

# ***Facts and Fictions in The Securities Industry***

**1<sup>st</sup> EDITION**

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## **World in Conflict and Transition**

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## *Introduction*

The securities industry worldwide is constructed upon the quicksand of self-delusion and socially-acceptable confabulations. These serve to hold together players and agents whose interests are both disparate and diametrically opposed. In the long run, the securities markets are zero-sum games and the only possible outcome is win-lose.

The first "dirty secret" is that a firm's market capitalization often stands in inverse proportion to its value and [valuation](#) (as measured by an objective, neutral, disinterested party). This is true especially when [agents \(management\) are not also principals \(owners\)](#).

Owing to its compensation structure, invariably tied to the firms' market capitalization, management strives to maximize the former by manipulating the latter. Very often, the only way to affect the firm's market capitalization in the short-term is to sacrifice the firm's interests and, therefore, its value in the medium to long-term (for instance, by doling out bonuses even as the firm is dying; by speculating on leverage; and by cooking the books).

The second open secret is that all modern financial markets are [Ponzi \(pyramid\) schemes](#). The only viable exit strategy is by dumping one's holdings on future entrants. Fresh cash flows are crucial to sustaining ever increasing prices. Once these dry up, markets collapse in a heap.

Thus, the [market prices of shares](#) and, to a lesser extent

debt instruments (especially corporate ones) are determined by three cash flows:

- (i) The firm's future cash flows (incorporated into valuation models, such as the CAPM or FAR)
- (ii) Future cash flows in securities markets (i.e., the ebb and flow of new entrants)
- (iii) The present cash flows of current market participants

The confluence of these three cash streams translates into what we call "volatility" and reflects the risks inherent in the security itself (the firm's idiosyncratic risk) and the hazards of the market (known as alpha and beta coefficients).

In sum, stocks and share certificates do not represent ownership of the issuing enterprise at all. This is a myth, a convenient piece of fiction intended to pacify losers and lure "new blood" into the arena. Shareholders' claims on the firm's assets in cases of insolvency, bankruptcy, or [liquidation](#) are of inferior, or subordinate nature.

Stocks are shares are merely options (gambles) on the three cash flows enumerated above. Their prices wax and wane in accordance with [expectations](#) regarding the future net present values of these flows. Once the music stops, they are worth little.

[Return](#)

## *The Value of Stocks of a Company*

The debate rages all over Eastern and Central Europe, in countries in transition as well as in Western Europe. It raged in Britain during the 80s.

Is privatization really the robbery in disguise of state assets by a select few, cronies of the political regime? Margaret Thatcher was accused of it - and so were privatizers in developing countries. What price should state-owned companies have fetched? This question is not as simple and straightforward as it sounds.

There is a stock pricing mechanism known as the Stock Exchange. Willing buyers and willing sellers meet there to freely negotiate deals of stock purchases and sales. New information, macro-economic and micro-economic, determines the value of companies.

Greenspan testifies in the Senate, economic figures are released - and the rumour mill starts working: interest rates might go up. The stock market reacts with frenzily - it crashes. Why?

A top executive is asked how profitable will his firm be this quarter. He winks, he grins - this is interpreted by Wall Street to mean that profits will go up. The share price surges: no one wants to sell it, everyone want to buy it. The result: a sharp rise in its price. Why?

Moreover: the share price of a company of an identical size, similar financial ratios (and in the same industry) barely budges. Why not?

We say that the stocks of the two companies have different elasticity (their prices move up and down differently), probably the result of different sensitivities to changes in interest rates and in earnings estimates. But this is just to rename the problem. The question remains: Why do the shares of similar companies react differently?

Economy is a branch of psychology and wherever and whenever humans are involved, answers don't come easy. A few models have been developed and are in wide use but it is difficult to say that any of them has real predictive or even explanatory powers. Some of these models are "technical" in nature: they ignore the fundamentals of the company. Such models assume that all the relevant information is already incorporated in the price of the stock and that changes in expectations, hopes, fears and attitudes will be reflected in the prices immediately. Others are fundamental: these models rely on the company's performance and assets. The former models are applicable mostly to companies whose shares are traded publicly, in stock exchanges. They are not very useful in trying to attach a value to the stock of a private firm. The latter type (fundamental) models can be applied more broadly.

The value of a stock (a bond, a firm, real estate, or any asset) is the sum of the income (cash flow) that a reasonable investor would expect to get in the future, discounted at the appropriate rate. The discounting reflects the fact that money received in the future has lower (discounted) purchasing power than money received now. Moreover, we can invest money received now and get interest on it (which should normally equal the discount). Put differently: the discount reflects the loss in purchasing power of money deferred or the interest lost by not being

able to invest the money right away. This is the time value of money.

Another problem is the uncertainty of future payments, or the risk that we will never receive them. The longer the payment period, the higher the risk, of course. A model exists which links time, the value of the stock, the cash flows expected in the future and the discount (interest) rates.

The rate that we use to discount future cash flows is the prevailing interest rate. This is partly true in stable, predictable and certain economies. But the discount rate depends on the inflation rate in the country where the firm is located (or, if a multinational, in all the countries where it operates), on the projected supply of and demand for its shares and on the aforementioned risk of non-payment. In certain places, additional factors must be taken into account (for example: country risk or foreign exchange risks).

The supply of a stock and, to a lesser extent, the demand for it determine its distribution (how many shareowners are there) and, as a result, its liquidity. Liquidity means how freely can one buy and sell it and at which quantities sought or sold do prices become rigid.

Example: if a controlling stake is sold - the buyer normally pays a "control premium". Another example: in thin markets it is easier to manipulate the price of a stock by artificially increasing the demand or decreasing the supply ("cornering" the market).

In a liquid market (no problems to buy and to sell), the discount rate is comprised of two elements: one is the risk-free rate (normally, the interest payable on



government bonds), the other being the risk-related rate (the rate which reflects the risk related to the specific stock).

But what is this risk-related rate?

The most widely used model to evaluate specific risks is the Capital Asset Pricing Model (CAPM).

According to it, the discount rate is the risk-free rate plus a coefficient (called beta) multiplied by a risk premium general to all stocks (in the USA it was calculated to be 5.5%). Beta is a measure of the volatility of the return of the stock relative to that of the return of the market. A stock's Beta can be obtained by calculating the coefficient of the regression line between the weekly returns of the stock and those of the stock market during a selected period of time.

Unfortunately, different betas can be calculated by selecting different parameters (for instance, the length of the period on which the calculation is performed). Another problem is that betas change with every new datum. Professionals resort to sensitivity tests which neutralize the changes that betas undergo with time.

Still, with all its shortcomings and disputed assumptions, the CAPM should be used to determine the discount rate. But to use the discount rate we must have future cash flows to discount.

The only relatively certain cash flows are dividends paid to the shareholders. So, Dividend Discount Models (DDM) were developed.

Other models relate to the projected growth of the company (which is supposed to increase the payable

dividends and to cause the stock to appreciate in value).

Still, DDM's require, as input, the ultimate value of the stock and growth models are only suitable for mature firms with a stable, low dividend growth. Two-stage models are more powerful because they combine both emphases, on dividends and on growth. This is because of the life-cycle of firms. At first, they tend to have a high and unstable dividend growth rate (the DDM tackles this adequately). As the firm matures, it is expected to have a lower and stable growth rate, suitable for the treatment of Growth Models.

But how many years of future income (from dividends) should we use in our calculations? If a firm is profitable now, is there any guarantee that it will continue to be so in the next year, or the next decade? If it does continue to be profitable - who can guarantee that its dividend policy will not change and that the same rate of dividends will continue to be distributed?

The number of periods (normally, years) selected for the calculation is called the "price to earnings (P/E) multiple". The multiple denotes by how much we multiply the (after tax) earnings of the firm to obtain its value. It depends on the industry (growth or dying), the country (stable or geopolitically perilous), on the ownership structure (family or public), on the management in place (committed or mobile), on the product (new or old technology) and a myriad of other factors. It is almost impossible to objectively quantify or formulate this process of analysis and decision making. In telecommunications, the range of numbers used for valuing stocks of a private firm is between 7 and 10, for instance. If the company is in the public domain, the number can shoot up to 20 times net earnings.

While some companies pay dividends (some even borrow to do so), others do not. So in stock valuation, dividends are not the only future incomes you would expect to get. Capital gains (profits which are the result of the appreciation in the value of the stock) also count. This is the result of expectations regarding the firm's free cash flow, in particular the free cash flow that goes to the shareholders.

There is no agreement as to what constitutes free cash flow. In general, it is the cash which a firm has after sufficiently investing in its development, research and (predetermined) growth. Cash Flow Statements have become a standard accounting requirement in the 80s (starting with the USA). Because "free" cash flow can be easily extracted from these reports, stock valuation based on free cash flow became increasingly popular and feasible. Cash flow statements are considered independent of the idiosyncratic parameters of different international environments and therefore applicable to multinationals or to national, export-orientated firms.

The free cash flow of a firm that is debt-financed solely by its shareholders belongs solely to them. Free cash flow to equity (FCFE) is:

***FCFE = Operating Cash Flow MINUS Cash needed for meeting growth targets***

Where:

***Operating Cash Flow = Net Income (NI) PLUS Depreciation and Amortization***

***Cash needed for meeting growth targets = Capital Expenditures + Change in Working Capital***

***Working Capital* = Total Current Assets - Total Current Liabilities**

***Change in Working Capital* = One Year's Working Capital MINUS Previous Year's Working Capital**

The complete formula is:

**FCFE = Net Income PLUS  
Depreciation and Amortization MINUS  
Capital Expenditures PLUS  
Change in Working Capital**

A leveraged firm that borrowed money from other sources (even from preferred stock holders) exhibits a different free cash flow to equity. Its CFCE must be adjusted to reflect the preferred dividends and principal repayments of debt (MINUS sign) and the proceeds from new debt and preferred stocks (PLUS sign). If its borrowings are sufficient to pay the dividends to the holders of preference shares and to service its debt - its debt to capital ratio is sound.

The FCFE of a leveraged firm is:

**FCFE = Net Income PLUS  
Depreciation and Amortization MINUS  
Principal Repayment of Debt MINUS  
Preferred Dividends PLUS  
Proceeds from New Debt and Preferred MINUS  
Capital Expenditures MINUS  
Changes in Working Capital**

A sound debt ratio means:

**FCFE = Net Income MINUS  
(1 - Debt Ratio)\*(Capital Expenditures MINUS  
Depreciation and Amortization PLUS  
Change in Working Capital)**

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***Also Read:***

***[The Myth of the Earnings Yield](#)***

***[The Friendly Trend - Technical vs. Fundamental Analysis](#)***

***[The Roller Coaster Market - On Volatility and Risk](#)***

***[Return](#)***

## *The Process of Due Diligence*

A business which wants to attract foreign investments must present a business plan. But a business plan is the equivalent of a visit card. The introduction is very important - but, once the foreign investor has expressed interest, a second, more serious, more onerous and more tedious process commences: Due Diligence.

"Due Diligence" is a legal term (borrowed from the securities industry). It means, essentially, to make sure that all the facts regarding the firm are available and have been independently verified. In some respects, it is very similar to an audit. All the documents of the firm are assembled and reviewed, the management is interviewed and a team of financial experts, lawyers and accountants descends on the firm to analyze it.

### ***First Rule:***

The firm must appoint ONE due diligence coordinator. This person interfaces with all outside due diligence teams. He collects all the materials requested and oversees all the activities which make up the due diligence process.

The firm must have ONE VOICE. Only one person represents the company, answers questions, makes presentations and serves as a coordinator when the DD teams wish to interview people connected to the firm.

## ***Second Rule:***

Brief your workers. Give them the big picture. Why is the company raising funds, who are the investors, how will the future of the firm (and their personal future) look if the investor comes in. Both employees and management must realize that this is a top priority. They must be instructed not to lie. They must know the DD coordinator and the company's spokesman in the DD process.

The DD is a process which is more structured than the preparation of a Business Plan. It is confined both in time and in subjects: Legal, Financial, Technical, Marketing, Controls.

## ***The Marketing Plan***

Must include the following elements:

- A brief history of the business (to show its track performance and growth).
- Points regarding the political, legal (licences) and competitive environment.
- A vision of the business in the future.
- Products and services and their uses.
- Comparison of the firm's products and services to those of the competitors.
- Warranties, guarantees and after-sales service.
- Development of new products or services.
- A general overview of the market and market segmentation.

- Is the market rising or falling (the trend: past and future).
- What customer needs do the products / services satisfy.
- Which markets segments do we concentrate on and why.
- What factors are important in the customer's decision to buy (or not to buy).
- A list of the direct competitors and a short description of each.
- The strengths and weaknesses of the competitors relative to the firm.
- Missing information regarding the markets, the clients and the competitors.
- Planned market research.
- A sales forecast by product group.
- The pricing strategy (how is pricing decided).
- Promotion of the sales of the products (including a description of the sales force, sales-related incentives, sales targets, training of the sales personnel, special offers, dealerships, telemarketing and sales support). Attach a flow chart of the purchasing process from the moment that the client is approached by the sales force until he buys the product.
- Marketing and advertising campaigns (including cost estimates) - broken by market and by media.



- Distribution of the products.
- A flow chart describing the receipt of orders, invoicing, shipping.
- Customer after-sales service (hotline, support, maintenance, complaints, upgrades, etc.).
- Customer loyalty (example: churn rate and how is it monitored and controlled).

### ***Legal Details***

- Full name of the firm.
- Ownership of the firm.
- Court registration documents.
- Copies of all protocols of the Board of Directors and the General Assembly of Shareholders.
- Signatory rights backed by the appropriate decisions.
- The charter (statute) of the firm and other incorporation documents.
- Copies of licences granted to the firm.
- A legal opinion regarding the above licences.
- A list of lawsuit that were filed against the firm and that the firm filed against third parties (litigation) plus a list of disputes which are likely to reach the courts.
- Legal opinions regarding the possible outcomes of

all the lawsuits and disputes including their potential influence on the firm.

### ***Financial Due Diligence***

Last 3 years income statements of the firm or of constituents of the firm, if the firm is the result of a merger. The statements have to include:

- Balance Sheets;
- Income Statements;
- Cash Flow statements;
- Audit reports (preferably done according to the International Accounting Standards, or, if the firm is looking to raise money in the USA, in accordance with FASB);
- Cash Flow Projections and the assumptions underlying them.

## ***Controls***

- Accounting systems used;
- Methods to price products and services;
- Payment terms, collections of debts and ageing of receivables;
- Introduction of international accounting standards;
- Monitoring of sales;
- Monitoring of orders and shipments;
- Keeping of records, filing, archives;
- Cost accounting system;
- Budgeting and budget monitoring and controls;
- Internal audits (frequency and procedures);
- External audits (frequency and procedures);
- The banks that the firm is working with: history, references, balances.

## ***Technical Plan***

- Description of manufacturing processes (hardware, software, communications, other);
- Need for know-how, technological transfer and licensing required;
- Suppliers of equipment, software, services (including offers);

- Manpower (skilled and unskilled);
- Infrastructure (power, water, etc.);
- Transport and communications (example: satellites, lines, receivers, transmitters);
- Raw materials: sources, cost and quality;
- Relations with suppliers and support industries;
- Import restrictions or licensing (where applicable);
- Sites, technical specification;
- Environmental issues and how they are addressed;
- Leases, special arrangements;
- Integration of new operations into existing ones (protocols, etc.).

A successful due diligence is the key to an eventual investment. This is a process much more serious and important than the preparation of the Business Plan.

[Return](#)

## *Financial Investor, Strategic Investor*

In the not so distant past, there was little difference between financial and strategic investors. Investors of all colors sought to safeguard their investment by taking over as many management functions as they could.

Additionally, investments were small and shareholders few. A firm resembled a household and the number of people involved – in ownership and in management – was correspondingly limited. People invested in industries they were acquainted with first hand.

As markets grew, the scales of industrial production (and of service provision) expanded. A single investor (or a small group of investors) could no longer accommodate the needs even of a single firm. As knowledge increased and specialization ensued – it was no longer feasible or possible to micro-manage a firm one invested in. Actually, separate businesses of money making and business management emerged. An investor was expected to excel in obtaining high yields on his capital – not in industrial management or in marketing. A manager was expected to manage, not to be capable of personally tackling the various and varying tasks of the business that he managed.

Thus, two classes of investors emerged. One type supplied firms with capital. The other type supplied them with know-how, technology, management skills, marketing techniques, intellectual property, clientele and a vision, a sense of direction.

In many cases, the strategic investor also provided the

necessary funding. But, more and more, a separation was maintained. Venture capital and risk capital funds, for instance, are purely financial investors. So are, to a growing extent, investment banks and other financial institutions.

The financial investor represents the past. Its money is the result of past - right and wrong - decisions. Its orientation is short term: an "exit strategy" is sought as soon as feasible. For "exit strategy" read quick profits. The financial investor is always on the lookout, searching for willing buyers for his stake. The stock exchange is a popular exit strategy. The financial investor has little interest in the company's management. Optimally, his money buys for him not only a good product and a good market, but also a good management. But his interpretation of the rolls and functions of "good management" are very different to that offered by the strategic investor. The financial investor is satisfied with a management team which maximizes value. The price of his shares is the most important indication of success. This is "bottom line" short termism which also characterizes operators in the capital markets. Invested in so many ventures and companies, the financial investor has no interest, nor the resources to get seriously involved in any one of them. Micro-management is left to others - but, in many cases, so is macro-management. The financial investor participates in quarterly or annual general shareholders meetings. This is the extent of its involvement.

The strategic investor, on the other hand, represents the real long term accumulator of value. Paradoxically, it is the strategic investor that has the greater influence on the value of the company's shares. The quality of

management, the rate of the introduction of new products, the success or failure of marketing strategies, the level of customer satisfaction, the education of the workforce - all depend on the strategic investor. That there is a strong relationship between the quality and decisions of the strategic investor and the share price is small wonder. The strategic investor represents a discounted future in the same manner that shares do. Indeed, gradually, the balance between financial investors and strategic investors is shifting in favour of the latter. People understand that money is abundant and what is in short supply is good management. Given the ability to create a brand, to generate profits, to issue new products and to acquire new clients - money is abundant.

These are the functions normally reserved to financial investors:

### ***Financial Management***

The financial investor is expected to take over the financial management of the firm and to directly appoint the senior management and, especially, the management echelons, which directly deal with the finances of the firm.

1. To regulate, supervise and implement a timely, full and accurate set of accounting books of the firm reflecting all its activities in a manner commensurate with the relevant legislation and regulation in the territories of operations of the firm and with internal guidelines set from time to time by the Board of Directors of the firm. This is usually achieved both during a Due Diligence process and later, as financial management is implemented.

2. To implement continuous financial audit and control systems to monitor the performance of the firm, its flow of funds, the adherence to the budget, the expenditures, the income, the cost of sales and other budgetary items.
3. To timely, regularly and duly prepare and present to the Board of Directors financial statements and reports as required by all pertinent laws and regulations in the territories of the operations of the firm and as deemed necessary and demanded from time to time by the Board of Directors of the Firm.
4. To comply with all reporting, accounting and audit requirements imposed by the capital markets or regulatory bodies of capital markets in which the securities of the firm are traded or are about to be traded or otherwise listed.
5. To prepare and present for the approval of the Board of Directors an annual budget, other budgets, financial plans, business plans, feasibility studies, investment memoranda and all other financial and business documents as may be required from time to time by the Board of Directors of the Firm.
6. To alert the Board of Directors and to warn it regarding any irregularity, lack of compliance, lack of adherence, lacunas and problems whether actual or potential concerning the financial systems, the financial operations, the financing plans, the accounting, the audits, the budgets and any other matter of a financial nature or which could or does have a financial implication.



7. To collaborate and coordinate the activities of outside suppliers of financial services hired or contracted by the firm, including accountants, auditors, financial consultants, underwriters and brokers, the banking system and other financial venues.
8. To maintain a working relationship and to develop additional relationships with banks, financial institutions and capital markets with the aim of securing the funds necessary for the operations of the firm, the attainment of its development plans and its investments.
9. To fully computerize all the above activities in a combined hardware-software and communications system which will integrate into the systems of other members of the group of companies.
10. Otherwise, to initiate and engage in all manner of activities, whether financial or of other nature, conducive to the financial health, the growth prospects and the fulfillment of investment plans of the firm to the best of his ability and with the appropriate dedication of the time and efforts required.

## ***Collection and Credit Assessment***

1. To construct and implement credit risk assessment tools, questionnaires, quantitative methods, data gathering methods and venues in order to properly evaluate and predict the credit risk rating of a client, distributor, or supplier.
2. To constantly monitor and analyse the payment morale, regularity, non-payment and non-performance events, etc. – in order to determine the changes in the credit risk rating of said factors.
3. To analyse receivables and collectibles on a regular and timely basis.
4. To improve the collection methods in order to reduce the amounts of arrears and overdue payments, or the average period of such arrears and overdue payments.
5. To collaborate with legal institutions, law enforcement agencies and private collection firms in assuring the timely flow and payment of all due payments, arrears and overdue payments and other collectibles.
6. To coordinate an educational campaign to ensure the voluntary collaboration of the clients, distributors and other debtors in the timely and orderly payment of their dues.

The strategic investor is, usually, put in charge of the following:

## ***Project Planning and Project Management***

The strategic investor is uniquely positioned to plan the technical side of the project and to implement it. He is, therefore, put in charge of:

1. The selection of infrastructure, equipment, raw materials, industrial processes, etc.;
2. Negotiations and agreements with providers and suppliers;
3. Minimizing the costs of infrastructure by deploying proprietary components and planning;
4. The provision of corporate guarantees and letters of comfort to suppliers;
5. The planning and erecting of the various sites, structures, buildings, premises, factories, etc.;
6. The planning and implementation of line connections, computer network connections, protocols, solving issues of compatibility (hardware and software, etc.);
7. Project planning, implementation and supervision.

### ***Marketing and Sales***

1. The presentation to the Board an annual plan of sales and marketing including: market penetration targets, profiles of potential social and economic categories of clients, sales promotion methods, advertising campaigns, image, public relations and other media campaigns. The strategic investor also implements these plans or supervises their implementation.
2. The strategic investor is usually possessed of a

brandname recognized in many countries. It is the market leaders in certain territories. It has been providing goods and services to users for a long period of time, reliably. This is an important asset, which, if properly used, can attract users. The enhancement of the brandname, its recognition and market awareness, market penetration, co-branding, collaboration with other suppliers – are all the responsibilities of the strategic investor.

3. The dissemination of the product as a preferred choice among vendors, distributors, individual users and businesses in the territory.
4. Special events, sponsorships, collaboration with businesses.
5. The planning and implementation of incentive systems (e.g., points, vouchers).
6. The strategic investor usually organizes a distribution and dealership network, a franchising network, or a sales network (retail chains) including: training, pricing, pecuniary and quality supervision, network control, inventory and accounting controls, advertising, local marketing and sales promotion and other network management functions.
7. The strategic investor is also in charge of "vision thinking": new methods of operation, new marketing ploys, new market niches, predicting the future trends and market needs, market analyses and research, etc.

The strategic investor typically brings to the firm valuable experience in marketing and sales. It has numerous off the

shelf marketing plans and drawer sales promotion campaigns. It developed software and personnel capable of analysing any market into effective niches and of creating the right media (image and PR), advertising and sales promotion drives best suited for it. It has built large databases with multi-year profiles of the purchasing patterns and demographic data related to thousands of clients in many countries. It owns libraries of material, images, sounds, paper clippings, articles, PR and image materials, and proprietary trademarks and brand names. Above all, it accumulated years of marketing and sales promotion ideas which crystallized into a new conception of the business.

### ***Technology***

1. The planning and implementation of new technological systems up to their fully operational phase. The strategic partner's engineers are available to plan, implement and supervise all the stages of the technological side of the business.
2. The planning and implementation of a fully operative computer system (hardware, software, communication, intranet) to deal with all the aspects of the structure and the operation of the firm. The strategic investor puts at the disposal of the firm proprietary software developed by it and specifically tailored to the needs of companies operating in the firm's market.
3. The encouragement of the development of in-house, proprietary, technological solutions to the needs of the firm, its clients and suppliers.
4. The planning and the execution of an integration

program with new technologies in the field, in collaboration with other suppliers or market technological leaders.

### ***Education and Training***

The strategic investor is responsible to train all the personnel in the firm: operators, customer services, distributors, vendors, sales personnel. The training is conducted at its sole expense and includes tours of its facilities abroad.

The entrepreneurs – who sought to introduce the two types of investors, in the first place – are usually left with the following functions:

### ***Administration and Control***

1. To structure the firm in an optimal manner, most conducive to the conduct of its business and to present the new structure for the Board's approval within 30 days from the date of the GM's appointment.
2. To run the day to day business of the firm.
3. To oversee the personnel of the firm and to resolve all the personnel issues.
4. To secure the unobstructed flow of relevant information and the protection of confidential organization.
5. To represent the firm in its contacts, representations and negotiations with other firms, authorities, or persons.

This is why entrepreneurs find it very hard to cohabitate

with investors of any kind. Entrepreneurs are excellent at identifying the needs of the market and at introducing technological or service solutions to satisfy such needs. But the very personality traits which qualify them to become entrepreneurs – also hinder the future development of their firms. Only the introduction of outside investors can resolve the dilemma. Outside investors are not emotionally involved. They may be less visionary – but also more experienced.

They are more interested in business results than in dreams. And – being well acquainted with entrepreneurs – they insist on having unmitigated control of the business, for fear of losing all their money. These things antagonize the entrepreneurs. They feel that they are losing their creation to cold-hearted, mean spirited, corporate predators. They rebel and prefer to remain small or even to close shop than to give up their cherished freedoms. This is where nine out of ten entrepreneurs fail - in knowing when to let go.

[Return](#)

## *The Myth of the Earnings Yield*

In American novels, well into the 1950's, one finds protagonists using the future stream of dividends emanating from their share holdings to send their kids to college or as collateral. Yet, dividends seemed to have gone the way of the Hula-Hoop. Few companies distribute erratic and ever-declining dividends. The vast majority don't bother. The unfavorable tax treatment of distributed profits may have been the cause.

The dwindling of dividends has implications which are nothing short of revolutionary. Most of the financial theories we use to determine the value of shares were developed in the 1950's and 1960's, when dividends were in vogue. They invariably relied on a few implicit and explicit assumptions:

1. That the fair "value" of a share is closely correlated to its market price;
2. That price movements are mostly random, though somehow related to the aforementioned "value" of the share. In other words, the price of a security is supposed to converge with its fair "value" in the long term;
3. That the fair value responds to new information about the firm and reflects it - though how efficiently is debatable. The strong efficiency market hypothesis assumes that new information is fully incorporated in prices instantaneously.



But how is the fair value to be determined?

A discount rate is applied to the stream of all future income from the share - i.e., its dividends. What should this rate be is sometimes hotly disputed - but usually it is the coupon of "riskless" securities, such as treasury bonds. But since few companies distribute dividends - theoreticians and analysts are increasingly forced to deal with "expected" dividends rather than "paid out" or actual ones.

The best proxy for expected dividends is net earnings. The higher the earnings - the likelier and the higher the dividends. Thus, in a subtle cognitive dissonance, retained earnings - often plundered by rapacious managers - came to be regarded as some kind of deferred dividends.

The rationale is that retained earnings, once re-invested, generate additional earnings. Such a virtuous cycle increases the likelihood and size of future dividends. Even undistributed earnings, goes the refrain, provide a rate of return, or a yield - known as the earnings yield. The original meaning of the word "yield" - income realized by an investor - was undermined by this Newspeak.

Why was this oxymoron - the "earnings yield" - perpetuated?

According to all current theories of finance, in the absence of dividends - shares are worthless. The value of an investor's holdings is determined by the income he stands to receive from them. No income - no value. Of course, an investor can always sell his holdings to other investors and realize capital gains (or losses). But capital gains - though also driven by earnings hype - do not feature in financial models of stock valuation.

Faced with a dearth of dividends, market participants - and especially Wall Street firms - could obviously not live with the ensuing zero valuation of securities. They resorted to substituting future dividends - the outcome of capital accumulation and re-investment - for present ones. The myth was born.

Thus, financial market theories starkly contrast with market realities.

No one buys shares because he expects to collect an uninterrupted and equiponderant stream of future income in the form of dividends. Even the most gullible novice knows that dividends are a mere apologue, a relic of the past. So why do investors buy shares? Because they hope to sell them to other investors later at a higher price.

While past investors looked to dividends to realize income from their shareholdings - present investors are more into capital gains. The market price of a share reflects its discounted expected capital gains, the discount rate being its volatility. It has little to do with its discounted future stream of dividends, as current financial theories teach us.

But, if so, why the volatility in share prices, i.e., why are share prices distributed? Surely, since, in liquid markets, there are always buyers - the price should stabilize around an equilibrium point.

It would seem that share prices incorporate expectations regarding the availability of willing and able buyers, i.e., of investors with sufficient liquidity. Such expectations are influenced by the price level - it is more difficult to find buyers at higher prices - by the general market sentiment, and by externalities and new information, including new information about earnings.

The capital gain anticipated by a rational investor takes into consideration both the expected discounted earnings of the firm and market volatility - the latter being a measure of the expected distribution of willing and able buyers at any given price. Still, if earnings are retained and not transmitted to the investor as dividends - why should they affect the price of the share, i.e., why should they alter the capital gain?

Earnings serve merely as a yardstick, a calibrator, a benchmark figure. Capital gains are, by definition, an increase in the market price of a security. Such an increase is more often than not correlated with the future stream of income to the firm - though not necessarily to the shareholder. Correlation does not always imply causation. Stronger earnings may not be the cause of the increase in the share price and the resulting capital gain. But whatever the relationship, there is no doubt that earnings are a good proxy to capital gains.

Hence investors' obsession with earnings figures. Higher earnings rarely translate into higher dividends. But earnings - if not fiddled - are an excellent predictor of the future value of the firm and, thus, of expected capital gains. Higher earnings and a higher market valuation of the firm make investors more willing to purchase the stock at a higher price - i.e., to pay a premium which translates into capital gains.

The fundamental determinant of future income from share holding was replaced by the expected value of share-ownership. It is a shift from an efficient market - where all new information is instantaneously available to all rational investors and is immediately incorporated in the price of the share - to an inefficient market where the most critical information is elusive: how many investors are willing

and able to buy the share at a given price at a given moment.

A market driven by streams of income from holding securities is "open". It reacts efficiently to new information. But it is also "closed" because it is a zero sum game. One investor's gain is another's loss. The distribution of gains and losses in the long term is pretty even, i.e., random. The price level revolves around an anchor, supposedly the fair value.

A market driven by expected capital gains is also "open" in a way because, much like less reputable pyramid schemes, it depends on new capital and new investors. As long as new money keeps pouring in, capital gains expectations are maintained - though not necessarily realized.

But the amount of new money is finite and, in this sense, this kind of market is essentially a "closed" one. When sources of funding are exhausted, the bubble bursts and prices decline precipitously. This is commonly described as an "asset bubble".

This is why current investment portfolio models (like CAPM) are unlikely to work. Both shares and markets move in tandem (contagion) because they are exclusively swayed by the availability of future buyers at given prices. This renders diversification inefficacious. As long as considerations of "expected liquidity" do not constitute an explicit part of income-based models, the market will render them increasingly irrelevant.

[Return](#)

## *Technical vs. Fundamental Analysis of Stocks*

The authors of a paper published by NBER on March 2000 and titled "The Foundations of Technical Analysis" - Andrew Lo, Harry Mamaysky, and Jiang Wang - claim that:

"Technical analysis, also known as 'charting', has been part of financial practice for many decades, but this discipline has not received the same level of academic scrutiny and acceptance as more traditional approaches such as fundamental analysis.

