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The Greek Capital Market: Caught in Between Poor Corporate Governance and Market Inefficiency

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Abstract

The investors' shift towards shares, in the late 1990s drove stock prices up to unduly high levels in the Athens Stock Exchange (ASE). On the other hand companies listed in the ASE were attracted to equity finance. There was a significant gap of perception between investors and companies regarding the cost of equity. The return on stock investment expected by investors between 1995 and 1999 was around 70%, yet, for companies the visible cost of equity, practically equal to the dividend yield, was about 1%. Such a gap can be explained by the problematic system of corporate governance and the inefficiency of the Greek stock market. The Greek governance system, traditionally based on the monitoring role of financial intermediation, lack the norms to provide adequate protection for minority interests in the context of the new trend favoring fund raising through the stock market. Preference of equity over debt reduced considerably control over the use of funds and the accountability of controlling owners to the providers of capital, allowing for misuse of resources. On the other hand, investors dared to invest in stocks that yielded dividends of about 1% in the late 1990s due to market inefficiency created by some form of irrational investors' behavior based on "overreaction" and 'feedback trading". The current slump of the stock market is changing the original perception. Weakness in investor's protection affects access to finance, cost of capital and ultimately eco-

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nomic growth. Companies pay the price for their excess finance in the past and controlling owners face up to the true cost of equity. The true cost of equity emerges by the responsibilities to shareholders not only in terms of dividends, but also capital gains which investors expect. Corporate governance reform has become the new rhetoric in Greece, but it continues to separate capital contribution from control. However, with such a corporate governance and declining corporate's profits, companies are unable to placate once again investors.

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Introduction

The main features of the Greek stock market in 1999 were the impressive increase in both share prices and the value of transactions, as well as substantial fund-raising. The rise in prices was particularly steep between early August and mid-September 1999 (when the index peaked to 6.355 points), but both prices and trading volume fell considerably thereafter, albeit with sharp fluctuations. However, despite the downward shift in the last three months of that year, the composite Athens Stock Exchange (ASE) share price index rose by 102.2% between end-December 1998 and end-December 1999. This increase compared to a 25.2% rise in the Dow Jones index and increases of 17.8%, 39.1% and 51.1% of the basic indices of the London, Frankfurt and Paris stock exchanges respectively.

Due to ever-rising stock prices in the late 1990s, Greek companies raised huge amounts of money at a very low cost from the capital market. In fact, for managers of Greek companies, the late 1990s was one of the best periods in their history. Soaring stock markets helped them raise as much money as they wanted by issuing equities. Stock investments were very attractive to investors who used to believe that there would be no end to the prosperity of the capital market. Companies could raise as much money as they liked very cheaply.

Banks found that major corporations were reluctant to take out bank loans because of their relatively high cost compared to equity financing. Banks needed to find new clients to borrow from them. The new clients turned out to be smaller companies or individuals who did not have a direct access to the financial market.

The huge amount of money raised either by equity financing or bank borrowing was invested in various forms. Companies invested the money in their facilities to increase productive capacity. The financed amount, however, was so big that these actual investment needs of companies were not enough. The money had to find its place among investment in stock market. In those days, investors somehow came to believe that (the) prices would never go down in this market. Supported by these developments, money continued to flow into the stock market and pushed the prices higher, which in turn made (even cheaper) equity financing available to Greek companies even cheaper.

Since September 1999 share prices on the ASE followed a severe downward course with considerable fluctuations. In the year 2000, the composite ASE share prices index fell (by) 38.8% and in 2001 (by) another 23.5%. The downward trend of share prices continued in 2002 as well and the composite ASE index fell (by) 30 %. The drop in share prices caused the ASE P/E ratio to fall to a level among the lowest worldwide, in contrast to its rather high level at the end of 1999. The above developments affected Greek companies. The stock market (is) was in a slump and the new issue of equity (is) was very difficult, if not impossible. Many people tried to explain this dramatic drop of stock prices. The most common argument was that the stock price boom of the late eighties was a speculative bubble that was destined to burst eventually. Does the evidence support this view?

The aim of this paper is to analyze and provide the rationale for the extra-ordinary developments in the ASE. From this analysis the true cost of equity emerges. The analysis also allows the opportunity to look at the prospects of the Greek stock market and make policy recommendations. The paper is organized as follows. The second part identifies a considerable gap of perceptions between managers and investors about the cost of equity in the late 1990s. The third part explains partly this gap by looking at the corporate governance system and the protection provided to investors. The forth part examines the market inefficiency of the ASE. The fifth part analyses the impact of stock market on economic developments. Finally the concluding part contains the prospects and the policy recommendations.

2. The Gap of Perceptions between Managers and Investors Concerning the Cost of Equity

Greek managers have seldom been aware of the true cost of their equity. The slump of the stock market and the difficulty of equity finance, however, provided managers with a rare opportunity to realize that the true cost of their equity is higher than they (have) had thought. In fact there was a significant gap of perception between Greek managers and investors about the cost of equity while the current slump of the stock market is changing the perception. In the mid 1990s when the stock market continued to break the record high, few people dreamed of the current slump in the market. However, after the stock market slump managers started reassess the true cost of equity of a company.

