

Are investment decisions supported by over-simplistic forecasts?

We promised in our article in the April issue to show the impact of the construction tsunami on trade in North Mediterranean countries (ie Southern EU Med) and in particular the danger of relying on forecasts produced by models that only use GDP as a driver; even if they are based on perfect forecasting of future GDP!*

It is a temptation to assume that if traffic volume in a particular category is sensitive to economic cycles, then it is fine to use a ‘GDP only’ model with heightened sensitivity to movement in GDP captured by, in the popular parlance, a higher multiplier with reference to GDP.

But this approach should be filed as a ‘fairytale’ methodology. If all the elements of GDP (production sectors and the different types of demand) were all expanding or all contracting, at the same rate, the fairytale methodology would not be challenged. But life is not like that. If they are varying at different rates, forecasts based on GDP only models can be very damaging to the maritime industry (vessel owners and ports) because they fail to

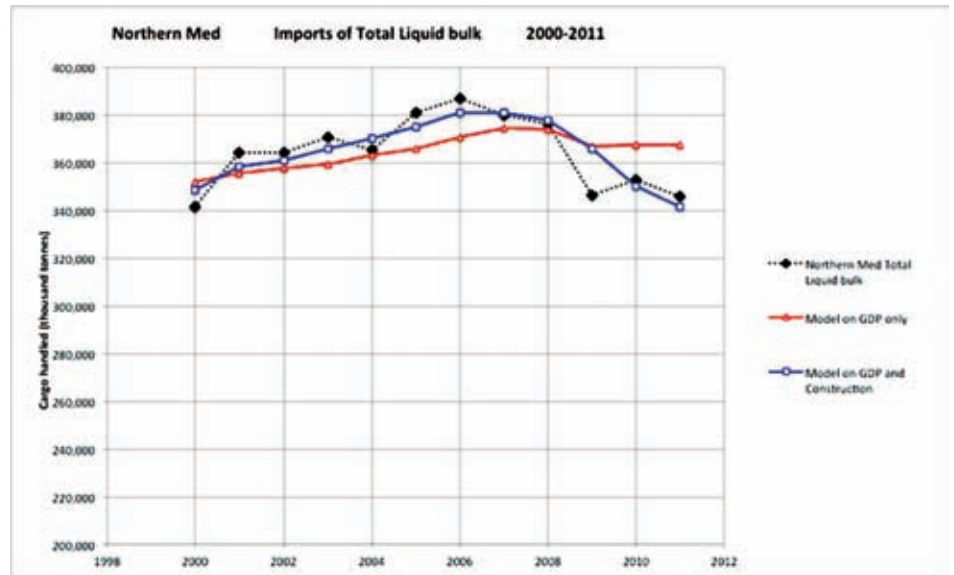


Figure 1: Northern Mediterranean Liquid Bulk Imports. Source: Maricasts.com

encapsulate the way that the various cargo types relate to each sector of the economy. These relationships actually differ dramatically between cargoes.

The damage to the accuracy of the forecasts generated from the usual model created by

looking at past data in this simplistic way can arise in two ways:

- 1) If, for example, expansion in some cargo driving sectors over a short period offsets contraction in other sectors that have far less impact on cargo volumes (lower multiplier), GDP can be unchanged or slow moving and yet in this situation cargo volumes may move rapidly (up or down).
- 2) Even if some account is taken of sectoral movements, every analysis in the industry we have reviewed to date assumes that the relationship of freight to sectors (and GDP) remains the same after an economy goes through periods of economic instability. Our work over decades shows this is not the case. Cycles of expansion followed by sharp slowdowns change the relationships and severe shocks, such as that recently experienced in southern Europe, can have a dramatic semi-permanent or permanent impact on such relationships.

