

The Greek Tragedy Is A Textbook Debt Deflation

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“The Matterhorn Interview – September 2015: Michael Bernegger”

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Podcast interview: (32 mins)

Prior to yesterday's Fed anti-deflation policy stance Lars Schall talked with Swiss financial analyst Michael Bernegger in an exclusive interview for Matterhorn Asset Management, about his paper “The Greek Tragedy and its solution” that offers a **counter-consensus analysis** of Greece's economic crisis. Another topic in their discussion is the growing economic challenges for China.

The full transcript of the paper on Greece is printed below the video and with some very interesting detail about the huge maritime industry in Greece

Michael Bernegger's papers and columns are very regularly published in the German business press. He previously worked for the Swiss National Bank and Credit Suisse

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A Different Solution For The Greek Tragedy

by Michael Bernegger

Greek economic statistics are seriously distorted, for conceptual and political reasons. Greece is a country with a very large and highly competitive export industry. Its merchant fleet has been the world's largest since the 1970s. Its tourism sector enjoys a very strong position in Europe. An extremely deflationary foreign trade price shock is aggravated by a misguided policy of internal deflation, which leads to a debt-deflation spiral. The solution of the Greek crisis needs to be different from the traditional approach of the Troika.

Introduction

This article contains a counter-consensus analysis of Greece's economic crisis. This crisis appears to be following the script of an ancient Greek tragedy. The tragedy is leading deeper and deeper into a conflict which is irresolvable for the persons involved and which will end in a collapse or catastrophe. There is no way to avoid blame without denying their inner values and losing their public standing. The climax of the crisis was reached with the collapse of talks between institutions and the Greek government and the mother of all banking crisis after June 27th. This article was originally written in April and May 2015 and published in German in early June 2015. The article is left unchanged except for addendums to cover the events of June 27th / 28th and complete the analysis.

This article is the non-technical summary of a larger text. The main statements of the article are substantiated in detail in this background text. Several informative graphs and tables are attached in an annex out of which only a few will be shown illustratively for reasons of space. The article's essential arguments are briefly summarised as follows:

Brief Summary

The Troika's policy towards Greece is based on a fatal statistical error

Ostensibly, the crisis in Greece is about sovereign debt. It apparently resulted from an overly expansionary fiscal policy and a loss of price competitiveness since the launch of the euro. This competitive weakness is supposedly attributable to an excessive rise in labour costs with respect to anaemic macroeconomic productivity growth. Greece is allegedly uncompetitive internationally because the economy's internal structures do not allow for or support any internationally competitive industries. Bureaucracy, poor regulation, especially in the labour market, excessively high wages and costs are said to be structurally obstacles. Apparently, these are the causes of the periodic disruptions which, in ever shorter intervals, have pushed the country to the edge of bankruptcy since 2010. Hence, also, the strict austerity and deflation program which the Troika has imposed on the country since 2010.

The core problem is actually completely different: Greece is a country with a very large and highly competitive export industry. Its merchant fleet has been the world's largest since the 1970s. Greek merchant shipping made huge efficiency gains since the turn of the century. Its tourism sector enjoys a very strong position in Europe. In the 2000s, it successfully evolved from mass to quality tourism, with very competitive prices in the upper and particularly in the top price segments. The country experienced an export boom from 1999 to 2008. No other western European country except for Norway achieved even remotely comparable export growth. Due to conceptual errors in the calculation of the balance of payments and gross domestic product, this export boom was recorded as a growing current account deficit and sluggish GDP growth. Actually, up till 2008, Greece achieved high and steeply increasing current account surpluses, more than Germany did. This export boom was mainly driven by merchant shipping, the country's dominant economic sector since the 1960s.

Greek economic statistics are seriously distorted, for conceptual and political reasons. This is shown in the background text for the two main export industries, merchant shipping and tourism.

