# Relationship between trade volume and stock price variation relationship between... 

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# Relationship between trading volumeand the stock pricevariation in the London Stock Market 

## Chapter 1 - Introduction

Trading volume is the signal of activity occurring in a stock that is a product of some sort of stimulus. Stock price variations represent changes in stock pricing as a result of the same factor, outside stimulus. With the foregoing being the case, it is apparent that there is a definitive link between these two facets as they represent the activity that is the purpose of listing companies, to let the market determine their value. Nguyen and Daigler (2006) add illumination to the preceding by using a Wall Street adage that states " it takes volume to make prices move", and that " volume is relatively heavy in bull markets and light in bear markets". Karpoff (1987, pp. 109-126) adds that is a link that exists between trading volume and price change, and that there is a link between trading volume and the fluctuation level of price change.

Thus, from the foregoing, trading volume and stock price variations are linked in their activity. Therefore, it is the nature of this linkage that represents the nuance of the question. The question is, what are the dynamics of that relationship and how does it work? Does trading volume move and affect stock price variations, or is it stock price variations that help to impact upon trading volume? How does trading volume increase or decrease and what are the stock price reactions that can be gleaned from these movements as represented by what cause and effect relationships.

These contexts will be explored and examined, taking into account the market mechanism in which they occur, the London Stock Exchange, and how such dynamics interact upon each other.

The London Stock Exchange was founded on 3 March 1801 and represents one of the world's largest and most active stock exchanges, and its formation provided a market for securities as well as regulations in the manner in which business in the case of public companies should be conducted through monitoring and adjudication by a committee that was "... enforced by the threat of expulsion ...". (Michie, 1999, p. 35). Stock markets represent an organized and regulated system where capital allocation occurs through the trading of securities that represent the shares of listed companies (Baumol, 1965, pp. 2-10). Companies that develop new products, build a reputation in consumer or industrial markets, earn dividends and returns, and allocate their resources to build internal value that is translated into stock pricing. The foregoing represents simplistic explanation of a process that in reality is an extremely complex matter. The anticipated and "... expected future dollar benefits to be received by stockholders are dividends", which represent the means via which returns on stockholder investment are transferred directly back to the shareholders (Bolten, 2000, p. 9). Thus shareholders and potential investors in companies look at a company's past, present and future projected earnings as a factor in whether to acquire, retain and or hold onto a stock.

There are numerous factors at work in the market a company operates in, as represented by competitive positioning, the overall economic situation,
demand for products, goods and or services in the industry sector the company operates in, new developments and a host of other variables that can and do affect company performance, earnings and the ability to pay dividends, all of which represent risk. The importance of the preceding is that these risks can either result in positive or negative developments, thus, if a stock is projected to and or is returning dividends lower than when the stock was acquired, its price will reflect this and subsequently be lower, with the opposite also being true (Bolten, 2000, p. 10). However, the preceding alone does not explain and or portray stock pricing on its own as there are other variables that will be discussed and examined in this analysis to draw correlations to the relationship between trading volume and stock price variations.

Trading volume represents the number of shares that are traded during a given time period (investorwords. com, 2007) thus the preceding is relatively straightforward and easy to visualise. However, there are other underlying factors that represent deeper and more complex determinants that are part of stock trading volume. The varied facets of stock pricing, reflecting the relative success and or position of the company in terms of is sales, competitive posture, earnings performance, dividends, management, future industry prospects, product innovations, public relations activity along with the correlation of price/earnings ratios and numerable other factors that have a bearing on and in this process (Lo and Wang, 2000, pp. 267-300). The forces inherent in the stock market itself as represented by shorting activity, bid/ask spreads, institutional, professional and individual traders as well as economic forecasts and interest rates all have differing influences and https://assignbuster.com/relationship-between-trade-volume-and-stock-price-variationnrelationship-between-trading-volumenand-the-stock-pricenvariation-in-the-london-stock-market/
effects within the preceding dynamics (Lo and Wang, 2000, pp. 267-300). The foregoing is a summary of the highly complex process of stock price variations that are effected and influenced by the complex variable of factors that interact upon each other.

