

FCA's Report
on Platts Price
Assessments

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Austrian Federal Competition Authority

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A. Introduction

1. The Starting Point

The Austrian Federal Competition Authority (FCA) has been closely looking at the liquid fuel markets for several years. A stream of complaints and high levels of public awareness led the FCA to concentrate considerable resources on these markets.

In the course of its investigations the FCA focused on several important features of the markets concerned, inter alia

- the pricing mechanisms prevailing at the retail level (i.e. gasoline stations) and
- the structure of supply from the upstream to the retail level including the commercial and contractual relations between gasoline stations (or smaller traders) on the one side and the refinery level (or vertically integrated companies) on the other side.

Concerning the pricing mechanism, the FCA faced the arguments of the major companies that the primary driver of their price changes is changes in the Platts price assessments.¹ Concerning this issue, the FCA started by investigating the lag between changes in Platts price assessments and changes in retail prices.²

In analyzing the structure of downstream supply of liquid fuels the FCA ascertained that price changes in wholesale term contracts at the upstream level are regularly based on Platts price assessment data.

¹ In the start it was even argued that prices follow the "Rotterdam exchange" ("Rotterdammer Börse") thus giving the impression of the high level of transparency normally associated with stock exchanges etc. This line of argument could easily be dismissed by the FCA.

² Published at http://www.bwb.gv.at/BWB/Aktuell/Archiv2008/spritpreis_23072008.htm.

2. The Purpose of the Report

Beyond the above mentioned inquiries into specific aspects of Austrian liquid fuel markets, questions about the nature of the Platts price assessments were raised by the public as well as by parts of the Austrian competition community.³ The issues brought forward can be summarized as: how does this price assessment process work, who is able to participate (and under what conditions) and how representative are the data.

Also, competitive concerns were raised concerning the potential for manipulation and/or collusion.

This report focuses solely on the first set of questions:

Beside some basic information about Platts (chapter B) it aims to

- describe the procedures and rules underlying the price assessment process (chapter C),
- provide statistical information on the following issues: the number and volume of contracts, the structure of market participants, the relationship between assessment prices and contract prices, and an indication of the representativeness of the Platts price assessments with respect to the markets concerned.

In its investigations into the Austrian retail markets the FCA concentrated on the two most important types of motor fuel, gasoline premium and diesel. Accordingly this report too confines itself exclusively to these two products. It should be noted, however, that this report relates to the activities of Platts which are at the international trading level, not at the retail level (with prices and competitive conditions at the retail level being affected by a range of other factors).

³ It should be mentioned that a strong interest in this issue has also been expressed by other competition authorities. E.g. the Portuguese authority joined the Austrian authority in their discussions with Platts at their London headquarters. The information received from Platts was also shared with some other authorities following their request and under condition of strict confidentiality.

As Platts provides price assessments for two different "parcel" sizes, i.e. cargo⁴ and barges⁵, the report thus covers four markets:

- Premium gasoline (10 ppm) on barges FOB Rotterdam
- Diesel (10 ppm) on barges FOB Rotterdam
- Premium gasoline (10 ppm) on cargos CIF/Basis ARA
- Diesel (10 ppm) on cargos CIF/Basis ARA.

The report seeks to collect the relevant basic empirical facts with respect to the above mentioned set of questions, covering the above mentioned "markets".

Concerning a competitive assessment of Platts' activities, the European Commission is - beyond doubt - the best placed authority to conduct such an exercise. Thus the concentration of the FCA on the basic empirical facts is not due to a lack of interest but rather the agency's respect for the division of labour within the European Competition Network.

3. Steps Taken by the Federal Competition Authority

It has to be stressed that this report is not the outcome of a formal investigation. As a consequence it should be clear that all the information provided by Platts was submitted voluntarily. Obviously the amount and depth of data requested was restricted by this consideration. Nevertheless, the report is able to provide information that goes far beyond what would be achievable by using solely data which is readily accessible in the public domain.⁶ This is especially true for the statistical chapter.

The FCA approached Platts for the first time with an informal information request in April 2009. A reply from Platts was received by July of the same year. Some

⁴ Represents a size of 10.000 tonnes or more; concerns ocean tankers in the ARA region (ARA= Amsterdam, Rotterdam, Antwerp).

⁵ Represents a size of 1.000 tonnes; concerns river barges in the ARA region (Rotterdam; catchment area of the Rhine).

⁶ While all of the statistical data submitted by Platts is available to Platts subscribers, filtering the data is very time consuming. Platts had to filter the data to meet the FCA's requirements.

issues for further clarification were sent in August 2009 and answered soon after. In September 2009, the FCA had the opportunity to discuss the main questions with Mr. Jorge Montepeque (Global Director Market Reports) in Vienna. In March 2010 the FCA approached Platts with a new request for statistical data. Part of the information requested was transmitted in May. In May 2010 the competition authority also had the opportunity of comprehensive talks with the top-management of Platts in London. Due to complicated issues concerning sampling and handling the statistical data, the process of data delivery had to be extended well into July.

B. About Platts

Platts is a publisher of industry information regarding energy and similar commodities markets. Platts' products and services include real-time news and market alerts, price assessments and indices, newsletters and reports, maps, conferences, and events.

1. Company Profile

Platts is headquartered in New York and conducts business through its regional offices in Houston, London, and Singapore and a network of local offices in Argentina, China, Japan, Russia, the United Arab Emirates, the United Kingdom, and the United States. McGraw-Hill, a global information services provider, owns Platts. Since 2000, Platts has been a part of McGraw-Hill's Information and Media Services group and forms its Energy Division. McGraw-Hill is headquartered in New York and is listed on the New York Stock Exchange. Currently, Platts has over 600 employees in 17 offices around the world and it serves approximately 10,000 subscribers in more than 150 countries.

Platts receives more than 90% of its revenue from subscription fees paid by companies and other entities that subscribe to its various publications. Platts' other revenue comes from conferences/seminars, licensing fees, and advertising. Anyone may subscribe to Platts and Platts' subscriber base consists of a wide range of companies in the energy supply chain and other interested parties.

According to Platts this includes producers, traders, marketers, refiners, governments, regulators, analysts, consultants, exploration companies, electric and gas utilities, energy companies, pipeline operators, shippers, and wholesale and industrial consumers.

Platts considers that this diverse subscriber base means that it is highly motivated to ensure its price assessments are seen as representative and fair since the success of its business model depends upon this.

Although Platts originally focused only on the oil industry, it has grown to include many markets related to the energy sector including: oil, coal, natural gas, electricity, nuclear power, petrochemicals, metals, renewables and emissions.

Platts' key information service regarding oil and refined products markets is Platts Global Alert, which provides subscribers with news, pricing, and commentary for oil and refined products markets globally. The service reports, amongst other information, online bids, offers, and trades and provides the end-of-day market price assessments.

2. Company History

Platts began in 1909 when Warren Platt started the National Petroleum News. In 1923, Platt started the Platts Oilgram, a daily two-page newsletter devoted entirely to reporting prices and market information, to provide more frequent updates on the fluctuating prices. Platt remained as the editor and publisher until he sold his petroleum reporting business to McGraw-Hill in 1953.

Platts launched its first real-time news and market information service in 1984 and it quickly became its major revenue source. Platts introduced its Market-On-Close (MOC) price assessment methodology in 1992 ⁷. In 1999, Platts grew by 50% by merging its operations with McGraw-Hill's Energy and Business Newsletters (its division for publications covering electricity, natural gas, nuclear power, coal), which created a single business unit covering the entire spectrum of energy commodities and industries. Throughout the 2000s Platts' position in

⁷ For details see below chapter C.3.

the global energy and metals information market continued to grow through, amongst other developments, the acquisition of Financial Times Energy in 2001 and the expansion of its presence in China and Russia.

C. The Price Assessment Process

In discussing the procedures governing the price assessment process, it should be noted that Platts stresses the fact that no trades take place over the Platts market-on-close platform (on which details regarding the bids, offers and trades are published). Trades only take place if buyers and sellers contact each other directly and agree an over-the-counter ("OTC") trade. In this respect it differs clearly from an exchange where buyers and sellers transfer their contracting rights to the exchange so that the trades can be executed directly on the exchange, and clearing takes place via a central counterparty.

In the Platts environment the transactions have to be agreed directly between the contracting parties (buyer and seller, or alternatively their respective agents). They may do this through a number of routes including via bulletin boards or via the IntercontinentalExchange (in the case of gasoline barges).

Nevertheless - as will be shown below - the Platts platform provides a forum where the contracting parties may try to find and "meet" their potential counterparties and on whose rules the definite transactions will be based in the end.

The rules governing the platform have been regularly published by Platts in its Editorial Guidelines and Methodologies - European Oil Products (current version of June 2009).⁸

⁸ Editorial Guidelines and Methodologies - European Oil Products:

<http://www.platts.com/IM.Platts.Content/MethodologyReferences/MethodologySpecs/europeanoilproductspecs/guideline.pdf>

1. Access to the Platform

Platts' clients using the platform can be divided into two groups:

- mere subscribers who receive but do not submit information; and
- active market participants, who submit their bids and offers for inclusion in the Platts information system, and who may conclude some of their transactions based on the information provided on this system.

The first group is by far the larger as many of Platts' subscribers do not participate in the price assessment process. Participation in the price assessment process is voluntary.

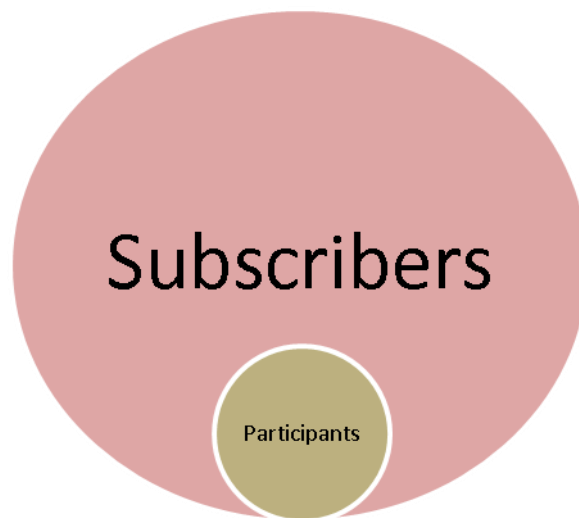


Figure 1 Subscribers and Participants

As of 2009, Platts has cleared approximately 90 companies to participate in its various price assessment processes in respect of crude oil and refined products in Europe.