One of the main obstacles is the highly subjective nature of technical analysis - the presence of geometric shapes in historical price charts is often in the eyes of the beholder. In this paper we offer a systematic and automatic approach to technical pattern recognition ... and apply the method to a large number of US stocks from 1962 to 1996..."

And the conclusion:

" ... Over the 31-year sample period, several technical indicators do provide incremental information and may have some practical value."

These hopeful inferences are supported by the work of other scholars, such as Paul Weller of the Finance Department of the university of Iowa. While he admits the limitations of technical analysis - it is a-theoretic and data intensive, pattern over-fitting can be a problem, its rules are often difficult to interpret, and the statistical testing is cumbersome - he insists that "trading rules are picking up patterns in the data not accounted for by standard statistical models" and that the excess returns thus generated are not simply a risk premium.

Technical analysts have flourished and waned in line with the stock exchange bubble. They and their multi-colored charts regularly graced CNBC, the CNN and other market-driving channels. "The Economist" found that many successful fund managers have regularly resorted to technical analysis - including George Soros' Quantum Hedge fund and Fidelity's Magellan. Technical analysis may experience a revival now that corporate accounts - the fundament of fundamental analysis - have been rendered moot by seemingly inexhaustible scandals.

The field is the progeny of Charles Dow of Dow Jones fame and the founder of the "Wall Street Journal". He devised a method to discern cyclical patterns in share prices. Other sages - such as Elliott - put forth complex "wave theories". Technical analysts now regularly employ dozens of geometric configurations in their divinations.

Technical analysis is defined thus in "The Econometrics of Financial Markets", a 1997 textbook authored by John Campbell, Andrew Lo, and Craig MacKinlay:

"An approach to investment management based on the belief that historical price series, trading volume, and other market statistics exhibit regularities - often ... in the

form of geometric patterns ... that can be profitably exploited to extrapolate future price movements."

A less fanciful definition may be the one offered by Edwards and Magee in "Technical Analysis of Stock Trends":

"The science of recording, usually in graphic form, the actual history of trading (price changes, volume of transactions, etc.) in a certain stock or in 'the averages' and then deducing from that pictured history the probable future trend."

Fundamental analysis is about the study of key statistics from the financial statements of firms as well as background information about the company's products, business plan, management, industry, the economy, and the marketplace.

Economists, since the 1960's, sought to rebuff technical analysis. Markets, they say, are efficient and "walk" randomly. Prices reflect all the information known to market players - including all the information pertaining to the future. Technical analysis has often been compared to voodoo, alchemy, and astrology - for instance by Burton Malkiel in his seminal work, "A Random Walk Down Wall Street".

The paradox is that technicians are more orthodox than the most devout academic. They adhere to the strong version of market efficiency. The market is so efficient, they say, that nothing can be gleaned from fundamental analysis. All fundamental insights, information, and analyses are already reflected in the price. This is why one can deduce future prices from past and present ones.

Jack Schwager, sums it up in his book "Schwager on

Futures: Technical Analysis", quoted by Stockcharts.com:

"One way of viewing it is that markets may witness extended periods of random fluctuation, interspersed with shorter periods of nonrandom behavior. The goal of the chartist is to identify those periods (i.e. major trends)."

Not so, retort the fundamentalists. The fair value of a security or a market can be derived from available information using mathematical models - but is rarely reflected in prices. This is the weak version of the market efficiency hypothesis.

The mathematically convenient idealization of the efficient market, though, has been debunked in numerous studies. These are efficiently summarized in Craig McKinlay and Andrew Lo's tome "A Non-random Walk Down Wall Street" published in 1999.

Not all markets are strongly efficient. Most of them sport weak or "semi-strong" efficiency. In some markets, a filter model - one that dictates the timing of sales and purchases - could prove useful. This is especially true when the equilibrium price of a share - or of the market as a whole - changes as a result of externalities.

Substantive news, change in management, an oil shock, a terrorist attack, an accounting scandal, an FDA approval, a major contract, or a natural, or man-made disaster - all cause share prices and market indices to break the boundaries of the price band that they have occupied. Technical analysts identify these boundaries and trace breakthroughs and their outcomes in terms of prices.

Technical analysis may be nothing more than a self-fulfilling prophecy, though. The more devotees it has, the stronger it affects the shares or markets it analyses.



Investors move in herds and are inclined to seek patterns in the often bewildering marketplace. As opposed to the assumptions underlying the classic theory of portfolio analysis - investors do remember past prices. They hesitate before they cross certain numerical thresholds.

But this herd mentality is also the Achilles heel of technical analysis. If everyone were to follow its guidance - it would have been rendered useless. If everyone were to buy and sell at the same time - based on the same technical advice - price advantages would have been arbitrated away instantaneously. Technical analysis is about privileged information to the privileged few - though not too few, lest prices are not swayed.

Studies cited in Edwin Elton and Martin Gruber's "Modern Portfolio Theory and Investment Analysis" and elsewhere show that a filter model - trading with technical analysis - is preferable to a "buy and hold" strategy but inferior to trading at random. Trading against recommendations issued by a technical analysis model and with them - yielded the same results. Fama-Blum discovered that the advantage proffered by such models is identical to transaction costs.

The proponents of technical analysis claim that rather than forming investor psychology - it reflects their risk aversion at different price levels. Moreover, the borders between the two forms of analysis - technical and fundamental - are less sharply demarcated nowadays. "Fundamentalists" insert past prices and volume data in their models - and "technicians" incorporate arcana such as the dividend stream and past earnings in theirs.

It is not clear why should fundamental analysis be considered superior to its technical alternative. If prices

incorporate all the information known and reflect it - predicting future prices would be impossible regardless of the method employed. Conversely, if prices do not reflect all the information available, then surely investor psychology is as important a factor as the firm's - now oft-discredited - financial statements?

Prices, after all, are the outcome of numerous interactions among market participants, their greed, fears, hopes, expectations, and risk aversion. Surely studying this emotional and cognitive landscape is as crucial as figuring the effects of cuts in interest rates or a change of CEO?

Still, even if we accept the rigorous version of market efficiency - i.e., as Aswath Damodaran of the Stern Business School at NYU puts it, that market prices are "unbiased estimates of the true value of investments" - prices do react to new information - and, more importantly, to anticipated information. It takes them time to do so. Their reaction constitutes a trend and identifying this trend at its inception can generate excess yields. On this both fundamental and technical analysis are agreed.

Moreover, markets often over-react: they undershoot or overshoot the "true and fair value". Fundamental analysis calls this oversold and overbought markets. The correction back to equilibrium prices sometimes takes years. A savvy trader can profit from such market failures and excesses.

As quality information becomes ubiquitous and instantaneous, research issued by investment banks discredited, privileged access to information by analysts prohibited, derivatives proliferate, individual participation in the stock market increases, and transaction costs turn negligible - a major rethink of our antiquated financial models is called for.

The maverick Andrew Lo, a professor of finance at the Sloan School of Management at MIT, summed up the lure of technical analysis in lyric terms in an interview he gave to Traders.com's "Technical Analysis of Stocks and Commodities", quoted by Arthur Hill in Stockcharts.com:

"The more creativity you bring to the investment process, the more rewarding it will be. The only way to maintain ongoing success, however, is to constantly innovate. That's much the same in all endeavors. The only way to continue making money, to continue growing and keeping your profit margins healthy, is to constantly come up with new ideas."

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***Also Read:***

***[The Myth of the Earnings Yield](#)***

***[Models of Stock Valuation](#)***

***[Portfolio Management Theory and Technical Analysis](#)***  
***[Lecture Notes](#)***

[Return](#)

## *Volatility and Risk*

Volatility is considered the most accurate measure of risk and, by extension, of return, its flip side. The higher the volatility, the higher the risk - and the reward. That volatility increases in the transition from bull to bear markets seems to support this pet theory. But how to account for surging volatility in plummeting bourses? At the depths of the bear phase, volatility and risk increase while returns evaporate - even taking [short-selling](#) into account.

"The Economist" has recently proposed yet another dimension of risk:

"The Chicago Board Options Exchange's VIX index, a measure of traders' expectations of share price gyrations, in July reached levels not seen since the 1987 crash, and shot up again (two weeks ago)... Over the past five years, volatility spikes have become ever more frequent, from the Asian crisis in 1997 right up to the World Trade Centre attacks. Moreover, it is not just price gyrations that have increased, but the volatility of volatility itself. The markets, it seems, now have an added dimension of risk."

Call-writing has soared as punters, fund managers, and institutional investors try to eke an extra return out of the wild ride and to protect their dwindling equity portfolios. Naked strategies - selling options contracts or buying them in the absence of an investment portfolio of underlying assets - translate into the trading of volatility itself and, hence, of risk. [Short-selling](#) and spread-betting

funds join single stock futures in profiting from the downside.

Market - also known as beta or systematic - risk and volatility reflect underlying problems with the economy as a whole and with corporate governance: lack of transparency, bad loans, default rates, uncertainty, illiquidity, external shocks, and other negative externalities. The behavior of a specific security reveals additional, idiosyncratic, risks, known as alpha.

Quantifying volatility has yielded an equal number of Nobel prizes and controversies. The vacillation of security prices is often measured by a coefficient of variation within the Black-Scholes formula published in 1973.

Volatility is implicitly defined as the standard deviation of the yield of an asset. The value of an option increases with volatility. The higher the volatility the greater the option's chance during its life to be "in the money" - convertible to the underlying asset at a handsome profit.

Without delving too deeply into the model, this mathematical expression works well during trends and fails miserably when the markets change sign. There is disagreement among scholars and traders whether one should better use historical data or current market prices - which include expectations - to estimate volatility and to price options correctly.

From "The Econometrics of Financial Markets" by John Campbell, Andrew Lo, and Craig MacKinlay, Princeton University Press, 1997:

"Consider the argument that implied volatilities are better forecasts of future volatility because changing market conditions cause volatilities (to) vary through time

stochastically, and historical volatilities cannot adjust to changing market conditions as rapidly. The folly of this argument lies in the fact that stochastic volatility contradicts the assumption required by the B-S model - if volatilities do change stochastically through time, the Black-Scholes formula is no longer the correct pricing formula and an implied volatility derived from the Black-Scholes formula provides no new information."

Black-Scholes is thought deficient on other issues as well. The implied volatilities of different options on the same stock tend to vary, defying the formula's postulate that a single stock can be associated with only one value of implied volatility. The model assumes a certain - geometric Brownian - distribution of stock prices that has been shown to not apply to US markets, among others.

Studies have exposed serious departures from the price process fundamental to Black-Scholes: skewness, excess kurtosis (i.e., concentration of prices around the mean), serial correlation, and time varying volatilities. Black-Scholes tackles stochastic volatility poorly. The formula also unrealistically assumes that the market dickers continuously, ignoring transaction costs and institutional constraints. No wonder that traders use Black-Scholes as a heuristic rather than a price-setting formula.

Volatility also decreases in administered markets and over different spans of time. As opposed to the received wisdom of the random walk model, most investment vehicles sport different volatilities over different time horizons. Volatility is especially high when both supply and demand are inelastic and liable to large, random shocks. This is why the prices of industrial goods are less volatile than the prices of shares, or commodities.

But why are stocks and exchange rates volatile to start with? Why don't they follow a smooth evolutionary path in line, say, with inflation, or interest rates, or productivity, or net earnings?

To start with, because economic fundamentals fluctuate - sometimes as wildly as shares. The Fed has cut interest rates 11 times in the past 12 months down to 1.75 percent - the lowest level in 40 years. Inflation gyrated from double digits to a single digit in the space of two decades. This uncertainty is, inevitably, incorporated in the price signal.

Moreover, because of time lags in the dissemination of data and its assimilation in the prevailing operational model of the economy - prices tend to overshoot both ways. The economist Rudiger Dornbusch, who died last month, studied in his seminal paper, "Expectations and Exchange Rate Dynamics", published in 1975, the apparently irrational ebb and flow of floating currencies.

His conclusion was that markets overshoot in response to surprising changes in economic variables. A sudden increase in the money supply, for instance, axes interest rates and causes the currency to depreciate. The rational outcome should have been a panic sale of obligations denominated in the collapsing currency. But the devaluation is so excessive that people reasonably expect a rebound - i.e., an appreciation of the currency - and purchase bonds rather than dispose of them.

Yet, even Dornbusch ignored the fact that some price twirls have nothing to do with economic policies or realities, or with the emergence of new information - and a lot to do with mass psychology. How else can we account for the crash of October 1987? This goes to the



heart of the undecided debate between technical and fundamental analysts.

As Robert Shiller has demonstrated in his tomes "Market Volatility" and "Irrational Exuberance", the volatility of stock prices exceeds the predictions yielded by any efficient market hypothesis, or by discounted streams of future dividends, or earnings. Yet, this finding is hotly disputed.

Some scholarly studies of researchers such as Stephen LeRoy and Richard Porter offer support - other, no less weighty, scholarship by the likes of Eugene Fama, Kenneth French, James Poterba, Allan Kleidon, and William Schwert negate it - mainly by attacking Shiller's underlying assumptions and simplifications. Everyone - opponents and proponents alike - admit that stock returns do change with time, though for different reasons.

Volatility is a form of market inefficiency. It is a reaction to incomplete information (i.e., uncertainty). Excessive volatility is irrational. The confluence of mass greed, mass fears, and mass disagreement as to the preferred mode of reaction to public and private information - yields price fluctuations.

Changes in volatility - as manifested in options and futures premiums - are good predictors of shifts in sentiment and the inception of new trends. Some traders are contrarians. When the VIX or the NASDAQ Volatility indices are high - signifying an oversold market - they buy and when the indices are low, they sell.

Chaikin's Volatility Indicator, a popular timing tool, seems to couple market tops with increased indecisiveness and nervousness, i.e., with enhanced volatility. Market

bottoms - boring, cyclical, affairs - usually suppress volatility. Interestingly, Chaikin himself disputes this interpretation. He believes that volatility increases near the bottom, reflecting panic selling - and decreases near the top, when investors are in full accord as to market direction.

But most market players follow the trend. They sell when the VIX is high and, thus, portends a declining market. A bullish consensus is indicated by low volatility. Thus, low VIX readings signal the time to buy. Whether this is more than superstition or a mere gut reaction remains to be seen.

It is the work of theoreticians of finance. Alas, they are consumed by mutual rubbishing and dogmatic thinking. The few that wander out of the ivory tower and actually bother to ask economic players what they think and do - and why - are much derided. It is a dismal scene, devoid of volatile creativity.

### ***A Note on Short Selling and Volatility***

Short selling involves the sale of securities borrowed from brokers who, in turn, usually borrow them from third party investors. The short seller pays a negotiated fee for the privilege and has to "cover" her position: to re-acquire the securities she had sold and return them to the lender (again via the broker). This allows her to bet on the decline of stocks she deems overvalued and to benefit if she is proven right: she sells the securities at a high price and re-acquires them once their prices have, indeed, tanked.

***A study titled "A Close Look at Short Selling on NASDAQ", authored by James Angel of Georgetown***

University - Department of Finance and Stephen E. Christophe and Michael G. Ferri of George Mason University - School of Management, and published in the Financial Analysts Journal, Vol. 59, No. 6, pp. 66-74, November/December 2003, yielded some surprising findings:

***"(1) overall, 1 of every 42 trades involves a short sale; (2) short selling is more common among stocks with high returns than stocks with weaker performance; (3) actively traded stocks experience more short sales than stocks of limited trading volume; (4) short selling varies directly with share price volatility; (5) short selling does not appear to be systematically different on various days of the week; and (6) days of high short selling precede days of unusually low returns."***

Many economists insist that short selling is a mechanism which stabilizes stock markets, reduces volatility, and creates incentives to correctly price securities. This sentiment is increasingly more common even among hitherto skeptical economists in developing countries.

In an interview he granted to [Financialexpress.com](http://Financialexpress.com) in January 2007, Marti G Subrahmanyam, the Indian-born Charles E Merrill professor of Finance and Economics in the Stern School of Business at New York University had this to say:

***"Q: Should short-selling be allowed?"***

***A: Such kind of restrictions would only magnify the volatility and crisis. If a person who is bearish on the market and is not allowed to short sell, the market cannot discount the true sentiment and when more and***

***more negative information pour in, the market suddenly slips down heavily."***

But not everyone agrees. In a paper titled ***"The Impact of Short Selling on the Price-Volume Relationship: Evidence from Hong Kong"***, the authors, Michael D. McKenzie of RMIT University - School of Economics and Finance and Olan T. Henry of the University of Melbourne - Department of Economics, unequivocally state:

***"The results suggest (i) that the market displays greater volatility following a period of short selling and (ii) that asymmetric responses to positive and negative innovations to returns appear to be exacerbated by short selling."***

Similar evidence emerged from Australia. In a paper titled ***"Short Sales Are Almost Instantaneously Bad News: Evidence from the Australian Stock Exchange"***, the authors, Michael J. Aitken, Alex Frino, Michael S. McCorry, and Peter L. Swan of the University of Sydney and Barclays Global Investors, investigated ***"the market reaction to short sales on an intraday basis in a market setting where short sales are transparent immediately following execution."***

They found ***"a mean reassessment of stock value following short sales of up to -0.20 percent with adverse information impounded within fifteen minutes or twenty trades. Short sales executed near the end of the financial year and those related to arbitrage and hedging activities are associated with a smaller price reaction; trades near information events precipitate larger price reactions. The evidence is generally weaker for short sales executed using limit orders relative to***

**market orders.**" Transparent short sales, in other words, increase the volatility of shorted stocks.

Studies of the German DAX, conducted in 1996-8 by Alexander Kempf, Chairman of the Departments of Finance in the University of Cologne and, subsequently, at the University of Mannheim, found that mispricing of stocks increases with the introduction of arbitrage trading techniques. **"Overall, the empirical evidence suggests that short selling restrictions and early unwinding opportunities are very influential factors for the behavior of the mispricing."** - Concluded the author.

Charles M. Jones and Owen A. Lamont, who studied the 1926-33 bubble in the USA, flatly state: **"Stocks can be overpriced when short sale constraints bind."** (NBER Working Paper No. 8494, issued in October 2001). Similarly, in a January 2006 study titled **"The Effect of Short Sales Constraints on SEO Pricing"**, the authors, Charlie Charoenwong and David K. Ding of the Ping Wang Division of Banking and Finance at the Nanyang Business School of the Nanyang Technological University Singapore, summarized by saying:

**"The (short selling) Rule's restrictions on informed trading appear to cause overpricing of stocks for which traders have access to private adverse information, which increases the pressure to sell on the offer day."**

In a March 2004 paper titled **"Options and the Bubble"**, Robert H. Battalio and Paul H. Schultz of University of Notre Dame - Department of Finance and Business Economics contradict earlier (2003) findings by Ofek and Richardson and correctly note:

**"Many believe that a bubble was behind the high prices**

***of Internet stocks in 1999-2000, and that short-sale restrictions prevented rational investors from driving Internet stock prices to reasonable levels. Using intraday options data from the peak of the Internet bubble, we find no evidence that short-sale restrictions affected Internet stock prices. Investors could also cheaply short synthetically using options. Option strategies could also permit investors to mitigate synchronization risk. During this time, information was discovered in the options market and transmitted to the stock market, suggesting that the bubble could have been burst by options trading."***

But these findings, of course, would not apply to markets with non-efficient, illiquid, or non-existent options exchanges - in short, they are inapplicable to the vast majority of stock exchanges, even in the USA.

A much larger study, based on data from 111 countries with a stock exchange market was published in December 2003. Titled ***"The World Price of Short Selling"*** and **written by** Anchada Charoenrook of Vanderbilt University - Owen Graduate School of Management and Hazem Daouk of Cornell University - Department of Applied Economics and Management, its conclusions are equally emphatic:

***"We find that there is no difference in the level of skewness and coskewness of returns, probability of a crash occurring, or the frequency of crashes, when short-selling is possible and when it is not. When short-selling is possible, volatility of aggregate stock returns is lower. When short-selling is possible, liquidity is higher consistent with predictions by Diamond and Verrecchia (1987). Lastly, we find that when countries change from a regime where short-selling is not possible to where it is***

***possible, the stock price increases implying that the cost of capital is lower. Collectively, the empirical evidence suggests that short-sale constraints reduce market quality."***

But the picture may not be as uniform as this study implies.

Within the framework of Regulation SHO, a revamp of short sales rules effected in 2004, the US Securities and Exchange Commission (SEC) lifted, in May 2005, all restrictions on the short selling of 1000 stocks. In September 2006, according to Associated Press, many of its economists (though not all of them) concluded that:

***"Order routing, short-selling mechanics and intraday market volatility has been affected by the experiment, with volatility increasing for smaller stocks and declining for larger stocks. Market quality and liquidity don't appear to have been harmed."***

Subsequently, the aforementioned conclusions notwithstanding, the SEC recommended to remove all restrictions on stocks of all sizes and to incorporate this mini-revolution in its July 2007 regulation NMS for broker-dealers. Short selling seems to have finally hit the mainstream.

## **Volatility and Price Discovery**

Three of the most important functions of free markets are: price discovery, the provision of liquidity, and capital allocation. Honest and transparent dealings between willing buyers and sellers are thought to result in liquid and efficient marketplaces. Prices are determined, second by second, in a process of public negotiation, taking old and emergent information about risks and returns into

account. Capital is allocated to the highest bidder, who, presumably, can make the most profit on it. And every seller finds a buyer and vice versa.

The current global crisis is not only about the failure of a few investment banks (in the USA) and retail banks (in Europe). The very concept of free markets seems to have gone bankrupt. This was implicitly acknowledged by governments as they rushed to nationalize banks and entire financial systems.

In the last 14 months (August 2007 to October 2008), markets repeatedly failed to price assets correctly. From commodities to stocks, from derivatives to houses, and from currencies to art prices gyrate erratically and irrationally all over the charts. The markets are helpless and profoundly dysfunctional: no one seems to know what is the "correct" price for oil, shares, housing, gold, or anything else for that matter. Disagreements between buyers and sellers regarding the "right" prices are so unbridgeable and so frequent that price volatility (as measured, for instance, by the VIX index) has increased to an all time high. Speculators have benefited from unprecedented opportunities for arbitrage. Mathematical-economic models of risk, diversification, portfolio management and insurance have proven to be useless.

Inevitably, liquidity has dried up. Entire markets vanished literally overnight: collateralized debt obligations and swaps (CDOs and CDSs), munis (municipal bonds), commercial paper, mortgage derivatives, interbank lending. Attempts by central banks to inject liquidity into a moribund system have largely floundered and proved futile.

Finally, markets have consistently failed to allocate capital



efficiently and to put it to the most-profitable use. In the last decade or so, business firms (mainly in the USA) have destroyed more economic value than they have created. This net destruction of assets, both tangible and intangible, retarded wealth formation. In some respects, the West - and especially the United States - are poorer now than they were in 1988. This monumental waste of capital was a result of the policies of free and easy money adopted by the world's central banks since 2001. Easy come, easy go, I guess.

[Return](#)

# *The Bursting Asset Bubbles*

## **I. Overview**

*Also published by United Press International (UPI)*

The recent implosion of the global equity markets - from Hong Kong to New York - engendered yet another round of the semipternal debate: should central banks contemplate abrupt adjustments in the prices of assets - such as stocks or real estate - as they do changes in the consumer price indices? Are asset bubbles indeed inflationary and their bursting deflationary?

Central bankers counter that it is hard to tell a bubble until it bursts and that market intervention bring about that which it is intended to prevent. There is insufficient historical data, they reprimand errant scholars who insist otherwise. This is disingenuous. Ponzi and pyramid schemes have been a fixture of Western civilization at least since the middle Renaissance.

Assets tend to accumulate in "asset stocks". Residences built in the 19th century still serve their purpose today. The quantity of new assets created at any given period is, inevitably, negligible compared to the stock of the same class of assets accumulated over decades and, sometimes, centuries. This is why the prices of assets are not anchored - they are only loosely connected to their production costs or even to their replacement value.

Asset bubbles are not the exclusive domain of stock exchanges and shares. "Real" assets include land and the property built on it, machinery, and other tangibles.

"Financial" assets include anything that stores value and can serve as means of exchange - from cash to securities. Even tulip bulbs will do.

In 1634, in what later came to be known as "tulipmania", tulip bulbs were traded in a special marketplace in Amsterdam, the scene of a rabid speculative frenzy. Some rare black tulip bulbs changed hands for the price of a big mansion house. For four feverish years it seemed like the craze would last forever. But the bubble burst in 1637. In a matter of a few days, the price of tulip bulbs was slashed by 96%!

Uniquely, tulipmania was not an organized scam with an identifiable group of movers and shakers, which controlled and directed it. Nor has anyone made explicit promises to investors regarding guaranteed future profits. The hysteria was evenly distributed and fed on itself. Subsequent investment fiddles were different, though.

Modern dodges entangle a large number of victims. Their size and all-pervasiveness sometimes threaten the national economy and the very fabric of society and incur grave political and social costs.

There are two types of bubbles.

Asset bubbles of the first type are run or fanned by financial intermediaries such as banks or brokerage houses. They consist of "pumping" the price of an asset or an asset class. The assets concerned can be shares, currencies, other securities and financial instruments - or even savings accounts. To promise unearthly yields on one's savings is to artificially inflate the "price", or the "value" of one's savings account.

More than one fifth of the population of 1983 Israel were

involved in a banking scandal of Albanian proportions. It was a classic pyramid scheme. All the banks, bar one, promised to gullible investors ever increasing returns on the banks' own publicly-traded shares.

These explicit and incredible promises were included in prospectuses of the banks' public offerings and won the implicit acquiescence and collaboration of successive Israeli governments. The banks used deposits, their capital, retained earnings and funds illegally borrowed through shady offshore subsidiaries to try to keep their impossible and unhealthy promises. Everyone knew what was going on and everyone was involved. It lasted 7 years. The prices of some shares increased by 1-2 percent daily.

On October 6, 1983, the entire banking sector of Israel crumbled. Faced with ominously mounting civil unrest, the government was forced to compensate shareholders. It offered them an elaborate share buyback plan over 9 years. The cost of this plan was pegged at \$6 billion - almost 15 percent of Israel's annual GDP. The indirect damage remains unknown.

Avaricious and susceptible investors are lured into investment swindles by the promise of impossibly high profits or interest payments. The organizers use the money entrusted to them by new investors to pay off the old ones and thus establish a credible reputation. Charles Ponzi perpetrated many such schemes in 1919-1925 in Boston and later the Florida real estate market in the USA. Hence a "Ponzi scheme".

In Macedonia, a savings bank named TAT collapsed in 1997, erasing the economy of an entire major city, Bitola. After much wrangling and recriminations - many

politicians seem to have benefited from the scam - the government, faced with elections in September, has recently decided, in defiance of IMF diktats, to offer meager compensation to the afflicted savers. TAT was only one of a few similar cases. Similar scandals took place in Russia and Bulgaria in the 1990's.

One third of the impoverished population of Albania was cast into destitution by the collapse of a series of nationwide leveraged investment plans in 1997. Inept political and financial crisis management led Albania to the verge of disintegration and a civil war. Rioters invaded police stations and army barracks and expropriated hundreds of thousands of weapons.

Islam forbids its adherents to charge interest on money lent - as does Judaism. To circumvent this onerous decree, entrepreneurs and religious figures in Egypt and in Pakistan established "Islamic banks". These institutions pay no interest on deposits, nor do they demand interest from borrowers. Instead, depositors are made partners in the banks' - largely fictitious - profits. Clients are charged for - no less fictitious - losses. A few Islamic banks were in the habit of offering vertiginously high "profits". They went the way of other, less pious, pyramid schemes. They melted down and dragged economies and political establishments with them.

By definition, pyramid schemes are doomed to failure. The number of new "investors" - and the new money they make available to the pyramid's organizers - is limited. When the funds run out and the old investors can no longer be paid, panic ensues. In a classic "run on the bank", everyone attempts to draw his money simultaneously. Even healthy banks - a distant relative of pyramid schemes - cannot cope with such stampedes.

Some of the money is invested long-term, or lent. Few financial institutions keep more than 10 percent of their deposits in liquid on-call reserves.

Studies repeatedly demonstrated that investors in pyramid schemes realize their dubious nature and stand forewarned by the collapse of other contemporaneous scams. But they are swayed by recurrent promises that they could draw their money at will ("liquidity") and, in the meantime, receive alluring returns on it ("capital gains", "interest payments", "profits").

People know that they are likelier to lose all or part of their money as time passes. But they convince themselves that they can outwit the organizers of the pyramid, that their withdrawals of profits or interest payments prior to the inevitable collapse will more than amply compensate them for the loss of their money. Many believe that they will succeed to accurately time the extraction of their original investment based on - mostly useless and superstitious - "warning signs".

While the speculative rash lasts, a host of pundits, analysts, and scholars aim to justify it. The "new economy" is exempt from "old rules and archaic modes of thinking". Productivity has surged and established a steeper, but sustainable, trend line. Information technology is as revolutionary as electricity. No, more than electricity. Stock valuations are reasonable. The Dow is on its way to 33,000. People want to believe these "objective, disinterested analyses" from "experts".

Investments by households are only one of the engines of this first kind of asset bubbles. A lot of the money that pours into pyramid schemes and stock exchange booms is laundered, the fruits of illicit pursuits. The laundering of

tax-evaded money or the proceeds of criminal activities, mainly drugs, is effected through regular banking channels. The money changes ownership a few times to obscure its trail and the identities of the true owners.

Many offshore banks manage shady investment ploys. They maintain two sets of books. The "public" or "cooked" set is made available to the authorities - the tax administration, bank supervision, deposit insurance, law enforcement agencies, and securities and exchange commission. The true record is kept in the second, inaccessible, set of files.

This second set of accounts reflects reality: who deposited how much, when and subject to which conditions - and who borrowed what, when and subject to what terms. These arrangements are so stealthy and convoluted that sometimes even the shareholders of the bank lose track of its activities and misapprehend its real situation. Unscrupulous management and staff sometimes take advantage of the situation. Embezzlement, abuse of authority, mysterious trades, misuse of funds are more widespread than acknowledged.

The thunderous disintegration of the Bank for Credit and Commerce International (BCCI) in London in 1991 revealed that, for the better part of a decade, the executives and employees of this penumbral institution were busy stealing and misappropriating \$10 billion. The Bank of England's supervision department failed to spot the rot on time. Depositors were - partially - compensated by the main shareholder of the bank, an Arab sheikh. The story repeated itself with Nick Leeson and his unauthorized disastrous trades which brought down the venerable and veteran Barings Bank in 1995.

The combination of black money, shoddy financial controls, shady bank accounts and shredded documents renders a true account of the cash flows and damages in such cases all but impossible. There is no telling what were the contributions of drug barons, American off-shore corporations, or European and Japanese tax-evaders - channeled precisely through such institutions - to the stratospheric rise in Wall-Street in the last few years.

But there is another - potentially the most pernicious - type of asset bubble. When financial institutions lend to the unworthy but the politically well-connected, to cronies, and family members of influential politicians - they often end up fostering a bubble. South Korean chaebols, Japanese keiretsu, as well as American conglomerates frequently used these cheap funds to prop up their stock or to invest in real estate, driving prices up in both markets artificially.

Moreover, despite decades of bitter experiences - from Mexico in 1982 to Asia in 1997 and Russia in 1998 - financial institutions still bow to fads and fashions. They act herd-like in conformity with "lending trends". They shift assets to garner the highest yields in the shortest possible period of time. In this respect, they are not very different from investors in pyramid investment schemes.