2.1 Methods of Estimation

Theoretically, the cost of equity is the opportunity cost of money that is invested in equities. There are different methods to estimate the opportunity cost, reflecting a different perception of the opportunity cost itself. The first approach is to use the historical data on equity returns: i.e. calculate the capital gain portion of equity and add the average dividend yield to get the total return of investment in stocks. The difficult part of the method is to decide the length of the period over which one will calculate the return on equity. If the period is too short, the calculated returns fluctuate dramatically depending on specific events or economic trends making the estimation meaningless. If the period is too long, the figure would not take into account the recent changes of required returns. It is desirable that the period should coincide with that of investors' horizons of stock investment. This is the opportunity cost of capital that investors pay. The underline assumption of this method is that investors estimate how much they can expect from investing in stocks by looking back at the past and hope that stocks will continue to earn roughly the same return. Using this method it was estimated that the return on stock investment expected by investors between 1995 and 1999 was more than 70% in nominal terms.

Another method is to use the sustainable growth rate for dividends as an estimation of the cost of equity. This method assumes the dividends will grow in the future at a constant rate. It reflects a different perception of the cost of equity. Once issued equity is money that a company does not have to reimburse, but instead pays dividends for. The visible cost of equity is practically equal to the dividend yield. This perception reflects the managers' view of the cost of equity since managers seemed to regard dividends as the only price they pay for issuing equity. The dividend payout ratio of a share in the late 1990s was about 1% in nominal terms (Athens Stock Exchange, 2001).

Obviously there was a considerable gap between what investors expected by investing in stocks and what managers thought they paid in return for issuing stocks. Such a gap seems to have persisted for quite some time, although it was remarkably bigger during the late nineties and could be explained by the system of corporate governance and the inefficiency of the Greek stock market. These two factors are considered in turn.

3. Corporate Governance

In this part we will provide evidence that in Greece, preference of equity over debt in corporate financing reduces considerably control over the use of funds and the accountability of managers to the providers of capital. For this purpose it is essential to analyze how the various corporate governance arrangements protect investors. Then in the light of this analysis the Greek corporate governance system is considered.

3.1. Differences in Corporate Governance Systems

Corporate governance essentially involves the control of the corporation and the purpose of such control. It is mainly a large corporation issue, since shareholders may delegate business decision and operation to managers. This is the principal agent problem of separation of ownership and control since their respective interest may diverge (Blair, 1995). Effective corporate governance makes management accountable to financiers and gives them proper incentives to take the goals set by the providers of capital into account, while preserving managerial autonomy to formulate strategies that enhance the performance of companies.

Too high degree of managerial discretion provides opportunities to managers to waste free cash flow on activities with a potential for managerial empire-building such as investment in large offices, or in staff developments, launching of over-extensive advertising campaigns or acquisitions (Prowse, 1994; Yafeh and Yosha, 1995). Free cash flows concern earnings of the company that exceed the funds needed for investments by the companies in projects with a positive net present value. Managers may also pursue their own goals by writing contracts or making investments specific to their ability and presence (Shleifer and Vishny, 1997). These investments are costly to be replaced (La Porta *et al* 1996). Higher ownership concentration and lack of protection for minority shareholders deters potential investors and may imply higher cost of capital in terms of both diversification opportunities forgone and less liquid markets for corporate finance.

On the other hand, excessive managerial control may contain managerial initiative. The optimal level of investor's protection remains an empirical issue. Different financial and corporate governance systems are distinguished mainly by the relative importance of markets and institutions in monitoring the use of funds and the respective protection provided to investors, rather than their role in the supply of funds (Berglof, 2001, Allen and Gale, 2000).

Broadly speaking, (two generic forms of finance exist) there are two generic forms of finance that have important implications (for) in the corporate governance of individual firms. The arm's-length finance and the control oriented finance. In the case of the arm's-length finance, mainly associated with the UK., the financial markets are large and highly liquid, the share of firms listed on the exchanges large, ownership of debt and equity dispersed, investors are portfolio oriented and the role of hostile takeovers important. In this system the dominant agency problem is between shareholders vs. management. In the case of control oriented finance, which is best represented by Germany, the financial markets are small and illiquid, the share of firms listed on the exchanges small, ownership of debt and equity concentrated, investors are controlled oriented the role of financial intermediation important and the role of hostile takeovers very limited. In this system the dominant agency problem is between controlling (vs.) and minority shareholdings

Differences in the generic form of finance are strongly connected with (to) distinguished corporate law systems. In Europe two broad corporate law systems can be distinguished. A company based and an enterprise based system. In the former, which is connected with (to) the arm's-length finance, the emphasis is on the firm as a legal entity and its relationship with its investors. In this system the stock market provides an objective valuation of the firm and mainly through its takeover mechanism protects shareholders against the abuses of management. In an enterprise based system, which is connected with (to) the control oriented finance, the focus is on the physical entity such as equipment, plant, workers, etc., while the investors are considered equally important with the other stakeholders. The role of the stock market is limited. Management to some extent is monitored by the supervisory board, which appoints the management board. The interests of all stakeholders are taken into account as in large companies, half of the supervisory boards' members are appointed by employees, and half by the controlling owners. However, the management is monitored by the commercial banks that in some cases hold equity stakes in debtor firms and also votes the proxies of bearer shares deposited with them, which provides them with potential control at the general shareholders' meetings.