1.1. Price Assessment Standards

Platts has attempted to create a system to vet the participants that may provide their bids/offers as inputs. According to Platts' editorial guidelines, Platts only accepts data inputs from reputable companies that have solid performance records and the demonstrated ability to handle logistics. Platts' editors make a value judgment based on the reputation of firms and a review of a market

participant's ability to trade with its counterparts in the market. For example, they will review a participant's history of trading practices or letters of credit. This process is carried out by Platts with the goal of ensuring that all participants are capable of consummating the bids, offers and transactions that they report during the price assessment process.

Technical standards for each specific product must also be met in order for Platts to use the bid/offer or transaction in the price assessment process. For example, European premium gasoline assessments reflect the EN228 standard which has a maximum sulfur allowance of 10ppm and an aromatics limit of 35. Participants must conform to these standards in order for their bids/offers and transactions to be used in the price assessment process.⁹

2. Main Features of the Bidding Process

2.1. Communication of Traders with Platts

Market participants may notify their bids and offers to Platts via several communication channels. Bids and offers can be submitted via phone or via online communication tools (instant messages or the eWindow which enables market participants to input data directly). The up-to-date state of the bids/offers can be seen by the subscribers

- either in real time (if the eWindow is used) or
- in near real time, after a short delay needed by the Platts market reporter to input the data manually.

With respect to the four "markets" this report is concerned with¹⁰, the eWindow is currently available only for barges gasoline premium (launched in May 2009).

⁹ For the details of the technical stands consult the Methodology and Specifications Guide - European Oil Products

(<http://www.platts.com/IM.Platts.Content/MethodologyReferences/MethodologySpecs/europeanoilproductspecsguideline.pdf>)

¹⁰ Details see above, chapter A.2..

All bids and offers have to be submitted before strict cut-off times in order to be considered in the assessment process: under the current rules the time limit for submission of opening bids and offers is prior to 16h00 for barges and prior to 15h45 for cargoes (both London time, time of reception by Platts).

Bids and offers expire at 16h30. In cases where the market participants are still reiterating bids and offers immediately before the expiration limit, an additional time span of three minutes may be added to enable the bid or offer to be market tested and determine if any counter party is willing to reach a trade (for incremental changes of existing bids and offers see below), thus allowing the trade or the remaining bid or offer to be considered in the assessment process.

It should be noted that Platts makes no commitment to publish every bid and offer submitted. The reason for this is that Platts preserves some editorial latitude to remove from consideration in the price assessment process bids or offers that are observed to be unrepresentative of market value or of market practice. There are a number of reasons for Platts to exclude data from a particular market participant in the price assessment process, including:

- the posting of bids and/or offers that Platts believes are demonstrably out of market (for example if it is clear that the market price is around \$75 and somebody makes a bid at around \$70 then this will be excluded);
- a failure to transact on a bid or offer that has been accepted by a counterparty;
- a failure to adhere to the terms agreed for a transaction (e.g. delivery specifications);
- transactions with related parties (trading with affiliates, subsidiaries etc.);
- concerns over late deliveries or substandard qualities; and
- poor logistics or poor management of the myriad processes stemming from the moment a sale occurs to the point a product is safely delivered and paid for.

These criteria are applied by the relevant Platts price assessment teams on a principles basis rather than a prescriptive basis. The teams exercise their judgment based on the fundamental principle that only bids, offers and trades they consider as being representative of market value are taken into account in

the price assessment process. According to Platts there are no statistics available how often data are excluded from the price assessment process, however Platts confirmed that this is not an infrequent event.

In order to be considered for the purposes of Platts' assessments, bids and offers have to include - besides the volume¹¹ and price - other key characteristics such as delivery port, timing of delivery and the relevant shipping considerations (e.g. name of the ship, its physical properties, the ability to meet port-specific legal requirements etc.).

2.2. Rules Underlying the Bidding Process

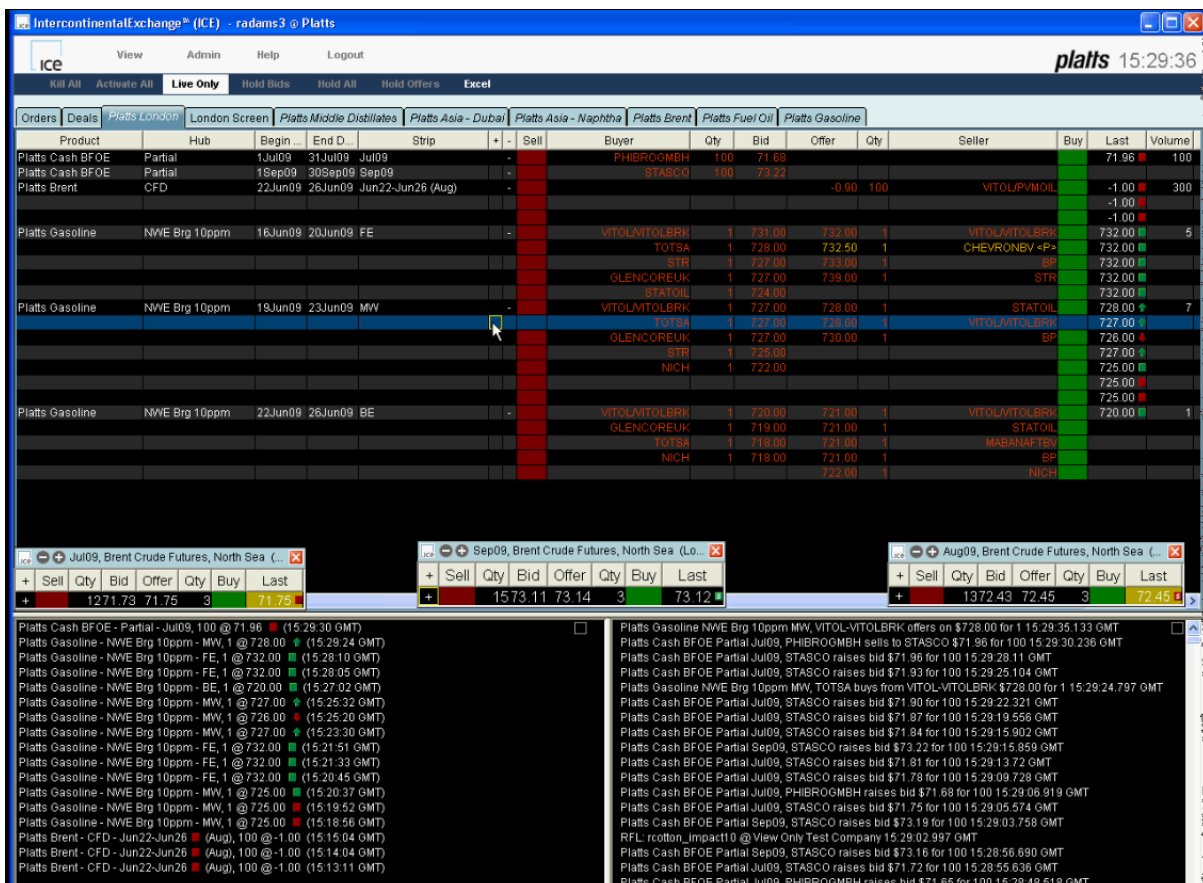


Figure 2 Screenshot of the eWindow

¹¹ If the size of the "parcel" is not yet completely standardized as it is the case with barges.

1. Bids and offers can be withdrawn at any time.
2. Bids and offers may not be subject to atypical conditions which deviate from normal commercial usage in the relevant market or exclude legitimate supply sources.
3. Bids and offers may be changed only under strict rules concerning the maximum level of increment at a single time. Currently in the four markets covered by this report a revised offer or bid may only deviate from the previous one (made by the same party) by up to \$1.00/tonne. By restricting the incrementability of bids and offers Platts tries to secure that every submitted level of market prices can be tested with other market participants. To understand the procedure applied more clearly it has to be noted that incremental changes can be submitted until 16h28 but new bids and offers cannot be submitted after the 16h00 or 15h45 cut off described above.

As a consequence the majority of trades is concluded during this final period, which underpins the market on close process (see following chapter).

4. The trading parties must contract with the first counterparty meeting their requirements.
5. Platts' specifications state that, for a transaction to be considered for an assessment, it must be repeatable in the market. This is intended to make it easier to eliminate outliers from consideration in the Platts price assessment process. Outstanding bids and offers may demonstrate that a transaction is no longer repeatable.
6. The timing of loading or delivery has to be scheduled within a certain timeframe. Normally a time span of 10 to 25 days is applied for the cargo markets and 3 to 15 days for barges, calculated from the day the bid or offer was made.

3. The Price Assessment Process

It is important to understand the way Platts conducts its price assessment process as these price assessments are taken as the basis for a wide range of contracts (especially term contracts); they also often constitute a type of benchmark for individual market responses of companies.

The assessment process is done via an approach called market on close (MOC) assessment¹²:

Platts' staff starts the price assessment immediately after the closing of the trading window at 16h30. This MOC aims at ensuring that the price assessment reflects prices at a specific point in time and is not influenced by intra-day movements. Consequently the process intends to reflect the market conditions prevailing at the market on close time of 16h30.

The assessment price is not determined by an algebraic method or economic model. But the analysis carried out by Platts is based on a range of inputs. The main parameters considered are:

- The bids, offers and trades observed on the relevant day constitute the most important variable. The weight of this factor depends on the nature of bids, offers and trades and the extent to which they converge towards a specific price (or a small price band).¹³
- The trading in derivatives on futures exchanges such as ICE.
- The situation in related (product or geographic) markets: in the view of Platts in oil and refined products markets the respective commodities are often "in line" with the prices for the other products. Price developments in other geographical areas may also be taken into account.

¹² Further details about the MOC process are available online at: <http://www.platts.com/IM.Platts.Content/InsightAnalysis/IndustrySolutionPapers/moc.pdf>

¹³ The process of price convergence is strengthened by allowing only incremental changes in the last half an hour (resp. $\frac{3}{4}$ of an hour) before the trading window is closed (see preceding chapter).

- Factoring in specific supply situations which influence the time preference of market participants (atypical price curve over time; "backwardation"¹⁴ or "contango"¹⁵).
- Other developments like market events and general macro-economic factors.