There are a number of theories on trading volume, just as there are for stock price variation. Mingelgrin et al (2001, pp. 877-919) along with Anshuman et al (2001, pp. 3-32) put forth that when stocks are experiencing trading volume that is unusually high, or low, earn either positive, or negative abnormal returns rise or retreat during the next month. This is explained as being a result of what they term as the combined return effect that is due to the increased, or decreased, stock visability after the aforementioned high or low trading volume. In this theory, Mingelgrin et al (2001, pp. 877-919) and Anshuman et al (2001, pp. 3-32) argue that stock visability can affect price as a result of a number of rationales. Mayshar (1983, pp. 114-128) draws the conclusion that when a stock experiences either high volume, the effect suggests either optimisum, in the case of buying activity, or negativeism, in the case of selling, that triggers additional activity based upon the premise of attracting, in the case of buying, additional investors or added buying by present stock holders causing the demand curve to shift upwards. Such effect can be the result of positive news regarding the company concerning sales, meeting profit and or sales targets, and or estimates, positive economic news, and other variables with the reverse, selling sctivity, is also true.

Other theories and approaches to the explanation of trading volume can take the form of investor trading styles, beliefs and or theories. Some, investors, utilize trading styles that are based upon the characteristics of the stock correlated against the company's size and or momentum at a particular point in time (Admati, and Pfleiderer, 1998, pp. 3-40). There are investors, such as professional traders that utilize technical analysis as well as quantitaive strategies for trading whereby if the conditions fit their parameters they invest in large blocks of stock, thus drawing attention to the stock inviting similar or more analysis and potential buying activity (Barberis and Shleifer, 2003, pp. 161-199). The basic unifying theory behind this type of investor trading style is that they tend to hold and acquire stocks that fit their defined characteristics. Conversely, when a stock selection no longer fits these pre-defined style paramters, they tend to be sold, thus creating another type of trading volume swing if their share holdings are large enough, through the influencing of other shareholders, many of which utilize computer trading programs that detect and alert them to stock momentum swings (Barberis and Shleifer, 2003, pp. 161-199).

Stock trading represents the opportunity for investors to profit on the upward movement of companies when their strategy is based upon price appreciation as opposed to dividend returns (Dow, 1999). Termed income stocks, dividend buying can occur at any time, but tends to happen mostly after an established period of earnings and dividend growth, whereas growth, or price appreciation trading is generally tied to positive company developments, news, acquisitions, new markets, innovation and changing
winners and sell losers or tend to hold or utilize what is known as averaging to buy additional stock as a lower price so that when it moves upward they can either retrieve losses or break even (Odean, 1998, pp. 1775-1798). The varied motivations, trading strategies, theories, trading styles and additional aspects are factors tied to company performance, news, market fundamentals, market cycles, stock prices, and other variables which shall be further examined in terms of the various components of trading volume and stock price variation.

## Chapter 2 - Trading Volume

The factors influencing and affecting trading volume can range from the effects of institutional investments, professional traders, trading programs, company momentum, earnings growth, new product introductions and similar positive company news and or developments, economic forecasts, interest rates, speculation, price appreciation or growth, income or dividend investing, price earnings ratios and positive company fundamentals. Each of the preceding represents a factor or factors that investors utilizes in making a determination to buy or sell, thus creating trading volume. The first of these, institutional investing, represents one of the most influential forces in stock market trading as delegated portfolio management, as it is termed, represents investments made by pension and mutual funds representing huge sums of financial resources seeking growth, or price appreciation, returns (Naik and Maug, 1996). This group is the most influential of all the preceding categories as a result of their research staffs, analysts, corporate analysis programs, tracking programs and other measures as portfolio managers have access to the most complete cross section of economic, https://assignbuster.com/relationship-between-trade-volume-and-stock-price-variationnrelationship-between-trading-volumenand-the-stock-pricenvariation-in-the-Iondon-stock-market/
industry, individual company and overall stock market data. As a result of the large sums of money that portfolio managers control, their buying and selling activities are closely watched and observed by their peers, thus representing tremendous sums of money that can move into and out of stocks based upon developments that these individuals believe represent buying opportunities, or conditions earmarking sale (Naik and Maug, 1996).