Efficient corporate governance can be achieved by both internal and external procedures (Nestor and Thompson 2001). The procedures internal to the firm include credible independent auditing, disclosure and transparency of corporate performance and monitoring by independent outside directors. Since companies would refrain from introducing such measures upon themselves, external pressures and sanctions are necessary to force adoption. The financial sector is the main external device that provides efficient governance. However, the procedures that insure monitoring on the use of funds differ substantially in these two systems. Shareholders who disagree with the way a company is managed have basically three options: exit, voice and replacement. All these are considered in turn.

Exit simply implies selling the company's shares on the stock market, leading to a fall in the share price, which acts as a signal to managers to improve performance. This “exit” option is useful when the stock market operates effectively: sufficient liquidity and market transparency, no restrictive regulation on the issuance of shares, no taxation on share holdings or share trading and not insider dealing (Bolton and Von Thadden, 1995). Minority shareholders in a control oriented financial system have fewer opportunities to use the “exit” option provided in liquid markets which is the main characteristic of the arm’s-length financial system. Substantial equity ownership by institutional investors with a control (and not portfolio) orientation in a control oriented financial system protects the controlling shareholder (Pound, 1995). Illiquid markets leave minority interests largely unprotected from the abuse of the controlling owner.

Voice implies shareholders influencing managers about the appropriate way to run the companies either informally or at the general meetings of shareholders where votes are taken on a number of important corporate issues. Although for individual shareholders the influence on management is small and therefore the cost of exercising voice may outweigh the benefits, large institutional investors may be able to exercise control effectively.

The general meetings elect the board, which act as an intermediary between minority and majority shareholders. In the case of a company-based system –which is associated with (to) the arm’s-length finance, the absence of a controlling owner implies that boards of directors are self-appointed. Boards tend to be non-executive and independent, without financial stakes, but with technical expertise and experience, while in many firms different persons hold the positions of the chairman of the board and that of the chief executive officer. On the other hand, in an enterprise-based system associated (with (to) the control oriented finance) management monitoring by supervisory boards is weak (La Porta, *et al*., 1999). Its competencies are confined to ratifying important managerial decisions. The board does not posses a right of initiative: it cannot impose alternative strategies on the management, while a number of important management decisions are often not presented on the board. Although, financial problems with several companies have recently reduced confidence in the ability of the supervisory board to adequately monitor firms’ performance, it is in the company-based system where the board plays a more active role in protecting minority interests.

Management replacement is the most radical option. This process is initiated by the decline of share price, (the result of inefficient and incompetent management) allowing competing management teams to obtain a majority stake in the company at a relatively low cost, replace the current management team and improve the company’s performance. The option of management replacement is more readily available in an arm’s length financial system with liquid financial markets, dispersed ownership of equity and portfolio oriented investors. In contrast the futures of the control oriented finance limit the option of management replacement through hostile takeovers. Because the majority of shareholders (usually corporation or banks) are control oriented who implicitly promised not to sell shares, they constitute an effective anti-takeover barrier.

However, the above analysis should not lead to the conclusion that in a control oriented financial system the management and controlling shareholders enjoys a too high degree of discretion. Bank may substitute and complement the weak controlling abilities of the illiquid markets and supervisory boards in a way to provide ultimately sufficient investors protection in a control oriented financial and enterprise-based system.

Banks through an effective control mechanism are able to device and enforce incentive compatible contracts by, for instance, demanding an equity stake in the company (common in some countries), by setting conditions on the loan, and by establishing performance clauses for different trances of a loan (Allen and Gale, 2000). They can also enforce loan contracts, which dispersed lenders often find uneconomic to do, and are able to demand collateral, which enhances the incentive for the borrower to behave prudently and in the interest of the provider of capital –i.e. the bank. Thus, banks are able to act as a proxy shareholder even without an equity stake. At the same time, widely dispersed shareholding may be an inefficient way of exercising control. Direct investors would be duplicated monitoring costs and to some extent monitoring and evaluation is a public good that no one has an incentive to provide (Burkart, *at al.*, 1995). Thus ultimate lenders choose to delegate such monitoring activity to banks because they have advantages in this area. Banks provide the public good of effective monitoring on the use of funds even for the interests of minority shareholders. Financial intermediation could, therefore, be a very efficient monitoring device.

Theoretically, the distinction between debt and equity in the role of control should not be drawn too rigidly. The development of rating agencies may challenge the role of banks as delegated monitors. Moreover, as shareholding in companies becomes more concentrating in the hands of a small number of large institutional investors, they in turn are able to exercise control effectively. Differences in the systems do not necessarily lead to differences in the level of investors' protection. The various rules and institutions incorporated in the two systems may substitute and complement each other in ways to provide sufficient investors protection. Generally speaking rules and procedure for minority protection reflects the capital structure of firms and the liquidity of markets for the instruments issued.

Last, but not least, the importance of corporate governance depends on the general environment that the firm operates. For instance, competition and corporate governance are substitutes implying a correlation between financial systems and industrial organization (Aghion *et al*, 1996). Competition contains rent-seeking behavior in both output and input markets. It induces management to be efficient and provide all stakeholders (shareholders, creditors, workers) adequate returns (dividends, capital gains, interest, wages) both in absolute terms and in relation to the returns received by others.