The importance attributed to a specific factor in the course of a price assessment process is decided on a day-to-day basis depending on the extent to which such factor is likely to affect the market price in the view of Platts. The weights of the individual factors (or groups of factors) are not fixed ex ante, which reflects the qualitative nature of the activity carried out by Platts price assessment staff.¹⁶

It should also be noted that, albeit technically homogeneous, the products are not homogeneous in an economic sense. For example, the quality of the products can vary significantly and the location of delivery/unloading as well as the time of delivery differs between the various transactions. These variables have thus to be normalized to get a representative market price. Platts does not apply pre-determined technical rules or algorithms for doing this standardization process (e.g. discount rates for time differences or transport rates for locational differences), but relies on a day per day qualitative individual assessment.

3.1. Verification and Monitoring

Verification and monitoring rests on three pillars:

1. The transparency of the system (as far as subscribers are concerned).
2. The "feedback loop" from market participants.
3. Various arrangements organized by Platts, as described more fully below.

The assessed prices as well as the individual bids, offers and contracts can be evaluated by market participants against the background of their own perception of the market development and their own experience.

¹⁴ A market is in backwardation when the futures price is below the expected future spot price.

¹⁵ A market is in contango when the futures price is above the expected future spot price.

¹⁶ It is Platts' view that market participants elect to use Platts' published price assessments due to their perceived quality (compared to those published by Platts' competitors in this field).

Even more important is the fact that bids and offers can be tested with the market as participants must be willing to buy or sell at the values they submit to Platts. Market participants may check others' bids or offers by themselves stepping into the market in the way of delivering their own bids and offers, or by reacting to the bids and offers of others.¹⁷ This should work as a self-correcting/policing mechanism which underlies the reason for the high degree of transparency for the participants in the Platts system.

Beyond that, Platts performs a monitoring exercise in a more technical way. The bidding process is monitored instantly, e.g.: by validating the inputs as well as by analyzing and intervening ex-post.

For example, Platts could monitor cases in which a market participant fails to respond to a potential counterparty wishing to do business.

Ex-post monitoring is especially applied in cases where disputes arise over the performance of the contract. In these cases Platts assumes also – at least to a certain extent – the role of a mediator between the parties concerned. Platts may facilitate resolution of disagreements between parties to bilateral transactions, and if needed may recommend a basis for resolution, in furtherance of the goal that transactions that are reported to Platts should be performed so as to ensure that they properly represent market conditions. (See above chapter D.2.2.: Rules underlying the bidding process.)

If Platts determines that a participant in the price assessment process has breached the guidelines of a methodology, Platts might choose to exclude that party from the assessment process altogether¹⁸. According to information provided by Platts, in case of a serious breach of the guidelines, Platts will conduct a review, which will typically involve discussions with the participant's management to gain assurance that Platts' methodologies will be followed in the future. Platts underlines that the senior editorial management at Platts will only make a decision to exclude a participant after a consultative process among Platts' staff and the relevant participant. Platts takes the view that it tends to err on the side of caution and that it is quite common to exclude bids and offers

¹⁷ It should be made clear that this description is not a competitive assessment. No conclusions can be drawn concerning the underlying structure.

¹⁸ It should be noted that the market participant will still be free to trade.

from certain participants for a limited amount of time. In 2009, Platts excluded infringing participants approximately 70 times across the various MOC processes for crude oil and refined products in Europe, but many exclusions were only for a short period and this only represents a small fraction of the total participation in the price assessment processes for the various markets during that period.

D. Statistics

In this chapter the structural and statistical features of the data provided by Platts will be analyzed. Starting with a description of the data base, their basic facts, theoretical distribution, and the chosen sample size, a statistical analysis of the traders will take place. Also the Platts price assessments will be the subject of our statistical analysis. Furthermore, the representativeness of the Platts price assessments will be discussed.

1. The Data Base

For reasons of research economy we considered restricting the data to the most relevant products and geographical markets regarding the Austrian fuel market:

- (i) Premium gasoline (10 ppm) on barges FOB Rotterdam
- (ii) Premium gasoline (10 ppm) on cargoes CIF NWE/Basis ARA
- (iii) Diesel (10 ppm) on barges FOB Rotterdam
- (iv) Diesel (10 ppm) on cargoes CIF NWE/Basis ARA

With regard to the resources available we also decided to limit the time span under investigation to 1 year. In May 2009, the eWindow was launched by Platts for North Western European gasoline barges. Thus, we came to an agreement that market data provided on the part of Platts will be restricted from the 19th of May 2009 to the 18th of May 2010. Since the eWindow system is not yet available for the other 3 markets, North West European diesel barges and North West European gasoline/diesel cargoes, a sample of 40 days has been randomly drawn

by the FCA for these markets. A discussion of the reasonableness of the sample size will follow later.

Platts transmitted the following statistical data referring to the 4 markets already described:

- (i) The trade date
 - (ii) The buyer company
 - (iii) The seller company
 - (iv) The resulting price
 - (v) The trade volume
 - (vi) The maximum price on the day in question
 - (vii) The minimum price on the day in question
 - (viii) The weighted average price for summer and winter gasoline
 - (ix) The closing price (i.e. the published Platts price assessment)
- } If a contract (trade) came about

1.1. Basic Facts

This section shall summarize the findings with respect to the 4 markets defined.

- **Gasoline on Barges FOB Rotterdam**

Excluding days where no market activity has taken place (e.g. weekend, bank holiday) data for 253 trading days with 1,567 contracts concluded has been achieved. These are on average 6.19 contracts per day. Figure 3 below shows a classification of the number of contracts per day with the corresponding relative frequency. It can be seen that in more than 60% of the trading days the total number of contracts concluded per day is between 0 and 5.

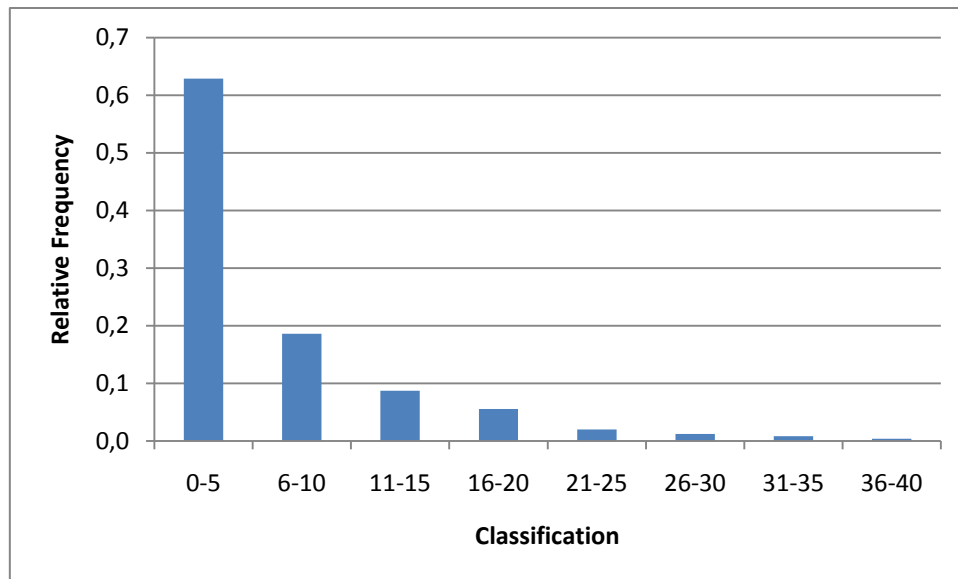


Figure 3 Number of Contracts per Day, Gasoline Barges FOB Rotterdam

The size distribution of the contracts is uniform so that each contract covers a trade volume of 1,000 metric tonnes. The average contract price¹⁹ is \$ 690.64 whereas the corresponding mean of the published Platts price assessment is \$ 689.50.²⁰ The maximum contract price in that time period is \$ 809.00 while the minimum price is \$ 559.00.

The highest price on a trade date at which a participant wanted to sell gasoline barges is on average \$ 689.89. The lowest bidding price at which a company wanted to buy the product is on average \$ 689.39. The average price for summer gasoline (05/19/2009 - 09/22/2009 and from 03/22/2010 - 04/22/2010) is \$ 681.67 and the average price for winter gasoline (09/16/2009 - 03/22/2010) is \$ 691.20. The average of the summer and winter blends in that time period is \$ 686.44.

¹⁹ The precise term would be "the average from the daily average contract price". This is also true for the other 3 remaining markets.

²⁰ As explained further in section 3 below, there may be a number of reasons for a difference, including the existence of clusters of consummated trades at certain levels (whereas Platts looks at a wider range of factors in reaching its price assessments), transaction-specific factors, and temporal differences (due to intra-day volatility reflected in the average contract price whereas Platts price assessment reflects the market value at close).

- **Gasoline on Cargoes CIF NEW/Basis ARA**

As already mentioned, Platts supplied a sample randomly drawn from 40 trading days together with the corresponding data already mentioned. In total, 11 contracts have been concluded in these 40 days where of 3 were negotiated on the same day. Thus, the average is 0.3 trades per day. This small number is a reflection of the low levels of spot market activity due to the large size of cargoes. Figure 4 shows that the number of all contracts concluded in that market per day lies between 0 and 5. More precisely, on 30 days of the random sample the total number of trades per day is 0 (one of those days is the 31st of August 2009, a bank holiday in the UK). On 8 days 1 contract per day was concluded. One remaining day shows a total number of contracts concluded per day of 3.