Portfolio managers in the U. S., as a result of their fiduciary responsibilities have a number of constraints governing their investment decisions and choices which represent "... protective covenants ..." put into place to mitigate agency problems concerning the actions of investment firms and their portfolio managers who are acting in the public trust (Almazan et al, 2004, p. 289). The preceding is a product of the pressures of the compensation based earnings incentives that portfolio managers operate under, and the risk taking decisions they are subject to. The incidence of peer watching in this industry is an important facet of their investment making decisions as opposed to the belief that they tend to act on individual information and analysis, which is the case for the brightest and most respected of this group, but by and large portfolio managers tend to be followers (Naik and Maug, 1996). The foregoing provides an explanation as to why there are huge monetary movements into and out of stocks triggered by investment decisions of a key respected group. U. S. pension fund strategy tends to invest more heavily "... in lower volatility domestic bonds than their UK counterparts ... (which tend to) ... have a far larger weighing in higher volatility equities" (Blake et al, 1998).

In terms of regulations imposed upon UK portfolio managers represents the less restrictive "... of externally imposed restrictions ... on their investment behavior ..." found anywhere in the world (Blake et al, 1998). UK portfolio managers are basically "... unconstrained by their liabilities ..." and "... trustee sponsors ..." basically do not infer with their daily operations and investment choices, which is different from "... their counterparts in continental Europe and elsewhere ..." (Blake et al, 1998). This means that UK portfolio mangers can invest in basically "... any security in any asset class in any currency ... and in any amount ...", however there are trustee resistances to derivatives as well as statutory differences regarding "... self investment in the sponsoring company" (Blake et al, 1998). The preceding is in sharp contrast to portfolio managers in the United States who face substantial regulatory controls and litigation threats "... over imprudent investment behavior ..." (Blake et al, 1998). This relatively open and unconstrained investment climate gives UK portfolio managers a large degree of latitude, thus the effects of their investment decisions, monetary movements and reactions of peers and laggards, meaning those who tend to follow the buying and selling behaviours of the more astute managers, has a more profound effect on trading on the London Stock Exchange than in the United States and many other markets.

The effect of the follow the leader approach, as put forth by Naik and Maug (1996), does have its supporting points. Fund managers are usually benchmarked against the performance of other fund managers, thus their having usual downward deviations as compared with the industry as a whole can have consequences in terms of their careers and or rankings, whereas https://assignbuster.com/relationship-between-trade-volume-and-stock-price-variationnrelationship-between-trading-volumenand-the-stock-pricenvariation-in-the-london-stock-market/
standard returns represent the expected performance of the industry and thus investors in the fund are not negatively impacted (Naik and Maug, 1996). The preceding is referred to as a "... relative performance evaluation element ..." and this represents important factors that thus influence the decisions of the portfolio manager's on how he allocations assets (Naik and Maug, 1996). The importance of the examination of the operational facets that portfolio managers operate under is important in the discussion of the relationship between trading volume and stock price variations in the London Stock Exchange as a result of the huge sums of money that portfolio managers control and how such impacts upon the decisions of other investor areas, professional traders, trading programs, style investors, and private investors as a result of their clout.

The impact of the preceding is found in the highly concentrated nature of the fund management industry in the United Kingdom whereby a poor fund performance stands out more than in the United States, thus they stand the risk of losing substantial market share as a result of poor performance (Blake et al, 1998). Thus, while UK portfolio managers have less outside regulatory constraints, the market dynamics with regard to the reduced number of funds thus makes them more risk averse, thereby the decisions they make are viewed as being sound by their peers and the general public (AON, 2005). In equating the relative influence that UK portfolio managers have in the market is reflected by the fact that "... fund assets for UK companies are around $27 \%$ (2004) of the market capitalization..." of a company, as opposed to approximately $16 \%$ in the United States (AON, 2005). The preceding means, according to an analysis conducted by AON, that the theoretical "... https://assignbuster.com/relationship-between-trade-volume-and-stock-price-variationnrelationship-between-trading-volumenand-the-stock-pricenvariation-in-the-Iondon-stock-market/ impact on the share price of UK companies ... (by funds is) ... $7 \%$..." as compared to the impact of funds on share price in the United States that is estimated at 4\%. To gain a perspective on the foregoing, one needs to have a broad picture of the ratio of pension funds in relationship to the Gross Domestic Product (GDP) for Organization for Economic Co-operation and Development (OECD) countries, which stood at an estimated 43\% in 2004 (Roldos, 2004). The preceding represents significant influence that funds hold over the market and thus the share prices of companies by their investment decisions.