3.2. The Greek Corporate Governance System

The Greek corporate governance system has traditionally been a control oriented financial and an enterprise based system. The Greek corporate law incorporates only few explicit provisions for the protection of minority interests. Securities market regulation has largely been neglected. Supervision is weak and enforcement rare. Greek authorities have been reluctant to require officially organized supervision of public issues other than initial public offering. The regulation of insider dealing and takeover are not explicit. Control of large corporations is still based on families. The importance of family control has not decreased over the last decade, while non-financial corporations have become block-holders. The same person holds the position of chairman in the board and that of chief executive officer. In addition, stakeholders other than shareholders, such as creditors and employees, are seldom represented on the board.

High concentration of ownership should not be surprising in the case of Greece: the shortcomings in the legal system render concentration the only way to commit not to steal from the company. Countries with poor protection of minority interests tend to have more concentrated ownership structures. However, higher ownership concentration may affect access to finance and capital costs due to forgone diversification opportunities and illiquid market and reduces managerial activism (Cremer, 1995).

In Greece financial intermediation has traditionally played an important role in corporate finance. Banks have, therefore, been the main institutions that, through their effective control mechanisms, exercise adequate monitoring on the controlling owners forcing them to behave prudently and in the interest of the providers of capital.

In theory, the willingness to list firms on public exchanges depends mainly on the relative cost of attracting capital from the stock market in relation to the issuing cost and the effects on freedom of action (McLaney, 2000). Focusing on the latter factor, where equity finance is raised, voting power will shift to some extent, perhaps to a large extent, and possibly with it control of the firm. However, in the case of Greece firms listing in the ASE have not reduced the concentration of power and control; in fact, as it will be pointed out below, they have increased the controlling owners' freedom of action.

Ordinary shares typically carry voting rights. In theory, public offering of such shares would reduce the original shareholders' power and control.

However, typical ordinary shareholders seem not to use their votes in any case. Most firms’ annual general meetings are characterized by a distinct absence of most of those entitled to be present and vote. These meetings elect the board, which act as an intermediary between minority and majority shareholders. The board exerts limited control over management. In many cases the general meeting of owners rather than the board appoints or dismisses managers.

Growing demand for shares in the late 1990s enabled corporations to raise substantial amounts of funds through the ASE. Both small and institutional investors become more important to firms for fund raising at the expense of banks. A more detailed analysis of data related to fund-raising through the ASE in 1999 and 2000 indicates that: First, total funds raised by companies (excluding banks) exceeded credit expansion (long-term and short-term) to the private sector; Second, the sale of existing shares by public subscription through the ASE was also high for the same period; Third the ratio of own to borrowed funds increased substantially as many firms used the funds raised by the ASE to repay past loans.

Since the stock market started to play a more active role in corporate finance, the relative importance of traditional banking together with its effective monitoring role declined. In the late 1990s fund raising activity in the ASE challenged the role of banks as delegated monitors. However, the erosion of banks monitoring on management and controlling shareholders has not been substituted and complemented by other institutions, rules or procedures. Thus, controlling owners found themselves in a position to enjoy a too high degree of managerial discretion.

As it has been pointed out, rules and procedure for minority protection reflects the capital structure of firms and the liquidity of markets for the instruments issued. In the late 1990s, the capital structure of firms changed and the balanced shifted in favor to equity against debt. Yet, the Greek corporate governance system, being essentially an enterprise-based system, lack the rules and procedures to provide adequate protection for minority interest in the light of the new trend favoring fund raising through the stock market. An enterprise-based system can provide adequate monitoring on the use of funds and therefore protection for minority interests when it is connected with a control-oriented finance; but it’s totally inappropriate to achieve this task in an arm’s length financial system which seems to be adopted by Greece in the late 1990s.

Corporate holding of stock is one of the most remarkable features of the Greek stock market. Companies hold shares of firms closely related to them and have their shares held by them in return. This cross-holding is designed not only to stabilize the share ownership but also to ensure the close relationship between companies. Cross-holding is an important element of company groups that maintain close business ties with one another. A chain of firms (sometimes as many as ten or fifteen) owns each other create the so-called pyramiding. By allowing the ultimate owner to minimize its capital stake without affecting its influence on the respective firm, pyramiding is an effective device to separate capital contribution from control. In addition to strong cross-holding arrangements, the government has maintained and intends to maintain potential influence in large privatized firms through golden shares.

Large concentration of shareholdings are in the hands of founding families or other enterprises which, because of their long-term attachment to the company, choose the side of management and refuse to sell to a hostile bidder. As a result managers have little to worry about even if they could not meet the expected returns of investors. Stable shareholders expect more from this long-term business relationship and its consequent benefit than from the direct returns on stock investment. This is why managers regard dividends as the only cost for issuing equity. Managers do not have to take the share price of their company too seriously because the fear of hostile takeover hardly exists. Takeovers are used as a mechanism to withdraw firms from the stock exchange rather as a device to change control. Few hostile takeovers have been attempted and not a single one has succeeded. The market for corporate control operates outside the public exchange in the form of trades in large blocks and the terms in the case of control changes are negotiated between the controlling owner and the outside investor.