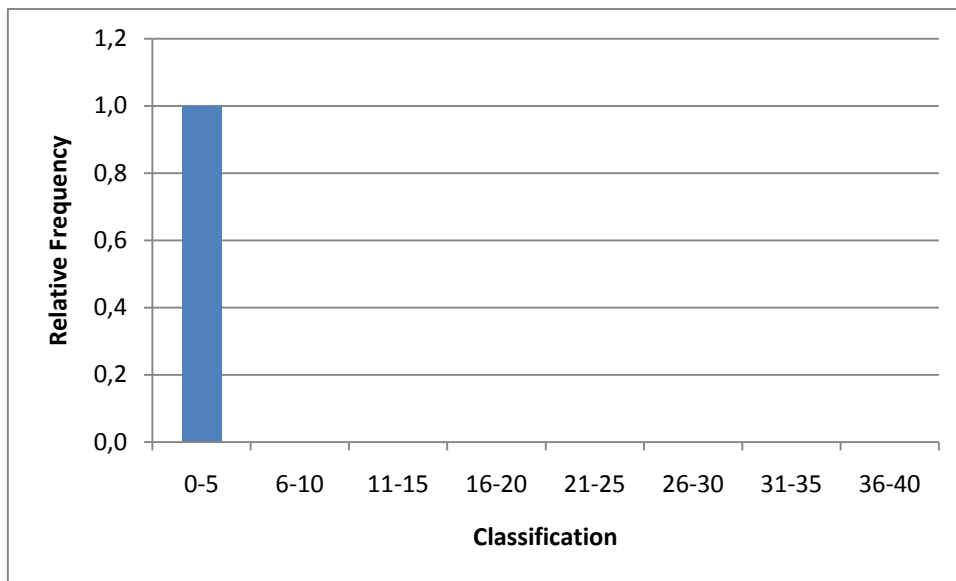


Figure 4 Number of Contracts per Day, NWE Gasoline Cargoes

6 contracts were concluded with a trade volume of 10,000 metric tonnes, 1 contract with 30,000 metric tonnes, and 4 contracts with 27,500 metric tonnes. Using the volume as weights, the average contract price for this random sample is \$ 687.28. The mean value of the Platts price assessment for those days where a contract could be concluded is \$ 696.67. The sample shows a maximum contract price of \$ 781.00 and a minimum of \$ 607.00.

The highest and lowest price at which participants wanted to sell/buy the commodity is on average \$ 709.89 and \$ 709.39 respectively.

- **Diesel on Barges FOB Rotterdam**

For this market we also received data for 40 trading days. The total number of contracts concluded on these days is 206, which gives a mean value of 5.15 contracts per day. The data for the barges market shows more trades compared to the cargoes market. This will also become apparent when looking at the NWE diesel cargoes. As supplied before figure 5 provides a classification with respect to the number of contracts per day and the corresponding relative frequency. In more than 57% of the days for which data was provided the total number of contracts concluded was between 0 and 5. About 38% of the conveyed cases showed a total number of contracts between 5 and 10 per day. In 5% a total number of contracts between 10 and 15 per day could be concluded.

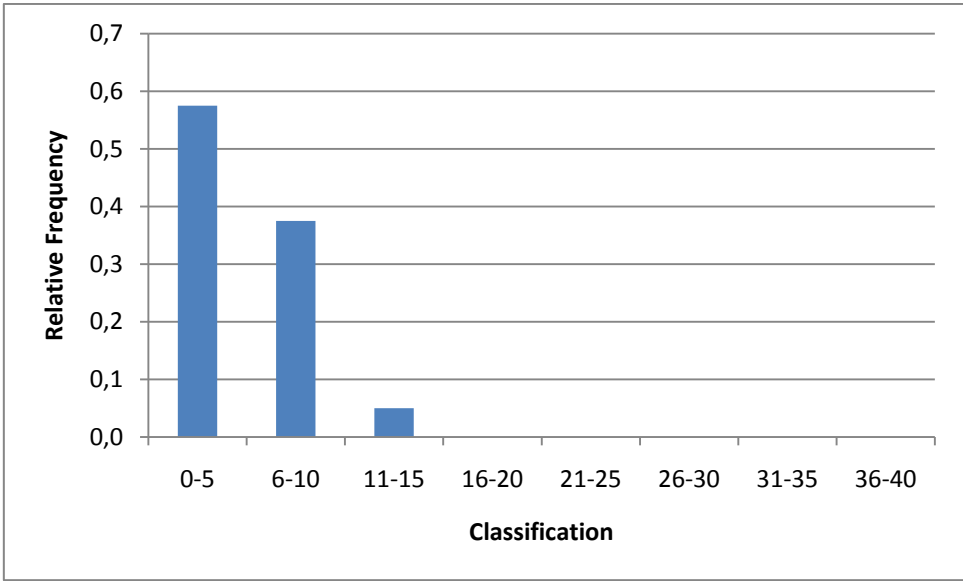


Figure 5 Number of Contracts per Day, Diesel Barges FOB Rotterdam

The trade volume per contract is normalized to 1,000 metric tonnes in the diesel barges market. The average contract price in this market is \$ 630.88 while the mean value of the corresponding Platts price assessment is \$ 631.64. The maximum contract price in that market is \$ 730.50 and the minimum is \$ 474.50.

The average intra-day highs and lows at which participants were willing to sell/buy is equal to \$ 698.25 and \$ 697.75 respectively.

- **Diesel on Cargoes CIF NWE/Basis ARA**

The sample size is again 40 days in which no deals were reported on 17 days (again including the bank holiday in UK). 52 contracts were concluded in these 40 days, which gives a mean value of 1.3 contracts per day (i.e. on days where deals have been negotiated the mean value is equal to 2.3 contracts per day). If looking at figure 6 it can also be seen that the random sample for this market shows only trading days with a total number of contracts concluded between 0 and 5 per day. Nevertheless, the structure of this market is a little bit different compared to the gasoline cargoes market since , in this market, not only a total number of contracts per day between 0 and 1 but also between 0 and 5 have been realized.

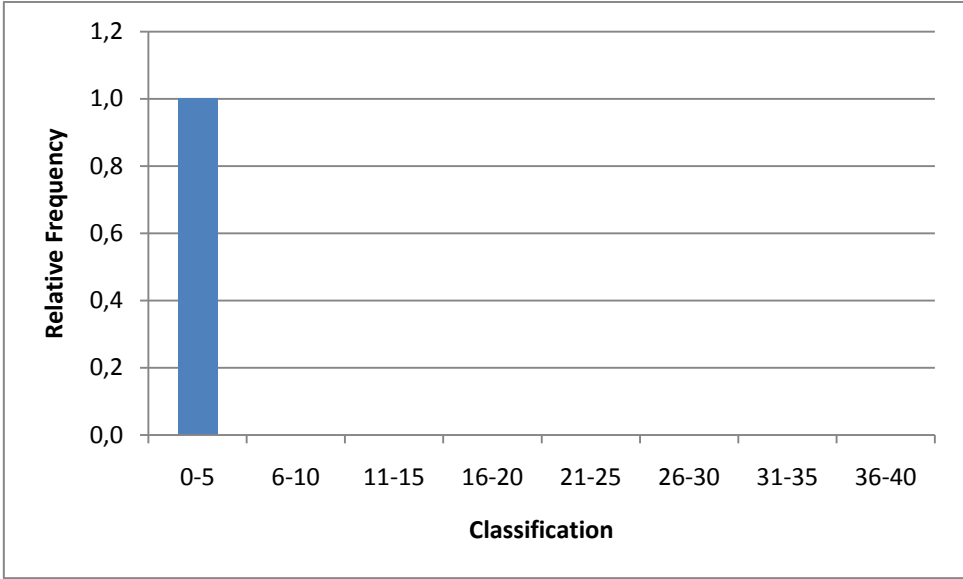


Figure 6 Number of Contracts per Day, NWE Diesel Cargoes

The volume traded varies between 10,000 (in 11 cases) and 30,000 (in 5 cases) metric tonnes whereas the most traded volume size is 20,000 tonnes (in 24 cases). The weighted average contract price equals \$ 654.64 and the mean value of the Platts price assessment where a contract could be concluded is \$ 655.37. The overall average of the Platts price assessment is \$ 635.82.

The highest price on a trade date at which a company is willing to sell their product is on average \$ 636.32. The lowest price at which a company is willing to buy is on average \$ 635.32.

1.2. Statistical Properties of Distribution and Reasoning Sample Size

In this section the defined 4 markets are discussed with regard to their underlying theoretical distribution function and reasons for the sample size chosen listed.

First of all we have to mention something about the time flow regarding the data obtained. Since only in the eWindow the data requested are easy to provide, Platts transmitted in a first step these available data for gasoline barges FOB Rotterdam for a time span of 1 year. We then had a look at the empirical and appropriate theoretical distribution since we wanted to infer from the distribution of this market a hypothesis as to the distributions of the other 3 markets. Figure 7 shows the corresponding Q-Q-plot. If the characteristic values arise from the distribution function with which they are compared then the empirical and theoretical quantiles have to be approximately identical, i.e. the values are located on the line. A comparison with numerous other distribution functions (e.g.: normal distribution, logistic distribution, extreme-value distribution, student's t distribution) shows that the exponential distribution function will fit best.

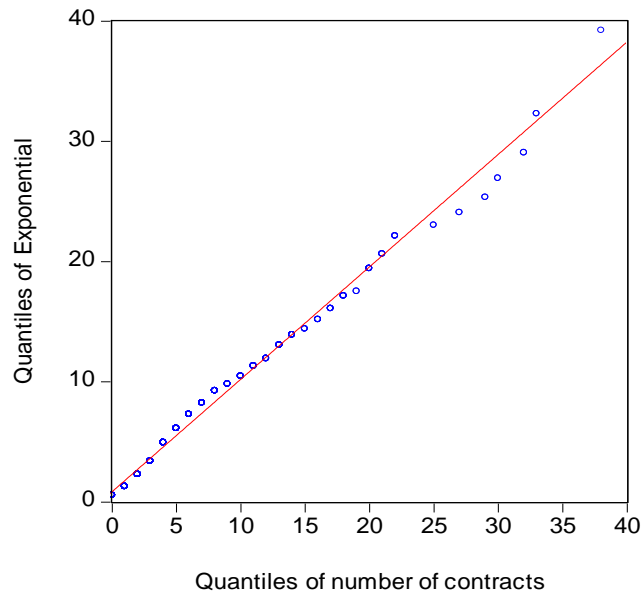


Figure 7 Q-Q-Plot for NWE Gasoline Barges

The tightness of the fit can also be seen in figure 8 where the number of contracts per day is shown in the form of a histogram together with the most adequate distribution function, the exponential distribution.