Balance of payment statistics for both industries are collected by the Bank of Greece. Merchant shipping specifically has been conceptually misrepresented in Greece's balance of payments since it returned to Greece in the 1960s and therefore for more than 50 years. Greece differs in this respect from all other important countries with a merchant fleet. This has to do with its currency exposure and the regulation and taxation of the sector in Greece as well as with the country's monetary policy regime up till 1994. Since the 1980s, this problem has been known worldwide as the "missing fleet" phenomenon, which even considerably distorts current account balances worldwide and not only Greece's. Unlike in the rest of the world, up to 1998 in Greece, shipping companies' freight earnings from abroad were not reported as merchant shipping exports. These exports comprised only transfers to Greece from shipowners' dollar accounts held abroad. These so-called remittances only covered only domestic factor costs – seamen's wages, salary payments including the state NAT pension fund in Greece, domestic inputs and company earnings and dividends paid in Greece. All merchant shipping earnings are denominated in USD (formerly also in GBP), because this is how freight rates are posted worldwide. They were held exclusively in the shipowners' dollar accounts abroad, because Greece had a capital controls regime from 1932 to 1994 inclusive which did not permit any international capital transactions. Shipowners effected the really large payments for their merchant fleets such as the purchase of ships, amortization and interest payments on shipping loans, purchase of fuel, operating expenses such as port and canal fees and labour costs for non-Greeks exclusively from their dollar accounts held abroad. The statistical coverage of merchant shipping in Greece by the central bank improved superficially when it entered the euro. The payments received by Greek banks are fully recorded by a reporting system known as the International Transaction Reporting System (ITRS) introduced newly in 1999, which was previously not the case. Also, a part of overseas freight earnings started being effectively recorded in accounts in Greece. This was a condition made by Greece-domiciled banks for the substantial loans granted to shipowners, especially from 2005/06. The percentage of merchant shipping export earnings included in the Greek balance of payments thereby rose from about 10% in 1999 to about 25% in 2008. However, most of the sector's exports, about three-quarters to four-fifths depending on the calculation method, are still not recorded statistically in the balance of payments and the national accounts. Due to a constellation of power in domestic politics, the Greek central bank acts reluctantly and defensively. The dominant freight earnings in the dollar accounts abroad are still unrecorded as before. These were mainly the ships of Greek shipowners flying flags of convenience. Conceptually, according to the 1977, 1993 and 2008 (BPM 4/5/6) IMF balance of payments manuals, they are obviously to be assigned to the operating centre's freight earnings and this is Piraeus or Athens. Similar collection problems also apply to a lesser extent in tourism. The collection procedure there was converted to a new system – the Frontier Travel System (FTS) – with the introduction of the euro. Due to serious errors in tourism sector statistics, this is unable to capture qualitative

changes such as the spectacular expansion of five-star hotels in the 2000s. As a result, average hotel prices and per diem tourist spending is distortedly recorded. Consequently, tourism sector exports are also viewed in absolute terms and inaccurately reflected in the temporal dynamic.

Greece's export industry is very competitive and is oriented towards the world economy's above-average growth sectors and is therefore well positioned. However, it is insufficiently diversified and is particularly concentrated on an extremely cyclical major sector – merchant shipping. Furthermore, in comparison to the rest of the world, the Greek fleet is concentrated on the segments of merchant shipping which are the most cyclical by far, namely, tankers and dry bulk carriers – transport ships for raw materials such as iron ore, coal, grain etc. Since 2008, both these segments have been exposed to an extreme sectoral price decline which is hitting all operators hard. The same sequence as that of the 1970s and early 80s is being repeated: Strong synchronised growth in the world economy, full capacity utilisation, a steep rise in freight rates, large orders for very big ships (early 1970s, second half of the 2000s), then the first oil shock (1973; 2007/08), then the second oil shock (1979/80; 2011-14), sharp fall in demand for sea freight and high overcapacity combined with a collapse in freight rates. In 2014/15, the average freight rates for tankers were about 30 – 40% below the average for the 2000s. For dry bulk carriers freight rates have even declined by 70 -80%. In contrast to the 2008 peak level, the falls were even as high as 50% and 95% respectively. In the hotel and restaurant sector, prices also fell by about 20% compared to 2007/08. The collapse of Greece's exports is a cyclical sectorally-determined slump. No other country suffered such a collapse of exports as a result of concentration risks. Nevertheless, during the expansion phase and also during the recession since 2008, Greece clearly strengthened its competitive position in these two export industries in comparison to the rest of the world. However, Greece has been much weakened as an economy.

An extremely deflationary foreign trade price shock...