The Greek corporate governance process, based on friendly ownership stakes, insulates management from the pressure of external shareholders seeking improved total returns. However, protected against unwanted takeover efforts and institutional investor dissatisfaction, Greek controlling owners have no incentives to undertake a self-restructuring, seek an acceptable merger partner (‘white Knight”), payout special dividends or find other ways to enhance shareholders value and efficiency in the use of capital to preclude the emergence of hostile action. Such managerial autonomy allows managers to capture the rents from ordinary shareholders.

In an arm’s length finance connected with an enterprise-based system the market cannot impose discipline, for example, by replacing management following poor performance or closing down unprofitable units. The market cannot provide an objective valuation of the firm (this is discussed in more details latter on) nor can protect minority shareholders against the abuses of controlling owners.

Anti-take over defenses used by controlling owners to protect themselves against hostile takeovers leaves scope for moral hazard -broadly defined to include excessive risk taking, waste cash flow and other forms of mismanagement- and eventually drives down share prices (Franks, *et al.*, 1995). The depressed present state of the ASE is partly explained by the typical shareholders' unwillingness to invest in a market where the controlling owner can exercise their own terms. With corporate control in the hands of insiders, Greek firms find it difficult to outside finance. Without outside finance, and the pressure from outside investors, little deep restructuring and strategic investment, in response to changes in technology, market competition and other fundamentals, are taking place.

The deficiency of the Greek corporate governance system reflects the basic agency (credibility) problem facing entrepreneurs or firms when they seek outside investors to contribute funds. The financial dimension of corporate governance evolved from financial intermediation to the stock market, which was completely irrelevant in assuming a role in monitoring the use of funds. In addition, as it has been pointed out, effective corporate governance is particularly important to countries or industries where competition is weak. In the case of Greece competition is insufficient to constrain controlling owners.

4. Market Inefficiency

Although the Greek system of corporate governance explains why managers had regarded the cost of equity as dividends, it does not explain why other investors dared to invest in stocks that yielded dividends of about 1% in the late 1990s. Greek stock market inefficiency can provide an explanation.

In an efficient stock market, a stock's price reflects the current market value of its expected future income stream – that is the respective company's fundamental value. In theory, assets are valued by the discounted present value of the future cash flow that the respective assets are expected to generate (Lumpy and Jones 2001). The discounted cash flow method applying to the valuation of shares consist (s) the so-called dividend discount model. If stock market is efficient, prices will equal the discounted present value of expected future dividends under the assumption of rational expectations. The dividend discount model implies that stock prices are inherently forward-looking i.e. the stock market "trades the future". In this case the stock market fulfills its economic function efficiently because investment funds flow to most productive uses. Companies with profitable investment opportunities have high fundamental values (and high stock prices), while companies without such opportunities have low fundamental values (and low stock prices) and as a result the former may attract more investment funds, than the latter. The main condition behind the hypothesis of market efficiency is that investors have an incentive to use all available information and behave rationally.

If, however, this condition is not met and if other factors, such as past prices, affect the value investors place on stocks, stock prices will deviate from fundamental values, sending the wrong signals to market participants about the true profitability and risks of certain companies, or even of the stock market as a whole (Fama, 1991). Thus a situation of market inefficiency emerges where relatively unprofitable firms would attract scarce financial resources that could have been invested in alternative projects with higher productivity or lower risk.

(More) specifically, market inefficiency is created by some form of irrational behavior on the part of at least some investors. This behavior based on "investor sentiment" and belief formation (and often defined as "overreaction" and "feedback trading") is responsible for bringing stock prices out of line with their fundamentals and generating the so-called “bubbles” (Brealey and Myers 1999). For instance, a string of positive earnings news, lead investors to overly optimistic earnings and dividend expectations driving stock prices well above their fundamental values. This situation of overreaction results to the so-called "intrinsic bubbles". In addition, positive feedback trading generated from investors who believe that recent high stocks’ returns (triggered by some extraneous events) are likely to be high in the future and therefore buy stocks to capture the excess return making these expectations self-fulfilling. Every new wave of investors brings capital gains to the previous investors giving rise to further expectations of future price rises creating a pyramid’s scheme where a bubble feeds itself i.e. the so-called "extrinsic bubbles".

In contrast to an efficient stock market, an inefficient stock market does not direct investment funds to their best productive use. Feedback investors may irrationally drive the stock prices of companies with low fundamental values too high. Conversely, stock prices of companies with high fundamental values may be too low. Since stock prices overshoot fundamental values, the stock market does not direct investment to its most profitable use, leading to misallocation of resources. In addition, expected returns may vary overtime because prices are mean reverting.

In theory, despite the fact that investors do not all behave rationally, stock prices will ultimately return to fundamental values due to the operation of an effective arbitrage mechanism. Rational (usually institutional) investors who pay more attention to fundamental values, for example, can sell (or sell short) an "over-priced" security in one market and simultaneously buy a security with the same pay-off structure as a hedge in another market where it is correctly priced or under-priced. As a result of these actions equilibrium at the fundamental values in both markets is restored. This mechanism operates effectively if stocks have close substitutes.