## **II. Case Study - The Savings and Loans Associations Bailout**

*Also published by United Press International (UPI)*

Asset bubbles - in the stock exchange, in the real estate or the commodity markets - invariably burst and often lead to banking crises. One such calamity struck the USA in 1986-1989. It is instructive to study the decisive reaction



of the administration and Congress alike. They tackled both the ensuing liquidity crunch and the structural flaws exposed by the crisis with tenacity and skill. Compare this to the lackluster and hesitant tentativeness of the current lot. True, the crisis - the result of a speculative bubble - concerned the banking and real estate markets rather than the capital markets. But the similarities are there.

The savings and loans association, or the thrift, was a strange banking hybrid, very much akin to the building society in Britain. It was allowed to take in deposits but was really merely a mortgage bank. The Depository Institutions Deregulation and Monetary Control Act of 1980 forced S&L's to achieve interest parity with commercial banks, thus eliminating the interest ceiling on deposits which they enjoyed hitherto.

But it still allowed them only very limited entry into commercial and consumer lending and trust services. Thus, these institutions were heavily exposed to the vicissitudes of the residential real estate markets in their respective regions. Every normal cyclical slump in property values or regional economic shock - e.g., a plunge in commodity prices - affected them disproportionately.

Interest rate volatility created a mismatch between the assets of these associations and their liabilities. The negative spread between their cost of funds and the yield of their assets - eroded their operating margins. The 1982 Garn-St. Germain Depository Institutions Act encouraged thrifts to convert from mutual - i.e., depositor-owned - associations to stock companies, allowing them to tap the capital markets in order to enhance their faltering net worth.

But this was too little and too late. The S&L's were rendered unable to further support the price of real estate by rolling over old credits, refinancing residential equity, and underwriting development projects. Endemic corruption and mismanagement exacerbated the ruin. The bubble burst.

Hundreds of thousands of depositors scrambled to withdraw their funds and hundreds of savings and loans association (out of a total of more than 3,000) became insolvent instantly, unable to pay their depositors. They were besieged by angry - at times, violent - clients who lost their life savings.

The illiquidity spread like fire. As institutions closed their gates, one by one, they left in their wake major financial upheavals, wrecked businesses and homeowners, and devastated communities. At one point, the contagion threatened the stability of the entire banking system.

The Federal Savings and Loans Insurance Corporation (FSLIC) - which insured the deposits in the savings and loans associations - was no longer able to meet the claims and, effectively, went bankrupt. Though the obligations of the FSLIC were never guaranteed by the Treasury, it was widely perceived to be an arm of the federal government. The public was shocked. The crisis acquired a political dimension.

A hasty \$300 billion bailout package was arranged to inject liquidity into the shriveling system through a special agency, the FHFBS. The supervision of the banks was subtracted from the Federal Reserve. The role of the Federal Deposit Insurance Corporation (FDIC) was greatly expanded.

Prior to 1989, savings and loans were insured by the now-defunct FSLIC. The FDIC insured only banks. Congress had to eliminate FSLIC and place the insurance of thrifts under FDIC. The FDIC kept the Bank Insurance Fund (BIF) separate from the Savings Associations Insurance Fund (SAIF), to confine the ripple effect of the meltdown.

The FDIC is designed to be independent. Its money comes from premiums and earnings of the two insurance funds, not from Congressional appropriations. Its board of directors has full authority to run the agency. The board obeys the law, not political masters. The FDIC has a preemptive role. It regulates banks and savings and loans with the aim of avoiding insurance claims by depositors.

When an institution becomes unsound, the FDIC can either shore it up with loans or take it over. If it does the latter, it can run it and then sell it as a going concern, or close it, pay off the depositors and try to collect the loans. At times, the FDIC ends up owning collateral and trying to sell it.

Another outcome of the scandal was the Resolution Trust Corporation (RTC). Many savings and loans were treated as "special risk" and placed under the jurisdiction of the RTC until August 1992. The RTC operated and sold these institutions - or paid off the depositors and closed them. A new government corporation (Resolution Fund Corporation, RefCorp) issued federally guaranteed bailout bonds whose proceeds were used to finance the RTC until 1996.

The Office of Thrift Supervision (OTS) was also established in 1989 to replace the dismantled Federal Home Loan Board (FHLB) in supervising savings and loans. OTS is a unit within the Treasury Department, but

law and custom make it practically an independent agency.

The Federal Housing Finance Board (FHFB) regulates the savings establishments for liquidity. It provides lines of credit from twelve regional Federal Home Loan Banks (FHLB). Those banks and the thrifts make up the Federal Home Loan Bank System (FHLBS). FHFB gets its funds from the System and is independent of supervision by the executive branch.

Thus a clear, streamlined, and powerful regulatory mechanism was put in place. Banks and savings and loans abused the confusing overlaps in authority and regulation among numerous government agencies. Not one regulator possessed a full and truthful picture. Following the reforms, it all became clearer: insurance was the FDIC's job, the OTS provided supervision, and liquidity was monitored and imparted by the FHLB.

Healthy thrifts were coaxed and cajoled to purchase less sturdy ones. This weakened their balance sheets considerably and the government reneged on its promises to allow them to amortize the goodwill element of the purchase over 40 years. Still, there were 2,898 thrifts in 1989. Six years later, their number shrank to 1,612 and it stands now at less than 1,000. The consolidated institutions are bigger, stronger, and better capitalized.

Later on, Congress demanded that thrifts obtain a bank charter by 1998. This was not too onerous for most of them. At the height of the crisis the ratio of their combined equity to their combined assets was less than 1%. But in 1994 it reached almost 10% and remained there ever since.

This remarkable turnaround was the result of serendipity as much as careful planning. Interest rate spreads became highly positive. In a classic arbitrage, savings and loans paid low interest on deposits and invested the money in high yielding government and corporate bonds. The prolonged equity bull market allowed thrifts to float new stock at exorbitant prices.

As the juridical relics of the Great Depression - chiefly amongst them, the Glass-Steagall Act - were repealed, banks were liberated to enter new markets, offer new financial instruments, and spread throughout the USA. Product and geographical diversification led to enhanced financial health.

But the very fact that S&L's were poised to exploit these opportunities is a tribute to politicians and regulators alike - though except for setting the general tone of urgency and resolution, the relative absence of political intervention in the handling of the crisis is notable. It was managed by the autonomous, able, utterly professional, largely a-political Federal Reserve. The political class provided the professionals with the tools they needed to do the job. This mode of collaboration may well be the most important lesson of this crisis.

### **III. Case Study - Wall Street, October 1929**

*Also published by United Press International (UPI)*

Claud Cockburn, writing for the "Times of London" from New-York, described the irrational exuberance that gripped the nation just prior to the Great Depression. As Europe wallowed in post-war malaise, America seemed to have discovered a new economy, the secret of uninterrupted growth and prosperity, the fount of

transforming technology:

"The atmosphere of the great boom was savagely exciting, but there were times when a person with my European background felt alarmingly lonely. He would have liked to believe, as these people believed, in the eternal upswing of the big bull market or else to meet just one person with whom he might discuss some general doubts without being regarded as an imbecile or a person of deliberately evil intent - some kind of anarchist, perhaps."

The greatest analysts with the most impeccable credentials and track records failed to predict the forthcoming crash and the unprecedented economic depression that followed it. Irving Fisher, a preeminent economist, who, according to his biographer-son, Irving Norton Fisher, lost the equivalent of \$140 million in today's money in the crash, made a series of soothing predictions. On October 22 he uttered these avuncular statements: "Quotations have not caught up with real values as yet ... (There is) no cause for a slump ... The market has not been inflated but merely readjusted..."

Even as the market convulsed on Black Thursday, October 24, 1929 and on Black Tuesday, October 29 - the New York Times wrote: "Rally at close cheers brokers, bankers optimistic".

In an editorial on October 26, it blasted rabid speculators and compliant analysts: "We shall hear considerably less in the future of those newly invented conceptions of finance which revised the principles of political economy with a view solely to fitting the stock market's vagaries." But it ended thus: "(The Federal Reserve has) insured the soundness of the business situation when the speculative markets went on the rocks."

Compare this to Alan Greenspan Congressional testimony this summer: "While bubbles that burst are scarcely benign, the consequences need not be catastrophic for the economy ... (The Depression was brought on by) ensuing failures of policy."

Investors, their equity leveraged with bank and broker loans, crowded into stocks of exciting "new technologies", such as the radio and mass electrification. The bull market - especially in issues of public utilities - was fueled by "mergers, new groupings, combinations and good earnings" and by corporate purchasing for "employee stock funds".

Cautionary voices - such as Paul Warburg, the influential banker, Roger Babson, the "Prophet of Loss" and Alexander Noyes, the eternal Cassandra from the New York Times - were derided. The number of brokerage accounts doubled between March 1927 and March 1929.

When the market corrected by 8 percent between March 18-27 - following a Fed induced credit crunch and a series of mysterious closed-door sessions of the Fed's board - bankers rushed in. The New York Times reported: "Responsible bankers agree that stocks should now be supported, having reached a level that makes them attractive." By August, the market was up 35 percent on its March lows. But it reached a peak on September 3 and it was downhill since then.

On October 19, five days before "Black Thursday", Business Week published this sanguine prognosis:

"Now, of course, the crucial weaknesses of such periods - price inflation, heavy inventories, over-extension of commercial credit - are totally absent. The security market

seems to be suffering only an attack of stock indigestion... There is additional reassurance in the fact that, should business show any further signs of fatigue, the banking system is in a good position now to administer any needed credit tonic from its excellent Reserve supply."

The crash unfolded gradually. Black Thursday actually ended with an inspiring rally. Friday and Saturday - trading ceased only on Sundays - witnessed an upswing followed by mild profit taking. The market dropped 12.8 percent on Monday, with Winston Churchill watching from the visitors' gallery - incurring a loss of \$10-14 billion.

The Wall Street Journal warned naive investors:

**"Many are looking for technical corrective reactions from time to time, but do not expect these to disturb the upward trend for any prolonged period."**

The market plummeted another 11.7 percent the next day - though trading ended with an impressive rally from the lows. October 31 was a good day with a "vigorous, buoyant rally from bell to bell". Even Rockefeller joined the myriad buyers. Shares soared. It seemed that the worst was over.

The New York Times was optimistic:

"It is thought that stocks will become stabilized at their actual worth levels, some higher and some lower than the present ones, and that the selling prices will be guided in the immediate future by the worth of each particular security, based on its dividend record, earnings ability and prospects. Little is heard in Wall Street these days about 'putting stocks up.'"



But it was not long before irate customers began blaming their stupendous losses on advice they received from their brokers. Alec Wilder, a songwriter in New York in 1929, interviewed by Stud Terkel in "Hard Times" four decades later, described this typical exchange with his money manager:

"I knew something was terribly wrong because I heard bellboys, everybody, talking about the stock market. About six weeks before the Wall Street Crash, I persuaded my mother in Rochester to let me talk to our family adviser. I wanted to sell stock which had been left me by my father. He got very sentimental: 'Oh your father wouldn't have liked you to do that.' He was so persuasive, I said O.K. I could have sold it for \$160,000. Four years later, I sold it for \$4,000."

Exhausted and numb from days of hectic trading and back office operations, the brokerage houses pressured the stock exchange to declare a two day trading holiday. Exchanges around North America followed suit.

At first, the Fed refused to reduce the discount rate. "(There) was no change in financial conditions which the board thought called for its action." - though it did inject liquidity into the money market by purchasing government bonds. Then, it partially succumbed and reduced the New York discount rate, which, curiously, was 1 percent above the other Fed districts - by 1 percent. This was too little and too late. The market never recovered after November 1. Despite further reductions in the discount rate to 4 percent, it shed a whopping 89 percent in nominal terms when it hit bottom three years later.

Everyone was duped. The rich were impoverished

overnight. Small time margin traders - the forerunners of today's day traders - lost their shirts and much else besides. The New York Times:

"Yesterday's market crash was one which largely affected rich men, institutions, investment trusts and others who participate in the market on a broad and intelligent scale. It was not the margin traders who were caught in the rush to sell, but the rich men of the country who are able to swing blocks of 5,000, 10,000, up to 100,000 shares of high-priced stocks. They went overboard with no more consideration than the little trader who was swept out on the first day of the market's upheaval, whose prices, even at their lowest of last Thursday, now look high by comparison ... To most of those who have been in the market it is all the more awe-inspiring because their financial history is limited to bull markets."

Overseas - mainly European - selling was an important factor. Some conspiracy theorists, such as Webster Tarpley in his "British Financial Warfare", supported by contemporary reporting by the likes of "The Economist", went as far as writing:

"When this Wall Street Bubble had reached gargantuan proportions in the autumn of 1929, (Lord) Montagu Norman (governor of the Bank of England 1920-1944) sharply (upped) the British bank rate, repatriating British hot money, and pulling the rug out from under the Wall Street speculators, thus deliberately and consciously imploding the US markets. This caused a violent depression in the United States and some other countries, with the collapse of financial markets and the contraction of production and employment. In 1929, Norman engineered a collapse by puncturing the bubble."

The crash was, in large part, a reaction to a sharp reversal, starting in 1928, of the reflationary, "cheap money", policies of the Fed intended, as Adolph Miller of the Fed's Board of Governors told a Senate committee, "to bring down money rates, the call rate among them, because of the international importance the call rate had come to acquire. The purpose was to start an outflow of gold - to reverse the previous inflow of gold into this country (back to Britain)." But the Fed had already lost control of the speculative rush.

The crash of 1929 was not without its Enrons and World.com's. Clarence Hatry and his associates admitted to forging the accounts of their investment group to show a fake net worth of \$24 million British pounds - rather than the true picture of 19 billion in liabilities. This led to forced liquidation of Wall Street positions by harried British financiers.

The collapse of Middle West Utilities, run by the energy tycoon, Samuel Insull, exposed a web of offshore holding companies whose only purpose was to hide losses and disguise leverage. The former president of NYSE, Richard Whitney was arrested for larceny.

Analysts and commentators thought of the stock exchange as decoupled from the real economy. Only one tenth of the population was invested - compared to 40 percent today. "The World" wrote, with more than a bit of Schadenfreude: "The country has not suffered a catastrophe ... The American people ... has been gambling largely with the surplus of its astonishing prosperity."

"The Daily News" concurred: "The sagging of the stocks has not destroyed a single factory, wiped out a single farm or city lot or real estate development, decreased the

productive powers of a single workman or machine in the United States." In Louisville, the "Herald Post" commented sagely: "While Wall Street was getting rid of its weak holder to their own most drastic punishment, grain was stronger. That will go to the credit side of the national prosperity and help replace that buying power which some fear has been gravely impaired."

During the Coolidge presidency, according to the Encyclopedia Britannica, "stock dividends rose by 108 percent, corporate profits by 76 percent, and wages by 33 percent. In 1929, 4,455,100 passenger cars were sold by American factories, one for every 27 members of the population, a record that was not broken until 1950. Productivity was the key to America's economic growth. Because of improvements in technology, overall labour costs declined by nearly 10 percent, even though the wages of individual workers rose."

Jude Wanniski adds in his tome "The Way the World Works" that "between 1921 and 1929, GNP grew to \$103.1 billion from \$69.6 billion. And because prices were falling, real output increased even faster." Tax rates were sharply reduced.

John Kenneth Galbraith noted these data in his seminal "The Great Crash":

"Between 1925 and 1929, the number of manufacturing establishments increased from 183,900 to 206,700; the value of their output rose from \$60.8 billions to \$68 billions. The Federal Reserve index of industrial production which had averaged only 67 in 1921 ... had risen to 110 by July 1928, and it reached 126 in June 1929 ... (but the American people) were also displaying an inordinate desire to get rich quickly with a minimum of

physical effort."

Personal borrowing for consumption peaked in 1928 - though the administration, unlike today, maintained twin fiscal and current account surpluses and the USA was a large net creditor. Charles Kettering, head of the research division of General Motors described consumeritis thus, just days before the crash: "The key to economic prosperity is the organized creation of dissatisfaction."

Inequality skyrocketed. While output per man-hour shot up by 32 percent between 1923 and 1929, wages crept up only 8 percent. In 1929, the top 0.1 percent of the population earned as much as the bottom 42 percent. Business-friendly administrations reduced by 70 percent the exorbitant taxes paid by those with an income of more than \$1 million. But in the summer of 1929, businesses reported sharp increases in inventories. It was the beginning of the end.

Were stocks overvalued prior to the crash? Did all stocks collapse indiscriminately? Not so. Even at the height of the panic, investors remained conscious of real values. On November 3, 1929 the shares of American Can, General Electric, Westinghouse and Anaconda Copper were still substantially higher than on March 3, 1928.

John Campbell and Robert Shiller, author of "Irrational Exuberance", calculated, in a joint paper titled "Valuation Ratios and the Lon-Run Market Outlook: An Update" posted on Yale University's Web Site, that share prices divided by a moving average of 10 years worth of earnings reached 28 just prior to the crash. Contrast this with 45 on March 2000.

In an NBER working paper published December 2001 and

tellingly titled "The Stock Market Crash of 1929 - Irving Fisher was Right", Ellen McGrattan and Edward Prescott boldly claim: "We find that the stock market in 1929 did not crash because the market was overvalued. In fact, the evidence strongly suggests that stocks were undervalued, even at their 1929 peak."

According to their detailed paper, stocks were trading at 19 times after-tax corporate earning at the peak in 1929, a fraction of today's valuations even after the recent correction. A March 1999 "Economic Letter" published by the Federal Reserve Bank of San-Francisco wholeheartedly concurs. It notes that at the peak, prices stood at 30.5 times the dividend yield, only slightly above the long term average.

Contrast this with an article published in June 1990 issue of the "Journal of Economic History" by Robert Barsky and Bradford De Long and titled "Bull and Bear Markets in the Twentieth Century":

"Major bull and bear markets were driven by shifts in assessments of fundamentals: investors had little knowledge of crucial factors, in particular the long run dividend growth rate, and their changing expectations of average dividend growth plausibly lie behind the major swings of this century."

Jude Waninski attributes the crash to the disintegration of the pro-free-trade coalition in the Senate which later led to the notorious Smoot-Hawley Tariff Act of 1930. He traces all the important moves in the market between March 1929 and June 1930 to the intricate protectionist danse macabre in Congress.

This argument may never be decided. Is a similar crash on

the cards? This cannot be ruled out. The 1990's resembled the 1920's in more than one way. Are we ready for a recurrence of 1929? About as we were prepared in 1928. Human nature - the prime mover behind market meltdowns - seemed not to have changed that much in these intervening seven decades.

Will a stock market crash, should it happen, be followed by another "Great Depression"? It depends which kind of crash. The short term puncturing of a temporary bubble - e.g., in 1962 and 1987 - is usually divorced from other economic fundamentals. But a major correction to a lasting bull market invariably leads to recession or worse.

As the economist Hernan Cortes Douglas reminds us in "The Collapse of Wall Street and the Lessons of History" published by the Friedberg Mercantile Group, this was the sequence in London in 1720 (the infamous "South Sea Bubble"), and in the USA in 1835-40 and 1929-32.

#### **IV. Britain's Real Estate**

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The five ghastly "Jack the Ripper" murders took place in an area less than a quarter square mile in size. Houses in this haunting and decrepit no man's land straddling the City and metropolitan London could be had for 25-50,000 British pounds as late as a decade ago. How things change!

The general buoyancy in real estate prices in the capital coupled with the adjacent Spitalfields urban renewal project have lifted prices. A house not 50 yards from the scene of the Ripper's last - and most ghoulish - slaying now sells for over 1 million pounds. In central London, one bedroom apartments retail for an outlandish half a million.

According to research published in September 2002 by Halifax, the UK's largest mortgage lender, the number of 1 million pound homes sold has doubled in 1999-2002 to 2600. By 2002, it has increased elevenfold since 1995. According to The Economist's house price index, prices rose by a further 15.6% in 2003, 10.2% in 2004 and a whopping 147% in total since 1997. In Greater London, one in every 90 homes fetches even a higher price. The average UK house now costs 100,000 pounds. In the USA, the ratios of house prices to rents and to median income are at historic highs.

One is reminded of the Japanese boast, at the height of their realty bubble, that the grounds of the royal palace in Tokyo are worth more than the entire real estate of Manhattan. Is Britain headed the same way?

A house - much like a Big Mac - is a basket of raw materials, goods, and services. But, unlike the Big Mac - and the purchasing power index it spawned - houses are



also investment vehicles and stores of value. They yield often tax exempt capital gains, rental income, or benefits from occupying them (rent payments saved). Real estate is used to hedge against inflation, save for old age, and speculate. Prices of residential and commercial property reflect scarcity, investment fads, and changing moods.

Homeowners in both the UK and the USA - spurred on by aggressive marketing and the lowest interest rates in 30 years - have been refinancing old, more expensive, mortgages and heavily borrowing against their "equity" - i.e., against the meteoric rise in the market prices of their abodes.

According to the Milken Institute in Los Angeles, asset bubbles tend to both enhance and cannibalize each other. Profits from surging tradable securities are used to buy property and drive up its values. Borrowing against residential equity fuels overvaluations in fervid stock exchanges. When one bubble bursts - the other initially benefits from an influx of funds withdrawn in panic from the shriveling alternative.

Quantitatively, a considerably larger share of the nation's wealth is tied in real estate than in the capital markets. Yet, the infamous wealth effect - an alleged fluctuation in the will to consume as a result of changing fortunes in the stock exchange - is equally inconspicuous in the realty

markets. It seems that consumption is correlated with lifelong projected earnings rather than with the state of one's savings and investments.

This is not the only counter-intuitive finding. Asset inflation - no matter how vertiginous - rarely spills into consumer prices. The recent bubbles in Japan and the USA, for instance, coincided with a protracted period of disinflation. The bursting of bubbles does have a deflationary effect, though.

In a late 2002 survey of global house price movements, "The Economist" concluded that real estate inflation is a global phenomenon. Though Britain far outpaces the United States and Italy (65% rise since 1997), it falls behind Ireland (179%) and South Africa (195%). It is in league with Australia (with 113%) and Spain (132%).

The paper notes wryly:

***"Just as with equities in the late 1990s, property bulls are now coming up with bogus arguments for why rampant house-price inflation is sure to continue. Demographic change ... Physical restrictions and tough planning laws ... Similar arguments were heard in Japan in the late 1980s and Germany in the early 1990s - and yet in recent years house prices in these two countries have been falling. British house prices also tumbled in the late 1980s."***

They are bound to do so again. In the long run, the rise in house prices cannot exceed the increase in disposable income. The effects of the bursting of a property bubble are invariably more pernicious and prolonged than the outcomes of a bear market in stocks. Real estate is much more leveraged. Debt levels can well exceed home equity ("negative equity") in a downturn. Nowadays, loans are not eroded by high inflation. Adjustable rate mortgages - one third of the annual total in the USA - will make sure that the burden of real indebtedness mushrooms as interest rates rise.

The Economist (April 2005):

***"An IMF study on asset bubbles estimates that 40% of housing booms are followed by housing busts, which last for an average of four years and see an average decline of roughly 30% in home values. But given how many homebuyers in booming markets seem to be basing their purchasing decisions on expectations of outsized returns—a recent survey of buyers in Los Angeles indicated that they expected their homes to increase in value by a whopping 22% a year over the next decade—nasty downturns in at least some markets seem likely."***

With both the equity and realty markets in gloom, people revert to cash and bonds and save more - leading to

deflation or recession or both. Japan is a prime example of such a shift of investment preferences. When prices collapse sufficiently to become attractive, investors pile back into both the capital and real estate markets. This cycle is as old and as inevitable as human greed and fear.

### **Post Script**

In 2007, a collapse in the subprime mortgage market in the United States precipitated a sharp global decline in housing starts and prices - as predicted. The year after, this led to a global credit crunch, the destabilization of the banking system, the demise of all the major investment banks in the USA, and recession throughout the industrialized world. The resultant drop in commodity and energy prices caused the slowdown to spread to developing countries as well.

### **IV. Notes on the Credit Crisis of 2007-9**

The global crisis of 2007-9 was, actually, a confluence of unrelated problems on three continents. In the United States, investment banks were brought down by hyper-leveraged investments in ill-understood derivatives. As stock exchanges plummeted, the resulting devastation and wealth destruction spilled over into the real economy and caused a recession which is bound to be mild by historical standards.

Depending heavily on imported energy and exported goods, Europe's economy faced a marked slowdown as

the region's single currency, the euro, appreciated strongly against all major currencies; as China, India, and other low-wage Asian countries became important exporters; as the price of energy products and oil skyrocketed; and as real estate bubbles burst in countries like Spain and Ireland. Additionally, European banks were heavily leveraged and indebted - far more than their counterparts across the Atlantic. Governments throughout the continent were forced to bail out one ailing institution after another, taxing further their limited counter-cyclical resources.

Simultaneously, in Asia, growth rates began to decelerate. Massive exposure to American debt, both public and private, served a vector of contagion. The weakening of traditional export markets affected adversely industries and employment. Stock exchanges tumbled.

The 2007-9 upheaval was so all-pervasive and so reminiscent of the beginnings of the Great Depression that it brought about a realignment and re-definition of the roles of the main economic actors: the state, the central banks, financial institutions of all stripes (both those regulated and in the "shadow banking" sector), the investment industries, and the various marketplaces (the stock exchanges, foremost).

### ***1. Central Banks***

The global credit crunch induced by the subprime mortgage crisis in the United States, in the second half of 2007, engendered a tectonic and paradigmatic shift in the way central banks perceive themselves and their role in the banking and financial systems.

On December 12, 2007, America's Federal Reserve, the Bank of England, the European Central Bank (ECB), the

Bank of Canada and the Swiss National Bank, as well as Japan's and Sweden's central banks joined forces in a plan to ease the worldwide liquidity squeeze.

This collusion was a direct reaction to the fact that more conventional instruments have failed. Despite soaring spreads between the federal funds rate and the LIBOR (charged in interbank lending), banks barely touched money provided via the Fed's discount window. Repeated and steep cuts in interest rates and the establishment of reciprocal currency-swap lines fared no better.

The Fed then proceeded to establish a "Term Auction Facility (TAF)", doling out one-month loans to eligible banks. The Bank of England multiplied fivefold its regular term auctions for three months maturities. On December 18, the ECB lent 350 million euros to 390 banks at below market rates.

In March 2008, the Fed lent 29 billion USD to JP Morgan Chase to purchase the ailing broker-dealer Bear Stearns and hundreds of billions of dollars to investment banks through its discount window, hitherto reserved for commercial banks. The Fed agreed to accept as collateral securities tied to "prime" mortgages (by then in as much trouble as their subprime brethren).

The Fed doled the funds out through anonymous auctions, allowing borrowers to avoid the stigma attached to accepting money from a lender of last resort. Interest rates for most lines of credit, though, were set by the markets in (sometimes anonymous) auctions, rather than directly by the central banks, thus removing the central banks' ability to penalize financial institutions whose lax credit policies were, to use a mild understatement, negligent.

Moreover, central banks broadened their range of acceptable collateral to include prime mortgages and commercial paper. This shift completed their transformation from lenders of last resort. Central banks now became the equivalents of financial marketplaces, and akin to many retail banks. Fighting inflation - their erstwhile *raison d'etre* - has been relegated to the back burner in the face of looming risks of recession and protectionism. In September 2008, the Fed even borrowed money from the Treasury when its own resources were depleted.

As *The Economist* neatly summed it up (in an article titled "A dirty job, but Someone has to do it", dated December 13, 2007):

***"(C)entral banks will now be more intricately involved in the unwinding of the credit mess. Since more banks have access to the liquidity auction, the central banks are implicitly subsidising weaker banks relative to stronger ones. By broadening the range of acceptable collateral, the central banks are taking more risks onto their balance sheets."***

Regulatory upheaval is sure to follow. Investment banks are likely to be subjected to the same strictures, reserve requirements, and prohibitions that have applied to commercial banks since 1934. Supervisory agencies and functions will be consolidated and streamlined.

Ultimately, the state is the mother of all insurers, the master policy, the supreme underwriter. When markets fail, insurance firm recoil, and financial instruments disappoint - the government is called in to pick up the pieces, restore trust and order and, hopefully, retreat more gracefully than it was forced to enter.

The state would, therefore, do well to regulate all financial instruments: deposits, derivatives, contracts, loans, mortgages, and all other deeds that are exchanged or traded, whether publicly (in an exchange) or privately. Trading in a new financial instrument should be allowed only after it was submitted for review to the appropriate regulatory authority; a specific risk model was constructed; and reserve requirements were established and applied to all the players in the financial services industry, whether they are banks or other types of intermediaries.

## ***2. Common Investment Schemes***

The credit and banking crisis of 2007-9 has cast in doubt the three pillars of modern common investment schemes. Mutual funds (known in the UK as "unit trusts"), hedge funds, and closed-end funds all rely on three assumptions:

### **Assumption number one**

That risk inherent in assets such as stocks can be "diversified away". If one divides one's capital and invests it in a variety of financial instruments, sectors, and markets, the overall risk of one's portfolio of investments is lower than the risk of any single asset in said portfolio.

Yet, in the last decade, markets all over the world have moved in tandem. These highly-correlated ups and downs gave the lie to the belief that they were in the process of "decoupling" and could, therefore, be expected to fluctuate independently of each other. What the crisis has revealed is that contagion transmission vectors and mechanisms have actually become more potent as barriers to flows of money and information have been lowered.

### **Assumption number two**



That investment "experts" can and do have an advantage in picking "winner" stocks over laymen, let alone over random choices. Market timing coupled with access to information and analysis were supposed to guarantee the superior performance of professionals. Yet, they didn't.

Few investment funds beat the relevant stock indices on a regular, consistent basis. The yields on "random walk" and stochastic (random) investment portfolios often surpass managed funds. Index or tracking funds (funds who automatically invest in the stocks that compose a stock market index) are at the top of the table, leaving "stars", "seers", "sages", and "gurus" in the dust.

This manifest market efficiency is often attributed to the ubiquity of capital pricing models. But, the fact that everybody uses the same software does not necessarily mean that everyone would make the same stock picks. Moreover, the CAPM and similar models are now being challenged by the discovery and incorporation of information asymmetries into the math. Nowadays, not all fund managers are using the same mathematical models.

A better explanation for the inability of investment experts to beat the overall performance of the market would perhaps be information overload. Recent studies have shown that performance tends to deteriorate in the presence of too much information.

Additionally, the failure of gatekeepers - from rating agencies to regulators - to force firms to provide reliable data on their activities and assets led to the ascendance of insider information as the only credible substitute. But, insider or privileged information proved to be as misleading as publicly disclosed data. Finally, the market acted more on noise than on signal. As we all know, noise

it perfectly randomized. Expertise and professionalism mean nothing in a totally random market.

### **Assumption number three**

That risk can be either diversified away or parceled out and sold. This proved to be untenable, mainly because the very nature of risk is still ill-understood: the samples used in various mathematical models were biased as they relied on data pertaining only to the recent bull market, the longest in history.

Thus, in the process of securitization, "risk" was dissected, bundled and sold to third parties who were equally at a loss as to how best to evaluate it. Bewildered, participants and markets lost their much-vaunted ability to "discover" the correct prices of assets. Investors and banks got spooked by this apparent and unprecedented failure and stopped investing and lending. Illiquidity and panic ensued.

If investment funds cannot beat the market and cannot effectively get rid of portfolio risk, what do we need them for?

The short answer is: because it is far more convenient to get involved in the market through a fund than directly. Another reason: index and tracking funds are excellent ways to invest in a bull market.