Pension funds and other institutional investors have and do play an important part in the "... substantial growth and structural changes in capital markets ..." as a result of their providing a means for smaller investors to pool their risks thereby providing them with increased diversification as well as reduced risk and enhanced return (Roldos, 2004). The impact and influence of UK pension funds represent ownership of $16 \%$ of listed UK companies, or $£ 230$ billion (FairPensions, 2007). The growth in the power of pension funds and other institutional funds is and has replaced savings in banks as the means for individuals to build retirement income thus representing the growth in the importance, impact and power of funds in the stock and other asset investment markets (Roldos, 2004). The preceding is a significant in that funds will continue to experience their growth patterns thus increasing their impact in investment vehicles and the corresponding influence over pricing and valuations.

The importance, impact and influence of institutional funds, which in this context shall refer to pension as well as other fund types, which are at the core of the important relationship between economic development and finance which entails an understanding of the theories, rules, institutions and systems that interact with and impact financial markets and thus stock performance. One theory, ' efficient market hypothesis', is defined by Fama (1970, pp. 383-417) is one whereby security prices always reflect the available information regarding the fiscal standing of a listed company. Fama (1970, pp. 383-417) indicates that there are three types of ' efficient market hypotheses'; the weak, strong and semi-strong forms. The ' weak form' suggests that past returns and or prices are a reflection of future returns and or prices, and this form has seemingly held true as a result of the inconsistencies in the performance of technical analysts (Fama, 1970, pp. 383-417). Fama (1970, pp. 383-417) expanded upon the ' weak form' concept, including the predicting of future returns utilizing macroeconomic variables and or accounting tools, with the factor of predictability representing the case for arguments against this form. The ' strong form' suggests the prices of securities are a reflection of all available data, even that which resides in the private sector, which is open to question in that the well known insiders trading profits are not immediately or readily incorporated into trading prices as put forth by Seyhun (1986, pp. 13371345).

The ' semi-strong' form puts forth that the prices of securities is a reflection of all public information that is available, thereby indicating that securities are not over or under valued, which means that trading is not capable of https://assignbuster.com/relationship-between-trade-volume-and-stock-price-variationnrelationship-between-trading-volumenand-the-stock-pricenvariation-in-the-london-stock-market/
generating superior returns (Fama, 1970, pp. 383-417). Pinkerton et al (1996, pp. 247-266) tested this hypothesis through intraday tests concerning the release of public information that provided evidence that such developments impacted the price of stocks within minutes, thereby validating this hypothesis in most instances. However, those changes were a result of selected availability to the information by traders and institutional investors whose buying or selling of stock represented the fuel for corrections, thus not proving the theory to hold true as to public information availability adjustments. This was proven via studies conducted concerning announcements such as earnings, stock splits, divestures, takeovers and capital expenditures whereby stock pricing adjustments, in general, happen in a day as opposed to the theory as put forth by the efficient market hypothesis. The ' efficient market hypothesis' makes the strong assertion that since new information is available and thus incorporated into the stock price, that such information (new) thus helps to spark increased buying or selling based upon the nature of such information.

Ball and Brown (1968, pp. 159-178) conducted a study in the foregoing area with respect to earnings and indicated that the normal prediction of this area represents accountants calculating income from divisions, cost, production, overhead, depreciation, taxes, research and development, leases, and all manner of computations to arrive at projected earnings for a company based upon the information supplied at a given point in time. New and probable income and or market events are generally keep in the accounting area as scenarios that they can utilize to make adjustments to earning when any of the prior predicted occurrences happen, thus there is a delay in the https://assignbuster.com/relationship-between-trade-volume-and-stock-price-variationnrelationship-between-trading-volumenand-the-stock-pricenvariation-in-the-london-stock-market/
transference of this new information into real terms, hence the statement of stock price corrections taking about one day to manifest themselves, which is contrary to the efficient markets hypothesis. Muscarella and McConnell (1985, pp. 399-422) in their study of capital expenditures found that unanticipated increases in this area had a positive outcome on the market value of a company, and that the reverse was also true. Thus the announcement of such events first sends analysts scrambling to their computers to work in the new variables, thereby effecting a delay in the stock price, with immediate buying taking place as portfolio managers understanding the plus or minus connotations of such announcements and thus getting in of the anticipated stock rise before it happens, meaning volume drives the price before the figures are known and then the price settles in.