However in the real world such perfect substitutes do not exist. Fundamental trading becomes, therefore, risky, since it involves the use of imperfect substitutes. In fact, the spread between market and fundamental values of shares may widen even further, due to new information concerning the respective securities (the so-called idiosyncratic risk) or due to the trading activities of uninformed investors ("noise traders").

Borrowing constraints and short investment horizons limits the risk-bearing capacities of rational investors and consequently their aggregate ability (to) in pressing securities prices sufficiently close to their fundamental values. The delegated portfolio management and the corresponding agency problems could, for instance, provide a rationale for short investment horizons. Mutual fund managers may refrain from holding arbitrage positions if they do not expect stock prices to converge to their fundamental values within the performance evaluation period. In addition temporary losses from holding arbitrage positions may induce the fund to liquidate arbitrage positions due to irrational behavior of retail investors who sell their shares in the fund.

The Greek stock market is a clear case of market inefficiency. The increase in stock prices has resulted from the combination of an initial overreaction to intrinsic factors and strong reinforcing factors stemming from the influence of positive feed back trading. Initially stock prices were inflated by market euphoria concerning economic growth and therefore corporate earnings over the not too distant future. Expectations of a favorable outlook for strong and sustainable economic growth were based on several factors, such as anticipated price stability and low investment costs which entail, the euro participation, the funds made available under the 3rd Community Support Framework (CSF) the beneficial effects of the structural reforms being planned in order to enhance the competitiveness of the domestic economy. As more and more investors jumped on the bandwagon, stock prices surged to unprecedented high levels.

However, the above favorable developments could not imply that all firms listed on the ASE would automatically benefit, if they failed to take advantage of the opportunities offered. Furthermore, ASE prices would be vulnerable to other factors, such as developments in international capital markets or in the exchange rates of major currencies (US dollar, yen, euro), as well as raw material and commodity prices. Some of these factors affect the various industries asymmetrically leading to different effects on share prices. Volatility in share prices of certain enterprises, rather than a continuous increase in stock prices, would therefore be a rational expectation.

Stock market developments in the course of 1999 reflected to a large extent the investors' inadequate information and limited understanding of the nature of stock market transactions. During the early August to mid-

September 1999, investments in the ASE were also made by people who were not familiar enough to the key characteristics of the market, particularly to the size of the risk inherent in such investment, as well as to the main factors having a medium-term effect on the price of a specific company's share. The sharp rise in share prices and in the value of transactions was caused by the small savers' increased demand for shares, largely as a result of the massive entry of new investors into the stock market. In fact, roughly 270,000 new securities accounts were opened in the Electronic Securities System (SAT) of the ASE in the third quarter of 1999.

That period was marked by expectations of a general rise in prices, which did not take sufficiently into account the peculiarities and profitability prospects at the level of the business firm. It should be noted that, between end- July and 17th September 1999, the composite ASE index rose by 46.2 % and that of the parallel market by 125.8 %. When the first price adjustment occurred in mid- September, some further problems also arose, which were linked to investors' short positions in securities companies.

For considerable time until September 1999 many investors believed that share prices would continue to rise. As long as investors could be sure that other people would follow and pump up the share prices, and so long as the expected capital gains alone would fulfill the high nominal return which they needed to justify the investment, investors cared little about the increase of dividends. It seems that the belief of continuous rise of share prices was based on the expectation that prices will continue to grow faster just because they did so in the past. In line with these expectations, managers came to think that they would not have to make efforts to raise the share price of their company, which left them to worry only about paying dividends.

However, empirical evidence on the efficiency of stock prices is quite mixed, depending mainly on the theoretical framework chosen and the empirical methodology applied. High price volatility may itself not necessarily indicate a bubble, since even efficiently priced stocks tend to react strongly to information concerning fundamentals. As the fundamental value of socks is not directly observable, it is impossible to decide in particularly *ex ante* with certainty whether stocks are efficiently priced at a specific point in time or not. Thus any assessment concerning stock market efficiency requires a judgment as to whether investors' expectations about future dividends, interest rates and stock market are rational. Such an assessment has to be based on both empirical and theoretical considerations.

Could the sharp volatility in stock prices provide an indication of market inefficiency? In the long run, stock price volatilities are the same, whether or not prices are mean reverting. In contrast, short-term volatilities, stemming from the influence of feedback trading, are greater if prices are mean reverting than if they are not. As a result, the ratio of long-term volatility to short term volatility is smaller if prices are mean reverting. However, large price movements themselves do not necessarily indicate a bubble, as efficiently priced stocks also have an inherent tendency to react strongly to news about fundamentals. Since there is a high degree of uncertainty when identifying the factors that determine the 'fundamental' value of an asset, or measuring the importance of various factors, all asset price valuation models tend to be uncertain and inconclusive with regard to the appropriateness of any particular asset price level.

The traditional instrument of assessing the level of stock prices usually involves examining historical data of stock valuation ratios, such as the dividend yield and price-earnings ratio. It is normally expected that these valuation ratios should, over time, eventually revert to some long-term equilibrium level. The long-run growth potential of dividends or corporate earnings, the long-term levels of real interest rates and the equity risk premium are the factors that determine this equilibrium level. Statistically, two methods are used for historical comparisons. The first consists of comparing current valuation ratios with historical averages. The second involves an estimation of a long-run equilibrium relationship between stock market valuation ratios and, for example, real interest rates and potential output growth (as a proxy of long-term dividend growth). Both methods reveal a stock market over or under valuation when current valuation ratios diverge considerably from the estimated long-run equilibrium level.