### ***3. Capital-Allocating Institutions***

The main role of banks, well into the 1920, was to allocate capital to businesses (directly and through consumer credits and mortgages). Deposit-taking was a core function and the main source of funding. As far as

depositors were concerned, banks guaranteed the safety and liquidity of the store of value (cash and cash-equivalents).

In the 1920, stock exchanges began to compete with banks by making available to firms other means of raising capital (IPOs - initial public offerings). This activity gradually became as important as the stock exchange's traditional competence: price discovery (effected through the structured interactions of willing buyers and sellers).

This territorial conflict led to an inevitable race to the bottom in terms of the quality of debtors and, ultimately, to the crash of 1929 and the Great Depression that ensued. Banks then were reduced to retail activities, having lost their investment services to hybrids known as "investment banks".

The invention of junk bonds in the 1980s heralded a whole new era. A parallel, unregulated financial system has emerged which catered to the needs of businesses to raise risk capital and to the needs of those who provided such funds to rid themselves of the hazards inherent in their investments. Consumer credits and mortgages, for instance, were financed by traditional banking businesses. The risks associated with such lending were securitized and sold to third parties.

As expertise evolved and experience accumulated,

financial operators learned to slice the hazards, evaluate them using value-at-risk mathematical models, tailor them to the needs of specific customer profiles, hedge them with complex derivatives, and trade them in unofficial, unregulated, though highly liquid amorphous, virtual "marketplaces".

Thus, stock exchanges have begun to lose their capital allocation functions to private equity funds, hedge funds, investment banks, and pension funds. In the process, such activities have become even more opaque and less regulated than before. This lack of transparency led to pervasive counterparty distrust and difficulties in price discovery. Ultimately, when the prices of underlying assets (such as housing) began to tumble, all liquidity drained and markets seized and froze.

Thus, at the end of 2006, the global financial system was comprised of three main groups of actors: traditional retail banks whose main role was deposit taking and doling out consumer credits; exchanges whose main functions were price discovery and the provision of liquidity; and investment banks and their surrogates and special purpose vehicles whose principal job was the allocation of capital to businesses and the mitigation of risk via securitization and insurance (hedging).

Yet, these unregulated investment banks were also often

under-capitalized and hyper-leveraged partnerships (at least until the late 1990s, when some of them went public). This is precisely why they had invented all manner of complex financial instruments intended to remove credit-related risks from their books by selling it to third parties. Physicists, analysts, and rating agencies all agreed that the risk attendant to these derivatives can be calculated and determined and that many of them were risk-free (as long as markets were liquid, of course).

The business strategy of the investment banks was viable. It should have worked perfectly had they not committed a primal sin: they have entered the fray not only as brokers, dealers, and mediators, but also as investors and gamblers (principals), taking on huge positions, often improperly hedged ("naked"). When these bets soured, the capital base of these institutions was wiped out, sometimes literally overnight. The very financial instruments that were meant to alleviate and reallocate risk (such as collateralized debt obligations - CDOs) have turned into hazardous substances, as investors (and investment banks) gambled on the direction of the economy, specific sectors, or firms.

In hindsight, the "shadow banks" subverted the very foundations of modern finance: they created money (modifying the money-printing monopoly of central banks); they obfuscated the process of price discovery and

thus undermined the price signal (incidentally casting doubt on symmetrical asset pricing models); they interfered with the ability of cash and cash-equivalents to serve as value stores and thus shook the trust in the entire financial system; they amplified the negative consequences of unbridled speculation (that is not related to real-life economic activities and values); they leveraged the instant dissemination of information to render markets inefficient and unstable (a fact which requires a major revision of efficient market hypotheses).

This systemic dysfunctioning of financial markets led risk-averse investors to flee into safer havens: commodities, oil, metals, real estate and, finally, currencies and bonds. This was not merely a flight to quality: it was an attempt to avoid the abstract and fantastic "Alice in Wonderland" markets fostered by investment banks and to reconnect with tangible reality

With the disappearance of investment banks (those who survived became bank holding companies), traditional banks are likely to regain some of their erstwhile functions: the allocation to businesses and creditworthy consumers and homeowners of deposit-based capital. The various exchanges will also survive, but will largely be confined to price discovery and the allocation of risk capital. Some financial instruments will flourish (credit-default swaps of all types), others will vanish (CDOs).

All in all, the financial scenery of 2010 will resemble 1910's more than it will 2005's. Back to basics and home-grown truths. At least until the next cataclysm.

### ***V. The Crisis in Historical Context***

Housing and financial crises often precede, or follow the disintegration of empires. The dissolution of the Habsburg and the British empires, as well as the implosion of the USSR were all marked by the eruption and then unwinding of imbalances in various asset, banking, and financial markets.

The collapse of [Communism](#) in Europe and Asia led to the emergence of a new [middle class](#) in these territories. Flushed with enhanced earnings and access to bank credits, its members unleashed a wave of unbridled consumption (mainly of imported goods); and with a rising mountain of savings, they scoured the globe for assets to invest their capital in: from football clubs to stocks and bonds.

The savings glut and the lopsided expansion of international trade led to severe asymmetries in capital flows and to the distortion of price signals. These, in turn, encouraged leveraged speculation and arbitrage and attempts to diversify away investment risks. The former resulted in extreme volatility and the latter in opaqueness and the breakdown of trust among market players and

agents.

## ***VI. The Next Crisis: Imploding Bond Markets***

***Written: November 3, 2008***

To finance enormous bailout packages for the financial sector (and potentially the auto and mining industries) as well as fiscal stimulus plans, governments will have to issue trillions of US dollars in new bonds. Consequently, the prices of bonds are bound to come under pressure from the supply side.

But the demand side is likely to drive the next global financial crisis: the crash of the bond markets.

As the Fed takes US dollar interest rates below 1% (and with similar moves by the ECB, the Bank of England, and other central banks), buyers are likely to lose interest in government bonds and move to other high-quality, safe haven assets. Risk-aversion, mitigated by the evident thawing of the credit markets will cause investors to switch their portfolios from cash and cash-equivalents to more hazardous assets.

Moreover, as countries that hold trillions in government bonds (mainly US treasuries) begin to feel the pinch of the global crisis, they will be forced to liquidate their bondholdings in order to finance their needs.



In other words, bond prices are poised to crash precipitously. In the last 50 years, bond prices have collapsed by more than 35% at least on three occasions. This time around, though, such a turn of events will be nothing short of cataclysmic: more than ever, governments are relying on functional primary and secondary bond markets for their financing needs. There is no other way to raise the massive amounts of capital needed to salvage the global economy.

*Also Read*

[\*The Economics of Expectations\*](#)

[\*The Greatest Savings Crisis in History\*](#)

[\*The Typology of Financial Scandals\*](#)

[\*The Shadowy World of International Finance\*](#)

[\*Hawala, or the Bank that Never Was\*](#)

[\*Money Laundering in a Changed World\*](#)

[\*The Varieties of Corruption\*](#)

[\*Corruption and Transparency\*](#)

[\*Straf - Corruption in CEE\*](#)

[\*The Criminality of Transition\*](#)

[\*The Kleptocracies of the East\*](#)

*The Enrons of the East*

*Bully at Work - Interview with Tim Field*

*The Economics of Conspiracy Theories*

*The Industrious Spies*

*The Business of Torture*

*Fimaco Wouldn't Die - Russia's Missing Billions*

*Treasure Island Revisited - Maritime Piracy*

*Organ Trafficking in Eastern Europe*

*Begging Your Trust in Africa*

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# *The Future of the SEC*

## *Interview with Gary Goodenow*

*Interview conducted August 2002*

*Updated June 2005*

In June 2005, William H. Donaldson was forced to resign as Chairman of the Securities and Exchange Commission (SEC). The reason? As the New York Times put it: "criticism that his enforcement was too heavy-handed". President Bush chose California Rep. Christopher Cox, a Republican, to replace him.

Gary Langan Goodenow is an attorney licensed to practice in the State of Florida and the District of Columbia. The Webmaster of [www.RealityAtTheSEC.com](http://www.RealityAtTheSEC.com), he worked at the Miami office of the SEC for about six years, in the Division of Enforcement.

His experience is varied. As a staff attorney, he investigated and prosecuted cases enforcing the federal securities laws. As a branch chief, he supervised the work of several staff attorneys. As a Senior Trial Counsel, he was responsible for litigating about thirty enforcement cases at any one time in federal court. As Senior Counsel, he made the final recommendations on which cases the office would investigate and prosecute, or decline.

He describes an experience he had after he left the SEC.

*"I represented an Internet financial writer with a Web site that touted stocks, Mr. Ted Melcher of SGA Whisper*

*Stocks. The SEC sued Ted because as he was singing the praises of certain stocks in his articles, he was selling them into a rising market. He got his shares from the issuers in exchange for doing the promotional touting. Unfortunately for him, the SEC and the Department of Justice made an example of his case, and he went to jail."*

**Q.** The SEC is often accused of lax and intermittent enforcement of the law. Is the problem with the enforcement division - or with the law? Can you describe a typical SEC investigation from start to finish?

**A.** The problem lies with both.

At the SEC, the best argument in support of a proposed course of action is "that's what we did last time". That will inevitably please the staff attorney's superiors.

SEC rules and regulations remind me of an old farmhouse that has been altered and adapted, sometimes for convenience, other times for necessity. But it has never been just plain pulled down and rebuilt despite incredible changes around it. To the uninitiated, the house is rambling with hidden passages, dark corners, low ceilings, folklore and horror stories, and accumulations of tons of antique rubbish that sometimes no one – not even some SEC Commissioners – can wade through.

Wandering from room to room in this farmhouse are the

SEC staff. Regretfully, I found that many are ignorant or indifferent to their mission, or scornful of investors' plight, too addicted to their petty specializations in their detailed job descriptions, and way too prone to follow only the well-trodden path.

They are stunned by the rapidity, multiplicity, immensity and intelligence behind the scams. Their tools of research, investigation and prosecution are confusingly changed periodically when Congress passes some new "reform" legislation, or a new Chairman or new Enforcement Director issues some memo edict on a "new approach".

Staff attorneys typically bring investors only bad news and are numbed by the latter's emotional reactions, in a kind of "shell shock". The SEC lost one quarter of its staff in the last two years. The turnover of its 1200 attorneys, at 14%, is nearly double the government's average.

One SEC official was quoted as saying "We are losing our future – the people who would have had the experience to move into the senior ranks". Those that stay behind and rise in the ranks are often the least inspired. At the SEC enforcement division, one is often confronted with the "evil of banality".

The SEC is empowered by the Securities Act of 1933 and the Securities Exchange Act of 1934 to seek injunctive relief where it appears that a person is engaged

or about to engage in violations of the federal securities laws. This is a *civil* remedy, not a criminal law sanction. Under well-settled case law, the purpose of injunctive relief is deterrence, *rather than punishment*, of those who commit violations. Investors do not know that, and are uniformly shocked when told.

The "likelihood requirement" means that, once the Commission demonstrates a violation, for injunctive relief it needs only show that there is some reasonable likelihood of future violations. "Positive proof" of likelihood, as one court demanded, is hard to provide. At the other extreme, I had one former Commissioner tell me that, as he understood the law, if the person is alive and breathing, the Commission enforcement staff can show likelihood of future violations.

The broad powers of the federal courts are used in actions brought by the Commission to prevent securities violators from enjoying the fruits of their misconduct. But because this is a *civil* and not a *criminal* remedy, the SEC has a unique rule where defendants can consent to an injunction without "admitting or denying the allegations of the complaint". This leads to what are called "waivers", and I submit that "waivers" are the fundamental flaw in U.S. securities laws enforcement.

In a nutshell, here is the problem. A "fraudster" commits

a fraud. The Commission sues for an injunction. The fraudster consents to the injunction as per above. The Court then orders the fraudster to "disgorge" his "ill gotten gains" from the scam, usually within 30 days and with interest.

In most cases, the fraudster doesn't pay it all and the Commission moves to hold him in civil contempt for disobeying the Court's order. The fraudster claims to the Court that it is impossible for him to comply because the money is gone and he is "without the financial means to pay". The Commission then issues a "**waiver**" and that's the way many cases end. Thus both sides can put the case behind them. The fraudster agrees to the re-opening of the case if he turns out to have lied.

This procedure is problematic. The Commission typically alleges that these fraudsters have lied through their teeth in securities sales - but is forced to accept their word in an affidavit swearing that they have no money to pay the disgorgement. So the waivers are based on an assumption of credibility that has no basis in experience and possibly none in fact.

Moreover, the Division of Enforcement has no mechanism in place to check if the fraudster has, indeed, lied. After the waiver, the files of the case get stored. The case is closed. I don't know if there's even a central place

where the records of waivers are kept.

In the six years I was at the Commission, I never heard of a case involving a breach of waiver affidavit. I doubt if one has ever been brought by the Commission - anywhere. UPI ought to do a Freedom Of Information Act Request on that.

Something similar happens with the Commission's much vaunted ability to levy civil penalties. The statute requires that a court trial be held to determine the egregiousness of the fraud. Based on its findings, the court can levy the fines. But, according to some earlier non-SEC case law, a fraudster can ask for a jury trial regarding the amount of the civil penalties because he or she lack the means to pay them. U.S. district courts being as busy as they are, there's no way the court is going to hold a jury trial.

Instead, the fraudster consents to a court order "noting the appropriateness of civil penalties for the case, but declining to set them based on a demonstrated inability to pay". Again, if the fraudster lied, the Commission can ask the Court to revisit the issue.

**Q.** Internet fraud, corporate malfeasance, derivatives, off-shore special purpose entities, multi-level marketing, scams, money laundering - is the SEC up to it? Isn't its staff overwhelmed and under-qualified?



**A.** The staff is overwhelmed. The longest serving are often the least qualified because the talented usually leave.

We've already got the criminal statutes on the books for criminal prosecution of securities fraud at the federal level. Congress should pass a law deputizing staff attorneys of the Commission Division of Enforcement, with at least one-year experience and high performance ratings, as Special Assistant United States Attorneys for the prosecution of securities fraud. In other words, make them part of the Department of Justice to make criminal, not just civil cases, against the fraudsters.

The US Department of Justice does not have the person power to pursue enough criminal securities cases in the Internet Age. Commission attorneys have the expertise, but not the legal right, to bring criminal prosecution. The afore-described waiver system only makes the fraudsters more confident that the potential gain from fraud outweighs the risk.

I'd keep the civil remedies. In an ongoing fraud, with no time to make out a criminal case, the Commission staff can seek a Temporary Restraining Order and an asset freeze. This more closely resembles the original intent of Congress in the 1930s. But after the dust settles, the investing public deserves to demand criminal accountability for the fraud, not just waivers.

**Q.** Is the SEC - or at least its current head - in hock to special interests, e.g., the accounting industry?

**A.** "In hock to special interests" is too explicit a statement about US practice. It makes a good slogan for a Marxist law school professor, but reality is far subtler.

By unwritten bipartisan agreement, the Chairman of the SEC is always a political figure. Two of the five SEC Commissioners are always Democrats, two Republicans, and the Chairman belongs to the political party of the President. I am curious to see if this same agreement will apply to the boards established under the Sarbanes-Oxley Act.

Thus, both parties typically choose a candidate for Chairman of impeccable partisan credentials and consistent adherence to the "party line". The less connected, the less partisan, and academicians serve as Commissioners, not Chairmen.

The Chairman's tenure normally overlaps with a specific President's term in office, even when, as with President Bush the elder following President Reagan, the same party remains in power. SEC jobs lend themselves to lucrative post-Commission employment. This explains the dearth of "loyal opposition". Alumni pride themselves on their connections following their departure.

The Chairman is no more and no less "in hock" than any

leading member of a US political party. Still, I faulted Chairman Pitt, and became the first former member of SEC management to call for his resignation, in an Op/Ed item in the Miami Herald. In my view, he was impermissibly indulgent of his former law clients at the expense of SEC enforcement.

**Q.** What more could stock exchanges do to help the SEC?

**A.** At the risk of being flippant, enforce their own rules. The major enforcement action against the NASDAQ brokers a few years ago, for instance, was toothless. Presently, Merrill Lynch is being scrutinized by the State of New York, but there is not a word from the NYSE.

**Q.** Do you regard the recent changes to the law - especially the Sarbanes-Oxley Act - as toothless or an important enhancement to the arsenal of law enforcement agencies? Do you think that the SEC should have any input in professional self-regulating and regulatory bodies, such as the recently established accountants board?

**A.** It remains to be seen. The Act establishes a Public Accounting Oversight Board ("the Board"). It reflects one major aspect of SEC enforcement practice: unlike in many countries, the SEC does not recognize an accountant/client privilege, though it does recognize an attorney/client privilege.

Regrettably, in my experience, attorneys organize at least as much securities fraud as accountants. Yet in the US, one would never see an "attorneys oversight board". For one thing, Congress has more attorneys than accountants.

Section 3 of the Act, titled "***Commission Rules and Enforcement***", treats a violation of the Rules of the Public Company Accounting Oversight Board as a violation of the '34 Act, giving rise to the same penalties. It is unclear if this means *waiver after waiver*, as in present SEC enforcement. Even if it does, the Rules may still be more effective because US state regulators can forfeit an accountant's license based on a waived injunction.

The Act's provision, in Section 101, for the membership of said Board has yet to be fleshed out. Appointed to five-year terms, two of the members must be - or have been - certified public accountants, and the remaining three must not be and ***cannot have been*** CPAs. Lawyers are the likeliest to be appointed to these other seats. The Chairmanship may be held by one of the CPA members, provided that he or she has not been engaged as a practicing CPA for five years, meaning, ab initio, that he or she will be behind the practice curb at a time when change is rapid.

No Board member may, during their service on the Board,

"share in any of the profits of, or receive payments from, a public accounting firm," other than "fixed continuing payments," such as retirement payments. This mirrors SEC practice with the securities industry, but does little to tackle "the revolving door".

The Board members are appointed by the SEC, "after consultation with" the Federal Reserve Board Chairman and the Treasury Secretary. Given the term lengths, it is safe to predict that every new presidential administration will bring with it a new Board.

The major powers granted to the Board will effectively change the accounting profession in the USA, at least with regards to public companies, from a self-regulatory body licensed by the states, into a national regulator.

Under Act Section 103, the Board shall: (1) register public accounting firms; (2) establish "auditing, quality control, ethics, independence, and other standards relating to the preparation of audit reports for issuers;" (3) inspect accounting firms; and (4) investigate and discipline firms to enforce compliance with the Act, the Rules, professional standards and the federal securities laws. This is a sea change in the US.

As to professional standards, the Board must "cooperate on an on-going basis" with certain accountants advisory groups. Yet, US federal government Boards do not "co-

operate" - they dictate. The Board can "to the extent that it determines appropriate" adopt proposals by such groups.

More importantly, it has authority to reject any standards proffered by said groups. This will then be reviewed by the SEC, because the Board must report on its standards to the Commission every year. The SEC may – by rule – require the Board to cover additional ground. The Board, and the SEC through the Board, now run the US accounting profession.

The Board is also augments the US effort to establish hegemony over the global practice of accounting. Act Section 106, *Foreign Public Accounting Firms*, subjects foreigners who audit U.S. companies - including foreign firms that perform audit work that is used by the primary auditor on a foreign subsidiary of a U.S. company - to registration with the Board.

I am amazed that the EU was silent on this inroad to their sovereignty. This may prove more problematic in US operations in China. I do not think the US can force its accounting standards on China without negatively affecting our trade there.

Under Act Section 108, the SEC now decides what are "generally" accepted accounting principles. Registered public accounting firms are barred from providing certain non-audit services to an issuer they audit. Thus, the split,

first proposed by the head of Arthur Anderson in 1974, is now the law.

Act Section 203, *Audit Partner Rotation*, is a gift to the accounting profession. The lead audit or coordinating partner and the reviewing partner must rotate every 5 years. That means that by law, the work will be spread around. Note that the law says "partner", not "partnership". Thus, we are likely to continue to see institutional clients serviced by "juntas" at accounting firms, not by individuals. This will likely end forever the days when a single person controlled major amounts of business at an accounting firm. US law firms would never countenance such a change, as the competition for major clients is intense.

Act Section 209, *Consideration by Appropriate State Regulatory Authorities*, "throws a bone" to the states. It requires state regulators to make an independent determination whether Board standards apply to small and mid-size non-registered accounting firms. No one can seriously doubt the outcome of these determinations. But we now pretend that we still have real state regulation of the accounting profession, just as we pretend that we have state regulation of the securities markets through "blue sky laws". The reality is that the states will be confined hence to the initial admission of persons to the accounting profession. Like the "blue sky laws", it will be a revenue

source, but the states will be completely junior to the Board and the SEC.

Act Section 302, ***Corporate Responsibility For Financial Reports***, mandates that the CEO and CFO of each issuer shall certify the "appropriateness of the financial statements and disclosures contained in the periodic report, and that those financial statements and disclosures fairly present, in all material respects, the operations and financial condition of the issuer". This may prove problematic with global companies. We have already seen resistance by Daimler-Benz of Germany.

Act Section 305: ***Officer And Director Bars And Penalties; Equitable Relief***, will be used by the SEC to counterattack arguments arising out of the Central Bank case. As I maintained in the American Journal of Trial Advocacy, the real significance of the Supreme Court decision in Central Bank was that the remedial sanctions of the federal securities laws should be narrowly construed.

Well, now the SEC has a Congressional mandate. Federal courts are authorized to "grant any equitable relief that may be appropriate or necessary for the benefit of investors". That is an incredibly broad delegation of rights, and is an end run around Central Bank. I was surprised that this received no publicity.



Lastly, Act Section 402, ***Prohibition on Personal Loans to Executives***, shows how low this generation of US leadership has sunk. President Bush has signed a law that makes illegal the type of loans from which he and his extended family have previously benefited.

Tacitly, the Act admits that some practices of Enron were not illegal *inter se*. Act Section 401, ***Study and Report on Special Purpose Entities***, provides that the SEC should study off-balance sheet disclosures to determine their extent and whether they are reported in a sufficiently transparent fashion. The answer will almost certainly be no, and the Board will change GAAP accordingly.

**Q.** Does the SEC collaborate with other financial regulators and law enforcement agencies internationally? Does it share information with other US law enforcement agencies? Is there interagency rivalry and does it hamper investigations? Can you give us an example?

**A.** The SEC and other regulators - as well as two House subcommittees - have only very recently begun considering information sharing between financial regulators.

This comes too late for the victims of Martin Frankel, who, having been barred for life from the securities industry by the SEC and NASD in 1992, simply moved over to the insurance industry to perpetrate a scam where investors have lost an estimated \$200 million dollars.

Had the state insurance regulators known this person's background, he would have been unable to set up multiple insurance companies. Failure to share information is a genuine problem, but "turf" considerations generally trump any joint efforts.

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## *Privatizing with Golden Shares*

*Written March 2002*

*Updated July 2005*

In a rare accord, both the IMF and independent analysts, have cautioned Bulgaria in early 2002 that its insistence on keeping golden shares in both its tobacco and telecom monopolies even after they are privatized - will hinder its ability to attract foreign investors to these already unappealing assets. Bulgaria's \$300 million arrangement with the IMF - struck in late 2001 by the new and youthful Minister of Finance in the Saxe-Coburg government - was not at risk, though.

Golden shares are usually retained by the state in infrastructure projects, utilities, natural monopolies, mining operations, defense contractors, and the space industry. They allow their holders to block business moves and counter management decisions which may be detrimental to national security, to the economy, or to the provision of public services (especially where markets fail to do so). Golden shares also enable the government to regulate the prices of certain basic goods and services - such as energy, food staples, sewage, and water.

But, in practice, golden shares serve less noble ends.

Early privatizations in Central and Eastern Europe were criticized for being crony-ridden, corrupt, and opaque. Governments were accused of giving away the family silver. Maintaining golden shares in privatized enterprises

was their way of eating the privatization cake while leaving it whole, thus silencing domestic opposition effectively. The practice was started in Thatcherite Britain and Bulgaria is only the latest to adopt it.

The Bulgarian golden share in Bulgatabak is intended to shield domestic tobacco growers (most of them impoverished minority Turks) from fierce foreign competition in a glutted market. Golden shares are often used to further the interests of interest groups and isolate them from the potentially devastating effects of the global market.

The phenomenon of golden shares is not confined to economically-challenged states selling their obscure monopolies.

On December 1989, the Hungarian Post was succeeded by three firms (postal, broadcasting, and a telecom). One of the successors, MATAV, was sold to MagyarCom (currently owned by Deutsche Telekom) in stages. This has been the largest privatization in Hungary and in Central and Eastern Europe. The company's shares subsequently traded in Budapest and on NYSE simultaneously. MATAV embarked on an aggressive regional acquisitions plan, the latest of which was the Macedonian Telecom. Yet, throughout this distinctly capitalistic and shareholders-friendly record, the Hungarian government owned a golden share in MATAV.

Poland's Treasury maintains a golden share in LOT, its national carrier, and is known to have occasionally exercised it. Lithuania kept a golden share in its telecom. Even municipalities and regional authorities are emulating the centre. The city of Tallinn, for instance, owns a golden share in its water utility.

Hungary's largest firm, Hungarian Oil and Gas (MOL), was floated on the Budapest Stock Exchange (1994-1998). The state retains a "golden share" in the company which allows it to regulate retail gas prices. MOL controls c. 35% of the fuel retail market and owns virtually all the energy-related infrastructure in Hungary. It is an aggressive regional player, having recently bought Slovnaft, the Slovak oil and gas company. Theoretically, Hungary's golden share in MOL may conflict with Slovakia's golden share in Slovnaft, owned by MOL.

Contrary to popular economic thinking, golden shares do not seem to deter foreign investors. They may even create a [moral hazard](#), causing investors to believe that they are partners with the government in an enterprise of vital importance and, thus, likely to be bailed out (i.e., an implicit state guarantee).

Moreover, golden shares are often perceived by investors and financial institutions as endowing the company with preference in government procurement and investment, privileged access to decision makers, concessionary terms of operation, and a favorable pricing structure. Golden shares are often coupled with guaranteed periods of monopoly or duopoly (i.e., periods of excess profits and rents).

The West, alas, is in no position to preach free marketry in this case. European firms are notorious for the ingenious stratagems with which they disenfranchise their shareholders. Privileged minorities often secure the majority vote by owning golden shares (this is especially egregious in the Netherlands and France).

The European Commission is investigating cases of abuse of golden shares in the UK, Spain, Portugal, Germany,

France, and Belgium. The Spanish government possesses golden shares in companies it no longer has a stake in. As American portfolio investors pile in, corporate governance is changing for the better. But some countries of the former Soviet Bloc (such as Estonia) are even more advanced than the rest of the European Union.

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## ***The Future of the Accounting Profession Interview with David Jones***

***Written August 2002***

***Updated June 2005***

On May 31, 2005, the US Supreme Court overturned the conviction of accounting firm Arthur Anderson on charges related to its handling of the books of the now defunct energy concern, Enron. It was only the latest scene in a drama which unfolded at the height of the wave of corporate malfeasance in the USA.

David C. Jones is a part-time research fellow at the Center for Urban Development Studies of the Graduate School of Design, Harvard University. He has been associated with the University since 1987 when he retired from the World Bank, where he served as financial adviser for water supply and urban development.

He had joined the World Bank, as a senior financial analyst, in 1970, after working as a technical assistance advisor for the British Government in East Africa. He began his career in British local government. He is a Chartered Public Finance Accountant and a Chartered Certified Accountant (UK). He is the author of "Municipal Accounting for Developing Countries" originally published by the World Bank and the Chartered Institute of Public Finance and Accountancy (UK) in 1982.

**Q:** Accounting scandals seem to form the core of corporate malfeasance in the USA. Is there something

wrong with the GAAP - or with American accountants?

**A:** Accounting is based on some fundamental principles. As I say at the beginning of my textbook, the accountant "records and interprets variations in financial position ... during any period of time, at the end of which he can balance net results (of past operations) against net resources (available for future operations)".

Accountancy includes the designing of financial records, the recording of financial information based on actual financial transactions (i.e., bookkeeping), the production of financial statements from the recorded information, giving advice on financial matters, and interpreting and using financial data to assist in making the best management decisions.

Simple as these principles may sound, they are, in practice, rather complicated to implement, to interpret and to practice. About 80% of the transactions require only about 20% of the effort because they are straightforward and obvious to a book-keeper, once the rules are learned.

But - and it is a big but - the other 20% or so of transactions require 80% of the intellectual effort. These transactions are most likely to have major impacts on the profit and loss account and the balance sheet.

My colleagues and I, all qualified accountants, have heated discussion over something as simple as the definition of a debit or a credit. Debits can be records of either expenses or assets. The former counts against income in the statement of profit and loss. The latter is treated as a continuing resource in a balance sheet. It is sometimes gradually allocated (expensed) against income in subsequent years, sometimes not.



A fundamental problem with the financial reporting of WorldCom, for example, was that huge quantities of expenses were misallocated in the accounts as assets. Thus, by reducing expenditures, profit appeared to be increased. The effect of this on stock values and, thereby, on executive rewards are secondary and tertiary outcomes *not caused directly* by the accountancy.

Another example concerns interest on loans that may have been raised to finance capital investment, while a large asset is under construction, often for several years.

Some argue that the interest should be accounted for as part of the capital cost until the asset is operational. Others claim that because the interest is an expense, it should be charged against that year's profits. Yet, the current year's income includes none of the income generated by the new asset, so profit is under-stated. And what if a hydro-electric power station starts to operate three of its ten turbines while still under construction? How does one allocate what costs, as expenses or assets, in such cases?

Interestingly, the Generally Accepted Accounting Principles (GAAP) require that "interest during construction" be capitalized, that is included in the cost of the asset. The International Accounting Standards (IAS) prefer expensing but allow capitalization. From an economic viewpoint, both are wrong - or only partially right!

The accountancy profession should get together to establish common practices for comparing companies, limiting the scope for judgment. Accountants used to make the rules in the USA and elsewhere until the business community demanded input from other professionals, to provide a more "balanced" view.

This led to the establishment of the Financial Accounting Standards Board (FASB), with non-accountants as members. The GAAP has been tempered by political and business lobbying. Moreover, accounting rules for taxation purposes and applied to companies quoted on stock exchanges are not always consistent with the GAAP.

Accountants who do not follow the rules are disciplined. American accountants are among the best educated and best-trained in the world. Those who wish to be recognized as auditors of significant enterprises must be CPAs. Thus, they must have obtained at least a finance-related bachelor's degree and then have passed a five-part examination that is commonly set, nation-wide, by the American Institute of Certified Public Accountants (AICPA). To practice publicly, they must be licensed by the state in which they live or practice. To remain a CPA, each must abide by the standards of conduct and ethics of the AICPA, including a requirement for continuing professional education.

Most other countries have comparable rules. Probably the closest comparisons to the USA are found in the UK and its former colonies.

**Q:** Can you briefly compare the advantages and disadvantages of the GAAP and the IAS?

**A:** It is asserted that the GAAP tend to be "rule-based" and the IAS are "principle-based." GAAP, because they are founded on the business environment of the USA are closely aligned to its laws and regulations. The IAS seek to prescribe how credible accounting practices can operate within a country's existing legal structure and prevailing business practices.

Alas, sometimes the IAS and the GAAP are in disagreement. The two rule-making bodies - FASB and IASB - are trying to cooperate to eliminate such differences.

The Inter-American Development Bank, having reviewed the situation in Latin America, concluded that most of the countries in that region - as well as Canada and the EU aspirants - are IAS-orientated. Still, the USA is by far the largest economy in the world, with significant political influence. It also has the world's most important financial markets.

**Q:** Can accounting cope with derivatives, off-shore entities, stock options - or is there a problem in the very effort to capture dynamics and uncertainties in terms of a static, numerical representation?