Either effect or both in combination leave

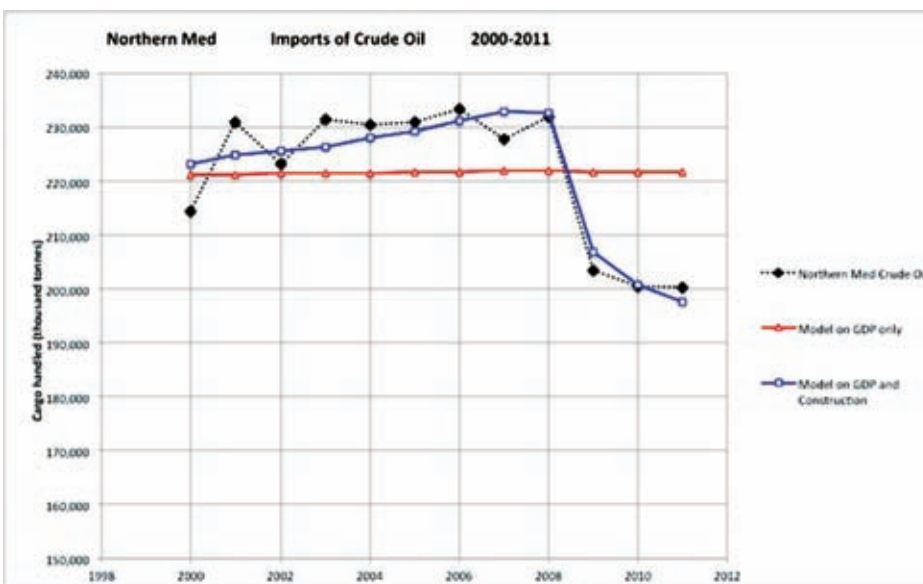


Figure 2: Northern Mediterranean Crude Imports. Source: Maricasts.com

M A R I T I M E S E C U R I T Y

Hellenic Maritime Security Specialists



People say
Shipping is in our Genes...

Genes that have made a small country stand out in the Global Shipping Market. It's those same Genes that define Aspida Maritime Security. Straight forward, adaptable, high quality, cost-efficient security services to your vessels transiting high risk areas globally, ensuring that your crews, vessels and cargo reach their destination safely.

Contact aspida now to find out how we can assist you with all your maritime security needs.

- **Onboard Security Teams • Consultancy & Intelligence**
- **Training • Countermeasures**



aspida

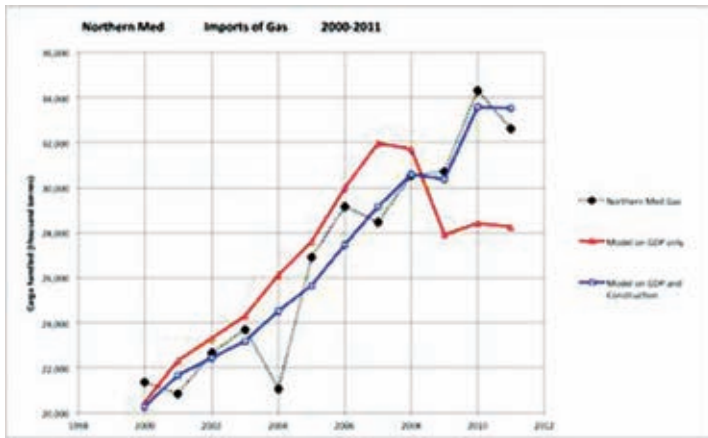


SAMI

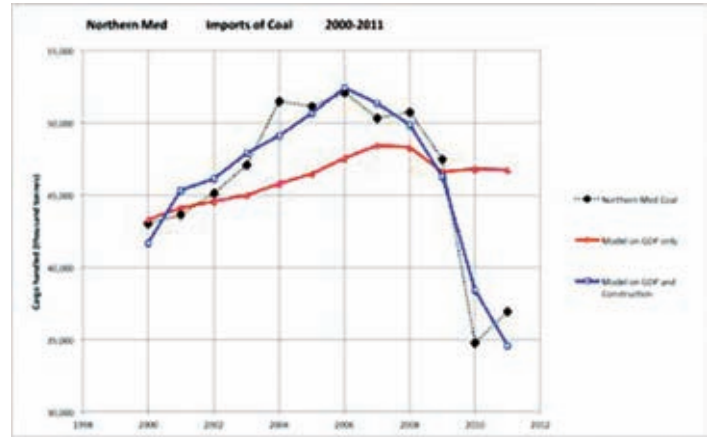
Security Association for
the Maritime Industry
www.maritime.org

ICoC

For more information contact us today: +30 210 727 9255, welcomed@aspida.org or visit www.aspida.org



Northern Mediterranean Gas Imports. Source: Maricasts.com



Northern Mediterranean Coal Imports. Source: Maricasts.com

analysts scrambling around for reasons to explain why their cherished multipliers have not ‘behaved themselves’.

Liquid bulk volume to the North Med has shown substantial up and down variation over the last 13 years since the formation of the Eurozone. Any model must be able to explain the underlying causes of this. We have estimated models for the 12 years of the period for which data for the Northern Mediterranean is available.