What first brought Greece to its knees was an extremely deflationary foreign trade price shock. The two oil shocks of 2007/08 and 2011- 14 represent enormous burdens not only for its merchant fleet, but for the Greek economy as a whole. In the 1990s, Greece spent about 1% of its nominal GDP on its visible oil bill (net energy imports minus energy exports) annually. In the years 2006 – 14, this percentage increased to an average of over 4% of the nominal EDP – GDP. This percentage even exceeded 5% during the peak years. In addition, there are fuel costs for the merchant fleet which is refuelled around worldwide and hardly ever in Greece. That expenditure is not included in the Greek trade balance. It should be recorded under imports (intermediate inputs) of shipping services. If all the freight earnings of Greek shipping companies was correctly recorded and not only about one – quarter, the energy bill would actually increase to about 15 – 20% of the correctly calculated nominal GDP.

No other developed economy is as massively dependent on oil prices as Greece is. This dependency reflects the country's maritime exposure. Greece has thousands of islands, many of which are tourist destinations that are very

remote from the mainland and must be reached by sea or by air, which entails high transport costs. On the islands, electricity and heating are provided only by oil/gas combustion in thermal power plants. Greece also has the world's largest merchant fleet. The fleet's fuel expenditure represents the greater part of the costs of voyages and – during oil shocks such as since 2001 – even the total cost. What hit Greece massively, unlike any other economy, is a double price shock in its foreign trade. A collapse in its key export prices since 2008 and, parallel to that, a price explosion in import or input prices. Hence the extreme deflationary pressure from the foreign trade sector. The Greek central bank's official current account figures therefore present a false picture because they only record a fraction of freight earnings and energy expenditure: exports could have been underestimated by about 60 billion euro for 2008. Correctly calculated, the current account was in surplus from 1999 to 2007/08 and there has been a big deficit since then. The official current account balance shows exactly the opposite of the actual development, with disastrous consequences for the interpretation of the economic problems and the formulation of a policy response.

In essence, at issue is a cyclical international trade price shock, identical to that of the early 1980s. It first started in 2008, after the terms of trade in international trade had previously been extremely favourable to Greece's current account. It's the exact same constellation as in the early 80s: a fall in freight rates combined with the second oil shock of 1979/80, which then lasted till 1985. It's a classical terms of trade shock which is unrelated to the internal price and costs dynamics in Greece. Greece is a pure price-taker for these goods and services. In the 1980s, Greece's policy responded correctly in principle, namely, with an expansionary fiscal policy. In the 1980s, this prevented a slide into a severe recession or depression. Two things were wrong at that time:

- Labour market policy and wage determination in the core sector, merchant shipping. Steeply rising salaries for Greek seamen as a result of the wrong choice of reference currency for the payment of wages after 1977, led to a dramatic loss of seafaring jobs in Greece in the first half of the 1980s. This had grave consequences for shipowners' remittances and the current account at the time and favoured a fall in the Greek drachma.

- The fiscal expansion was not implemented as a temporary economic policy measure. It was continued unchanged under different economic conditions and paved the way for clientelist party politics with the well-known consequences for budget deficits and government debt.

The state of official data and the prevailing analysis of the growing current account deficits since the introduction of the euro are incorrect. Correctly calculated, Greece never showed deficits between 1999 and 2008, but rather increasing surpluses. Just as wrong is the claim of insufficient productivity gains and even more so, that of excessive labour costs increases. Solely as a result of the recording of a fraction of merchant shipping earnings, the GDP for the years 2007 and 2008 was underestimated by about 15 to 20%. On the contrary, from 2003 to 2008, wages increased insufficiently with respect to the productivity gains actually achieved. When correctly measured, real wages

were already in decline during the upswing, although the economy was experiencing the biggest boom in Western Europe. Furthermore, budget deficits and the level of government debt relative to actual GDP were nothing like the order of magnitude in the EDP procedure. The only thing that is correct is that the balance of payments data published by the Greek central bank and the national account data derived therefrom support the interpretation of rising wage costs and an overly expansionary fiscal policy superficially, from a highly aggregated perspective.

...is aggravated by a misguided policy of internal deflation ...