**A:** Most, if not all, of these matters can be handled by proper application of accounting principles and practices. Much has been made of expensing employee stock options, for instance. But an FASB proposal in the early nineties was watered down at the insistence of US company lobbyists and legislators.

How to value stock options and when to recognize them is not clear. A paper on the topic identified sixteen different valuation parameters. But accountants are accustomed to dealing with such practical matters.

**Q:** Can you describe the state of the art (i.e., recent trends) of municipal finance in the USA, Europe, Latin America (mainly Argentina and Brazil), and in emerging economies (e.g., central and eastern Europe)?

**A:** There are no standard practices for governmental accounting - whether national, federal, state, or local. The

International Federation of Accountants (IFAC) urged accountants to follow various practices. It subsequently settled mainly on accrual accounting standards.

Some countries - the UK, for local government, New Zealand for both central and local government - use full accrual at current value, which is beyond many private sector practices. This is being reviewed in the UK. The central government there is introducing "resource-based" accounting, approximating full accrual at current value.

The US Governmental Accounting Standards Board has recently recommended that US local governments produce dual financial reports, combining "commercially-based" practices with those emanating from the truly unique US "fund accounting" system.

In my book I recognized that fixed assets are being funded less and less entirely by debt, private sector accounting practices increasingly intrude into the public sector, and costs of services must be much more carefully assessed.

**Q:** Are we likely to witness municipal Enrons and World.com's?

**A:** We already have! Remember the financial downfall and restructuring of New York City in the seventies. Other state and local governments have had serious defaults in USA and elsewhere. Shortcomings of their accounting, politicians choosing to ignore predictive budgeting, borrowing used to cover operating expenditures - similar to WorldCom. In the case of the New York City debacle, operating expenditures were treated as capital expenditures to balance the operating budget.

More recently, I testified to the US Congress about Washington DC, where the City Council ran up a huge

accumulated operating deficit, of c. \$700 million. It then sought Congressional approval to cover this deficit by borrowing.

Even more recently, the State of Virginia decided to abolish the property tax on domestic vehicles. This left a huge gap in the following year's current budget. The governor proposed to use a deceptive accounting device and to set up a separate - and, thus not subject to a referendum - "revenue" bond-issuing entity (shades of Enron's "Special Purpose Entities"). The bonds were then to be serviced by expected annual receipts from the negotiated tobacco settlement, at that time not even finalized. This crazy and illegal plan was abandoned.

The fact that both accounting and financial reporting for local governments are very often in slightly modified cash-based formats adds to the confusion. But these formats could be built on. Indeed, in the very tight budgetary situations facing virtually every local government, it is essential that cash management on a day-to-day basis be given high priority.

Still, the system can be misleading. It produces extremely scant information on costs - the use of resources - compared with expenditures (i.e., cash-flows). More seriously, cash accounting allows indiscriminate allocation of funds between capital and recurrent purposes, thus permitting no useful assessment of annual or other periodic financial performance.

A cash-based system cannot engender a credible balance sheet. It produces meaningless and incoherent information on assets and liabilities and the ownership, or trusteeship, of separate (or separable) funds. It is not a sound system of budgetary control. When year-end unpaid invoices are held

over, it creates a false impression of operating within approved budgetary limits. Thus, local government units can run serious budgetary deficits that are hidden from public view merely by not paying their bills on time and in full! A cash accounting system will not reveal this.

Still, moving to an accrual system should be done slowly and cautiously. Private sector experience, in former Soviet countries, of changing to accrual accounting was administratively traumatic. Their public sector systems may not easily survive any major tinkering, let alone an - eventually inevitable - full overhaul. Skills, tools, and access to proper professional knowledge are required before this is attempted.

**Q:** Can you compare municipal and corporate accounting and financing practices as far as governance and control are concerned?

**A:** In corporate accounting practice, the notional owners and managers are the shareholders. In practice, through the use of proxies and other devices, the real control is normally in the hands of a board of directors. Actual day to day control reverts to the company chairmen, president, chief executive or chief operating officer. The chief financial officer is often - though not necessarily - an accountant and he or she oversees qualified accountants.

The company's accountants must produce the annual and other financial statements. It is *not* the responsibility of the auditors whose obligation is to report to the shareholders on the credibility and legality of the financial statements. The shareholders may appoint an audit committee to review the audit reports on their behalf. The audit is carried out by Certified Public Accountants with recognized accounting credentials. Both the qualified

accountants in the audit firm and those in the corporation are subject to professional discipline of their accounting institutions and of the law.

In local government accounting practice, the public trustees and managers are normally a locally elected council. Often, the detailed control over financial management is in the hands of a finance committee or finance commission, usually comprised only of elected members.

Traditionally, only the elected council may take major financial decisions, such as approving a budget, levying taxes and borrowing. Actual day to day control of a local government may be by an executive mayor, or by an elected or appointed chief executive. There normally is a chief financial officer, often - though not necessarily - an accountant in charge of other qualified accountants.

It is the responsibility of the accountants of the local government to produce the annual and other financial statements. It is *not* the responsibility of the auditors whose obligation is to report to the local elected council on the credibility and legality of the financial statements. The council may appoint an audit committee to review the audit reports on their behalf, or they may ask the finance committee to do this.

However, it is quite common, in many countries, for local government financial statements to be audited by properly authorized public officials. Auditors should be qualified, independent, experienced, and competent. Audits should be regular and comprehensive. It is unclear whether or not public official auditors always fulfill these conditions.

In the United Kingdom, for example, there is a Local

Government Audit Commission which employs qualified accountants either on its own staff or from hired accountancy firms. Thus, it clearly follows high standards.

**Q:** How did the worldwide trend of devolution affect municipal finance?

**A:** Outside of the former Soviet Union and Eastern Europe, municipal finance was not significantly affected by devolution, though there has been a tendency for decentralization. Central governments hold the purse-strings and almost all local governments operate under legislation engendered by the national, or - in federal systems - state, governments. Local governments rarely have separate constitutional authority, although there are varying degrees of local autonomy.

In the former Soviet Empire, changes of systems and of attitudes were much more dramatic. Local government units, unlike under the former Soviet system, ***are not branches of the general government.*** They are separate corporate bodies, or legal persons. But in Russia, and in other former socialist countries, they have often been granted "de jure" (legal) independence but not full "de facto" (practical) autonomy.

There seems to be an unwillingness to accept that the two systems are intended to operate quite differently. What is good for a central government is ***not necessarily*** equally good for a local government unit. For example, the main purpose of local government is to provide public services, with only enough authority to perform them effectively. It is almost always the responsibility of a central or state government to enact and enforce the criminal and civil law. Local by-laws or ordinances are usually concerned only with minor matters and are subject to an enabling



legislation. Moreover, they may prove to be "ultra vires" (beyond their powers) and, therefore, unconstitutional, or at least unenforceable.

It may be appropriate, under certain circumstances, for a central government to run budgetary deficits, whether caused by current or capital transactions. In **local government units**, there is almost always a necessity to distinguish between such transactions. Moreover, in most countries, local government units are **required by law to have balanced budgets**, without resort to borrowing to cover current deficits.

A corporate body (legal person), whether a private or a public sector entity, has a separate legal identity from the central government and from the members, shareholders, or electorate who own and manage it. It has its own corporate name. Typically, its formal decisions are by resolution of its managing body (board or council). Written documents are authenticated by its common seal. It may contract, sue and be sued in its own name. Indeed, unless specifically prevented by law, **it may even sue the central government!** It may also have legal relationships with its own individual members or with its staff. It is often said to have perpetual succession, meaning that it lives on, even though the individual members may die, resign or otherwise cease their membership.

While a corporation owes its existence to legislation, a local government unit is established, typically, under something like a "Local Government Organic Law". Corporate status differs **fundamentally** from that of (say) government departments in a system of de-concentration. Permanent closure or abolition of a municipal council, or indeed any change in its powers and duties, would almost always require formal legal action, typically national

parliamentary legislation.

A local government unit makes its own policy decisions, some of which, especially the financial ones, often require approval by a central government authority. Still, the central government rarely runs, or manages, a local government unit on a daily basis. The relationship is at arms length and not hands on. A local government unit usually is empowered to own land and real estate. Sometimes, public assets - such as with roads or drainage systems - are deemed to be "vested in" the local authority because they cannot be owned in the same way as buildings are.

**Q:** Local authorities issue bonds, partake in joint ventures, lend to SME's - in short, encroach on turf previously exclusively occupied by banks, the capital markets, and business. Is this a good or a bad thing?

**A:** Local governments are established to provide services and perform activities required or allowed by law! Normally, they won't seek or be permitted to engage in commercial activities, best left to the private sector. However, there have always been natural monopolies (such as water supply), coping with negative economic externalities (such as sewerage and solid waste management), the provision of whole or partial public goods (such as street lighting, or roads) and merit goods (such as education, health, and welfare), and services that the community, for economic or social reasons, seeks to subsidize (such as urban transport). Left to the private marketplace, these services would be absent, or under-supplied, or over-charged for.

Such services are wholly or partially financed by local taxation, either imposed by local governments, or by central (or state) taxation, through a grant or revenue-

sharing system. What has changed in recent years is that local governments have been encouraged and empowered to outsource these services to the private sector, or to "public-private" partnerships.

Charges for services, and revenues from taxation cover current operating expenditures with a small operating surplus used to partly fund capital expenditure or to service long, or medium term debt, such as bond issues secured against future revenues. Commercial banks, because of their tendency to lend only for relatively short periods of time, usually have a relatively minor role in such funding, except perhaps as fiscal agents or bond issue managers.

Other funding is obtained via direct - and dependence-forming - capital grants from the central or state government. Alternatively, the central government can establish a quasi-autonomous local government loans authority, which it may wholly or partially fund. The authority may also seek to raise additional funds from commercial sources and make loans on reasonable terms to the local governments.

Third, the central government may lend directly to local governments, or guarantee their borrowing. Finally, local governments are left to their own devices to raise loans as and when they can, on whatever terms are available. This usually leaves them in a precarious position, because the market for this kind of long and medium term credit is thin and costly.

Commercial banks make short term loans to local governments to cover temporary shortages of working capital. If not properly controlled, such short-term loans are rolled over and accumulate unsustainably. That is what

happened in New York City, in the seventies.

**Q:** In the age of the Internet and the car, isn't the added layer of municipal bureaucracy superfluous or even counterproductive? Can't the center - at least in smallish countries - administer things at least as well?

**A:** I am quite sure that they can. There are many glaring examples of mismatches of sizes, shapes and responsibilities of local government units. For example, New York, Moscow and Bombay are each single local government units. Yet, they each have much bigger populations than many countries, such as New Zealand, the republics of former Yugoslavia, and the Baltic states.

On the other hand, the Greater Washington Metropolitan Area comprises a federal district, four counties and several small cities. The local government systems are under the jurisdictions of two states and the federal government. Each of the two states has a completely different traditions and systems of local governance, emanating from pre-independence times. Accordingly, the local government systems north and east of the Potomac River (which flows through the Washington area) are substantially different from those to the south and west. Finally, the Boston area, a cradle of U.S. democracy, is governed by a conglomerate of over 40 local government jurisdictions. Even its most famous college, Harvard, is in Cambridge and not in Boston itself. Many of the jurisdictions are so small (Boston is not very big by U.S. standards) that common services are run by agencies of the State of Massachusetts.

The problem of centralizing financial records would, indeed, be relatively simple to solve. If credit card companies can maintain linkages world-wide, there is no

*practical* reason why local government accounts for (say) a city in Macedonia could not be kept in China. The issue here is quite different. It revolves around democracy, tradition, living in community, service delivery at a local level, civil society, and the common wealth. It really has very little to do with accountancy, which is just one tool of management, albeit an important one.

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## *The Economics of Expectations*

Economies revolve around and are determined by "anchors": stores of value that assume pivotal roles and lend character to transactions and economic players alike. Well into the 19 century, tangible assets such as real estate and commodities constituted the bulk of the exchanges that occurred in marketplaces, both national and global. People bought and sold land, buildings, minerals, edibles, and capital goods. These were regarded not merely as means of production but also as forms of wealth.

Inevitably, human society organized itself to facilitate such exchanges. The legal and political systems sought to support, encourage, and catalyze transactions by enhancing and enforcing property rights, by providing public goods, and by rectifying market failures.

Later on and well into the 1980s, symbolic representations of ownership of real goods and property (e.g, shares, commercial paper, collateralized bonds, forward contracts) were all the rage. By the end of this period, these surpassed the size of markets in underlying assets. Thus, the daily turnover in stocks, bonds, and currencies dwarfed the annual value added in all industries combined.

Again, Mankind adapted to this new environment. Technology catered to the needs of traders and speculators, businessmen and middlemen. Advances in telecommunications and transportation followed inexorably. The concept of intellectual property rights was

introduced. A financial infrastructure emerged, replete with highly specialized institutions (e.g., central banks) and businesses (for instance, investment banks, jobbers, and private equity funds).

We are in the throes of a third wave. Instead of buying and selling assets one way (as tangibles) or the other (as symbols) - we increasingly trade in expectations (in other words, we transfer risks). The markets in derivatives (options, futures, indices, swaps, collateralized instruments, and so on) are flourishing.

Society is never far behind. Even the most conservative economic structures and institutions now strive to manage expectations. Thus, for example, rather than tackle inflation directly, central banks currently seek to subdue it by issuing inflation targets (in other words, they aim to influence public expectations regarding future inflation).

The more abstract the item traded, the less cumbersome it is and the more frictionless the exchanges in which it is swapped. The smooth transmission of information gives rise to both positive and negative outcomes: more efficient markets, on the one hand - and contagion on the other hand; less [volatility](#) on the one hand - and swifter reactions to bad news on the other hand (hence the need for market breakers); the immediate incorporation of new data in prices on the one hand - and asset bubbles on the other hand.

Hitherto, even the most arcane and abstract contract traded was somehow attached to and derived from an underlying tangible asset, no matter how remotely. But this linkage may soon be dispensed with. The future may witness the bartering of agreements that have nothing to do with real world objects or values.

In days to come, traders and speculators will be able to generate on the fly their own, custom-made, one-time, investment vehicles for each and every specific transaction. They will do so by combining "off-the-shelf", publicly traded components. Gains and losses will be determined by arbitrary rules or by reference to extraneous events. Real estate, commodities, and capital goods will revert to their original forms and functions: bare necessities to be utilized and consumed, not speculated on.

***Note: Why Recessions Happen and How to Counter Them***

The fate of modern economies is determined by four types of demand: the demand for consumer goods; the demand for investment goods; the demand for money; and the demand for assets, which represent the expected utility of money (deferred money).

Periods of economic boom are characterized by a heightened demand for goods, both consumer and investment; a rising demand for assets; and low demand for actual money (low savings, low capitalization, high leverage).

Investment booms foster excesses (for instance: excess capacity) that, invariably lead to investment busts. But, economy-wide recessions are not triggered exclusively and merely by investment busts. They are the outcomes of a shift in sentiment: a rising demand for money at the expense of the demand for goods and assets.

In other words, a recession is brought about when people start to rid themselves of assets (and, in the process, deleverage); when they consume and lend less and save



more; and when they invest less and hire fewer workers. A newfound predilection for cash and cash-equivalents is a surefire sign of impending and imminent economic collapse.

This etiology indicates the cure: reflation. Printing money and increasing the money supply are bound to have inflationary effects. Inflation ought to reduce the public's appetite for a depreciating currency and push individuals, firms, and banks to invest in goods and assets and reboot the economy. Government funds can also be used directly to consume and invest, although the impact of such interventions is far from certain.

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### *Also Read*

#### *Governments and Growth*

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*The Myth of the Earnings Yield*

*The Principal-Agent Conundrum*

*Trading in Sovereign Promises*

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## *Anarchy as an Organizing Principle*

The recent spate of accounting fraud scandals signals the end of an era. Disillusionment and disenchantment with American capitalism may yet lead to a tectonic ideological shift from laissez faire and self regulation to state intervention and regulation. This would be the reversal of a trend dating back to Thatcher in Britain and Reagan in the USA. It would also cast some fundamental - and way more ancient - tenets of free-marketry in grave doubt.

Markets are perceived as self-organizing, self-assembling, exchanges of information, goods, and services. Adam Smith's "invisible hand" is the sum of all the mechanisms whose interaction gives rise to the optimal allocation of economic resources. The market's great advantages over central planning are precisely its randomness and its lack of self-awareness.

Market participants go about their egoistic business, trying to maximize their utility, oblivious of the interests and action of all, bar those they interact with directly. Somehow, out of the chaos and clamor, a structure emerges of order and efficiency unmatched. Man is incapable of intentionally producing better outcomes. Thus, any intervention and interference are deemed to be detrimental to the proper functioning of the economy.

It is a minor step from this idealized worldview back to the Physiocrats, who preceded Adam Smith, and who propounded the doctrine of "laissez faire, laissez passer" -

the hands-off battle cry. There was a natural religion. The market, as an agglomeration of individuals, they thundered, was surely entitled to enjoy the rights and freedoms accorded to each and every person. John Stuart Mill weighed against the state's involvement in the economy in his influential and exquisitely-timed "Principles of Political Economy", published in 1848.

Undaunted by mounting evidence of market failures - for instance to provide affordable and plentiful public goods - this flawed theory returned with a vengeance in the last two decades of the past century. Privatization, deregulation, and self-regulation became faddish buzzwords and part of a global consensus propagated by both commercial banks and multilateral lenders.

As applied to the professions - to accountants, stock brokers, lawyers, bankers, insurers, and so on - self-regulation was premised on the belief in long-term self-preservation. Rational economic players and moral agents are supposed to maximize their utility in the long-run by observing the rules and regulations of a level playing field.

This noble propensity seemed, alas, to have been tampered by avarice and narcissism and by the immature inability to postpone gratification. Self-regulation failed so spectacularly to conquer human nature that its demise gave rise to the most intrusive state stratagems ever devised. In both the UK and the USA, the government is much more heavily and pervasively involved in the minutia of accountancy, stock dealing, and banking than it was only two years ago.

But the ethos and myth of "order out of chaos" - with its proponents in the exact sciences as well - ran deeper than

that. The very culture of commerce was thoroughly permeated and transformed. It is not surprising that the Internet - a chaotic network with an anarchic modus operandi - flourished at these times.

The dotcom revolution was less about technology than about new ways of doing business - mixing umpteen irreconcilable ingredients, stirring well, and hoping for the best. No one, for instance, offered a linear revenue model of how to translate "eyeballs" - i.e., the number of visitors to a Web site - to money ("monetizing"). It was dogmatically held to be true that, miraculously, traffic - a chaotic phenomenon - will translate to profit - hitherto the outcome of painstaking labour.

Privatization itself was such a leap of faith. State owned assets - including utilities and suppliers of public goods such as health and education - were transferred wholesale to the hands of profit maximizers. The implicit belief was that the price mechanism will provide the missing planning and regulation. In other words, higher prices were supposed to guarantee an uninterrupted service. Predictably, failure ensued - from electricity utilities in California to railway operators in Britain.

The simultaneous crumbling of these urban legends - the liberating power of the Net, the self-regulating markets, the unbridled merits of privatization - inevitably gave rise to a backlash.

The state has acquired monstrous proportions in the decades since the Second world War. It is about to grow further and to digest the few sectors hitherto left untouched. To say the least, these are not good news. But we libertarians - proponents of both individual freedom and individual responsibility - have brought it on

ourselves by thwarting the work of that invisible regulator  
- the market.

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## *Winners of the 1997 Nobel Prize in the Economic Sciences*

### **The Pricing of Options**

The Royal Swedish Academy of Sciences has decided to award the 1997 Bank of Sweden Prize in Economic Sciences in Memory of Alfred Nobel to Professor Robert C. Merton, Harvard University, and to Professor Myron S. Scholes, Stanford University, jointly. The prize was awarded for a new method to determine the value of derivatives.

This sounds like a trifle achievement - but it is not. It touches upon the very heart of the science of Economics: the concept of Risk. Risk reflects the effect on the value of an asset where there is an option to change it (the value) in the future.

We could be talking about a physical assets or a non-tangible asset, such as a contract between two parties. An asset is also an investment, an insurance policy, a bank guarantee and any other form of contingent liability, corporate or not.

Scholes himself said that his formula is good for any situation involving a contract whose value depends on the (uncertain) future value of an asset.

The discipline of risk management is relatively old. As early as 200 years ago households and firms were able to defray their risk and to maintain a level of risk acceptable to them by redistributing risks towards other agents who were willing and able to assume them. In the financial

markets this is done by using derivative securities options, futures and others. Futures and forwards hedge against future (potential - all risks are potentials) risks. These are contracts which promise a future delivery of a certain item at a certain price no later than a given date. Firms can thus sell their future production (agricultural produce, minerals) in advance at the futures market specific to their goods. The risk of future price movements is re-allocated, this way, from the producer or manufacturer to the buyer of the contract. Options are designed to hedge against one-sided risks; they represent the right, but not the obligation, to buy or sell something at a pre-determined price in the future. An importer that has to make a large payment in a foreign currency can suffer large losses due to a future depreciation of his domestic currency. He can avoid these losses by buying call options for the foreign currency on the market for foreign currency options (and, obviously, pay the correct price for them).

Fischer Black, Robert Merton and Myron Scholes developed a method of correctly pricing derivatives. Their work in the early 1970s proposed a solution to a crucial problem in financing theory: what is the best (=correctly or minimally priced) way of dealing with financial risk. It was this solution which brought about the rapid growth of markets for derivatives in the last two decades. Fischer Black died in August 1995, in his early fifties. Had he lived longer, he most definitely would have shared the Nobel Prize.

Black, Merton and Scholes can be applied to a number of economic contracts and decisions which can be construed as options. Any investment may provide opportunities (options) to expand into new markets in the future. Their methodology can be used to value things as diverse as



investments, insurance policies and guarantees.

### ***Valuing Financial Options***

One of the earliest efforts to determine the value of stock options was made by Louis Bachelier in his Ph.D. thesis at the Sorbonne in 1900. His formula was based on unrealistic assumptions such as a zero interest rate and negative share prices.

Still, scholars like Case Sprenkle, James Boness and Paul Samuelson used his formula. They introduced several now universally accepted assumptions: that stock prices are normally distributed (which guarantees that share prices are positive), a non-zero (negative or positive) interest rate, the risk aversion of investors, the existence of a risk premium (on top of the risk-free interest rate). In 1964, Boness came up with a formula which was very similar to the Black-Scholes formula. Yet, it still incorporated compensation for the risk associated with a stock through an unknown interest rate.

Prior to 1973, people discounted (capitalized) the expected value of a stock option at expiration. They used arbitrary risk premiums in the discounting process. The risk premium represented the volatility of the underlying stock.

In other words, it represented the chances to find the price of the stock within a given range of prices on expiration. It did not represent the investors' risk aversion, something which is impossible to observe in reality.

## *The Black and Scholes Formula*

The revolution brought about by Merton, Black and Scholes was recognizing that it is not necessary to use any risk premium when valuing an option because it is already included in the price of the stock. In 1973 Fischer Black and Myron S. Scholes published the famous option pricing Black and Scholes formula. Merton extended it in 1973.

The idea was simple: a formula for option valuation should determine exactly how the value of the option depends on the current share price (professionally called the "delta" of the option). A delta of 1 means that a \$1 increase or decrease in the price of the share is translated to a \$1 identical movement in the price of the option.

An investor that holds the share and wants to protect himself against the changes in its price can eliminate the risk by selling (writing) options as the number of shares he owns. If the share price increases, the investor will make a profit on the shares which will be identical to the losses on the options. The seller of an option incurs losses when the share price goes up, because he has to pay money to the people who bought it or give to them the shares at a price that is lower than the market price - the strike price of the option. The reverse is true for decreases in the share price. Yet, the money received by the investor from the buyers of the options that he sold is invested. Altogether, the investor should receive a yield equivalent to the yield on risk free investments (for instance, treasury bills).

Changes in the share price and drawing nearer to the maturity (expiration) date of the option changes the delta of the option. The investor has to change the portfolio of

his investments (shares, sold options and the money received from the option buyers) to account for this changing delta.

This is the first unrealistic assumption of Black, Merton and Scholes: that the investor can trade continuously without any transaction costs (though others amended the formula later).

According to their formula, the value of a call option is given by the difference between the expected share price and the expected cost if the option is exercised. The value of the option is higher, the higher the current share price, the higher the volatility of the share price (as measured by its standard deviation), the higher the risk-free interest rate, the longer the time to maturity, the lower the strike price, and the higher the probability that the option will be exercised.

All the parameters in the equation are observable except the volatility, which has to be estimated from market data. If the price of the call option is known, the formula can be used to solve for the market's estimate of the share volatility.

Merton contributed to this revolutionary thinking by saying that to evaluate stock options, the market does not need to be in equilibrium. It is sufficient that no arbitrage opportunities will arise (namely, that the market will price the share and the option correctly). So, Merton was not afraid to include a fluctuating (stochastic) interest rate in HIS treatment of the Black and Scholes formula.

His much more flexible approach also fitted more complex types of options (known as synthetic options - created by buying or selling two unrelated securities).

## ***Theory and Practice***

The Nobel laureates succeeded to solve a problem more than 70 years old.

But their contribution had both theoretical and practical importance. It assisted in solving many economic problems, to price derivatives and to valuation in other areas. Their method has been used to determine the value of currency options, interest rate options, options on futures, and so on.

Today, we no longer use the original formula. The interest rate in modern theories is stochastic, the volatility of the share price varies stochastically over time, prices develop in jumps, transaction costs are taken into account and prices can be controlled (e.g. currencies are restricted to move inside bands in many countries).

### ***Specific Applications of the Formula: Corporate Liabilities***

A share can be thought of as an option on the firm. If the value of the firm is lower than the value of its maturing debt, the shareholders have the right, but not the obligation, to repay the loans. We can, therefore, use the Black and Scholes to value shares, even when are not traded. Shares are liabilities of the firm and all other liabilities can be treated the same way.

In financial contract theory the methodology has been used to design optimal financial contracts, taking into account various aspects of bankruptcy law.

Investment evaluation Flexibility is a key factor in a successful choice between investments. Let us take a surprising example: equipment differs in its flexibility -

some equipment can be deactivated and reactivated at will (as the market price of the product fluctuates), uses different sources of energy with varying relative prices (example: the relative prices of oil versus electricity), etc. This kind of equipment is really an option: to operate or to shut down, to use oil or electricity).

The Black and Scholes formula could help make the right decision.

### ***Guarantees and Insurance Contracts***

Insurance policies and financial (and non financial) guarantees can be evaluated using option-pricing theory. Insurance against the non-payment of a debt security is equivalent to a put option on the debt security with a strike price that is equal to the nominal value of the security. A real put option would provide its holder with the right to sell the debt security if its value declines below the strike price.

Put differently, the put option owner has the possibility to limit his losses.

Option contracts are, indeed, a kind of insurance contracts and the two markets are competing.

## ***Complete Markets***

Merton (1977) extended the dynamic theory of financial markets. In the 1950s, Kenneth Arrow and Gerard Debreu (both Nobel Prize winners) demonstrated that individuals, households and firms can abolish their risk: if there exist as many independent securities as there are future states of the world (a quite large number). Merton proved that far fewer financial instruments are sufficient to eliminate risk, even when the number of future states is very large.

## ***Practical Importance***

Option contracts began to be traded on the Chicago Board Options Exchange (CBOE) in April 1973, one month before the formula was published.

It was only in 1975 that traders had begun applying it - using programmed calculators. Thousands of traders and investors use the formula daily in markets throughout the world. In many countries, it is mandatory by law to use the formula to price stock warrants and options. In Israel, the formula must be included and explained in every public offering prospectus.

Today, we cannot conceive of the financial world without the formula.

Investment portfolio managers use put options to hedge against a decline in share prices. Companies use derivative instruments to fight currency, interest rates and other financial risks. Banks and other financial institutions use it to price (even to characterize) new products, offer customized financial solutions and instruments to their clients and to minimize their own risks.

## *Some Other Scientific Contributions*

The work of Merton and Scholes was not confined to inventing the formula.

Merton analysed individual consumption and investment decisions in continuous time. He generalized an important asset pricing model called the CAPM and gave it a dynamic form. He applied option pricing formulas in different fields.

He is most known for deriving a formula which allows stock price movements to be discontinuous.

Scholes studied the effect of dividends on share prices and estimated the risks associated with the share which are not specific to it. He is a great guru of the efficient marketplace ("The Invisible Hand of the Market").

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## *The Fabric of Economic Trust*

Economics acquired its dismal reputation by pretending to be an exact science rather than a branch of mass psychology. In truth it is a narrative struggling to describe the aggregate behavior of humans. It seeks to cloak its uncertainties and shifting fashions with mathematical formulae and elaborate econometric computerized models.

So much is certain, though - that people operate within markets, free or regulated, patchy or organized. They attach numerical (and emotional) values to their inputs (work, capital) and to their possessions (assets, natural endowments). They communicate these values to each other by sending out signals known as prices.

Yet, this entire edifice - the market and its price mechanism - critically depends on trust. If people do not trust each other, or the economic "envelope" within which they interact - economic activity gradually grinds to a halt. There is a strong correlation between the general level of trust and the extent and intensity of economic activity. Francis Fukuyama, the political scientist, distinguishes between high-trust and prosperous societies and low-trust and, therefore, impoverished collectives. Trust underlies economic success, he argued in a 1995 tome.

Trust is not a monolithic quantity. There are a few categories of economic trust. Some forms of trust are akin to a public good and are closely related to governmental action or inaction, the reputation of the state and its institutions, and its pronounced agenda. Other types of trust are the outcomes of kinship, ethnic origin, personal



standing and goodwill, corporate brands and other data generated by individuals, households, and firms.

### ***I. Trust in the playing field***

To transact, people have to maintain faith in a relevant economic horizon and in the immutability of the economic playing field or "envelope". Put less obscurely, a few hidden assumptions underlie the continued economic activity of market players.

They assume, for instance, that the market will continue to exist for the foreseeable future in its current form. That it will remain inert - unhindered by externalities like government intervention, geopolitical upheavals, crises, abrupt changes in accounting policies and tax laws, hyperinflation, institutional and structural reform and other market-deflecting events and processes.

They further assume that their price signals will not be distorted or thwarted on a consistent basis thus skewing the efficient and rational allocation of risks and rewards. Insider trading, stock manipulation, monopolies, hoarding - all tend to consistently but unpredictably distort price signals and, thus, deter market participation.

Market players take for granted the existence and continuous operation of institutions - financial intermediaries, law enforcement agencies, courts. It is important to note that market players prefer continuity and certainty to evolution, however gradual and ultimately beneficial. A venal bureaucrat is a known quantity and can be tackled effectively. A period of transition to good and equitable governance can be more stifling than any level of corruption and malfeasance. This is why economic activity drops sharply whenever institutions are reformed.

## ***II. Trust in other players***

Market players assume that other players are (generally) rational, that they have intentions, that they intend to maximize their benefits and that they are likely to act on their intentions in a legal (or rule-based), rational manner.

## ***III. Trust in market liquidity***

Market players assume that other players possess or have access to the liquid means they need in order to act on their intentions and obligations. They know, from personal experience, that idle capital tends to dwindle and that the only way to, perhaps, maintain or increase it is to transact with others, directly or through intermediaries, such as banks.

## ***IV. Trust in others' knowledge and ability***

Market players assume that other players possess or have access to the intellectual property, technology, and knowledge they need in order to realize their intentions and obligations. This implicitly presupposes that all other market players are physically, mentally, legally and financially able and willing to act their parts as stipulated, for instance, in contracts they sign.