Even we were slightly taken aback by the power of this comparative experiment as we looked across sectors, countries and the totals for the regions. The GDP model in most cases fails to pick up the effects of the bubble in boosting volumes pre-crisis and in all cases fails abysmally to pick up the crash in volumes after the crisis. We then ran estimations of models using GDP and construction which, as we showed in the last article, formed the core of the tsunami like distortion to the make-up of GDP before the crash in this region. The new formulation picks up in a remarkably accurate way the

rapid descent of freight volume lost in the crisis.

Looking at the results for total liquid bulk for the region (Figure 1), the GDP only model does show that this aggregate category roughly tracks GDP with a multiplier higher than one. After the crisis hits, crude oil volumes drop dramatically and keep falling. The GDP only model has a slight fall and then a fanciful stability in liquid bulk, whilst our model, with the construction sector added, picks up the fall in volumes effortlessly: the scale of the difference is about 7%.

Focusing on crude oil, Figure 2 on page 6 dramatically shows the effect of sticking with a simple, rigid GDP model. The GDP only model predicts no cyclical rise pre-crisis and no change in crude volumes during and after the crisis. The model with construction included picks up the echoes of the boom and then explains almost perfectly the 11% fall in volumes. This is remarkable accuracy bearing in mind that only one sector is being used.

The effect for gas is even more dramatic; in the opposite direction. The simple GDP model

expects a fall following the crisis, but the model taking account of the effect of the huge change in the share of construction before and after after the crash, in effect permits, (by a negative on the construction coefficient) the postive effect on cargoes that gas using sectors such as manufacturing and agriculture, have on gas volumes as the construction crash indirectly allows these sectors to expand in relation to GDP. By contrast, industries directly related to construction using coal shrank and reduced demand for coal imports; which is also picked up accurately by our model, as shown by the chart above.

On the dry bulk side, the beneficial effects of not succumbing to the temptation to use simplistic models are also extraordinarily strong, with the GDP only model failing to expect/explain any of the 20% plus fall in freight traffic volumes.

The inadequacies of predictions made using the simple GDP method are significant for all parties. All too often comfort is taken in the fact that this has proved to be apparently accurate in the short term when economies have recovered quickly from short downturns in economic performance. But over any timescale, including a major fluctuation such as the 2008-09 financial crash, the outcome has been similar to what we describe in this article.

We believe that the industry should adopt a methodology to forecast cargo volumes in future that is based on more than the simple relationship with GDP. The evidence that this is inadequate is there for all to see and the techniques to produce more accurate forecasts have been developed. The consequences of consistently over-forecasting demand are all too well known.

TO

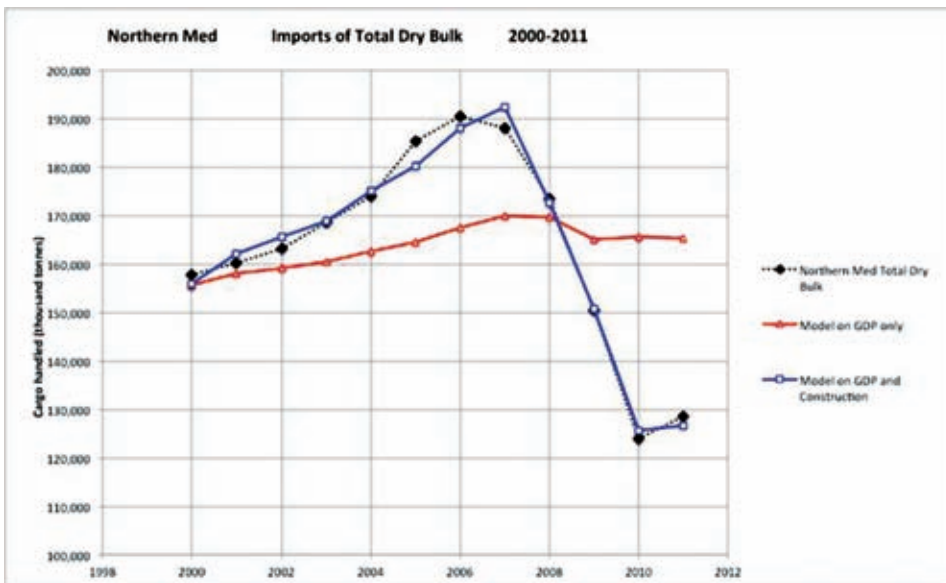


Figure 3: Northern Mediterranean Dry Bulk Imports. Source: Maricasts.com

**This article was written by Graham Cox, economist & Bill Eadie, econometrician Maritime Traffic Forecasts. www.maricasts.com*