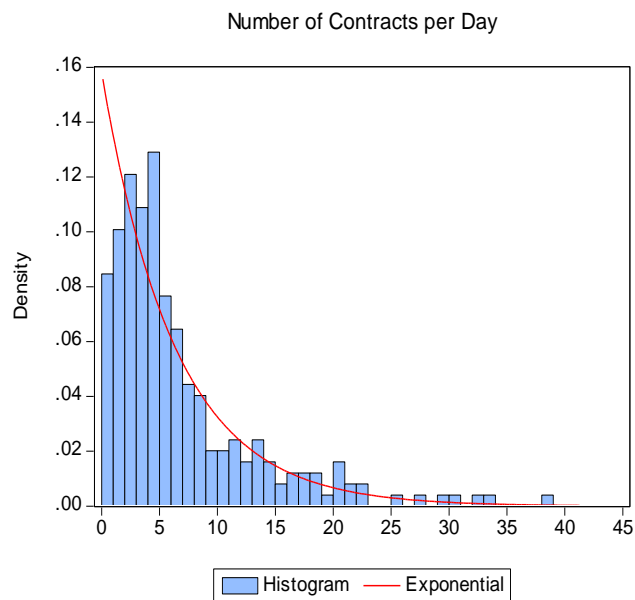


Figure 8 Distribution of NWE Gasoline Barges

Thus, we hypothesized that all other 3 markets unknown to us will follow an exponential distribution. Having that in mind we attempted to find a sample size

which is large enough to represent the ongoing market activities and simultaneously keep the time and effort on the part of Platts as reasonable as possible.

The $(1-\alpha)$ confidence interval for the expected value μ of the number of contracts per day in the exponential distribution model is given as follows:

$$\hat{I}_{\mu} = \left[\frac{2n\bar{X}}{\chi_{2n,1-\frac{\alpha}{2}}^2}, \frac{2n\bar{X}}{\chi_{2n,\frac{\alpha}{2}}^2} \right]$$

Since we have data for 253 days with the average number of contracts per day of 6.19; we received a confidence interval for an error rate of 5% of [5.6; 7.18]. Thus, we calculated that we would need a sample size of 27²¹ and for that reason we requested Platts to provide data for 40 random days (chosen by the FCA) for each remaining market.

After receiving the data we recognized that the distribution is very different within each market. In particular we were surprised about the cargo markets because there the market activity is very low. For that reason we asked Platts to increase the sample size for the cargoes market (additional data for 120 days for the gasoline cargoes market and additional 32 days for NWE diesel cargoes were requested) in order to receive samples which include at least 40 days where a contract has been concluded. However, due to the enormous amount of work (every contract has to be transferred individually) it was not possible within the time allotted to get data for more than 40 days.

The figures below illustrate each of the 40 days (x-axis) with the corresponding number of contracts concluded on that day (y-axis).

²¹ Using the sample size calculator from Creative Research Systems, <http://www.surveysystem.com/sscalc.htm> [access on 07/20/2010]

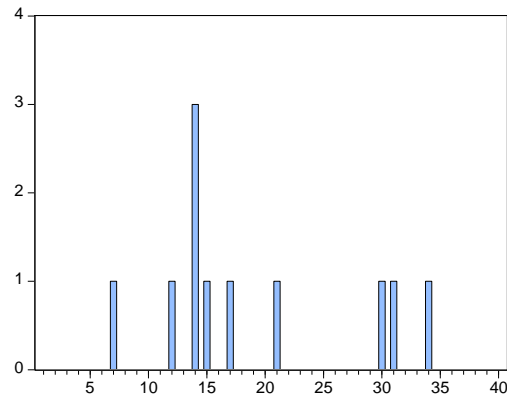


Figure 9 Total Number of Contracts Concluded per Day, NWE Gasoline Cargoes

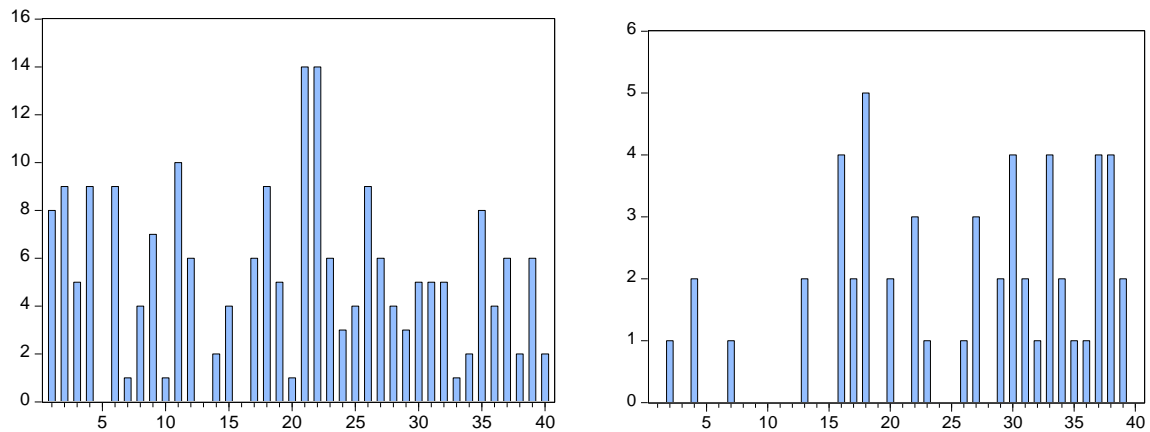


Figure 10 Total Number of Contracts Concluded per Day, Diesel Barges FOB Rotterdam (left) and NWE Diesel Cargoes (right)

Thus, a sample size of 40 seems to be too low especially for the cargo markets. Nevertheless, some observations can be made.

2. Statistical Analysis of Participants (Traders)

In this chapter a statistical analysis of the participants who are reporting trading information to Platts will take place. First, the structure of the traders will be spotlighted. We have separated the trading companies into the following 3 categories:

- Vertically integrated companies, so called majors:
This group is active in every production stage, i.e. exploration, refining, wholesale, and retail.
- Independent traders, called traders:
This type cannot be found at every stage of the value chain. However, they can be active in more than one production stage (e.g.: refining and wholesale, refining and retail).
- Companies for which petroleum products do not belong to their main business. These are only financial institutions and therefore called financials.

Afterwards the different (weighted) average contract prices between this company groups will be discussed.

2.1. Structure of the Traders

We again start with the sample data provided for the gasoline barges market. On the buyer side there are 16 different companies which are responsible for the 1,567 contracts concluded within 1 year. In total, 17 different seller companies participated in the eWindow. Figure 11 illustrates the fragmentation into the buyer's company's main business areas. As mentioned above traders are defined as companies which are trading petroleum products independently, i.e. without being part of a vertically integrated oil company. Financial institutions which do not have their main business in the oil market are expressed through the green color. Majors denote oil companies which are operating on every production stage.

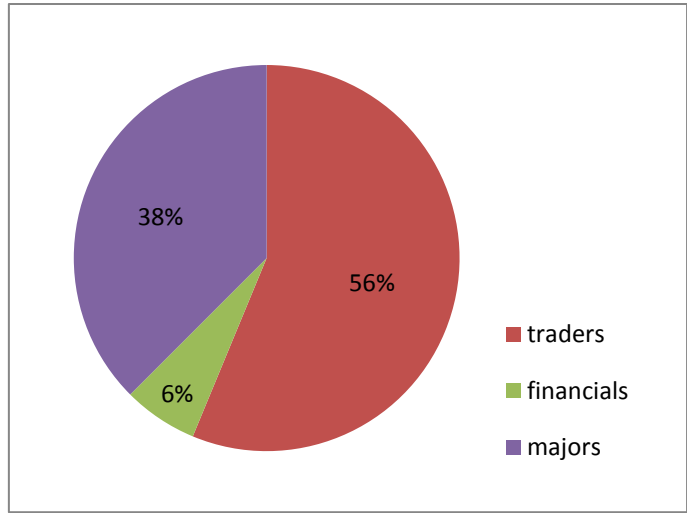


Figure 11 Gasoline Barges, Buyer Companies

The same has been done for the seller companies, which is shown in figure 12.

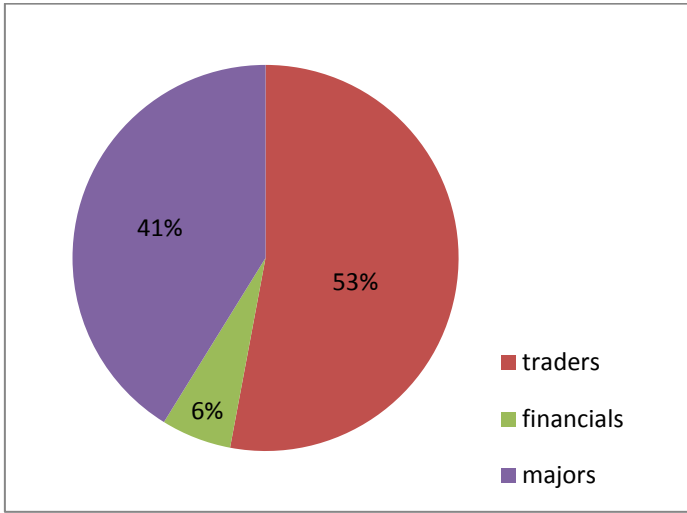


Figure 12 Gasoline Barges, Seller Companies

The data for the time span 05/19/2009 - 05/18/2010 indicates that the proportion of the different types of companies varies only a little bit depending on whether they bought or sold gasoline barges FOB Rotterdam. More than half of the buyer and seller companies are independent traders. In the year under examination, independent traders used the eWindow provided by Platts more often if they performed as a buyer (56% of the buying companies are independent traders).

The above pie charts only show a categorization of the companies which concluded a contract within one year but they do not illustrate how many

contracts each company type successfully negotiated. Thus, table 1 unites this information. The trade volume will not be shown for the barges market since this is normalized to 1,000 metric tonnes each.

	Buyer	Seller
Traders	1,029	541
Financials	46	107
Majors	492	919
Total Number of Contracts	1,567	1,567

Table 1 The Total Number of Contracts Concluded by the Different Company Types, Gasoline Barges

If comparing the data for the buyer and seller companies in table 1 with the corresponding pie charts, it can be seen that the traders will be represented through the same percentage but those of them who were buying concluded nearly twice as much contracts within that year.

The same is true for the majors: This company group is almost equally represented within the different buyer and seller companies but this company group sold nearly twice as much as they have bought.

The random sample for the North Western European gasoline cargoes shows that 7 buyer companies negotiated 11 contracts in total. The seller side contains 5 companies. Figure 13 demonstrates the ratio of the different company categories which showed up on the buyer side.