The emotional dimensions of contracting are often neglected in economics. Players assume that their counterparts maintain a realistic and stable sense of self-worth based on intimate knowledge of their own strengths and weaknesses. Market participants are presumed to harbor realistic expectations, commensurate with their skills and accomplishments. Allowance is made for exaggeration, disinformation, even outright deception - but these are supposed to be marginal phenomena.

When trust breaks down - often the result of an external or internal systemic shock - people react expectedly. The number of voluntary interactions and transactions decreases sharply. With a collapsed investment horizon, individuals and firms become corrupt in an effort to shortcut their way into economic benefits, not knowing how long will the system survive. Criminal activity increases.

People compensate with fantasies and grandiose delusions for their growing sense of uncertainty, helplessness, and fears. This is a self-reinforcing mechanism, a vicious cycle which results in under-confidence and a fluctuating self esteem. They develop psychological defence mechanisms.

Cognitive dissonance ("I really choose to be poor rather than heartless"), pathological envy (seeks to deprive others and thus gain emotional reward), rigidity ("I am like that, my family or ethnic group has been like that for generations, there is nothing I can do"), passive-aggressive behavior (obstructing the work flow, absenteeism, stealing from the employer, adhering strictly to arcane regulations) - are all reactions to a breakdown in one or more of the four aforementioned types of trust. Furthermore, people in a trust crisis are unable to postpone gratification. They often become frustrated, aggressive, and deceitful if denied. They resort to reckless behavior and stopgap economic activities.

In economic environments with compromised and impaired trust, loyalty decreases and mobility increases. People switch jobs, renege on obligations, fail to repay debts, relocate often. Concepts like exclusivity, the sanctity of contracts, workplace loyalty, or a career path - all get eroded. As a result, little is invested in the future, in the acquisition of skills, in long term savings. Short-

termism and bottom line mentality rule.

The outcomes of a crisis of trust are, usually, catastrophic:

Economic activity is much reduced, human capital is corroded and wasted, brain drain increases, illegal and extra-legal activities rise, society is polarized between haves and haves-not, interethnic and inter-racial tensions increase. To rebuild trust in such circumstances is a daunting task. The loss of trust is contagious and, finally, it infects every institution and profession in the land. It is the stuff revolutions are made of.

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## *The Distributive Justice of the Market*

The public outcry against executive pay and compensation followed disclosures of insider trading, double dealing, and outright fraud. But even honest and productive entrepreneurs often earn more money in one year than Albert Einstein did in his entire life. This strikes many - especially academics - as unfair. Surely Einstein's contributions to human knowledge and welfare far exceed anything ever accomplished by sundry businessmen? Fortunately, this discrepancy is cause for constructive jealousy, emulation, and imitation. It can, however, lead to an orgy of destructive and self-ruinous [envy](#).

Such envy is reinforced by declining social mobility in the United States. Recent (2006-7) studies by the OECD (Organization for Economic Cooperation and Development) clearly demonstrate that the American Dream is a myth. In an editorial dated July 13, 2007, the New-York Times described the rapidly deteriorating situation thus:

***"... (M)obility between generations — people doing better or worse than their parents — is weaker in America than in Denmark, Austria, Norway, Finland, Canada, Sweden, Germany, Spain and France. In America, there is more than a 40 percent chance that if a father is in the bottom fifth of the earnings' distribution, his son will end up there, too. In Denmark, the equivalent odds are under 25 percent, and they are less than 30 percent in Britain.***

***America's sluggish mobility is ultimately unsurprising. Wealthy parents not only pass on that wealth in inheritances, they can pay for better education, nutrition and health care for their children. The poor cannot afford this investment in their children's development — and the government doesn't provide nearly enough help. In a speech earlier this year, the Federal Reserve chairman, Ben Bernanke, argued that while the inequality of rewards fuels the economy by making people exert themselves, opportunity should be "as widely distributed and as equal as possible." The problem is that the have-nots don't have many opportunities either.***

Still, entrepreneurs recombine natural and human resources in novel ways. They do so to respond to forecasts of future needs, or to observations of failures and shortcomings of current products or services. Entrepreneurs are professional - though usually intuitive - futurologists. This is a valuable service and it is financed by systematic risk takers, such as venture capitalists. Surely they all deserve compensation for their efforts and the hazards they assume?

Exclusive ownership is the most ancient type of such remuneration. First movers, entrepreneurs, risk takers, owners of the wealth they generated, exploiters of resources - are allowed to exclude others from owning or exploiting the same things. Mineral concessions, patents, copyright, trademarks - are all forms of monopoly ownership. What moral right to exclude others is gained from being the first?

Nozick advanced Locke's Proviso. An exclusive ownership of property is just only if "enough and as good is left in common for others". If it does not worsen other

people's lot, exclusivity is morally permissible. It can be argued, though, that all modes of exclusive ownership aggravate other people's situation. As far as everyone, bar the entrepreneur, are concerned, exclusivity also prevents a more advantageous distribution of income and wealth.

Exclusive ownership reflects real-life irreversibility. A first mover has the advantage of excess information and of irreversibly invested work, time, and effort. Economic enterprise is subject to information asymmetry: we know nothing about the future and everything about the past. This asymmetry is known as "investment risk". Society compensates the entrepreneur with one type of asymmetry - exclusive ownership - for assuming another, the investment risk.

One way of looking at it is that all others are worse off by the amount of profits and rents accruing to owner-entrepreneurs. Profits and rents reflect an intrinsic inefficiency. Another is to recall that ownership is the result of adding value to the world. It is only reasonable to expect it to yield to the entrepreneur at least this value added now and in the future.

In a "Theory of Justice" (published 1971, p. 302), John Rawls described an ideal society thus:

"(1) Each person is to have an equal right to the most extensive total system of equal basic liberties compatible with a similar system of liberty for all. (2) Social and economic inequalities are to be arranged so that they are both: (a) to the greatest benefit of the least advantaged, consistent with the just savings principle, and (b) attached to offices and positions open to all under conditions of fair equality of opportunity."

It all harks back to [scarcity](#) of resources - land, money, raw materials, manpower, creative brains. Those who can afford to do so, hoard resources to offset anxiety regarding future uncertainty. Others wallow in paucity. The distribution of means is thus skewed. "Distributive justice" deals with the just allocation of scarce resources.

Yet, even the basic terminology is somewhat fuzzy. What constitutes a resource? what is meant by allocation? Who should allocate resources - Adam Smith's "invisible hand", the government, the consumer, or business? Should it reflect differences in power, in intelligence, in knowledge, or in heredity? Should resource allocation be subject to a principle of entitlement? Is it reasonable to demand that it be just - or merely efficient? Are justice and efficiency antonyms?

Justice is concerned with equal access to opportunities. Equal access does not guarantee equal outcomes, invariably determined by idiosyncrasies and differences between people. Access leveraged by the application of natural or acquired capacities - translates into accrued wealth. Disparities in these capacities lead to discrepancies in accrued wealth.

The doctrine of equal access is founded on the equivalence of Men. That all men are created equal and deserve the same respect and, therefore, equal treatment is not self evident. European aristocracy well into this century would have probably found this notion abhorrent. Jose Ortega Y Gasset, writing in the 1930's, preached that access to educational and economic opportunities should be premised on one's lineage, upbringing, wealth, and social responsibilities.

A succession of societies and cultures discriminated



against the ignorant, criminals, atheists, females, homosexuals, members of ethnic, religious, or racial groups, the old, the immigrant, and the poor. Communism - ostensibly a strict egalitarian idea - foundered because it failed to reconcile strict equality with economic and psychological realities within an impatient timetable.

Philosophers tried to specify a "bundle" or "package" of goods, services, and intangibles (like information, or skills, or knowledge). Justice - though not necessarily happiness - is when everyone possesses an identical bundle. Happiness - though not necessarily justice - is when each one of us possesses a "bundle" which reflects his or her preferences, priorities, and predilections. None of us will be too happy with a standardized bundle, selected by a committee of philosophers - or bureaucrats, as was the case under communism.

The market allows for the exchange of goods and services between holders of identical bundles. If I seek books, but detest oranges - I can swap them with someone in return for his books. That way both of us are rendered better off than under the strict egalitarian version.

Still, there is no guarantee that I will find my exact match - a person who is interested in swapping his books for my oranges. Illiquid, small, or imperfect markets thus inhibit the scope of these exchanges. Additionally, exchange participants have to agree on an index: how many books for how many oranges? This is the price of oranges in terms of books.

Money - the obvious "index" - does not solve this problem, merely simplifies it and facilitates exchanges. It does not eliminate the necessity to negotiate an "exchange rate". It does not prevent market failures. In other words:

money is not an index. It is merely a medium of exchange and a store of value. The index - as expressed in terms of money - is the underlying agreement regarding the values of resources in terms of other resources (i.e., their relative values).

The market - and the price mechanism - increase happiness and welfare by allowing people to alter the composition of their bundles. The invisible hand is just and benevolent. But money is imperfect. The aforementioned Rawles demonstrated (1971), that we need to combine money with other measures in order to place a value on intangibles.

The prevailing market theories postulate that everyone has the same resources at some initial point (the "starting gate"). It is up to them to deploy these endowments and, thus, to ravage or increase their wealth. While the initial distribution is equal - the end distribution depends on how wisely - or imprudently - the initial distribution was used.

Egalitarian thinkers proposed to equate everyone's income in each time frame (e.g., annually). But identical incomes do not automatically yield the same accrued wealth. The latter depends on how the income is used - saved, invested, or squandered. Relative disparities of wealth are bound to emerge, regardless of the nature of income distribution.

Some say that excess wealth should be confiscated and redistributed. Progressive taxation and the welfare state aim to secure this outcome. Redistributive mechanisms reset the "wealth clock" periodically (at the end of every month, or fiscal year). In many countries, the law dictates which portion of one's income must be saved and, by implication, how much can be consumed. This conflicts

with basic rights like the freedom to make economic choices.

The legalized expropriation of income (i.e., taxes) is morally dubious. Anti-tax movements have sprung all over the world and their philosophy permeates the ideology of political parties in many countries, not least the USA. Taxes are punitive: they penalize enterprise, success, entrepreneurship, foresight, and risk assumption. Welfare, on the other hand, rewards dependence and parasitism.

According to Rawles' Difference Principle, all tenets of justice are either redistributive or retributive. This ignores non-economic activities and human inherent variance. Moreover, conflict and inequality are the engines of growth and innovation - which mostly benefit the least advantaged in the long run. Experience shows that unmitigated equality results in atrophy, corruption and stagnation. Thermodynamics teaches us that life and motion are engendered by an irregular distribution of energy. Entropy - an even distribution of energy - equals death and stasis.

What about the disadvantaged and challenged - the mentally retarded, the mentally insane, the paralyzed, the chronically ill? For that matter, what about the less talented, less skilled, less daring? Dworkin (1981) proposed a compensation scheme. He suggested a model of fair distribution in which every person is given the same purchasing power and uses it to bid, in a fair auction, for resources that best fit that person's life plan, goals and preferences.

Having thus acquired these resources, we are then permitted to use them as we see fit. Obviously, we end up

with disparate economic results. But we cannot complain - we were given the same purchasing power and the freedom to bid for a bundle of our choice.

Dworkin assumes that prior to the hypothetical auction, people are unaware of their own natural endowments but are willing and able to insure against being naturally disadvantaged. Their payments create an insurance pool to compensate the less fortunate for their misfortune.

This, of course, is highly unrealistic. We are usually very much aware of natural endowments and liabilities - both ours and others'. Therefore, the demand for such insurance is not universal, nor uniform. Some of us badly need and want it - others not at all. It is morally acceptable to let willing buyers and sellers to trade in such coverage (e.g., by offering charity or alms) - but may be immoral to make it compulsory.

Most of the modern welfare programs are involuntary Dworkin schemes. Worse yet, they often measure differences in natural endowments arbitrarily, compensate for lack of acquired skills, and discriminate between types of endowments in accordance with cultural biases and fads.

Libertarians limit themselves to ensuring a level playing field of just exchanges, where just actions always result in just outcomes. Justice is not dependent on a particular distribution pattern, whether as a starting point, or as an outcome. Robert Nozick "Entitlement Theory" proposed in 1974 is based on this approach.

That the market is wiser than any of its participants is a pillar of the philosophy of capitalism. In its pure form, the theory claims that markets yield patterns of merited

distribution - i.e., reward and punish justly. Capitalism generate just deserts. Market failures - for instance, in the provision of public goods - should be tackled by governments. But a just distribution of income and wealth does not constitute a market failure and, therefore, should not be tampered with.

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*Also Read:*

*[The Principal-Agent Conundrum](#)*

*[The Green-Eyed Capitalist](#)*

*[The Misconception of Scarcity](#)*

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## *Notes on the Economics of Game Theory*

Consider this:

Could Western management techniques be successfully implemented in the countries of Central and Eastern Europe (CEE)? Granted, they have to be adapted, modified and cannot be imported in their entirety. But their crux, their inalienable nucleus – can this be transported and transplanted in CEE? Theory provides us with a positive answer. Human agents are the same everywhere and are mostly rational. Practice begs to differ. Basic concepts such as the money value of time or the moral and legal meaning of property are non-existent. The legal, political and economic environments are all unpredictable. As a result, economic players will prefer to maximize their utility immediately (steal from the workplace, for instance) – than to wait for longer term (potentially, larger) benefits. Warrants (stock options) convertible to the company's shares constitute a strong workplace incentive in the West (because there is an horizon and they increase the employee's welfare in the long term). Where the future is speculation – speculation withers. Stock options or a small stake in his firm, will only encourage the employee to blackmail the other shareholders by paralysing the firm, to abuse his new position and will be interpreted as immunity, conferred from above, from the consequences of illegal activities. The very allocation of options or shares will be interpreted as a sign of weakness, dependence and need, to be exploited. Hierarchy is equated with slavery and employees will rather harm their long term interests than

follow instructions or be subjected to criticism – never mind how constructive. The employees in CEE regard the corporate environment as a conflict zone, a zero sum game (in which the gains by some equal the losses to others). In the West, the employees participate in the increase in the firm's value. The difference between these attitudes is irreconcilable.

Now, let us consider this:

An entrepreneur is a person who is gifted at identifying the unsatisfied needs of a market, at mobilizing and organizing the resources required to satisfy those needs and at defining a long-term strategy of development and marketing. As the enterprise grows, two processes combine to denude the entrepreneur of some of his initial functions. The firm has ever growing needs for capital: financial, human, assets and so on. Additionally, the company begins (or should begin) to interface and interact with older, better established firms. Thus, the company is forced to create its first management team: a general manager with the right doses of respectability, connections and skills, a chief financial officer, a host of consultants and so on. In theory – if all our properly motivated financially – all these players (entrepreneurs and managers) will seek to maximize the value of the firm. What happens, in reality, is that both work to minimize it, each for its own reasons. The managers seek to maximize their short-term utility by securing enormous pay packages and other forms of company-dilapidating compensation. The entrepreneurs feel that they are "strangled", "shackled", "held back" by bureaucracy and they "rebel". They oust the management, or undermine it, turning it into an ineffective representative relic. They assume real, though informal, control of the firm. They do

so by defining a new set of strategic goals for the firm, which call for the institution of an entrepreneurial rather than a bureaucratic type of management. These cycles of initiative-consolidation-new initiative-revolution-consolidation are the dynamos of company growth. Growth leads to maximization of value. However, the players don't know or do not fully believe that they are in the process of maximizing the company's worth. On the contrary, consciously, the managers say: "Let's maximize the benefits that we derive from this company, as long as we are still here." The entrepreneurs-owners say: "We cannot tolerate this stifling bureaucracy any longer. We prefer to have a smaller company – but all ours." The growth cycles forces the entrepreneurs to dilute their holdings (in order to raise the capital necessary to finance their initiatives). This dilution (the fracturing of the ownership structure) is what brings the last cycle to its end. The holdings of the entrepreneurs are too small to materialize a coup against the management. The management then prevails and the entrepreneurs are neutralized and move on to establish another start-up. The only thing that they leave behind them is their names and their heirs.

We can use Game Theory methods to analyse both these situations. Wherever we have economic players bargaining for the allocation of scarce resources in order to attain their utility functions, to secure the outcomes and consequences (the value, the preference, that the player attaches to his outcomes) which are right for them – we can use Game Theory (GT).

A short recap of the basic tenets of the theory might be in order.

GT deals with interactions between agents, whether



conscious and intelligent – or Dennettic. A Dennettic Agent (DA) is an agent that acts so as to influence the future allocation of resources, but does not need to be either conscious or deliberative to do so. A Game is the set of acts committed by 1 to n rational DA and one a-rational (not irrational but devoid of rationality) DA (nature, a random mechanism). At least 1 DA in a Game must control the result of the set of acts and the DAs must be (at least potentially) at conflict, whole or partial. This is not to say that all the DAs aspire to the same things. They have different priorities and preferences. They rank the likely outcomes of their acts differently. They engage Strategies to obtain their highest ranked outcome. A Strategy is a vector, which details the acts, with which the DA will react in response to all the (possible) acts by the other DAs. An agent is said to be rational if his Strategy does guarantee the attainment of his most preferred goal. Nature is involved by assigning probabilities to the outcomes. An outcome, therefore, is an allocation of resources resulting from the acts of the agents. An agent is said to control the situation if its acts matter to others to the extent that at least one of them is forced to alter at least one vector (Strategy). The Consequence to the agent is the value of a function that assigns real numbers to each of the outcomes. The consequence represents a list of outcomes, prioritized, ranked. It is also known as an ordinal utility function. If the function includes relative numerical importance measures (not only real numbers) – we call it a Cardinal Utility Function.

Games, naturally, can consist of one player, two players and more than two players (n-players). They can be zero (or fixed) - sum (the sum of benefits is fixed and whatever gains made by one of the players are lost by the others). They can be nonzero-sum (the amount of benefits to all

players can increase or decrease). Games can be cooperative (where some of the players or all of them form coalitions) – or non-cooperative (competitive). For some of the games, the solutions are called Nash equilibria. They are sets of strategies constructed so that an agent which adopts them (and, as a result, secures a certain outcome) will have no incentive to switch over to other strategies (given the strategies of all other players). Nash equilibria (solutions) are the most stable (it is where the system "settles down", to borrow from Chaos Theory) – but they are not guaranteed to be the most desirable. Consider the famous "Prisoners' Dilemma" in which both players play rationally and reach the Nash equilibrium only to discover that they could have done much better by collaborating (that is, by playing irrationally). Instead, they adopt the "Pareto-dominated", or the "Pareto-optimal", sub-optimal solution. Any outside interference with the game (for instance, legislation) will be construed as creating a NEW game, not as pushing the players to adopt a "Pareto-superior" solution.

The behaviour of the players reveals to us their order of preferences. This is called "Preference Ordering" or "Revealed Preference Theory". Agents are faced with sets of possible states of the world (=allocations of resources, to be more economically inclined). These are called "Bundles". In certain cases they can trade their bundles, swap them with others. The evidence of these swaps will inevitably reveal to us the order of priorities of the agent. All the bundles that enjoy the same ranking by a given agent – are this agent's "Indifference Sets". The construction of an Ordinal Utility Function is, thus, made simple. The indifference sets are numbered from 1 to n. These ordinals do not reveal the INTENSITY or the RELATIVE INTENSITY of a preference – merely its

location in a list. However, techniques are available to transform the ordinal utility function – into a cardinal one.

A Stable Strategy is similar to a Nash solution – though not identical mathematically. There is currently no comprehensive theory of Information Dynamics. Game Theory is limited to the aspects of competition and exchange of information (cooperation). Strategies that lead to better results (independently of other agents) are dominant and where all the agents have dominant strategies – a solution is established. Thus, the Nash equilibrium is applicable to games that are repeated and wherein each agent reacts to the acts of other agents. The agent is influenced by others – but does not influence them (he is negligible). The agent continues to adapt in this way – until no longer able to improve his position. The Nash solution is less available in cases of cooperation and is not unique as a solution. In most cases, the players will adopt a minimax strategy (in zero-sum games) or maximin strategies (in nonzero-sum games). These strategies guarantee that the loser will not lose more than the value of the game and that the winner will gain at least this value. The solution is the "Saddle Point".

The distinction between zero-sum games (ZSG) and nonzero-sum games (NZSG) is not trivial. A player playing a ZSG cannot gain if prohibited to use certain strategies. This is not the case in NZSGs. In ZSG, the player does not benefit from exposing his strategy to his rival and is never harmed by having foreknowledge of his rival's strategy. Not so in NZSGs: at times, a player stands to gain by revealing his plans to the "enemy". A player can actually be harmed by NOT declaring his strategy or by gaining acquaintance with the enemy's stratagems. The very ability to communicate, the level of communication

and the order of communication – are important in cooperative cases. A Nash solution:

1. Is not dependent upon any utility function;
2. It is impossible for two players to improve the Nash solution (=their position) simultaneously (=the Pareto optimality);
3. Is not influenced by the introduction of irrelevant (not very gainful) alternatives; and
4. Is symmetric (reversing the roles of the players does not affect the solution).

The limitations of this approach are immediately evident. It is definitely not geared to cope well with more complex, multi-player, semi-cooperative (semi-competitive), imperfect information situations.

Von Neumann proved that there is a solution for every ZSG with 2 players, though it might require the implementation of mixed strategies (strategies with probabilities attached to every move and outcome). Together with the economist Morgenstern, he developed an approach to coalitions (cooperative efforts of one or more players – a coalition of one player is possible). Every coalition has a value – a minimal amount that the coalition can secure using solely its own efforts and resources. The function describing this value is super-additive (the value of a coalition which is comprised of two sub-coalitions equals, at least, the sum of the values of the two sub-coalitions). Coalitions can be epiphenomenal: their value can be higher than the combined values of their constituents. The amounts paid to the players equal the value of the coalition and each player stands to get an amount no smaller than any

amount that he would have made on his own. A set of payments to the players, describing the division of the coalition's value amongst them, is the "imputation", a single outcome of a strategy. A strategy is, therefore, dominant, if: (1) each player is getting more under the strategy than under any other strategy and (2) the players in the coalition receive a total payment that does not exceed the value of the coalition. Rational players are likely to prefer the dominant strategy and to enforce it. Thus, the solution to an n-players game is a set of imputations. No single imputation in the solution must be dominant (=better). They should all lead to equally desirable results. On the other hand, all the imputations outside the solution should be dominated. Some games are without solution (Lucas, 1967).

Auman and Maschler tried to establish what is the right payoff to the members of a coalition. They went about it by enlarging upon the concept of bargaining (threats, bluffs, offers and counter-offers). Every imputation was examined, separately, whether it belongs in the solution (=yields the highest ranked outcome) or not, regardless of the other imputations in the solution. But in their theory, every member had the right to "object" to the inclusion of other members in the coalition by suggesting a different, exclusionary, coalition in which the members stand to gain a larger payoff. The player about to be excluded can "counter-argue" by demonstrating the existence of yet another coalition in which the members will get at least as much as in the first coalition and in the coalition proposed by his adversary, the "objector". Each coalition has, at least, one solution.

The Game in GT is an idealized concept. Some of the assumptions can – and should be argued against. The

number of agents in any game is assumed to be finite and a finite number of steps is mostly incorporated into the assumptions. Omissions are not treated as acts (though negative ones). All agents are negligible in their relationship to others (have no discernible influence on them) – yet are influenced by them (their strategies are not – but the specific moves that they select – are). The comparison of utilities is not the result of any ranking – because no universal ranking is possible. Actually, no ranking common to two or  $n$  players is possible (rankings are bound to differ among players). Many of the problems are linked to the variant of rationality used in GT. It is comprised of a clarity of preferences on behalf of the rational agent and relies on the people's tendency to converge and cluster around the right answer / move. This, however, is only a tendency. Some of the time, players select the wrong moves. It would have been much wiser to assume that there are no pure strategies, that all of them are mixed. Game Theory would have done well to borrow mathematical techniques from quantum mechanics. For instance: strategies could have been described as wave functions with probability distributions. The same treatment could be accorded to the cardinal utility function. Obviously, the highest ranking (smallest ordinal) preference should have had the biggest probability attached to it – or could be treated as the collapse event. But these are more or less known, even trivial, objections. Some of them cannot be overcome. We must idealize the world in order to be able to relate to it scientifically at all. The idealization process entails the incorporation of gross inaccuracies into the model and the ignorance of other elements. The surprise is that the approximation yields results, which tally closely with reality – in view of its mutilation, affected by the model.

There are more serious problems, philosophical in nature.

It is generally agreed that "changing" the game can – and very often does – move the players from a non-cooperative mode (leading to Pareto-dominated results, which are never desirable) – to a cooperative one. A government can force its citizens to cooperate and to obey the law. It can enforce this cooperation. This is often called a Hobbesian dilemma. It arises even in a population made up entirely of altruists. Different utility functions and the process of bargaining are likely to drive these good souls to threaten to become egoists unless other altruists adopt their utility function (their preferences, their bundles). Nash proved that there is an allocation of possible utility functions to these agents so that the equilibrium strategy for each one of them will be this kind of threat. This is a clear social Hobbesian dilemma: the equilibrium is absolute egoism despite the fact that all the players are altruists. This implies that we can learn very little about the outcomes of competitive situations from acquainting ourselves with the psychological facts pertaining to the players. The agents, in this example, are not selfish or irrational – and, still, they deteriorate in their behaviour, to utter egotism. A complete set of utility functions – including details regarding how much they know about one another's utility functions – defines the available equilibrium strategies. The altruists in our example are prisoners of the logic of the game. Only an "outside" power can release them from their predicament and permit them to materialize their true nature. Gauthier said that morally-constrained agents are more likely to evade Pareto-dominated outcomes in competitive games – than agents who are constrained only rationally. But this is unconvincing without the existence of an Hobesian enforcement mechanism (a state is the most common

one). Players would do better to avoid Pareto dominated outcomes by imposing the constraints of such a mechanism upon their available strategies. Pareto optimality is defined as efficiency, when there is no state of things (a different distribution of resources) in which at least one player is better off – with all the other no worse off. "Better off" read: "with his preference satisfied". This definitely could lead to cooperation (to avoid a bad outcome) – but it cannot be shown to lead to the formation of morality, however basic. Criminals can achieve their goals in splendid cooperation and be content, but that does not make it more moral. Game theory is agent neutral, it is utilitarianism at its apex. It does not prescribe to the agent what is "good" – only what is "right". It is the ultimate proof that effort at reconciling utilitarianism with more deontological, agent relative, approaches are dubious, in the best of cases. Teleology, in other words, in no guarantee of morality.

Acts are either means to an end or ends in themselves. This is no infinite regression. There is bound to be an holy grail (happiness?) in the role of the ultimate end. A more commonsense view would be to regard acts as means and states of affairs as ends. This, in turn, leads to a teleological outlook: acts are right or wrong in accordance with their effectiveness at securing the achievement of the right goals. Deontology (and its stronger version, absolutism) constrain the means. It states that there is a permitted subset of means, all the other being immoral and, in effect, forbidden. Game Theory is out to shatter both the notion of a finite chain of means and ends culminating in an ultimate end – and of the deontological view. It is consequentialist but devoid of any value judgement.



Game Theory pretends that human actions are breakable into much smaller "molecules" called games. Human acts within these games are means to achieving ends but the ends are improbable in their finality. The means are segments of "strategies": prescient and omniscient renditions of the possible moves of all the players. Aside from the fact that it involves mnemonic causation (direct and deterministic influence by past events) and a similar influence by the utility function (which really pertains to the future) – it is highly implausible. Additionally, Game Theory is mired in an internal contradiction: on the one hand it solemnly teaches us that the psychology of the players is absolutely of no consequence. On the other, it hastens to explicitly and axiomatically postulate their rationality and implicitly (and no less axiomatically) their benefit-seeking behaviour (though this aspect is much more muted). This leads to absolutely outlandish results: irrational behaviour leads to total cooperation, bounded rationality leads to more realistic patterns of cooperation and competition (cooperation) and an unmitigated rational behaviour leads to disaster (also known as Pareto dominated outcomes).

Moreover, Game Theory refuses to acknowledge that real games are dynamic, not static. The very concepts of strategy, utility function and extensive (tree like) representation are static. The dynamic is retrospective, not prospective. To be dynamic, the game must include all the information about all the actors, all their strategies, all their utility functions. Each game is a subset of a higher level game, a private case of an implicit game which is constantly played in the background, so to say. This is a hyper-game of which all games are but derivatives. It incorporates all the physically possible moves of all the players. An outside agency with enforcement powers (the

state, the police, the courts, the law) are introduced by the players. In this sense, they are not really an outside event which has the effect of altering the game fundamentally. They are part and parcel of the strategies available to the players and cannot be arbitrarily ruled out. On the contrary, their introduction as part of a dominant strategy will simplify Game theory and make it much more applicable. In other words: players can choose to compete, to cooperate and to cooperate in the formation of an outside agency. There is no logical or mathematical reason to exclude the latter possibility. The ability to thus influence the game is a legitimate part of any real life strategy. Game Theory assumes that the game is a given – and the players have to optimize their results within it. It should open itself to the inclusion of game altering or redefining moves by the players as an integral part of their strategies. After all, games entail the existence of some agreement to play and this means that the players accept some rules (this is the role of the prosecutor in the Prisoners' Dilemma). If some outside rules (of the game) are permissible – why not allow the "risk" that all the players will agree to form an outside, lawfully binding, arbitration and enforcement agency – as part of the game? Such an agency will be nothing if not the embodiment, the materialization of one of the rules, a move in the players' strategies, leading them to more optimal or superior outcomes as far as their utility functions are concerned. Bargaining inevitably leads to an agreement regarding a decision making procedure. An outside agency, which enforces cooperation and some moral code, is such a decision making procedure. It is not an "outside" agency in the true, physical, sense. It does not "alter" the game (not to mention its rules). It IS the game, it is a procedure, a way to resolve conflicts, an integral part of any solution and imputation, the herald of cooperation, a representative

of some of the will of all the players and, therefore, a part both of their utility functions and of their strategies to obtain their preferred outcomes. Really, these outside agencies ARE the desired outcomes. Once Game Theory digests this observation, it could tackle reality rather than its own idealized contraptions.

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## *The Spectrum of Auctions*

Months of procrastination and righteous protestations to the contrary led to the inevitable: the European Commission assented last week to a joint venture between Germany's T-mobile and Britain's mmO2 to share the mammoth costs of erecting third generation - 3G in the parlance - mobile phone networks in both countries. The two companies were among the accursed winners of a series of spectrum auctions in the late 1990's. Altogether telecom firms shelled well over \$100 billion to secure 3G licences in markets as diverse as Germany, Italy, the UK, and the Netherlands.

There is little doubt that governments - and, through them, the public - have made a killing in these auctions. But paying the fees left the winners' coffers depleted. They are now unable to comply with the licence terms and provide the service that is supposed to revolutionize wireless communications and data retrieval.

Judged narrowly, from the sellers' point of view, these auctions have been an astounding success. But the outcomes of the best auctions encompass the widest possible utility - including the buyers' and the public's. From this wider angle, go the critics, spectrum auctions have been an abysmal failure.

This is surprising. Auctions are nothing new. The notorious slave fairs of the 18th and 19th century were auction markets. Similar bazaars existed in ancient Greece. Many commodities, such as US loose leaf

tobacco, are exclusively sold in such tenders as are government bonds, second hand goods, used machinery, artworks, antiques, stamps, old coins, rare books, jewelry, and property foreclosed by financial institutions or expropriated by the government. Several stock and commodity exchanges the world over are auction-based. A branch of game theory - auction theory - deals with the intricacies of auctions and how they can be frustrated by collusion implicit or explicit.