Hence, the Troika formulated a wrong response, i.e. an unprecedented internal deflation as a response to an external deflation of a rare extent in a small open economy. The concept of internal devaluation, as it is called, is inappropriate for several reasons:

– Greece's export economy does not benefit at all from very low wages and prices. This has to do with its structure. Earnings and expenditure by merchant shipping, the largest export industry by far, are almost exclusively dollar-denominated and have little or nothing to do with Greek labour costs. In contrast to the situation at the beginning of the 1980s, shipping companies now employ fewer Greek seamen. Most seamen are Filipinos and Indians, who are paid in their home currencies. In addition, the merchant fleet is extremely capital intensive, and this is in contrast to its structure some decades ago. Many of the exporters in the tourism sector are family businesses with low numbers of non-family employees. By contrast, the bigger firms operating five-star and four-star hotels are capital intensive. So, on the contrary, wages did not constitute a hindrance to the unprecedented expansion in five-star hotels since 2003. In any case, in both industries, cheap, unreported work of illegal immigrants is a significant form of employment.

– The internal devaluation policy does not take into consideration the previous strong credit expansion and debt levels of private households and companies. Nominal incomes were reduced through seriously reduced wages, pensions and prices as well as through high unemployment. As the outstanding debt to the banking sector and to the state remains unchanged, the current burden of interests, amortisation and taxes and the value of the outstanding debt continue to rise in real terms. A debt deflation situation has been thus created.

– This debt deflation was greatly aggravated by the systemic banking crisis which acts as a financial accelerator for the economic crisis. A withdrawal of foreign interbank deposits started with the supposed 2010 sovereign debt crisis, which led to a lending freeze in the banking system. The Troika unwittingly intensified this process. Monetary policy was ultra-restrictive because the banking system's equity capital was temporarily destroyed by the debt cut imposed by the Troika in 2011. It has never been adequately built up again since then. Due to this credit event, the banks were obliged to immediately make extremely high write-offs. This destroyed a large part of their capital. However, recapitalization did take place, but belatedly, in 2012 and 2013. The banks had to suspend or strongly curb lending because of

the temporary massive reduction in their capital. The lending freeze led to the collapse of construction investment to almost zero. The liquidity crisis stemming from the banking crisis spread to large sections of the real economy and pushed tens of thousands of companies and households into bankruptcy and cost hundreds of thousands of employees their income. The banks' non-performing and bad loans rose steeply as a consequence of the general liquidity crisis. These bad loans have to be backed by much higher equity with the result that even after the belated recapitalisation, the banks themselves were unable to come out of the situation of inadequate equity or risk capital. The massively deflationary policy exercised through the banking system together with the foreign trade price shock (fall in export prices combined with skyrocketing oil prices) lies at the heart of the Greek crisis. The temporary destruction of banks' equity capital triggered a systemic banking crisis which is reflected in an almost unprecedented credit crunch and a liquidity crisis extending over the whole economy.

– The role of fiscal policy alone in the crisis is overestimated or incorrectly assessed. A consolidation was necessary, granted. But the Troika set the priorities badly. The fiscal consolidation was not only too abrupt; it had extremely negative distorting effects from an economic policy standpoint. Those who had been paying taxes up to then – workers in regular employment and households – now pay much more and receive lower benefits. The combination of tax measures – especially the sharply increased rates of VAT, income tax and profit tax – and spending cuts has greatly increased the incentives for tax evasion in the commercial sector. Consequently, those who had been paying little or no tax up till then still pay none or too little. Certainly, many of the self-employed and many companies can no longer pay because of the economic situation. In contrast, it would have been relatively easy to get hold of considerable amounts of evaded taxes parked in offshore accounts abroad, without such economic damage.

... which leads to a debt-deflation spiral

This is why this article characterizes the crisis as a debt-deflation spiral. Because the policy of internal devaluation adds an internal debt deflation to the external debt deflation in the economy's most important sector, merchant shipping, and triggers a comprehensive and cumulatively intensifying process of macroeconomic debt deflation. The four characteristic elements are the destruction of banking system equity or risk capital, falling real estate and ship prices, which are the most important collateral for bank loans, steeply rising bad loans and periodic withdrawal panics among banking system depositors. The banks can no longer make loans and plunge the economy into a comprehensive liquidity crisis. The banking crisis acts as a financial accelerator of a cumulatively intensifying economic collapse. Debt deflation consists of sharply falling nominal incomes and prices together with unchanged nominal debt owed to the banks and rapidly rising nominal debt to the government. Interest rates and the tax burden rise drastically in real terms due to the fall in nominal income making debts and borrowing costs unsustainable. The manifest sovereign debt crisis reflects only one underlying process of a full-fledged debt deflation.

