly dedicated to the transshipment of containers— suffered declining growth rates because of overall reductions in activity but also by “losing” market share to other ports with better facilities or services.

The first half of 2009 shows a widespread slowdown in port activity. All 13 of the world’s top ports saw decreased performance in terms of TEU movements, with the exception of Qingdao and Tianjin (with moderate growth of 2%). As a group, Alphaliner estimates a slowdown of 15.6%. Similarly, almost all major Latin American and Caribbean ports show declining figures. According to ECLAC, activity at **the region’s ports fell by 11.2%, less than worldwide figures**. It is interesting to observe that even during the crisis some Latin American and Caribbean ports were able to increase their activity, thereby turning the crisis into an opportunity (for instance, Cartagena, Colombia).

**Figure 4: Port throughputs in total TEU, first half 2009**



Source: Maritime Profile, UN ECLAC, using information submitted by ports or national institutions. For further details see: [www.cepal.org/perfil](http://www.cepal.org/perfil)

## **Concluding remarks**

The future of the maritime and port sector remains uncertain. Signs of over-tonnage, red ink at many shipping companies and delayed investment plans in some ports are not the best environment for decision-making. There remains a risk of repeating the traditional pro-cyclical behaviour of Latin American countries, with infrastructure projects being cut as a reaction to the crisis. There are, however, some slight signals which could indicate a reversal of the present downward trend, and we must to keep our ports updated for future recovery, especially considering the long lead time required for port-expansion plans. Otherwise, only some of them will be prepared when the recovery does come and a shortage of capacity will again have negative repercussions for the overall economy of the region.