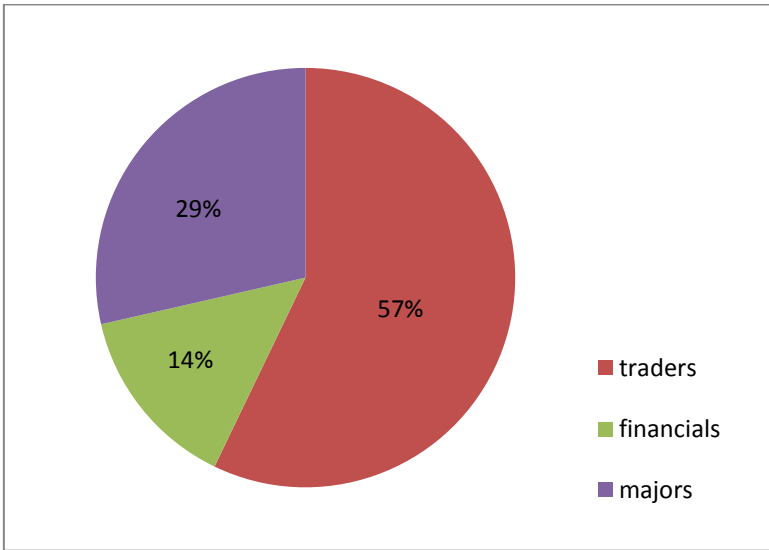


Figure 13 NWE Gasoline Cargoes, Buyer Companies

On the other hand figure 14 demonstrates the same classifications for companies which sold NWE gasoline cargoes. Also in the cargoes market the proportion of the company type varies according to their role. For example on the seller side 60% of the companies were added to the major category while on the buyer side this group will only account for 29%.

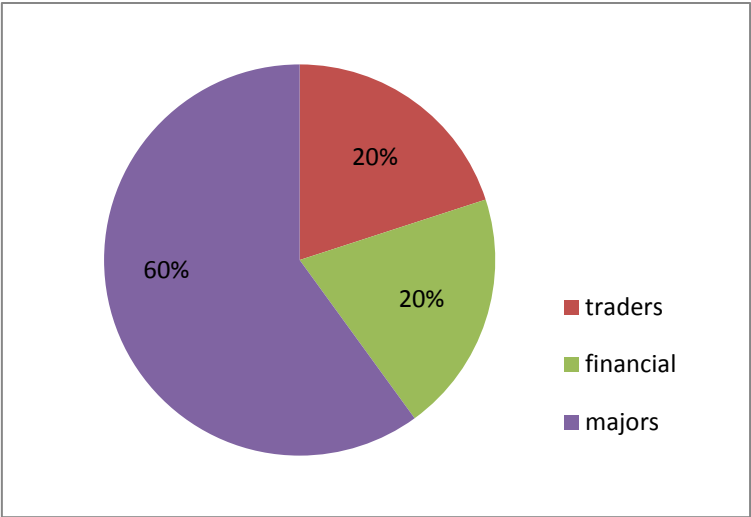


Figure 14 NWE Gasoline Cargoes, Seller Companies

As before, table 2 summarizes the total number of contracts concluded by the specified company categories as well as the corresponding volume traded.

	Buyer		Seller	
	No. of Contracts	Volume	No. of Contracts	Volume
Traders	7	105,000	2	20,000
Financials	1	27,500	1	10,000
Majors	3	67,500	8	170,000
Total	11	200,000	11	200,000

Table 2 The Total Number of Contracts Concluded by the Different Company Types, NWE Gasoline Cargoes

The table above shows that the most contracts were negotiated by independent traders with a trade volume of 105,000 metric tonnes as buyers on one hand and by vertically integrated oil companies with a volume of 170,000 metric tonnes on the other.

The sample for the diesel barges market features a total number of companies involved of 29 on the buyer and 19 on the seller side. Those companies were responsible for 206 contracts negotiated. The following figure will illustrate the composition of the company types in that market.

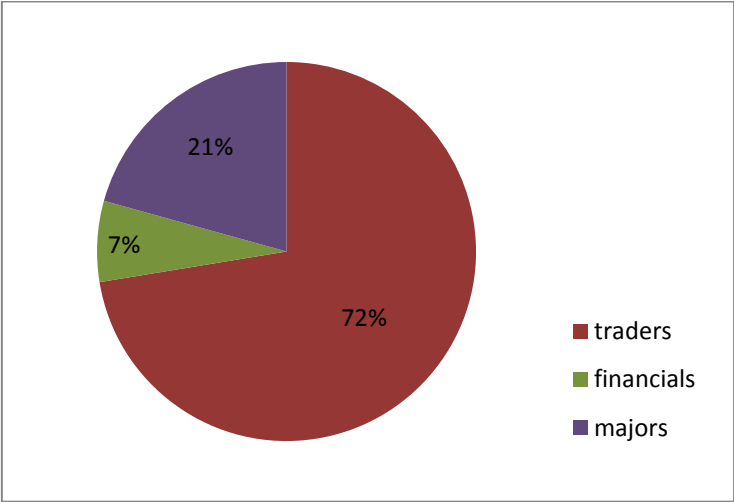


Figure 15 Diesel Barges, Buyer Companies

Most of the companies which recorded as having bought diesel barges in the sample data are independent traders, followed by the major companies which represented 21% of the different company groups. Financial institutions account for 7%.²²

Figure 16 shows the formation for the seller companies.

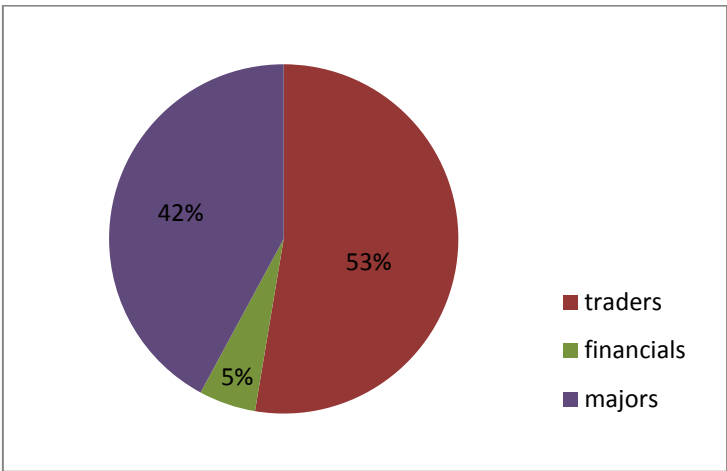


Figure 16 Diesel Barges, Seller Companies

²² Thus, financial institutions play a marginal but as Platts stated a growing role.

The graph shows that within the group of the seller companies the independent traders are less present than in the buyer group where they represent 72% of the different buyer company types. The contrary is true for the major group: They take up 21% on the buyer and 42% on the seller side.

Table 3 shows how many contracts each company type successfully negotiated in the sample data.

	Buyer	Seller
Traders	116	45
Financials	15	20
Majors	75	141
Total Number of Contracts	206	206

Table 3 The Total Number of Contracts Concluded by the Different Company Types, Diesel Barges

Majors which sold diesel barges represented 42% of the seller companies but they concluded 141 contracts out of 206. The independent traders which accounted for 53% within the sellers only negotiated 45 contracts in total.

An inspection of the sample data provided in respect of the North Western European diesel cargoes shows that 14 buyer companies and 15 seller companies negotiated the 50 contracts already mentioned. Figure 17 below shows how the companies were categorized in the sample data.

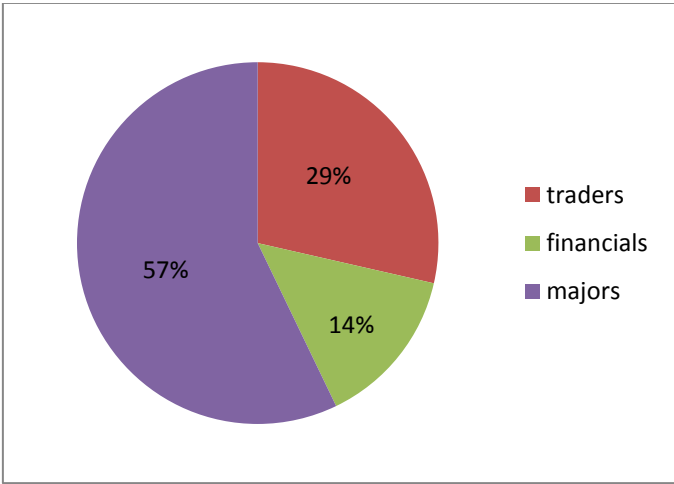


Figure 17 NWE Diesel Cargoes, Buyer Companies

If comparing the above graphic with the one which illustrates the different types of seller companies shown below, it can be seen that these two figures are only different for two categories: For independent traders and financial institutions.

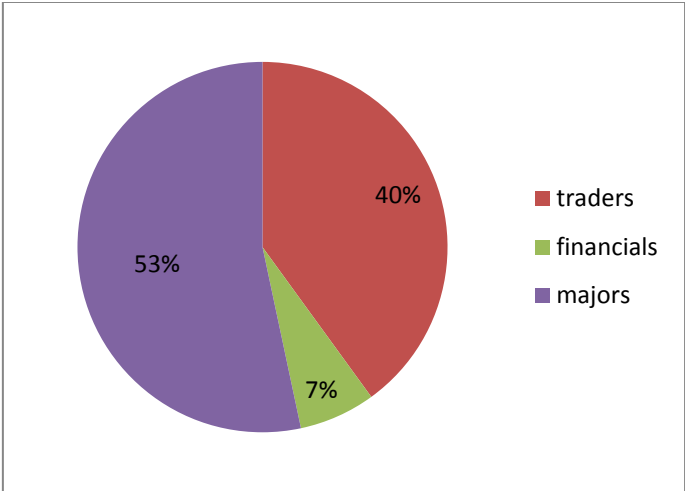


Figure 18 NWE Diesel Cargoes, Seller Companies

Finally, the table with the total number of contracts concluded within each category is shown as well as the corresponding trade volumes below. As shown in the two figures above the group of the majors is the dominant company type. This could also be confirmed if looking at the volume traded.

	Buyer		Seller	
	No. of Contracts	Volume	No. of Contracts	Volume
Traders	8	162,000	20	395,000
Financials	3	85,000	3	40,000
Majors	39	691,250	27	503,250
Total	50	938,250	50	938,250

Table 4 The Total Number of Contracts Concluded by the Different Company Types, NWE Diesel Cargoes

So far, we have shown the distribution of the different company types among the 4 markets under investigation. In the next section, we will discuss the weighted average contract prices with respect to the implemented categories.