Given this analysis, the major policy options will be discussed at the end of

this article and both an exit from the euro and a continuation of internal devaluation have been rejected. An exit from the euro would damage shipping and tourism irreversibly. A devaluation would not benefit sea transport, because its costs and revenues are dollar – denominated. Moreover, these two major export industries are very capital intensive. The four- and five-star hotel segments of the tourism sector offer potential which requires high capital expenditure, just like sea transport. The potential of both sectors of the economy can only be fulfilled by remaining in the euro with a banking system that can provide an elastic credit supply at low interest rates. A return to the drachma would mean high and volatile interest rates with fluctuating risk premiums.

The focus of attention is not on “reform” measures of the existing type, but neither on selective social or fiscal policy measures. The Troika’s “reforms” only deepened the domestic economy’s debt deflation. Given the unprecedented banking crisis, the banking system must be immediately recapitalized and the credit mechanism restored. This is the only way to alleviate the country’s catastrophically acute liquidity crisis. A further financing of the public budget alone will not suffice and, if accompanied by further falls in wages and pensions or VAT increases, will only aggravate debt deflation. The most important points concern a rapid and substantial recapitalization of the banks, a transfer of non-performing and bad loans to a properly designed “bad bank”, the abolition of withholding tax on interest income on domestic bank deposits and a profound modification of merchant shipping regulation. Shipowners must disclose all their accounts, including offshore accounts to both tax authorities and the central bank. They must report global turnover and inputs annually and on a reduced scale on a quarterly base. Shipowners should be allowed to retain their tax privileges for shipping activities within the existing framework. But besides transparency only if they hold their liquidity in Greece instead of in offshore accounts abroad. This is the only way the banking system deposit base can be rebuilt. These measures will cost something initially, but can be revisited during a subsequent privatisation.

Initial Situation: The Missing Fleet

The standard analysis has it that Greece, like the other periphery countries, lost some of its competitiveness when it adopted the euro. Price competitiveness suffered due to excessively high wage rises in relation to weak productivity gains. This was supposedly made possible by an expansionary spending policy. In a currency union, this wage-dependent competitive disadvantage can only be corrected through drastic nominal and real wage reductions. Drastic structural budget cuts must be made in order to achieve a primary surplus. Hence the policy of wage cuts and reductions in nominal wages in both the public and private sectors which were carried out relentlessly. Hence the endless hikes in direct and especially indirect taxes and levies. Hence the spending cuts in investments, current spending and pensions. In this view, an economic collapse is an unavoidable adjustment effect of this austerity and deflationary policy. The weak export performance can only be improved by microeconomic structural reforms to the labour market, the deregulation of the whole economy and comprehensive reform of the

state. By contrast, competitive disadvantages can be compensated for in the event of an exit from the euro by the associated devaluation. Proponents of this interpretation such as Hans-Werner Sinn recommend that leaving the currency union would serve the country best.

What can excuse this interpretation and this action approach are Greece's official economic statistics. With respect to the calculation of the balance of payments, external position and gross domestic product, especially exports, but also imports and investment in building construction, they are incorrect. They have actually been depicting a desolate picture of the Greek economy with respect to export growth for a long time, and especially since the launch of the euro. The Greek central bank is primarily responsible for this. It has been organising the balance of payment statistics for decades. The government statistics office only takes over these results and fits them into the national accounts. Hence, the fact that the reactions in economic policy in Europe and Germany to the euro crisis which started from Greece were of this nature is explainable and can be accepted. However, the Troika's experts and policy advisers called in by the German and European decision-makers were also incompetent, and not only the Bank of Greece. In the event of a crisis, the one of the first things to do is always to examine the quantitative figures and to trace every possible weak point. And a critical examination would have thrown out the whole representation. Nevertheless, let us state the facts:

Greece's exports have been structurally underestimated in the service balance for decades, because only a small part of merchant shipping or the shipping companies was included, and indeed a part decreasing over a period of time up to 1998. This sector has been dollar-denominated since the 1950s and especially on the revenues side and – increasingly – on the expenditure side. This is why Greek shipowners traditionally hold accounts with banks in New York, London and Geneva and have historically almost never made payments through Greek or Greece-domiciled banks until the introduction of the euro. The fact that shortly after the establishment of the Bank of Greece (in 1929), Greece went over to a regime with rigid capital controls in 1932 and maintained this regime more or less unaltered until 1994 also played a role in this respect. It was almost impossible to carry out international capital transactions through Greek banks. In view of this monetary policy regime, the central bank dispensed with recording the freight revenues of shipowners operating in Greece and to designate them as exports. This was in contrast to the practice of almost all other countries with an influential merchant fleet. The only things that were recorded on the income side of the shipping sector's balance sheet up to and including 1998 were the shipping companies' internal factor costs – wages and social security contributions, especially payments into the seamen's NAT pension funds, domestic intermediate inputs and dividends and company revenues paid out in Greece. They were financed by means of shipowners' transfers (remittances) from their dollar accounts held abroad. The freight revenues of Greek shipping companies were historically almost never recorded in either Greece's nor in foreign countries balance of payments up till 1998. That is the problem of the "missing fleet" which has occupied the international balance of payments statistics since the early 1980s. The greater part of freight revenues and liquidity remained in dollar

accounts abroad. This liquidity came into domestic circulation in Greece though through various channels, but in highly cyclical manner. Structurally, up to and including 2002, the reinvested proceeds do not remain in the foreign accounts at all, and have been insufficiently recorded since 2003. Because the shipping companies possess large and increasing capital abroad, their revenues were completely mixed therewith. By the time it adopted the euro, Greece's current account, if correctly calculated, was in surplus and not in deficit, as represented in the official figures. By the end of the 1990s, with respect to export proceeds, the shipping companies were actually several times more important than tourism and even more so than the export of goods.

The unrecorded export proceeds of Greek shipping companies have been an issue in international economic statistics for decades. Thus, after several attempts, American authorities and the IMF discovered that the evidently incorrect figures of the American and global current accounts balances were largely attributable to the inadequate recording of the freight revenues of Greek shipowners. Between 1984 and 1987, the IMF carried out a comprehensive investigation into the reasons for the negative global current account balances through a working group (Esteva Report). In principle, the surpluses and deficits of the current accounts of all countries should balance out. However, from the 1970s, a rapidly increasing tendency towards aggregated deficits of about 100 billion USD was established between 1981 and 1985. One of the three fundamental reasons identified, actually the most significant, was the non-reporting of income from the shipping industry by a few countries with very large fleets, Greece and Hong Kong being at the forefront ("The Missing Fleet").² In subsequent years, the considerable discrepancy between reported credits and debits in sea freight transport was also an issue for working groups from time to time.³ In the 2000s the discrepancies in the sea transport balance virtually exploded, without any further clarifications. In the past, concealed trends of "invisibles" in the balance of payments were responsible for many macroeconomic enigmas and policy errors. The fact that the shipping companies' surpluses must have caused very serious distortions not only for the U.S. balance of payments, but also for the current account balances of the much smaller Greece was never identified as a central issue in the IMF documents. This reflects a form of organisational blindness.

Greece's fleet of tankers and bulk carriers has been the world's largest since the 1970s. The tankers carry crude oil and products such as petrol, diesel and kerosene, chemicals or also gas. The so-called dry bulk carriers transport bulk cargo goods such as iron ore, coal, grain, bauxite or phosphate. This is a growth sector of the world economy, with growth rates clearly above

The International Monetary Fund: Final Report of the Working Party on the Statistical Discrepancies in World Current Account Balances, Washington D.C. (1987) came to the following sobering conclusion with respect to Greece's shipowners: "Moreover, the Greek balance of payments excludes the operations of the Greek fleet because the owners of that fleet do not reside in Greece and, as far as the IMF is aware, they are not residents in other countries either". (IMF, 1987, p. 90).

IMF: Global Discrepancies in the Transportation Account. Fifteenth Meeting of the IMF Committee on Balance of Payments Statistics, Canberra, Australia, October 21 – 25, 2002. those of the world's aggregate output or even more so, than the gross national product of the OECD countries. In the 2000s, merchant shipping and particularly the two largest segments occupied by Greek shipowners profited from a boom similar to that of the 1970s due to emerging economies' hunger for raw materials. Freight rates, i.e. the prices for transport services, in both these areas precisely – for tankers and bulk cargo carriers – rose several-fold within a few years just like crude oil prices. Freight rates for bulk cargo increased seven-fold between 1999 and 2007/08 in dollars, if measured in annual averages. In euro terms, they quintupled. Freight rates for tankers increased six-fold between 1995 and 2008 in both dollar and euro terms.