However, both methods provide only insufficient evidence of a stock market bubble since they cannot detect whether such divergence reflects reactions to news about fundamentals or influence of positive feedback trading. For example the initial extraordinarily high price-earnings ratios in the market for high-technology stocks could be justified by correct expectations of astonishing corporate earnings increases over an extended future period of time. Their subsequent decline, although observationally equivalent to the "bursting" of a bubble reflected largely the increased uncertainty as regards the short- and long-term profit prospects of business firms in the advanced-technology sectors (IMF, 2000). In contrast, in ASE, the sharp movements in equity prices were driven mainly by unrealistic expectations about the future growth of capital gains driving stock prices out of line with fundamentals, rather than on a reassessment by market participants of economic developments such as the prospects for economic growth. Such behavior has resulted from; *inter alia*, extrapolative price expectations and technical trading rules.

Although, as it has been pointed out in the former corporate governance section, shareholder's value is not an objective for Greek firms, increasing this value is necessary in order to buy off minority shareholders. The continuing rise in stock prices in the late 1990s flooded companies with capital gains, which not only provided the resources to satisfy minority shareholders, but also shifted management attention away from operating profits while realizing more investments in unproductive activities with a potential for managerial empire-building. And then the huge bubble of stock prices burst at the end of 1999.

5. The Impact of Stock Market on Economic Developments

In theory the stock market may affect economic developments through its impact on cost of capital, wealth, confidence and balance sheets. An increase in stock prices may imply an increase in investment spending since this investment can be financed at lower cost by new issues of stocks or by selling existing stocks. In fact, when stock prices rise, the market value of the firm relative to the replacement cost of its stock of capital (the so-called "Tobin's q") tends to increase, which implies it would be profitable for the firm to expand its capital stock. This in turn leads to higher investment spending, aggregate demand and output. However, this effect may be weakened by several factors such as uncertainty regarding the future profitability of the investment, adjustment costs and the irreversible nature of investment decisions - i.e. sunk costs.

In Greece public companies were the biggest beneficiaries of the rally in the stock market in the mid and late 1990s. A low cost of capital meant a low 'hurdle' for the investment encouraging these companies to care little about the investment returns. However, since the decline in equity prices facing a higher cost of capital, they suspect that they paid too much for some investments.

The slump of the Greek stock market since September 1999 has been changing many of the elements that enabled the cheap finance of the late nineties. Investors have become more cautious about the stock investment. They have learned that stocks are risky assets whose prices can fall. They do not have any longer the illusion that stock prices will rise forever.

Companies have paid the price for their excess finance in the past and managers have faced up to the true cost of equity. Equity is a source of funds that they do not have to reimburse, but it costs more than they used to think: augmenting demand from investors. Managers now see that their responsibilities to their shareholders are not only dividends, but also capital gains which investors expect. They are realizing that they must augment the value of the company to raise equity price.

The changing perception of the cost of equity may consequently affect the behavior of companies. These companies traditionally try to maximize their market share and kill competitors first and then 'milk' the profit in the market that they have monopolized. Although it is difficult to judge whether the maximization of market share will lead to the future maximization of profit, it will surely take a very long time to monopolize a market. Moreover, heavy competition from European companies may prevent companies from milking the market. This may not however be the case of some Greek companies in the services sector (e.g. banks), which is subject to limited competition. Such companies have the best prospects in the ASE.

Stock prices may also affect investment and consumption via confidence effects (Boone, *et al.* 1998). The decline in stock prices has induced both consumers and firms to revise downwards their expectations concerning future economic activity, hurting consumer confidence, actual consumption spending and investment activity. Expectations have been affected even in the case of households that do not own stocks or firms that have not issued quoted shares.

A change in stock prices may also affect economic developments via wealth and balance sheet effects (Bertaut, 2002). A significant increase in stock prices implies an increase in financial wealth leading to higher current and future consumption, stimulating aggregate demand and output and *vice-versa*. The asymmetric information in credit markets renders the value of collateral an important determinant of both households' and firms' ability to borrow. The value of collateral and the inherent risk are important determinants of the impact of equity price changes on investment and consumption.

However, the last two effects of the sharp fall in stock prices were largely offset by significant increases in real estate prices, which also affect wealth and the value of collateral. In Greece evidence indicates a strong negative correlation between real estate prices and equity prices as investors move away from the stock market in favor of the real estate market. Lax bank lending conditions and practices had also been contributing to the build-up of real estate price inflation.