All auctions are managed by an auctioneer who rewards the desired article to the highest bidder and charges the seller - and sometimes the bidder a fee, a percentage of the realized price. In almost all auctions, the seller sets a - published or undisclosed - "reserve" price - the lowest bid it is willing to accept and below which the item is "reserved", i.e., goes unsold.

In an English "open outcry" auction, bids are made public, allowing other bidders to up the ante. In a first-price - or discriminatory - sealed bid auction, bids remain secret until the auctioneer opens the sealed envelopes at a pre-determined time. In the Vickrey - or uniform second price - auction the winner pays an amount equal to the second highest bid. In a Dutch auction, the auctioneer announces a series of decreasing prices and awards the article to the first bidder. These epithets are used in financial markets to designate other types of auctions.

Auctions are no longer considered the most efficient method in markets with imperfect competition - as most markets are.

Steve Kaplan and Mohanbir Sawhney noted in an article published by the Harvard Business Review two years ago that the advent of the Internet removed two handicaps. It

allows an unlimited number of potential bidders and sellers to congregate virtually on Web sites such as eBay. It also eliminated the substantial costs of traditional, physical, auctions. The process of matching buyers with sellers - i.e., finding equilibrium prices which clear supply and demand efficiently - was also simplified in e-hubs.

Yet, as Paul Milgrom of Stanford University pointed out to "The Economist":

"Arguments that online exchanges will produce big increases in efficiency ... implicitly assume that the Internet will make markets perfectly competitive - with homogeneous products and competition on price alone ... (ignore the fact that) markets for most goods and services in fact have 'imperfect competition' - similar but slightly differentiated products competing on many things besides price."

Moreover, as Paul Klemperer of Oxford University observes, bidders sometimes collude - explicitly, in "rings", or implicitly, by signaling each other - to rig the process or deter "outsider" entrants. New participants often underbid, expecting incumbents to overbid.

An FCC auction of wireless data transmission frequencies in April 1997 raised only \$14 million - rather than the \$1.8 billion expected. This was apparently achieved by signals to warn off competitors embedded in the bids themselves. Salomon Brothers admitted, in August 1991, to manipulating US treasury auctions - by submitting fake bids - and paid a fine of \$290 million.

Another problem is the "winner's curse" - the tendency to bid too high to ensure winning. Wary of this propensity, bidders often bid too low - especially in sealed bid

auctions or in auctions with many bidders, says Jeremy Bulow of Stanford University in a paper he co-authored with Klemperer. And, as opposed to fixed prices, preparing for an auction consumes resources while the risk of losing is high.

So, are the critics right? Have the 3G auctions - due to their inherent imperfections or erroneous design - brought the winners to their pecuniary knees? will the sunk costs of the licence fees be passed on to reluctant consumers? Should the European Commission and governments in Europe allow winners to co-invest, co-own, co-operate, and co-maintain their networks?

This, at best, is debatable.

Frequencies are a commodity in perfect competition - though their price (their "common value") is unknown. Theoretically, auctioning the spectrum is the most efficient way to make bidders pay for their "monopoly rent" - i.e., their excess profits. Bidders know best where their interests lie and how much they can pay and the auction process extracts this information from them in the form of a bid. They may misread the market and go bust - but this is a risk every business takes.

Economic theory decouples the size of the bids from the marginal return on investment. But, in the real world, the higher the "commitment fees" in the shape of costs sunk into obtaining the licences - the more motivated the winners are to recoup them by investing in infrastructure, providing innovative services competitively, and aggressively marketing their offerings. The licences are fully tradable assets whose value depends on added investment in networks and customers.

Too late, telcoms are realizing the magnitude of their mistake. Consumers are ill-prepared for the wireless Internet. Clashing standards, incompatible devices, reluctant hardware manufacturers, the spread of broadband, the recession - all conspire to undermine the sanguine business plans of yesteryear. Yet, getting it wrong does not justify a bail-out. On the very contrary, the losers should be purged by that famous invisible hand. Inexorable and merciless as it may be, the market - unencumbered by state intervention - always ends up delivering commercial, non-public, goods cheaply and efficiently.

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## ***Distributions to Partners and Shareholders***

It is when the going gets better, that the going gets tough. This enigmatic sentence bears explanation: when a firm is in dire straits, in the throes of a crisis, or is a loss maker – conflicts between the shareholders (partners) are rare. When a company is in the start-up phase, conducting research and development and fighting for its continued, profitable survival in the midst of a massive investment cycle – rarely will internal strife arise and threaten its existence. It is when the company turns a profit, when there is cash in the till – that, typically, all manner of grievances, complaints and demands arise. The internecine conflicts are especially acute where the ownership is divided equally. It is more accentuated when one of the partners feels that he is contributing more to the business, either because of his unique talents or because of his professional experience, contacts or due to the size of his initial investments (and the other partner does not share his views).

The typical grievances relate to the equitable, proportional, division of the company's income between the partners. In many firms partners serve in various management functions and draw a salary plus expenses. This is considered by other partners to be a dividend drawn in disguise. They want to draw the same amounts from the company's coffers (or to maintain some kind of symbolic monetary difference in favour of the position holder). Most minority partners are afraid of a tyranny of the majority and of the company being robbed blind (legally and less legally) by the partners in management

positions. Others are plainly jealous, poisoned by rumours and bad advisors, pressurized by a spouse. A myriad of reasons can lead to internal strife, detrimental to the future of the operation.

This leads to a paralysis of the work of the company. Management and ownership resources are dedicated to taking sides in the raging battle and to thinking up new strategies and tactics of attacking "the enemy". Indeed, animosity, even enmity, arise together with bitterness and air of paranoia and impending implosion. The business itself is neglected, then derailed. Directors argue for hours regarding their perks and benefits – and deal with the main issues in a matter of a few minutes. The company car gets more attention than the company's main clients, the expense accounts are more closely scrutinized than the marketing strategies of the firm's competitors. This is disastrous and before long the company begins to lose clients, its marketing position degenerates, its performance and customer satisfaction deteriorate. This is mortal danger and it should be nipped in the bud.

Frankly, I do not believe much in introducing rational solutions to this highly charged EMOTIVE-PSYCHOLOGICAL problem. Logic cannot eliminate envy, ratio cannot cope with jealousy and bad mouthing will not stop if certain visible disparities are addressed. Still, dealing with the situation openly is better than relegating it to obscurity.

We must, first, make a distinction between a division of the company's assets and liabilities upon a dissolution of the partnership for whatever reason – and the distribution of its on-going revenues or profits.

In the first case (dissolution), the best solution I know of,

is practised by the Bedouins in the Sinai Peninsula. For simplification's sake, let us discuss a collaboration between two equal partners that is coming to its end. One of the partners is then charged with dividing the partnership's assets and liabilities into two lots (that he deems equal). The other partner is then given the right of being the FIRST to choose one of the lots to himself. This is an ingenious scheme: the partner in charge of allocating the lots will do his utmost to ensure that they are indeed identical. Each lot will, probably, contain values of assets and liabilities identical to the other lot. This is because the partner in charge of the division does not know WHICH lot the other partner will choose. If he divides the lots unevenly – he runs the risk of his partner choosing the better lot and leaving him with the lesser one.

Life is not that simple when it comes to dividing a stream of income or of profits. Income can be distributed to the shareholders in many ways: wages, perks and benefits, expense accounts, and dividends. It is difficult to disentangle what money is paid to a shareholder against a real contribution – and what money is a camouflaged dividend. Moreover, shareholders are supposed to contribute to their firm (this is why they own shares) – so why should they be especially compensated when they do so? The latter question is particularly acute when the shareholder is not a full time employee of the firm – but allocates only a portion of his time and resources to it.

Solutions do exist, however. One category of solutions involves coming up with a clear definition of the functions of a shareholder (a job description). This is a prerequisite. Without such clarity, it would be close to impossible to quantify the respective contributions of the shareholders.

Following this detailed analysis, a pecuniary assessment

of the contribution should be made. This is a tricky part. How to value the importance to the company of this or that shareholder?

One way is to publish a public tender for the shareholder's job, based on the aforementioned job description. The shareholder will accept, in advance, to match the lowest bid in the tender. Example: if the shareholder is the Active Chairman of the Board, his job will be minutely described in writing. Then, a tender will be published by the company for the job, including a job description. A committee, whose odd number of members will be appointed by the Board of Directors, will select the winner whose bid (cost) was the lowest. The shareholder will match these low end terms. In other words: the shareholder will accept the market's verdict. To perfect this technique, the CURRENT functionaries should also submit their bids under assumed names. This way, not only the issue of their compensation will be determined – but also the more basic question of whether they are the fittest for the job.

Another way is to consult executive search agencies and personnel placement agencies (also known as "Headhunters"). Such organizations can save the prolonged hassle of a public tender, on the one hand. On the other hand, their figures are likely to be skewed up. Because they are getting a commission equal to one monthly wage of the successfully placed executive – they will tend to quote a level of compensation higher than the market's. An approach should, therefore, be made to at least three such agencies and the resulting average figure should be adjusted down by 10% (approximately the commission payable to these agencies).

A closely similar method is to follow what other,

comparable, firms, are offering their position-holders. This can be done by studying the classified ads and by directly asking the companies (if such direct enquiry is at all possible).

Yet another approach is to appoint a management consultancy to do the job: are the shareholders the best positioned people in their respective functions? Is their compensation realistic? Should alternative management methods be implemented (rotation, co-management, management by committee)?

All the above mentioned are FORMAL techniques in which arbitration is carried out to determine the remuneration level befitting the shareholder's position. Any compensation that he receives above this level is evidently a hidden dividend. The arbitration can be carried out directly by the market or by select specialists.

There are, however, more direct approaches. Some solutions are performance related. A base compensation (salary) is agreed between the parties: each shareholder, regardless of his position, dedication to the job, or contribution to the firm – will take home an amount of monthly fee reflecting his shareholding proportion or an amount equal to the one received by other shareholders. This, really, is the hidden dividend, disguised as a salary. The remaining part of the compensation package will be proportional to some performance criteria.

Let us take the simplest case: two equal partners. One is in charge of activity A, which yields to the company AA in income and AAA in profits (gross or net). The second partner supervises and manages activity B, which yields to the company BB in revenues and BBB in profits. Both will receive an equal "base salary". Then, an additional

total amount available to both partners will be decided ("incentive base"). The first partner will receive an additional amount, which will be one of the ratios  $\{AA/(AA+BB)\}$  or  $\{AAA/(AAA+BBB)\}$  multiplied by the incentive base.

The second partner will receive an additional amount, which will be one of the ratios  $\{BB/(AA+BB)\}$  or  $\{BBB/(AAA+BBB)\}$  multiplied by the same incentive base. A recalculation of the compensation packages will be done quarterly to reflect changes in revenues and in profits. In case the activity yields losses – it is better to use the revenues for calculation purposes. The profits should be used only when the firm is divided to clear profit and loss centres, which could be completely disentangled from each other.

All the above methods deal with partners whose contributions are NOT equal (one is more experienced, the other has more contacts, or a formal technological education, etc.). These solutions are also applicable when the partners DISAGREE concerning the valuation of their respective contributions. When the partners agree that they contribute equally, some basis can be agreed for calculating a fair compensation. For instance: the number of hours dedicated to the business, or even some arbitrary coefficient.

But whatever the method employed, when there is no such agreement between the partners, they should recognize each other's skills, talents and specific contributions. The compensation packages should never exceed what the shareholders can reasonably expect to get by way of dividends. Even the most envious person, if he knows that his partner can bring him in dividends more than he can ever hope for in compensation – will succumb to greed

and award his partner what he needs in order to produce those dividends.

[Return](#)

## *Moral Hazard and the Survival Value of Risk*

*Written May 2002*

*Updated June 2005*

Risk transfer is the gist of modern economies. Citizens pay taxes to ever expanding governments in return for a variety of "safety nets" and state-sponsored insurance schemes. Taxes can, therefore, be safely described as insurance premiums paid by the citizenry. Firms extract from consumers a markup above their costs to compensate them for their business risks.

Profits can be easily cast as the premiums a firm charges for the risks it assumes on behalf of its customers - i.e., risk transfer charges. Depositors charge banks and lenders charge borrowers interest, partly to compensate for the hazards of lending - such as the default risk. Shareholders expect above "normal" - that is, risk-free - returns on their investments in stocks. These are supposed to offset trading liquidity, issuer insolvency, and market volatility risks.

The reallocation and transfer of risk are booming industries. Governments, capital markets, banks, and insurance companies have all entered the fray with ever-evolving financial instruments. Pundits praise the virtues of the commodification and trading of risk. It allows entrepreneurs to assume more of it, banks to get rid of it, and traders to hedge against it. Modern risk exchanges liberated Western economies from the tyranny of the uncertain - they enthuse.



But this is precisely the peril of these new developments. They mass manufacture moral hazard. They remove the only immutable incentive to succeed - market discipline and business failure. They undermine the very fundamentals of capitalism: prices as signals, transmission channels, risk and reward, opportunity cost. Risk reallocation, risk transfer, and risk trading create an artificial universe in which synthetic contracts replace real ones and third party and moral hazards replace business risks.

Moral hazard is the risk that the behaviour of an economic player will change as a result of the alleviation of real or perceived potential costs. It has often been claimed that IMF bailouts, in the wake of financial crises - in Mexico, Brazil, Asia, and Turkey, to mention but a few - created moral hazard.

Governments are willing to act imprudently, safe in the knowledge that the IMF is a lender of last resort, which is often steered by geopolitical considerations, rather than merely economic ones. Creditors are more willing to lend and at lower rates, reassured by the IMF's default-staving safety net. Conversely, the IMF's refusal to assist Russia in 1998 and Argentina in 2002 - should reduce moral hazard.

The IMF, of course, denies this. In a paper titled "IMF Financing and Moral Hazard", published June 2001, the authors - Timothy Lane and Steven Phillips, two senior IMF economists - state:

***"... In order to make the case for abolishing or drastically overhauling the IMF, one must show ... that the moral hazard generated by the availability of IMF financing overshadows any potentially beneficial effects in mitigating crises ... Despite many assertions in policy***

***discussions that moral hazard is a major cause of financial crises, there has been astonishingly little effort to provide empirical support for this belief."***

Yet, no one knows how to measure moral hazard. In an efficient market, interest rate spreads on bonds reflect all the information available to investors, not merely the existence of moral hazard. Market reaction is often delayed, partial, or distorted by subsequent developments.

Moreover, charges of "moral hazard" are frequently ill-informed and haphazard. Even the venerable Wall Street Journal fell in this fashionable trap. It labeled the Long Term Capital Management (LTCM) 1998 salvage - "\$3.5 billion worth of moral hazard". Yet, no public money was used to rescue the sinking hedge fund and investors lost most of their capital when the new lenders took over 90 percent of LTCM's equity.

In an inflationary turn of phrase, "moral hazard" is now taken to encompass anti-cyclical measures, such as interest rates cuts. The Fed - and its mythical Chairman, Alan Greenspan - stand accused of bailing out the bloated stock market by engaging in an uncontrolled spree of interest rates reductions.

In a September 2001 paper titled "Moral Hazard and the US Stock Market", the authors - Marcus Miller, Paul Weller, and Lei Zhang, all respected academics - accuse the Fed of creating a "Greenspan Put". In a scathing commentary, they write:

***"The risk premium in the US stock market has fallen far below its historic level ... (It may have been) reduced by one-sided intervention policy on the part of the Federal Reserve which leads investors into the***

***erroneous belief that they are insured against downside risk ... This insurance - referred to as the Greenspan Put - (involves) exaggerated faith in the stabilizing power of Mr. Greenspan."***

Moral hazard infringes upon both transparency and accountability. It is never explicit or known in advance. It is always arbitrary, or subject to political and geopolitical considerations. Thus, it serves to increase uncertainty rather than decrease it. And by protecting private investors and creditors from the outcomes of their errors and misjudgments - it undermines the concept of liability.

The recurrent rescues of Mexico - following its systemic crises in 1976, 1982, 1988, and 1994 - are textbook examples of moral hazard. The Cato Institute called them, in a 1995 Policy Analysis paper, "palliatives" which create "perverse incentives" with regards to what it considers to be misguided Mexican public policies - such as refusing to float the peso.

Still, it can be convincingly argued that the problem of moral hazard is most acute in the private sector. Sovereigns can always inflate their way out of domestic debt. Private foreign creditors implicitly assume multilateral bailouts and endless rescheduling when lending to TBTF or TITF ("too big or too important to fail") countries. The debt of many sovereign borrowers, therefore, is immune to terminal default.

Not so with private debtors. In remarks made by Gary Stern, President of the Federal Reserve Bank of Minneapolis, to the 35th Annual Conference on Bank Structure and Competition, on May 1999, he said:

***"I propose combining market signals of risk with the***

***best aspects of current regulation to help mitigate the moral hazard problem that is most acute with our largest banks ... The actual regulatory and legal changes introduced over the period-although positive steps-are inadequate to address the safety net's perversion of the risk/return trade-off."***

This observation is truer now than ever. Mass-consolidation in the banking sector, mergers with non-banking financial intermediaries (such as insurance companies), and the introduction of credit derivatives and other financial innovations - make the issue of moral hazard all the more pressing.

Consider deposit insurance, provided by virtually every government in the world. It allows the banks to pay to depositors interest rates which do not reflect the banks' inherent riskiness. As the costs of their liabilities decline to unrealistic levels -banks misprice their assets as well. They end up charging borrowers the wrong interest rates or, more common, financing risky projects.

Badly managed banks pay higher premiums to secure federal deposit insurance. But this disincentive is woefully inadequate and disproportionate to the enormous benefits reaped by virtue of having a safety net. Stern dismisses this approach:

***"The ability of regulators to contain moral hazard directly is limited. Moral hazard results when economic agents do not bear the marginal costs of their actions. Regulatory reforms can alter marginal costs but they accomplish this task through very crude and often exploitable tactics. There should be limited confidence that regulation and supervision will lead to bank closures before institutions become insolvent. In***

***particular, reliance on lagging regulatory measures, restrictive regulatory and legal norms, and the ability of banks to quickly alter their risk profile have often resulted in costly failures."***

Stern concludes his remarks by repeating the age-old advice: caveat emptor. Let depositors and creditors suffer losses. This will enhance their propensity to discipline market players. They are also likely to become more selective and invest in assets which conform to their risk aversion.

Both outcomes are highly dubious. Private sector creditors and depositors have little leverage over delinquent debtors or banks. When Russia - and trigger happy Russian firms - defaulted on their obligations in 1998, even the largest lenders, such as the EBRD, were unable to recover their credits and investments.

The defrauded depositors of BCCI are still chasing the assets of the defunct bank as well as litigating against the Bank of England for allegedly having failed to supervise it. Discipline imposed by depositors and creditors often results in a "run on the bank" - or in bankruptcy. The presumed ability of stakeholders to discipline risky enterprises, hazardous financial institutions, and profligate sovereigns is fallacious.

Asset selection within a well balanced and diversified portfolio is also a bit of a daydream. Information - even in the most regulated and liquid markets - is partial, distorted, manipulative, and lagging. Insiders collude to monopolize it and obtain a "first mover" advantage.

Intricate nets of patronage exclude the vast majority of shareholders and co-opt ostensible checks and balances -

such as auditors, legislators, and regulators. Enough to mention Enron and its accountants, the formerly much vaunted firm, Arthur Andersen.

Established economic theory - pioneered by Merton in 1977 - shows that, counterintuitively, the closer a bank is to insolvency, the more inclined it is to risky lending. Nobuhiko Hibara of Columbia University demonstrated this effect convincingly in the Japanese banking system in his November 2001 draft paper titled "What Happens in Banking Crises - Credit Crunch vs. Moral Hazard".

Last but by no means least, as opposed to oft-reiterated wisdom - the markets have no memory. Russia has egregiously defaulted on its sovereign debt a few times in the last 100 years. Only seven years ago - in 1998 - it thumbed its nose with relish at tearful foreign funds, banks, and investors. Six years later, President Vladimir Putin dismantled Yukos, the indigenous oil giant and confiscated its assets, in stark contravention of the property rights of its shareholders.

Yet, Russia is besieged by investment banks and a horde of lenders begging it to borrow at concessionary rates. The same goes for Mexico, Argentina, China, Nigeria, Thailand, other countries, and the accident-prone banking system in almost every corner of the globe.

In many places, international aid constitutes the bulk of foreign currency inflows. It is severely tainted by moral hazard. In a paper titled "Aid, Conditionality and Moral Hazard", written by Paul Mosley and John Hudson, and presented at the Royal Economic Society's 1998 Annual Conference, the authors wrote:

***"Empirical evidence on the effectiveness of both***

***overseas aid and the 'conditionality' employed by donors to increase its leverage suggests disappointing results over the past thirty years ... The reason for both failures is the same: the risk or 'moral hazard' that aid will be used to replace domestic investment or adjustment efforts, as the case may be, rather than supplementing such efforts."***

In a May 2001 paper, tellingly titled "Does the World Bank Cause Moral Hazard and Political Business Cycles?" authored by Axel Dreher of Mannheim University, he responds in the affirmative:

***"Net flows (of World Bank lending) are higher prior to elections ... It is shown that a country's rate of monetary expansion and its government budget deficit (are) higher the more loans it receives ... Moreover, the budget deficit is shown to be larger the higher the interest rate subsidy offered by the (World) Bank."***

Thus, the antidote to moral hazard is not this legendary beast in the capitalistic menagerie, market discipline. Nor is it regulation. Nobel Prize winner Joseph Stiglitz, Thomas Hellman, and Kevin Murdock concluded in their 1998 paper - "Liberalization, Moral Hazard in Banking, and Prudential Regulation":

***"We find that using capital requirements in an economy with freely determined deposit rates yields ... inefficient outcomes. With deposit insurance, freely determined deposit rates undermine prudent bank behavior. To induce a bank to choose to make prudent investments, the bank must have sufficient franchise value at risk ... Capital requirements also have a perverse effect of increasing the bank's cost structure, harming the franchise value of the bank ... Even in an economy***

***where the government can credibly commit not to offer deposit insurance, the moral hazard problem still may not disappear."***

Moral hazard must be balanced, in the real world, against more ominous and present threats, such as contagion and systemic collapse. Clearly, some moral hazard is inevitable if the alternative is another Great Depression. Moreover, most people prefer to incur the cost of moral hazard. They regard it as an insurance premium.

Depositors would like to know that their deposits are safe or reimbursable. Investors would like to mitigate some of the risk by shifting it to the state. The unemployed would like to get their benefits regularly. Bankers would like to lend more daringly. Governments would like to maintain the stability of their financial systems.

The common interest is overwhelming - and moral hazard seems to be a small price to pay. It is surprising how little abused these safety nets are - as Stephane Pallage and Christian Zimmerman of the Center for Research on Economic Fluctuations and Employment in the University of Quebec note in their paper "Moral Hazard and Optimal Unemployment Insurance".

Martin Gaynor, Deborah Haas-Wilson, and William Vogt, cast in doubt the very notion of "abuse" as a result of moral hazard in their NBER paper titled "Are Invisible Hands Good Hands?":

***"Moral hazard due to health insurance leads to excess consumption, therefore it is not obvious that competition is second best optimal. Intuitively, it seems that imperfect competition in the healthcare market may constrain this moral hazard by increasing prices. We***



***show that this intuition cannot be correct if insurance markets are competitive.***

***A competitive insurance market will always produce a contract that leaves consumers at least as well off under lower prices as under higher prices. Thus, imperfect competition in healthcare markets can not have efficiency enhancing effects if the only distortion is due to moral hazard."***

Whether regulation and supervision - of firms, banks, countries, accountants, and other market players - should be privatized or subjected to other market forces - as suggested by the likes of Bert Ely of Ely & Company in the Fall 1999 issue of "The Independent Review" - is still debated and debatable. With governments, central banks, or the IMF as lenders and insurer of last resort - there is little counterparty risk. Or so investors and bondholders believed until Argentina thumbed its nose at them in 2003-5 and got away with it.

Private counterparties are a whole different ballgame. They are loth and slow to pay. Dismayed creditors have learned this lesson in Russia in 1998. Investors in derivatives get acquainted with it in the 2001-2 Enron affair. Mr. Silverstein was agonizingly introduced to it in his dealings with insurance companies over the September 11 World Trade Center terrorist attacks.

We may more narrowly define moral hazard as the outcome of asymmetric information - and thus as the result of the rational conflicts between stakeholders (e.g., between shareholders and managers, or between "principals" and "agents"). This modern, narrow definition has the advantage of focusing our moral outrage upon the culprits - rather than, indiscriminately, upon both villains

and victims.

The shareholders and employees of Enron may be entitled to some kind of safety net - but not so its managers. Laws - and social norms - that protect the latter at the expense of the former, should be altered post haste. The government of a country bankrupted by irresponsible economic policies should be ousted - its hapless citizens may deserve financial succor. This distinction between perpetrator and prey is essential.

The insurance industry has developed a myriad ways to cope with moral hazard. Co-insurance, investigating fraudulent claims, deductibles, and incentives to reduce claims are all effective. The residual cost of moral hazard is spread among the insured in the form of higher premiums. No reason not to emulate these stalwart risk traders. They bet their existence of their ability to minimize moral hazard - and hitherto, most of them have been successful.

### ***Note on Regulation***

Ultimately, the state is the mother of all insurers, the master policy, the supreme underwriter. When markets fail, insurance firm recoil, and financial instruments disappoint - the government is called in to pick up the pieces, restore trust and order and, hopefully, retreat more gracefully than it was forced to enter.

The state would, therefore, do well to regulate all financial instruments: deposits, derivatives, contracts, loans, mortgages, and all other deeds that are exchanged or traded, whether publicly (in an exchange) or privately. Trading in a new financial instrument should be allowed only after it was submitted for review to the appropriate regulatory authority; a specific risk model was constructed; and reserve requirements were established and applied to all the players in the financial services industry, whether they are banks or other types of intermediaries.

### ***Note on Risk Aversion***

Why are the young less risk-averse than the old?

One standard explanation is that youngsters have less to lose. Their elders have accumulated property, raised a family, and invested in a career and a home. Hence their reluctance to jeopardize it all.

But, surely, the young have a lot to forfeit: their entire future, to start with. Time has money-value, as we all know. Why doesn't it factor into the risk calculus of young people?

It does. Young people have more time at their disposal in

which to learn from their mistakes. In other words, they have a longer horizon and, thus, an exponentially extended ability to recoup losses and make amends.

Older people are aware of the handicap of their own [mortality](#). They place a higher value on time (their temporal utility function is different), which reflects its scarcity. They also avoid risk because they may not have the time to recover from an erroneous and disastrous gamble.

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*Also Read:*

[\*The Business of Risk\*](#)

[Return](#)

## *The Agent-Principal Conundrum*

In the catechism of capitalism, shares represent the part-ownership of an economic enterprise, usually a firm. The value of shares is determined by the replacement value of the assets of the firm, including intangibles such as goodwill. The price of the share is determined by transactions among arm's length buyers and sellers in an efficient and liquid market. The price reflects expectations regarding the future value of the firm and the stock's future stream of income - i.e., dividends.

Alas, none of these oft-recited dogmas bears any resemblance to reality. Shares rarely represent ownership. The float - the number of shares available to the public - is frequently marginal. Shareholders meet once a year to vent and disperse. Boards of directors are appointed by management - as are auditors. Shareholders are not represented in any decision making process - small or big.

The dismal truth is that shares reify the expectation to find future buyers at a higher price and thus incur capital gains. In the Ponzi scheme known as the stock exchange, this expectation is proportional to liquidity - new suckers - and volatility. Thus, the price of any given stock reflects merely the consensus as to how easy it would be to offload one's holdings and at what price.

Another myth has to do with the role of managers. They are supposed to generate higher returns to shareholders by increasing the value of the firm's assets and, therefore, of the firm. If they fail to do so, goes the moral tale, they are

booted out mercilessly. This is one manifestation of the "Principal-Agent Problem". It is defined thus by the Oxford Dictionary of Economics:

"The problem of how a person A can motivate person B to act for A's benefit rather than following (his) self-interest."

The obvious answer is that A can never motivate B not to follow B's self-interest - never mind what the incentives are. That economists pretend otherwise - in "optimal contracting theory" - just serves to demonstrate how divorced economics is from human psychology and, thus, from reality.

Managers will always rob blind the companies they run. They will always manipulate boards to collude in their shenanigans. They will always bribe auditors to bend the rules. In other words, they will always act in their self-interest. In their defense, they can say that the damage from such actions to each shareholder is minuscule while the benefits to the manager are enormous. In other words, this is the rational, self-interested, thing to do.

But why do shareholders cooperate with such corporate brigandage? In an important Chicago Law Review article whose preprint was posted to the Web a few weeks ago - titled "Managerial Power and Rent Extraction in the Design of Executive Compensation" - the authors demonstrate how the typical stock option granted to managers as part of their remuneration rewards mediocrity rather than encourages excellence.

But everything falls into place if we realize that shareholders and managers are allied against the firm - not pitted against each other. The paramount interest of both

shareholders and managers is to increase the value of the stock - regardless of the true value of the firm. Both are concerned with the performance of the share - rather than the performance of the firm. Both are preoccupied with boosting the share's price - rather than the company's business.

Hence the inflationary executive pay packets. Shareholders hire stock manipulators - euphemistically known as "managers" - to generate expectations regarding the future prices of their shares. These snake oil salesmen and snake charmers - the corporate executives - are allowed by shareholders to loot the company providing they generate consistent capital gains to their masters by provoking persistent interest and excitement around the business. Shareholders, in other words, do not behave as owners of the firm - they behave as free-riders.

The Principal-Agent Problem arises in other social interactions and is equally misunderstood there. Consider taxpayers and their government. Contrary to conservative lore, the former want the government to tax them providing they share in the spoils. They tolerate corruption in high places, cronyism, nepotism, inaptitude and worse - on condition that the government and the legislature redistribute the wealth they confiscate. Such redistribution often comes in the form of pork barrel projects and benefits to the middle-class.

This is why the tax burden and the government's share of GDP have been soaring inexorably with the consent of the citizenry. People adore government spending precisely because it is inefficient and distorts the proper allocation of economic resources. The vast majority of people are rent-seekers. Witness the mass demonstrations that erupt whenever governments try to slash expenditures,

privatize, and eliminate their gaping deficits. This is one reason the IMF with its austerity measures is universally unpopular.

Employers and employees, producers and consumers - these are all instances of the Principal-Agent Problem. Economists would do well to discard their models and go back to basics. They could start by asking:

Why do shareholders acquiesce with executive malfeasance as long as share prices are rising?

Why do citizens protest against a smaller government - even though it means lower taxes?

Could it mean that the interests of shareholders and managers are identical? Does it imply that people prefer tax-and-spend governments and pork barrel politics to the Thatcherite alternative?

Nothing happens by accident or by coercion. Shareholders aided and abetted the current crop of corporate executives enthusiastically. They knew well what was happening. They may not have been aware of the exact nature and extent of the rot - but they witnessed approvingly the public relations antics, insider trading, stock option resetting, unwinding, and unloading, share price manipulation, opaque transactions, and outlandish pay packages. Investors remained mum throughout the corruption of corporate America. It is time for the hangover.



## *Trading in Sovereign Promises*

Martin Schubert and his New-York (now Miami) based investment boutique, European Inter-American Finance, in joint venture with Merrill Lynch and Aetna, pioneered the private trading of sovereign obligations of emerging market economies, including those in default. In conjunction with private merchant banks, such as Singer Friedlander in the United Kingdom, he conjured up liquidity where there was none and captured the imagination of businesses on both sides of the Atlantic.