2.2. Contract Prices and the Company Types

As with the rest of the report we will discuss the matter separately for the 4 product markets of our interest, starting with the gasoline barges market.

- **Gasoline on Barges FOB Rotterdam**

	Buyer	Seller
Traders	677.10	678.08
Financial	672.53	691.64
Majors	685.10	678.88

Table 5 The Weighted Average Contract Price for the Different Company Categories, Gasoline Barges

The table above shows the mean values of the contract prices within the different company types. It can be seen that the financial institutions made the best deals in the sample data since their difference between selling price and purchase price is highest on average. The worst bargain was made by the major companies - they had to pay more on average than they could achieve from selling the product.

- **Gasoline on Cargoes CIF NWE/Basis ARA**

	Buyer	Seller
Traders	686.86	668.00
Financial	781.00*	717.00*
Majors	649.74	687.79

* Only 1 observation.

Table 6 The Weighted Average Contract Price for the Different Company Categories, NWE Gasoline Cargoes

The best deals in the sample data were made by the major companies since the difference between their average selling and purchase price was the highest. This is also the only company type which shows up a higher selling price compared to

the cost price. In fact nothing could be said about the financial institutions since the data in the table shown above result only from 1 observation.

- **Diesel on Barges FOB Rotterdam**

	Buyer	Seller
Traders	622.25	635.18
Financial	604.64	628.90
Majors	629.24	633.25

Table 7 The Weighted Average Contract Price for the Different Company Categories, Diesel Barges

The table above shows that within the diesel barges market sample data the financial institutions were best off since the average difference between the selling and the purchasing price was \$ 24.50. The lowest difference was achieved within the major group.

- **Diesel on Cargoes CIF NWE/Basis ARA**

	Buyer	Seller
Traders	655.65	652.01
Financial	646.01	677.25
Majors	657.45	657.62

Table 8 The Weighted Average Contract Price for the Different Company Categories, NWE Diesel Cargoes

The best deals in the sample data were made by the financial institutions since on average their selling price was about \$ 29 higher than their purchasing price. The majors achieved the second best result in the sample. Only the independent traders showed a negative difference between the selling and purchase price in the sample.

Finally it can be said that the financial institutions made on average the best deals in both barges markets and in the diesel cargoes market sample data. The majors obtained the best result within the gasoline cargoes market. In both barges markets sample data the worst deals were made on average by the major companies, and in both cargoes markets the independent traders made on average the worst bargain.

The next chapter will deal with the assessment price, i.e. the Platts notation, especially compared to the (weighted) average contract price.

3. Statistical Analysis of Assessment Price

In this chapter the daily assessment prices within the 4 markets under investigation will be compared to the daily weighted average contract prices to detect systematic deviations.

In a first step we divided the data into 2 subgroups: Days on which at least one contract has been concluded and into days where this was not the case. Afterwards we looked at differences between the daily Platts price assessments and the weighted average daily contract prices. Additionally we analyzed the data for dates where no contract has been negotiated. We did this by comparing the published Platts assessment for such a day with the assessment a day before where a contract has been negotiated.

3.1. Platts Price Assessments versus Average Contract Prices

As usual, we describe this issue separately for the 4 markets.

- **Gasoline on Barges FOB Rotterdam**

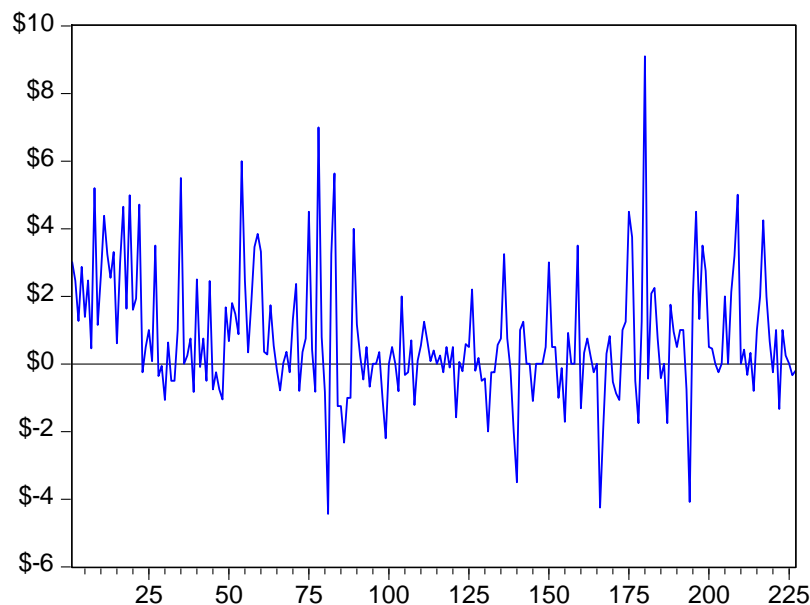


Figure 19 Difference Between the Daily Average Price and the Daily Platts Price Assessment, Gasoline Barges

On 227 days at least one contract has been concluded. The figure below shows the difference between the average price and the Platts price assessments for the 227 days. The horizontal line at the 0-point of the y-axis indicates that there is no difference between the Platts assessments and the mean values on a particular day. Furthermore, figure 19 illustrates that the average price is generally higher than the Platts assessment.

There are a number of potential reasons why the price assessment could differ from the daily weighted average contract prices:

For the purposes of this analysis we worked strictly with data representing consummated transactions. According to the Platts price assessment methodologies, bids and offers are also taken into account in determining the end-of-day price assessment and are especially important on those days when no deals are transacted or when deals are superseded by higher bids or lower offers. It should be noted that the price of consummated trades is affected by transaction specific factors, e.g.: quality, location, which Platts has to try to normalize for the purposes of the published price assessment. There is also a

temporal difference in that the Platts price assessment reflects the end of day price ("market on close") whereas the weighted daily average captures intra-day movements.

- **Gasoline on Cargoes CIF NWE/Basis ARA**

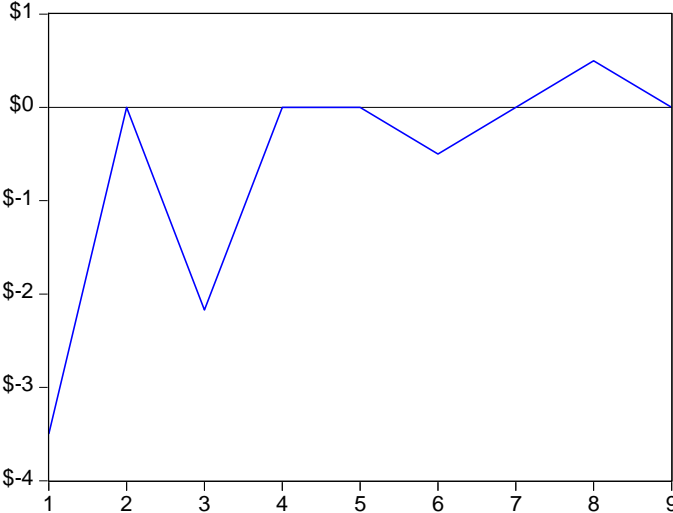


Figure 20 Difference Between the Daily Weighted Average Price and the Daily Platts Price Assessment, NWE Gasoline Cargoes

The random sample shows 9 days at which at least 1 contract has been successfully negotiated. In fact, on 8 days 1 contract could have been conducted and on 1 day 3 of them were negotiated. Only on the 27th of July 2009 (the 1st observation in the graph below) a clear deviation of \$ 3,50 from the average value (which is only 1 contract on that day) has taken place. On that day a contract with a trade volume of 27,500 metric tonnes for a price of \$ 671.00 has been concluded. The published Platts assessment price for that day equals \$ 674.50. A noticeable difference can also be seen on the 12th of October 2009 (3rd observation in the graph). The weighted average contract price on that day is \$ 641.00 whereas the published assessment price is \$ 643.50. In all other 7 cases the average values and the Platts notations are almost the same.

- **Diesel on Barges FOB Rotterdam**

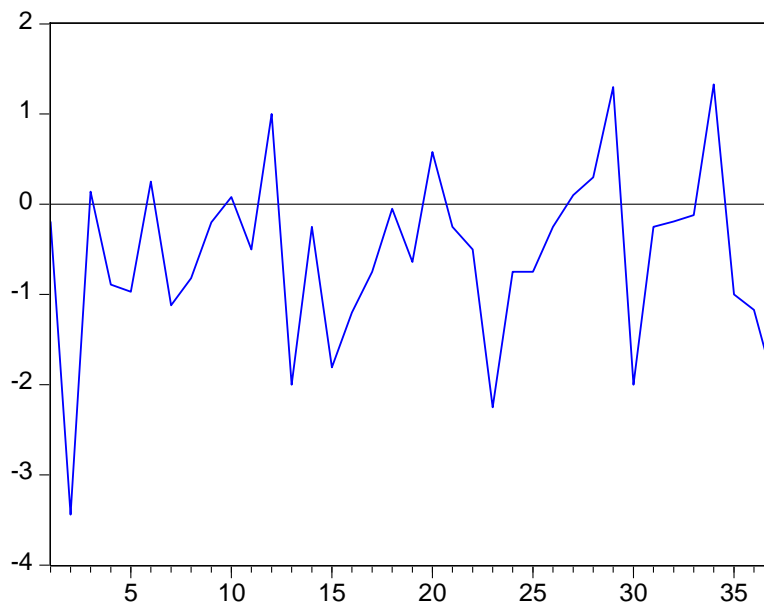


Figure 21 Difference Between the Daily Average Price and the Daily Platts Price Assessment, Diesel Barges

The sample size includes 37 days at which at least one contract has been negotiated. Figure 21 illustrates the biggest deviation on the 4th of June 2009 (the 2nd observation in the graph). On that day 9 contracts with a weighted average contract price of \$ 566.56 has been concluded. The Platts price assessment published for that day equals \$ 570.00. This graph illustrates that for the sample data on the diesel barges market the average prices are by trend lower than the Platts price assessments.