6. Conclusion: The Prospects

The downward trend of share prices since September 1999 drove stock exchange values of companies down to unduly low levels; even lower than book values of companies. One would normally expect that arbitragers and institutional investors who pay attention to fundamental values would discover that stocks are undervalued and buy these stocks eventually causing prices to increase. However, this expectation would prove in line with reality only under the assumption that households do not possess a large share of stocks. This assumption does not hold. Fundamental trading has certain limitations. Borrowing constraints and short investment horizons contain the risk-bearing capacities of rational investors and consequently their aggregate ability to drive share values close to fundamentals. Falling and highly volatile stock prices had a negative effect on the behavior of savers and institutional investors. Specifically, equity holdings of mutual funds and portfolio investment companies gradually declined since 1999, as savers and investors increasingly liquidated their equity-type mutual fund units, while mutual funds partly substituted their investments in shares listed on the ASE with REPOS and synthetic swaps. Stock prices are unlikely to go up by much for the time being, since there are many investors who bought shares at a high price and want to dispose of them when prices recover. The potential exit from the market is enormous.

Even more important is the fact that in a case of an inefficient market the results concerning capital gains or losses from buying stocks depend on lack. In every system that the results depend on lack, confidence on this system is undermined. In addition to the absence of effective corporate rules and procedures to insure minority protection and with corporate control in the hands of insiders, investors and potential investors refrain from buying shares. The prospects of recovery in the ASE look bleak.

The market incorporates an automatic mechanism of correction tending to eliminate a situation of excessive degree of managerial discretion enjoyed by the controlling shareholder. On the investors' side weakness in minority protection affects access to finance and cost of equity capital. The present depressed state of the Greek capital market also limits the "exit" option available to holders of minority stakes and makes them reluctant to invest in shares. The vicious circle is well evident. On the companies' side, it is the punishment of the stock market that now is increasingly subjecting management to corporate governance. Companies pay the price for their excess finance in the past and managers become more aware of the true cost of equity. In the long term the degree of minority protection reflects on the capital structure of firms. At present managers and controlling owners are more willing to take out bank loans because of their availability and low cost in comparison to equity financing. As it has been pointed out own funds of companies that have issued quoted shares experienced since 2001 a decline, while their total liabilities (due to bank lending) increased. Preference for debt over equity gradually restores the original balance in the capital structure of firms and enhances the monitoring role provided by banks stifling the controlling owners' managerial discretion. In addition mergers and acquisition of public companies increased substantially and some of them consider even de-listing from the ASE; an action, which would affect the supply and eventually the price of shares. However, the market process is slow and painful.

The process is so painful that some people turn to the government, which was responded by announcing supporting measures for the stock market. More specifically, the authorities took several measures deregulating credit to natural persons for the purchase of a large number of shares (,) provided. This will result in their acquiring a holding of at least 5 per cent of a firm's capital, while the former provisions allowed financing only for gaining control of a company. Furthermore, natural persons were offered the option to borrow on collateral of securities already held in their portfolio and not only of shares purchased with the proceeds of the loan. Bank credit to investment firms and securities companies were also liberalized, while the number of companies to be listed in the ASE was reduced. Such remedies, however, are dangerous. Easy finance is like a drug since it will ease temporarily the pain of the disease but would delay the necessary adjustment, instead of promoting it. Capital is a scare resource, which managers should use efficiently.

The changing perception of the cost of equity may affect the behavior of companies. However, this may not be the case of companies operating in the services sector, which is subject to limited competition. These companies are able to maximize their market share and 'milk' the profit in the market they monopolized and therefore have the best prospects in the ASE.

The measures announced by the government also cover a wide range of institutional, organizational and operational issues, such as the improved institutional framework of the Capital Market Committee and the ASE, the enhanced transparency of stock market trading, and the supervision of listed companies, particularly as regards the supply of information, the transactions of their major shareholders and the observance by the latter of ASE regulations. In addition new laws intended to strengthened minority protection were introduced. The emphasis is to increase the liability of directors, activate institutional investors in corporate governance and encourage mergers and acquisitions. For instance, Law 3016/2002 stipulates that at least one third of the members of the board should be non-executive members without financial stakes and at least two of these non-executive members should be independent members.

Are these enough to persuade minority shareholders that they will not be exploited by controlling owners? The mechanism to achieve good corporate governance was left to factors internal to the firm, without external pressures and sanctions to force effective adoption. A number of specific control techniques, such as crossholding, have not been restricted while issuers and controlling owners may develop procedures circumventing various controls. For instance, the composition of the boards of directors are less important since outside directors would not be expected to take independent action when the controlling owner can hire and fire them at will through his influence in the general meetings. The new legislation on takeovers instead of fostering takeover activity would allow controlling shareholders to reinforce their positions. The bulk of transactions will take place outside the official stock market. The market for corporate control continues to operate under the enterprise-based principles. However, with such a corporate governance and declining corporate' profits, companies are unable to placate once again investors.

The revival of the ASE and consequently an increase in investment spending requires attempts to open up the market by introducing elements of company-based system designed to protect minority interests. As long as takeovers are used merely as device to withdraw firms from the stock exchange and take place through trading in large blocks outside the public exchange, the role of the market and the discipline it can provide in a modern economic system is undermined, leading to misallocation and misuse of economic resources. The Greek law should encourage hostile takeovers through purchases in the official stock market as an instrument to change control, protecting investors against the abuses of management and enhancing market discipline in the system.

At present, poor law enforcement also contributes to weakness of minority protection. To enhance investors' confidence in the market and make finance more readily and cheaply available, minority shareholders should be given stronger legal rights to mount class suits as in the US.

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