## Chapter 3 - The Process of Buying and Selling Stocks

To understand the dynamics with regard to the stock trading process, an understanding of the mechanisms is important. Every security that is traded on the London Stock Exchange has a market maker who thus provides a quote representing the buy and sell price of the stock, with the difference between the bid and offer spread representing where they make their profit (StockExchangeSecrets. com, 2007). Marker makers on the London Stock Exchange utilise the SEAQ, which brokers utilize to find out the current quotation, bid/ask price on a particular security (Pagano and Roell, 1990, pp. 63-115). The SEAQ is the Stock Exchange Automated Quotation System that is driven by quotes whereby it updates on a continues basis the bid and offer quotes established by market makers (Pagano and Roell, 1990, pp. 63-115).

However the largest and heaviest traded securities use the SETS, Stock Exchange Electronic Trading System), that is utilized to trade blue chip UK stocks that matches buy and sell orders using a price/time basis (Pagano and Roell, 1990, pp. 63-115). The changes in the bid and offer price are reflective of changes that the market makers use based upon their information about the impacts of stock buying and selling as well as the formulas for a company's market capitalisation, earnings and other variables. In most instances, the run up in price as a result of buying after an announcement tends to be in line with what the relative value of the announcement has in terms of the company's position, price earnings ratio, market capitalisation and the weight of the past accomplishments of the company over a long period of time. In other words, when a stock initially goes public, investment bankers utilize highly complex formulas along with valuation methods to determine the value of a company via how many shares are to be offered and the price of those shares (investopedia, 2007).

The initial price of a stock is a product of the calculated determination of the varied formulas and the relative attractiveness of a stock in terms of its anticipated public acceptance and build-up through advance interest on the part of institutional and private investors (Globallnvestment Institute, 2007). As the company settles in to performance and achieving results, the stock price begins to change in what can be termed price adjustments as a result of the establishment of more history on the company and the public's reaction to it via the laws of supply and demand, meaning the number of shares available and stock price correlations (Hischey, 1985, pp. 326-335).

The overall facets determining the price of a stock is a complex set of https://assignbuster.com/relationship-between-trade-volume-and-stock-price-variationnrelationship-between-trading-volumenand-the-stock-pricenvariation-in-the-london-stock-market/
variables. It represents an estimate that is performed of the cash, that includes the company's future earnings, which can be extracted from the company factored by the fact that cash in the near term is more valuable that cash representing five years hence Chan et al (1990, pp. 255-276). In so doing, estimates are run to reach a determination of the risk involved in the receipt of said future cash, or business, along with the time period or periods necessary to accrue the calculated sum(s) (Brainard and Tobin (1968, pp. 99122).

Technical factors as well as the individual and collective sentiments representative of the market place that can thus be termed supply and demand, with technical factors a representation of facts that can be predicted or quantified. The foregoing represent aspects such as the aforementioned position of the company in its industry sector, the rating of its products, goods and or services relative to said industry, positioning of its competitors, its technical and innovative prowess, historical record in its market sector and effectiveness in combating its rivals, the extent of its products and market penetrations in comparison to its competitors as well as its capabilities and resources to deal with and respond to unforeseen events (Brainard and Tobin (1968, pp. 99-122). An example of a company in a solid current market position with sound prospects for the future is Dyson. Its revolutionary Dual Cyclone vacuum represented the first real innovation in the industry in decades, along with its revolutionary design, performance and value. The history of dramatic growth and successful expansion into international markets, coupled with its reputation, earnings and positioning as the top selling manufacturer in Western Europe as well as the leading https://assignbuster.com/relationship-between-trade-volume-and-stock-price-variationnrelationship-between-trading-volumenand-the-stock-pricenvariation-in-the-Iondon-stock-market/
company in the sales of upright vacuums in the large U. S. market in just 16 years represents an example of the preceding (UGS, 2007).

The preceding illustrations concerning trading volume have been undertaken to provide the foundational background for a foundational understanding of stock price variation and trading volume on the London Stock Market. As indicated in the examples, factors, theories and explanations utilized represent a complex set of differing variables that are interconnected, yet separate aspects acting within the same context. And number of separate facets can trigger a surge in trading volume of an upward or downward nature that is usually first tied to investor sentiment, and in the case of institutional investors, their individual calculations, projections and analysis of company positions, financials and other factors. And for all of the preceding, it represents a series of initial educated guesses, backed up by technical information, market savvy, and doses of follow the leader, in the case of institutional firms.