- **Diesel on Cargoes CIF NWE/Basis ARA**

This random sample included 23 days at which contracts have been successfully negotiated. On the 27th of July 2009 (the 3rd observation in the graph) only 1 contract was concluded. The corresponding contract price is \$ 585.75 while the Platts price assessment for that day is \$ 589.50. The difference between the average contract price per day and the Platts price assessment also differs significantly on the 25th of February and on the 13th of April 2010 (observation 14 and 22 alternatively). On these days the weighted average contract price equals

\$ 635.54 and \$ 719.47 respectively. The corresponding assessment price is \$ 640.25 and accordingly \$ 723.50.

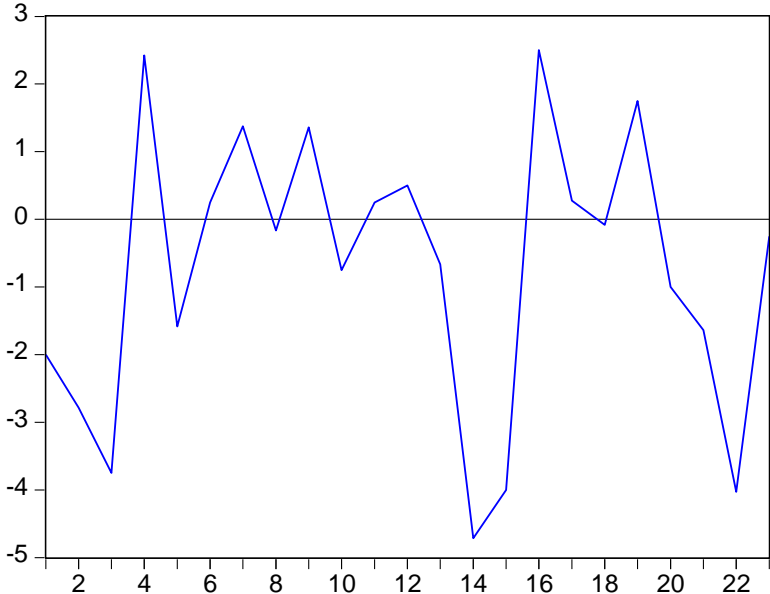


Figure 22 Difference Between the Daily Weighted Average Price and the Daily Platts Price Assessment, Diesel Cargoes

As already mentioned, the data provided by Platts also includes days where no contracts have been successfully negotiated. Nevertheless, on these days a Platts price assessment is published. Therefore, we will look at that issue in the following section.

3.2. Platts Price Assessments on Days Without Any Contract Concluded

As supplied before we will start with the gasoline barges market, followed by the NWE gasoline cargoes market. After that the two remaining diesel markets will be discussed.

- Gasoline on Barges FOB Rotterdam**

The data provided by Platts indicate that on 26 days no contracts have been negotiated. Nevertheless, Platts price assessments for these days exist. For that reason we will have a look at the Platts price assessments published for those

days and the previous Platts price assessments which were published on the basis of contracts concluded. The difference between the previous price assessments and the price assessments for days without any contract is illustrated in figure 23 below. The blue line has to coincide with the horizontal line located at the 0-point of the y-axis if the price assessment published without any contract concluded is equal to the previous price assessments where a contract has been negotiated. The graph below does not detect a systematic process in that sense that the assessment prices on days without any contract concluded will be pre-assessed functions of preceded assessment prices where contracts were successfully negotiated. Thus, it can be concluded that some other market relevant informations will also influence Platts assessment prices, especially if no contracts have been negotiated. As noted above, this market information includes factors such as the spread of the bids and offers observed in the market, derivatives, values of related products, etc.

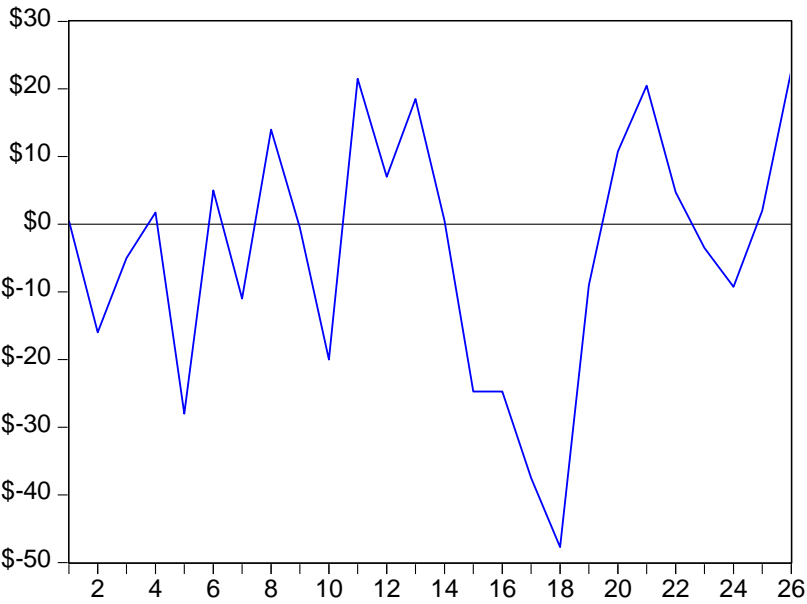


Figure 23 Difference Between Previous Platts Assessment Prices and Assessment Prices Without Any Contract Concluded, Gasoline Barges

Since this result is also true for the other 3 markets (i.e NWE gasoline cargoes, diesel barges, and NWE diesel cargoes), we abstain from publishing these graphs.

In the next chapter the representativeness of the Platts price assessments will be discussed.

4. Representativeness of Platts

In this chapter we estimate which part of the total market volume is reported via Platts. Since exact data for the total market volume is not available we will carry out the calculations approximately.

Starting with the product markets on barges FOB Rotterdam, the most important route of transport will be the river Rhine. To calculate the total market volume traded we will use yearly consumption data for the products gasoline and diesel from the following regions which we obtained from the International Energy Agency for the year 2008:

- The Western part of Germany. The yearly consumption data regarding Germany was simply divided in halves since the calculations done here should only provide a guide line for the percentage traded via Platts.
- The Netherlands
- Switzerland
- Alternatively, we also included half of the Belgium consumption to the estimated total market volume.

Regarding the product markets on cargoes CIF NWE/Basis ARA we included to regions mentioned below to approximately define the total market volume.

- The Northern part of France. Therefore, we also simply divided the yearly consumption volumes in halves to obtain the approximately total trade volume for this market.
- The United Kingdom
- Belgium
- Switzerland
- Germany

- The Netherlands
- Denmark
- The Southern part of Norway and Sweden. Therefore, the calculations were also done identically to those before.

Including these regions will give us a broad approximation of the relevant total market volume – sometimes there is maybe too much included and sometimes maybe too little so that in the main it will fit.

Regarding the 3 markets where we only obtained a random sample we have to note that in these cases we multiplied the daily average volume traded with 253, i.e. the number of trading days in the gasoline barges market (weekends, holidays, etc. excluded) to obtain an estimate for the trade volume in the objective year.

It should be noted that in the markets in question the overwhelming majority of production is likely sold under term contracts whereas Platts only reports on spot trades. Platts estimates that spot trading accounts for 5-10% of global oil production. Moreover, Platts noted that their coverage of the spot market will therefore likely to be significantly higher than our analysis suggests.

- **Gasoline on Barges FOB Rotterdam**

The data provided by Platts showed a trade volume within that year of 1,567,000 metric tonnes. The corresponding total market volume will be estimated via the data provided by the International Energy Agency which is shown in the table below.

CONSUMPTION		
TIME	2008	(Unit: Thousand Metric tonnes)
	Motor Gasoline	Transport Diesel
Belgium	1,439	7,055
Denmark	1,713	2,427
France	8,035	30,061
Germany	19,937	25,361
Netherlands	4,151	6,512
Norway	1,292	2,086
Sweden	3,363	3,782
Switzerland	3,373	2,161
United Kingdom	16,663	20,573

Table 9 Consumption Data

Taking the consumption data for the above mentioned regions we obtain a total market volume of 17,492,500 metric tonnes (without the Belgium data) and of 18,212,000 metric tonnes (including half of the volume consumed by the Belgians) respectively.

Thus, Platts may cover some 8.9% and 8.6% respectively of the total consumption in the market.

- **Gasoline on Cargoes CIF NWE/Basis ARA**

The random sample for this market shows a trade volume of 200,000 metric tonnes concluded within 40 days, i.e. the daily average trade volume is equal to 5,000 metric tonnes.

Multiplying these 5,000 metric tonnes with 253 trading days will give a total volume traded via Platts of 1,265,000 metric tonnes.

Taking the above defined regions into account will give a total market volume of 49,470,000 metric tonnes.

Thus, Platts may cover some 2.6% of the total market volume.

- **Diesel on Barges FOB Rotterdam**

The random sample provided by Platts shows a daily average trade volume of 5,150 metric tonnes. Again multiplying with 253 trading days will give a yearly volume traded via Platts of 1,302,950 metric tonnes.

Comparing this volume with the total market volume of 21,354,000 metric tonnes and 24,881,000 metric tonnes respectively will give a percentage of 6.1 and 5.2 respectively.

- **Diesel on Cargoes CIF NWE/Basis ARA**

The random sample for this market shows a daily average trade volume of 23,456 metric tonnes which will give a yearly trade volume of 5,934,368 metric tonnes.

Calculating the total market volume as described above will give a value of 75,541,500 metric tonnes.

Thus, Platts may cover some 7.9% of the total consumption in the market.

E. Summary

- The bidding process (individual bids and offers as well as contracts concluded) is transparent to all market participants having subscribed the system.
- The price assessment process does not follow a pre-fixed set of inputs or parameters (like economic models, algorithms or fixed weights for individual factors). Platts reaches a qualitative judgment on the assessment on an individual day-to-day basis.
- In carrying out its price assessments Platts preserves some editorial latitude. It looks at a range of factors in addition to actual contracts, including bids, offers and developments in adjacent markets. This is especially the case on days where no contracts have been concluded. Days without contracts are particularly frequent in the cargo markets.
- The structure of traders concerning the proportion of vertically integrated companies (majors) versus other traders varies across the different product markets. Majors will mostly account for 40 to 60% of all participants. Independent traders play a considerable role, financial institutions only a marginal but as Platts stated a growing one.
- It is estimated that Platts covers between 5 and 9% of the total consumption in the respective geographic markets, with the exception of the gasoline cargoes market where the coverage of Platts only accounts for some 2.6%. However, Platts likely covers a substantially greater proportion of spot trades (as opposed to term contracts) in the markets in question.

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