## Chapter 4 - Relationship Between Trading Volume and Stock Price Variations on the London Stock Exchange

The importance, impact and influence of trading volume as a compoent in the determination of stock price variations that has been examined through the effects of institutional investing trading volumes, regulations, the follow the leader and peer perspectives, impact of institutional funds as a factor of company and market percentages, efficient market hypothesis, and how stocks are brought and sold. Stock trading volume is linked to the activities conducted by companies as a component of their reputation, future business and earning prospects, the activities of public relations activities to keep the https://assignbuster.com/relationship-between-trade-volume-and-stock-price-variationnrelationship-between-trading-volumenand-the-stock-pricenvariation-in-the-london-stock-market/
company in the minds of the investing and general public, the effectiveness of its products, goods and services in relationship with its competitors in its industry, and the relative position of the firm in its life cycle. Just as is the case with products that have what are termed their market introduction phase, period of growth, market maturity and sales decline that varying in length and timing (Day, 1981, pp. 66-67), such is also true for companies.

The company life cycle (QuickMBA, 2007) represents the stages that a company passes through which can vary in the period of time it remains in certain stages as a factor of its industry type as well as management innovation. The preceding has importance in an examination of stock price variations as well as trading volume in that newer firms will experience more stock price volatility than mature companies that are settled into their industries, such as General Motors, British Airlines, Marks and Spencer, and ASDA/Wall- Mart, as opposed to Dyson, Cambridge Display Technology and innocent. The relative position of a company in its life cycle standing of initial growth / emerging, rapid growth, mature and declining positioning represents a large difference in how the institutional and well as individual investor will view it in terms of it being speculative, growth, long term investment or income, meaning dividends (investopedia, 2007). The preceding represents facets that are reflected in its volatility, as initial growth / emerging companies represent a different investment as opposed to a mature company that has been around for decades and has an established stock price. As the later groups, mature and declining companies do not represent the optimum examples to examine stock price variation and their relationship to trading volume, they will be excluded from this https://assignbuster.com/relationship-between-trade-volume-and-stock-price-variationnrelationship-between-trading-volumenand-the-stock-pricenvariation-in-the-london-stock-market/
examination, as their stock prices are relatively stable, show minor price variation swings and have steady established volume ranges whereby new developments, announcements, news and events, unless extremely dramatic, do not produce large stock price changes.

And as is the case with trading volume, stock price variations can have a number of variables that represent differing factors in determining price at any given time. As explained in Chapter 3, The Process of Buying and Selling Stocks, the internal mechanisms of the London Stock Exchange operates in pretty much the same fashion as other major exchanges in that it utilizes market makers, bid and offer spreads and computerized quotation systems to provide brokers with information. As explained by Hischey (1985, pp. 326 - 335) companies are a product of their past and present industry performance as well as their reputation and appeal to the public representing supply and demand for its stock in correlation to that performance and projections of its performance in the future. Chan et al (1990, pp. 255-276) advises that the preceding also includes technical calculations of risk, and future performance along with cash positions and value. The ability of the company to demonstrate its potential to handle stable and unstable economic conditions as well as known and unforeseen events arising from competitors along with marketplace conditions, and its past history in the handling of these variables are also factors that are determinants of stock pricing (Brainard and Tobin, 1968, pp. 99-122).

The correlation between the preceding and the effects of trading volume on stock pricing and how this impacts it, variations, represents a context that
calls into play the aspects of trading volume referred to in Chapter 2 Trading Volume, as well as Chapter 3 - The Process of Buying and Selling Stocks, and how these factors impact on stock price variations. Karpoff (1987, pp. 109-126) as well as Rogalski (1978, pp. 268-274) agree on the fact that there is a positive correlation between trading volume and price changes and that volume is related to price change magnitudes. The mixture of distributions hypothesis represents a dynamic method illustrating returns and trading volume when the information process regarding arrival has been identified (Andersen, 1996, pp. 169-204). Volatility in stocks represents the standard deviation of change in price that occurs in a specific time period (martinsewell. com, 2006).

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