Today, his vision is vindicated by the proliferation of ventures similar to his and by the institutionalization of the emerging economies sovereign debt market. Even obligations of countries such as Serbia and Iraq are traded, though sporadically. Recently, according to Dow Jones, Iraqi debt doubled itself and is now changing hands at about 15 to 20 cents to the dollar.

The demand is so overwhelming that Geneva-based brokerage firm Trigone Capital Finance created a special fund to provide interested investors with exposure to Iraqi paper. Nor is the enthusiasm confined to this former member of the axis of evil. Yugoslav debt is firm at 50 cents, despite recent political upheavals, including the assassination of the reformist and pro-Western prime minister.

Emerging market sovereign debts are irresistible. Some of them now yield 1000 basis points above comparable US Treasuries. The mean spread, according to JP Morgan's Emerging Markets Bond Index Plus is c. 600 points. Corporate securities are even further in the stratosphere.

But with frenzied buying all around, returns have been declining precipitously in the last few weeks. Investors in emerging market bonds saw average profits of 10 percent this year - masking a surge of 30 percent in Brazilian and Ecuadorian paper, for instance. JP Morgan Chase's EMBI Global index is up 19 percent since September 2002.

Nor is this a new trend. The EMBI Global Index has witnessed in each of the last four years an average gain of 14 percent. According to Bloomberg, the assets of emerging market debt funds surged by one tenth since the beginning of the year, or \$948 million - compared to \$648 received during throughout last year.

The party is on. Emerging market debt is either traded on various exchanges or brokered privately to wealthy or institutional clientele. The obligations fall into categories too numerous to mention: insured and uninsured credits, defaulted or performing, corporate against municipal or sovereign and so on.

A dominant class of obligations is called "Brady bonds" after the former U.S. Treasury Secretary Nicholas Brady. These securities are the outcomes of the rescheduling of commercial bank loans (sometimes defaulted) to developing nations. The principal of the rescheduled debt - guaranteed by U.S. zero coupon Treasuries deposited by the original issuer in the Federal Reserve or some other credible institution - remains to be fully paid. The interest accrued on the principal until the moment of rescheduling is reduced and the term of payment is prolonged.

Brady countries include Venezuela, Brazil, Argentina, Ecuador and Mexico, to name just a few. The bonds have been trading since 1989. Only one Brady bond has ever defaulted (Ecuador). No interest payment was ever missed

or skipped.

As Nazibrola Lordkipanidze and Glenn C. W. Ames observe in their paper, "Hedging Emerging Market Debt", the terms of individual Brady packages vary. Individual countries have issued as few as one, and as many as eight different bonds, each of which can vary with respect to maturity, fixed or floating coupons, amortization schedules, and the degree to which principal and interest payments are collateralized.

The market is besieged by - mostly offshore - mutual funds managed by the likes of Pacific Investment Management Company (PIMCO), AllianceBernstein, Scudder Investments, MFS Investment Management and Mainstay Investment Management.

Emerging market debt attracted entrepreneurial fund managers who set up nimble and agile shops. Ashmore Investment Management was divested to its current owners by Australia & New Zealand Banking Group. Despite the obvious shortcomings of its size - limited access to information and research - it runs a successful Russian fund, among others.

When the United Kingdom based firms, Garban Securities and Intercapital Securities, merged late in 1999, they transferred their illiquid emerging market securities businesses into a common vehicle, Exotix. The new outfit's team was poached from the trading side of emerging markets divisions of various investment banks. Exotix brokers the purchase and sale of fixed income products from risky countries.

Maxcor Financial, a broker-dealer subsidiary of Maxcor Financial Group, is an inter-dealer broker of various

securities products, including emerging market debt. It also conducts institutional sales and trading operations in high yield and distressed debt. AIG Trading, of the AIG group, maintains a full-fledged emerging markets team. It boasts of "senior level contacts within many central banks, allowing us to provide rare insight".

Other outfits stay out of the limelight and offer discrete services, custom-tailored to the needs of particular clients. The Weston Group, in operation since 1988, is active in the Mexican market. It does underwriting, private placements and structured finance.

Companies such as Omni Whittington have specialized in "debt recovery" - the placement and conversion of defaulted bank and trade debt from political risk countries. They buy bad debt through a dedicated investment fund, collect on non-performing credits (on a "no cure, no pay" basis) and manage portfolios of loans gone sour, including the negotiation of their rescheduling.

Vulture funds are financial firms that purchase sovereign debt at a considerable disaggio and then demand full payment from the issuing country. A single transaction with a solitary series of heavily discounted promissory notes can wipe out the entire benefit afforded by much-touted international debt relief schemes and obstruct debt rescheduling efforts.

One sure sign of this niche's growing importance is the proliferation of conferences, consultancies, seminars, trade publications and books. Banks and law and accounting firms have set up dedicated departments to tackle the juridical and commercial intricacies of defaulted debt, both corporate and sovereign. International law is adapting itself through a growing body of

legislation and precedents. Moody's Investors Service, Standard & Poor's and Fitch regularly rate emerging market issues.

**RBC Investment Services (Asia)**, a business unit of the Royal Bank Financial Group, a Canadian investment bank, advises its clients in their investments in Bradys. Union des Banques Arabes et Francaises, 44 percent owned by Credit Lyonnais and the rest by Arab banks, including the Iraqi Rafidain, is an aggressive buyer of Iraqi and other Middle Eastern debt.

But the market is still immature and inefficient. In an address to the Sovereign Debt Restructuring Mechanism Conference earlier this year, Kenneth Rogoff, Research Director of the International Monetary Fund surveyed the scorched landscape:

"Private debt flows to emerging markets (produce) wild booms, spectacular crashes, over indebtedness, excessive reliance on short-term and foreign-currency denominated debt, and protracted stagnation following a debt crisis. Emerging economies' governments ... sometimes borrow more than is good for their citizens (and are) ... sometimes willing to take on excessive risk to save on interest costs. On the investor side, there is often a reluctance to hold instruments that would provide for more flexibility and risk sharing, such as GDP-indexed bonds, domestic equity, and local currency debt—in part, because of poor policy credibility and weak domestic institutions. The result is an excessive reliance on 'dangerous' forms of debt, such as foreign-currency denominated debt and short-term debt, which aggravate the pain of crises when they occur."

Weak property rights, uncertain debt recovery

mechanisms, political risks, excessive borrowing, collective action problems among creditors and moral hazard are often associated with credit-insatiable emerging economies, failed states, erstwhile empires, developing countries and polities in transition.

Signs of trouble abound from Turkey to Bolivia and from Paraguay to Africa. Nigerian President Olusegun Obasanjo said last July that paying civil servants was more important than avoiding default on the country's \$30 billion debt. Its Supreme Court ruled in April 2002 that it is unconstitutional to pay down the external debt before all other government expenses. Nor would that be the first time Nigeria reneges. The Paris Club of creditor countries has been rescheduling its debts repeatedly.

This is not to mention Argentina. Its corporate sector missed \$4.6 billion in payments in the last six months alone and the country defaulted on a whopping \$95 billion in obligations. The conduct of debtors, transparency and accountability are not improving either. Russia all but withheld information regarding a French lawsuit in a plan to swap \$3.1 billion in new Eurobonds for about \$6 billion of defaulted Soviet-era debt.

The status of creditors is under further strains by the repeated floating of schemes to put in place some kind of sovereign bankruptcy mechanism. The Bush administration proposed to modify all sovereign debt contracts pertaining to all forms of debt to allow for majority decision making, the pro-rata sharing of disproportionate payments received by one creditor among all others and structured, compulsory discussions led by creditor committees.

The IMF's First Deputy Managing Director, Anne

Krueger, countered, in November 2001, with the idea to allow countries to go bankrupt within a Sovereign Debt Restructuring Mechanism (SDRM). Legal action by creditors will be "stayed" while the country gets its financial affairs in order and obtains supplemental funding. Such an approach makes eminent sense.

In opening remarks to the Council of the Americas in November 2001, Martin Schubert offered these observations:

"Talk of adopting bankruptcy procedure protection for governments ... similar to that employed by private companies, could be the match that lights the fire, due to the conflicts such a standstill would create. Moreover, what government debtor would be willing or able to assign assets to a trustee or assignee in bankruptcy, for the benefit of creditors?"

But investors never learn. In a world devoid of attractive investment options, they keep ploughing their money into the high-yield scenes of financial crimes committed against them. This self-defeating tendency is reinforced by the general stampede from equities to bonds and by the slow-motion implosion of the US dollar, partly as a result. Until the next major default, that is.

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*Also Read:*

[\*The Bankrupt Sovereign\*](#)

[\*The Demonetization of the East\*](#)

[\*O'Neill's Free Dinner - America's Current Account Deficit\*](#)

[\*The Delicate Art of Balancing the Budget\*](#)

*Economic Management in a State of War*

*Governments and Growth*

*Iraq's Reconstruction - Payback Time*

[Return](#)



***Portfolio Management Theory  
And Technical Analysis  
Lecture Notes***

**The Bill of Rights of the Investor**

1. To earn a positive return (=yield) on their capital.
2. To insure his investments against risks (=to hedge).
3. To receive information identical to the that of ALL other investors - complete, accurate and timely and to form independent judgement based on this information.
4. To alternate between investments - or be compensated for diminished liquidity.
5. To study how to carefully and rationally manage his portfolio of investments.
6. To compete on equal terms for the allocation of resources.
7. To assume that the market is efficient and fair.

# RISK

1. The difference between asset-owners, investors and speculators.
2. Income: general, free, current, projected (expectations), certain, uncertain.
3. CASE A (=pages 3 and 4)
4. The solutions to our FIRST DISCOVERY are called: "The Opportunities Set"
5. The "INDIFFERENCE CURVE" or the "UTILITY CURVE"  
{SHOW THREE DIAGRAMS}
6. The OPTIMAL SOLUTION (=maximum consumption in both years).
7. The limitations of the CURVES:
  - a. More than one investment alternative;
  - b. Future streams of income are not certain;
  - c. No investments is riskless;
  - d. Risk=uncertainty;
  - e. FREQUENCY FUNCTIONS.
8. CASE B

## CASE A

INVESTOR A has secured income of \$20,000 p.a. for the next 2 years.

One investment alternative: a savings account yielding 3% p.a.

(in real terms = above inflation or inflation adjusted).

One borrowing alternative: unlimited money at 3% interest rate

(in real terms = above inflation or inflation adjusted).

### **MR. SPENDER**

Will spend \$20,000 in year 1

and \$20,000 in year 2

and save \$ 0

### **MR. SPENDTHRIFT**

Will save \$20,000 in year 1 (=give up his liquidity)

and spend this money

plus 3% interest \$600

plus \$20,000 in year 2 (=\$40,600)

## **MR. BIG PROBLEM**

Will spend \$20,000 in year 1

plus lend money against his income in year 2

He will be able to lend from the banks a maximum of:

\$19,417 (+3% = \$20,000)

## **HIDDEN ASSUMPTIONS IN MR. BIG PROBLEM'S CASE:**

1. That he will live on long enough to pay back his debts.
2. That his income of \$20,000 in the second year is secure.
3. That this is a stable, certain economy and, therefore, interest rates will remain at the same level.

## **THE CONCEPT OF NET PRESENT VALUE**

Rests on the above three assumptions (Keynes' theorem about the long run).

\$19,417 is the NPV of \$20,000 in one year with 3%.

## **OUR FIRST DISCOVERY:**

**THE CONSUMPTION IN THE SECOND YEAR =**

**THE INCOME IN THE SECOND YEAR +**

**{Money Saved in the First Year X (1 + the interest rate)}**

## **CASE B**

1. The concept of scenarios (Delphi) and probabilities

2. **THE MEAN VALUE OF AN ASSET'S YIELD =**  
**SUM {YIELDS IN DIFFERENT SCENARIOS X**  
**PROBABILITIES OF THE SCENARIOS}**

{SHOW TABLE - p14}

3. The properties of the Mean Value:

4. The mean of the multiplications of a Constant in the yields equals the multiplication of the Constant in the Mean Value of the yields.

5. The Mean of the yields on two types of assets = The Sum of the Means of each asset calculated separately  
{SHOW TABLE - p16}

6. Bi-faceted securities: the example of a convertible bond.

{SHOW TABLE - p16}

7. **VARIANCE** and **STANDARD DEVIATION** as measures of the difference between mathematics and reality.

They are the measures of the frustration of our expectations.

{Calculation - p17}

## 8. **THE RULE OF PREFERENCE:**

We will prefer a security with the highest Mean Value plus the lowest Standard Deviation.

9. The **PRINCIPLE OF DIVERSIFICATION** of the investment portfolio: The Variance of combined assets may be less than the variance of each asset separately.

{Calculation - p18}

## 10. **THE FOUR PILLARS OF DIVERSIFICATION:**

- a. The yield provided by an investment in a portfolio of assets will be closer to the Mean Yield than an investment in a single asset.
- b. When the yields are independent - most yields will be concentrated around the Mean.
- c. When all yields react similarly - the portfolio's variance will equal the variance of its underlying assets.
- d. If the yields are dependent - the portfolio's variance will be equal to or less than the lowest variance of one of the underlying assets.

11. Calculating the Average Yield of an Investment Portfolio.

{Calculation - pp. 18 - 19}

12. Short - cutting the way to the Variance:

**PORTFOLIO COVARIANCE** - the influence of events on the yields of underlying assets.

{Calculation - p19}

13. Simplifying the Covariance - the Correlation Coefficient.

{Calculation - p19}

14. Calculating the Variance of multi-asset investment portfolios.

{Calculations - p19 - 20}

OR	DESCRIPTION	PROPERTY	UT
ance	<b>Invests more in risky assets as his capital grows</b>	<b>Derivative of avoidance of absolute risk <math>&lt; \mathcal{A}E</math></b>	<b>Natural capital</b>
of	<b>Doesn't change his investment in risky assets as capital grows</b>	<b>Derivative = <math>\mathcal{A}E</math></b>	<b>(-1) (e) n constant capital</b>
e of	<b>Invests less in risky assets as his capital grows</b>	<b>Derivative <math>&gt; \mathcal{A}E</math></b>	<b>(Capital (Consta</b>
ance	<b>Percentage invested in risky assets grows with capital growth</b>	<b>Derivative <math>&lt; \mathcal{A}E</math></b>	<b>(-1) (e) s square n</b>
of	<b>Percentage invested in risky assets unchanged as capital grows</b>	<b>Derivative = <math>\mathcal{A}E</math></b>	<b>Natural capital</b>
e of	<b>Percentage invested in risky assets decreases with capital growth</b>	<b>Derivative <math>&gt; \mathcal{A}E</math></b>	<b>Capital (Capital</b>

## THE EFFICIENT MARKET

1. The tests: lenient, quasi - rigorous, rigorous
2. The relationship between information and yield
3. Insiders and insiders - trading
4. The Fair Play theorem
5. The Random Walk Theory
6. The Monte Carlo Fallacy
7. Structures - Infra and hyper
8. Market (price) predictions
  - a. The Linear Model
  - b. The Logarithmic Model
  - c. The Filter Model
  - d. The Relative Strength Model
  - e. Technical Analysis
9. Case study: split and reverse split
10. Do-s and Don't Do-s: a guide to rational behaviour

### **MORE:**

1. Efficient Market: The price of the share reflects all available information.
2. The Lenient Test: Are the previous prices of a share reflected in its present price?



3. The Quasi - Rigorous Test: Is all the publicly available information fully reflected in the current price of a share?

4. The Rigorous Test: Is all the (publicly and privately) available information fully reflected in the current price of a share?

5. A positive answer would prevent situations of excess yields.

6. The main question: how can an investor increase his yield (beyond the average market yield) in a market where all the information is reflected in the price?

7. The Lenient version: It takes time for information to be reflected in prices.

Excess yield could have been produced in this time - had it not been so short.

The time needed to extract new information from prices =  
The time needed for the information to be reflected.

The Lenient Test: will act after the price has changed - provide excess yield.

8. The Quasi - Rigorous version: A new price (slightly deviates from equilibrium) is established by buyers and sellers when they learn the new information.

The QR Test: will act immediately on news provide excess yield?

Answer: No. On average, the investor will buy at equilibrium convergent price.

9. The Rigorous version: Investors cannot establish the "paper" value of a firm following new information. Different investors will form different evaluations and

will act in unpredictable ways. This is "The Market Mechanism". If a right evaluation was possible - everyone would try to sell or buy at the same time.

The Rigorous Test: Is it at all possible to derive excess yield from information? Is there anyone who received excess yields?

10. New technology for the dissemination of information, professional analysis and portfolio management and strict reporting requirements and law enforcement - support the Rigorous version.

11. The Lenient Version: Analysing past performance (=prices) is worthless.

The QR Version: Publicly available information is worthless.

The Rigorous version: No analysis or portfolio management is worth anything.

12. The Fair Play Theorem: Since an investor cannot predict the equilibrium, he cannot use information to evaluate the divergence of (estimated) future yields from the equilibrium. His future yields will always be consistent with the risk of the share.

13. Insider - Trading and Arbitrageurs.

14. Price predictive models assume:

(a) The yield is positive and (b) High yield is associated with high risk.

15. Assumption (a) is not consistent with the Lenient Version.

16. Random Walk Theory (RWT):

- a. Current share prices are not dependent on yesterday's or tomorrow's prices.
- b. Share prices are equally distributed over time.

17. The Monte Carlo Fallacy and the Stock Exchange (no connection between colour and number).

18. The Fair Play Theorem does not require an equal distribution of share prices over time and allows for the possibility of predicting future prices (e.g., a company deposits money in a bank intended to cover an increase in its annual dividends).

19. If RWT is right (prices cannot be predicted) - the Lenient Version is right (excess yields are impossible). But if the Lenient Version is right - it does not mean that RWT is necessarily so.

20. The Rorschach tendency to impose patterns (cycles, channels) on totally random graphic images.

The Elton - Gruber experiments with random numbers and newly - added random numbers.

No difference between graphs of random numbers - and graphs of share prices.

21. Internal contradiction between assumption of "efficient market" and the ability to predict share prices, or price trends.

22. The Linear Model

P = Price of share; C = Counter; ED P = Expected difference (change) in price

DP = Previous change in price; R = Random number

$$P_a - P_{a-1} = (ED P + D P / ED P) \cdot (P_{a-1-c} - P_{a-2-c} + R)$$

Using a correlation coefficient.

### 23. The Logarithmic Model

$(\log CP_n) / (\log CP_{n-1}) = \text{Cumulative yield } CP =$   
Closing Price

Sometimes instead of CP, we use:  $D P / (div/P) D P =$   
Price change div = dividend

24. These two models provide identical results - and they explain less than 2% of the change in share prices.

25. To eliminate the influence of very big or small numbers - some analyse only the + and - signs of the price changes

Fama and Macbeth proved the statistical character of sign clusters.

26. Others say that proximate share prices are not connected - but share prices are sinusoidally connected over time.

Research shows faint traces of seasonality.

27. Research shows that past and future prices of shares are connected with transaction costs. The higher the costs - the higher the (artificial) correlation (intended to, at least, cover the transaction costs).

### 28. The Filter (Technical Analysis) Model

Sophisticated investors will always push prices to the point of equilibrium.

Shares will oscillate within boundaries. If they break them, they are on the way to a new equilibrium. It is a question of timing.

29. Is it better to use the Filter Model or to hold onto a share or onto cash?

Research shows: in market slumps, continuous holders were worse off than Filter users and were identical with random players.

This was proved by using a mirror filter.

30. The filter Model provides an excess yield identical to transaction costs.

Fama - Blum: the best filter was 0,5%. For the purchase side -1%, 1,5%.

Higher filters were better than constant holding ("Buy and Hold Strategy") only in countries with higher costs and taxes.

31. Relative Strength Model

$(CP) / (AP) = RS$  CP = Current price AP = Average in X previous weeks

- a. Divide investment equally among highest RS shares.
- b. Sell a share whose RS fell below the RS' of X% of all shares Best performance is obtained when: "highest RS" is 5% and X% = 70%.

32. RS models instruct us to invest in upwardly volatile stocks - high risk.

33. Research: RS selected shares (=sample) exhibit yields identical to the Group of stocks it was selected from.

When risk adjusted - the sample's performance was inferior (higher risk).

34. Short term movements are more predictable.

Example: the chances for a reverse move are 2-3 times bigger than the chances for an identical one.

35. Brunch: in countries with capital gains tax - people will sell losing shares to materialize losses and those will become underpriced.

They will correct at the beginning of the year but the excess yield will only cover transaction costs, (The January effect).

36. The market reacts identically (=efficiently) to all forms of information.

37. Why does a technical operation (split / reverse split) influence the price of the share (supposed to reflect underlying value of company)?

Split - a symptom of changes in the company. Shares go up before a split was conceived - so split is reserved for good shares (dividend is increased). There is excess yield until the split - but it is averaged out after it.

38. There is considerable gap (upto 2 months) between the announcement and the split. Research shows that no excess yield can be obtained in this period.

39. The same for M & A

40. The QR Version: excess yields could be made on private information.

Research: the influence of Wall Street Journal against the influence of market analyses distributed to a select public.

WSJ influenced the price of the stocks - but only that day.

41. The Rigorous Version: excess yields cannot be made on insider information.

How to test this - if we do not know the information?  
Study the behaviour of those who have (management, big players).

Research shows that they do achieve excess yields.

#### 42. Do's and Don'ts

- a. Select your investments on economic grounds.  
Public knowledge is no advantage.
- b. Buy stock with a disparity and discrepancy between the situation of the firm - and the expectations and appraisal of the public  
(Contrarian approach vs. Consensus approach).
- c. Buy stocks in companies with potential for surprises.
- d. Take advantage of volatility before reaching a new equilibrium.
- e. Listen to rumours and tips, check for yourself.

### **Profitability and Share Prices**

1. The concept of a the business firm - ownership, capital and labour.
2. Profit - the change in an assets value (different forms of change).
3. Financial statements: Balance Sheet, PNL, Cash Flow, Consolidated - a review.
4. The external influences on the financial statements - the cases of inflation, exchange rates, amortization / depreciation and financing

expenses.

5. The correlation between share price performance and profitability of the firms.
6. Market indicators: P/E, P/BV (Book Value).
7. Predicting future profitability and growth.

## **Bonds**

1. The various types of bonds: bearer and named;
2. The various types of bonds: straight and convertible;
3. The various types of bonds (according to the identity of the issuer);
4. The structure of a bond: principal (face), coupon;
5. Stripping and discounting bonds;
6. (Net) Present Value;
7. Interest coupons, yields and the pricing of bonds;
8. The Point Interest Rate and methods for its calculation (discrete and continuous);
9. Calculating yields: current and to maturity;
10. Summing up: interest, yield and time;
11. Corporate bonds;
12. Taxation and bond pricing;
13. Options included in the bonds.



## The Financial Statements

### 1. The Income Statement

revenues, expenses, net earning (profits)

### 2. Expenses

Costs of goods sold I Operating expenses

General and administrative (G & A) expenses I (including depreciation)

Interest expenses

### Taxes

3. Operating revenues - Operating costs = Operating income

4. Operating income + Extraordinary, nonrecurring item =  
= Earning Before Interest and Taxes (EBIT)

5. EBIT - Net interest costs = Taxable income

6. Taxable income - Taxes = Net income (Bottom line)

### 7. The Balance Sheet

Assets = Liabilities + Net worth (Stockholders' equity)

8. Current assets = Cash + Deposits + Accounts receivable  
+

+ Inventory current assets + Long term assets = Total Assets

### Liabilities

Current (short term) liabilities = Accounts payable +  
Accrued taxes + Debts +

+ Long term debt and other liabilities = Total liabilities

9. Total assets - Total liabilities = Book value
10. Stockholders' equity = Par value of stock + Capital surplus + Retained surplus
11. Statement of cash flows (operations, investing, financing)
12. Accounting Vs. Economics earnings (Influenced by inventories depreciation, Seasonality and business cycles, Inflation, extraordinary items)
13. Abnormal stock returns are obtained where actual earnings deviate from projected earnings (SUE - Standardized unexpected earnings).
14. The job of the security analyst: To study past data, Eliminate <sup>2</sup> "noise" and form expectations about future dividends and earning that determine the intrinsic value (and the future price) of a stock.
15. Return on equity (ROE) = Net Profits / Equity
16. Return on assets (ROA) = EBIT / Assets
17. ROE = (1-Tax rate) [ROA + (ROA - Interest rate) × Debt / Equity]
18. Increased debt will positively contribute to a firm's ROE if its ROA exceeds the interest rate on the debt (Example)
19. Debt makes a company more sensitive to business cycles and the company carries a higher financial risk.
20. The Du Pont system  

$$\text{ROE} = \text{Net Profit/Pretax Profit} \times \text{Pretax Profit/EBIT} \times \text{EBIT/Sales} \times \text{Sales/Assets} \times \text{Assets/Equity}$$

(1) (2) (3) (4) (5)

21. Factor 3 (Operating profit margin or return on sales) is ROS

22. Factor 4 (Asset turnover) is ATO

23. Factor 3  $\times$  Factor 4 = ROA

24. Factor 1 is the Tax burden ratio

25. Factor 2 is the Interest burden ratio

26. Factor 5 is the Leverage ratio

27. Factor 6 = Factor 2  $\times$  Factor 5 is the Compound leverage factor

28. ROE = The burden  $\times$  ROA  $\times$  Compound leverage factor

29. Compare ROS and ATO Only within the same industry!

30. Fixed asset turnover = Sales / Fixed assets

31. Inventory turnover ratio = Cost of goods sold / Inventory

32. Average collection period (Days receivables) = Accounts receivables / Sales  $\times$  365

33. Current ratio = Current assets / Current liabilities

34. Quick ratio = (Cash + Receivables) / Current liabilities is the Acid test ratio

35. Interest coverage ratio (Times interest earned) = EBIT / Interest expense

36. P / B ratio = Market price / Book value
37. Book value is not necessarily Liquidation value
38. P / E ratio = Market price / Net earnings per share (EPS)
39. P / E is not P / E Multiple (Emerges from DDM - Discounted dividend models)
40. Current earnings may differ from Future earnings
41. ROE =  $E / B = P/B / P/E$
42. Earnings yield =  $E / P = ROE / P/B$
43. The GAAP - Generally accepted accounting principles - allows different representations of leases, inflation, pension costs, inventories and depreciation.
44. Inventory valuation:  
Last In First Out (LIFO)  
First In First Out (FIFO)
45. Economic depreciation - The amount of a firm's operating cash flow that must be re-invested in the firm to sustain its real cash flow at the current level.
- Accounting depreciation (accelerated, straight line) - Amount of the original acquisition cost of an asset allocated to each accounting period over an arbitrarily specified life of the asset.
46. Measured depreciation in periods of inflation is understated relative to replacement cost.
47. Inflation affects real interest expenses (deflates the

statement of real income), inventories and depreciation (inflates).

[Graham's Technique]

## **B O N D S**

1. BOND - IOU issued by Borrower (=Issuer) to Lender

2. PAR VALUE (=Face Value)

COUPON (=Interest payment)

3. The PRESENT VALUE (=The Opportunity Cost)

$1 / (1+r)^n$   $r$  = interest rate  $n$  = years

4. ANNUITY CALCULATIONS and the INFLUENCE OF INTEREST RATES:

$n$

$P_b = \sum_{t=1}^n C / (1+r)^t + PAR / (1+r)^n$   $P_b$  = Price of the Bond

$t=1$   $C$  = Coupon

PAR = Principal payment

$n$  = number of payments

5. BOND CONVEXITY - an increase in interest rates results in a price decline that is smaller than the price gain resulting from a decrease of equal magnitude in interest rates.

## **YIELD CALCULATIONS**

1. YIELD TO MATURITY (IRR) = YTM
2. ANNUALIZED PERCENTAGE RATE (APR) = YTM  
 ' Number of periods in 1 year
3. EFFECTIVE ANNUAL YIELD (EAY) TO MATURITY =  $[(1+r)^n - 1]$   
 n = number of periods in 1 year
4. CURRENT YIELD (CY) =  $C / P_b$
5. COUPON RATE (C)
6. BANK DISCOUNT YIELD (BDY) =  $(PAR - P_b) / PAR \cdot 360 / n$   
 n = number of days to maturity
7. BOND EQUIVALENT YIELD (BEY) =  $(PAR - P_b) / P_b \cdot 365 / n$
8.  $BEY = 365 \cdot BDY / 360 - (BDY \cdot n)$
9.  $BDY < BEY < EAY$
10. FOR PREMIUM BOND:  $C > CY > YTM$  (Loss on  $P_b$  relative to par)

### **TYPES OF BONDS**

1. Zero coupons, stripping
2. Appreciation of Original issue discount (OID)
3. Coupon bonds, callable

4. Invoice price = Asked price + Accrued interest
5. Appreciation / Depreciation and: Market interest rates, Taxes, Risk (Adjustment)

## **BOND SAFETY**

1. Coverage ratios
2. Leverage ratios
3. Liquidity ratios
4. Profitability ratios
5. Cash flow to debt ratio
6. Altman's formula (Z-score) for predicting bankruptcies:  
 $Z = 3,3 \text{ times EBIT} / \text{TOTAL ASSETS} + 99,9 \text{ times SALES} / \text{ASSETS} +$   
 $+ 0,6 \text{ times MARKET VALUE EQUITY} / \text{BOOK VALUE OF DEBT} +$   
 $+ 1,4 \text{ times RETAINED EARNINGS} / \text{TOTAL ASSETS}$   
 $+$   
 $+ 1,2 \text{ times WORKING CAPITAL} / \text{TOTAL ASSETS}$

## **MACROECONOMY**

1. Macroeconomy - the economic environment in which all the firms operate

## 2. Macroeconomic Variables:

GDP (Gross Domestic Product) or Industrial Production - vs. GNP

Employment (unemployment, underemployment) rate(s)

Factory Capacity Utilization Rate

Inflation (vs. employment, growth)

Interest rates (=increase in PNV factor)

Budget deficit (and its influence on interest rates & private borrowing)

Current account & Trade deficit (and exchange rates)

"Safe Haven" attributes (and exchange rates)

Exchange rates (and foreign trade and inflation)

Tax rates (and investments / allocation, and consumption)

Sentiment (and consumption, and investment)

## 3. Demand and Supply shocks

## 4. Fiscal and Monetary policies

## 5. Leading, coincident and lagging indicators

## 6. Business cycles:

Sensitivity (elasticity) of sales

Operating leverage (fixed to variable costs ratio)

Financial leverage

# **MANAGING BOND PORTFOLIOS**



1. Return On Investment (ROI) = Interest + Capital Gains

2. Zero coupon bond:

$$P_b = \text{PAR} / (1+I)^n$$

3. Bond prices change according to interest rates, time, taxation and to expectations about default risk, callability and inflation

4. Coupon bonds = a series of zero coupon bonds

5. Duration = average maturity of a bond's cash flows = the weight or the proportion of the total value of the bond accounted for by each payment.

$$W_t = CF_t / (1+y)^t / P_b \quad \sum W_t = 1 = \text{bond price}$$

t

Macauley's formula  $D = \sum_{t=1}^T W_t t$  (where yield curve is flat!)

t=1

6. Duration:

- a. Summary statistic of effective average maturity.
- b. Tool in immunizing portfolios from interest rate risk.
- c. Measure of sensitivity of portfolio to changes in interest rates.

$$7. \frac{DP}{P} = -D' \left[ \frac{D(1+y)}{1+y} \right] = \left[ -\frac{D}{1+y} \right]' D(1+y) = -D_m' D y$$

8. The EIGHT durations rules

- a. Duration of zero coupon bond = its time to maturity.
- b. When maturity is constant, a bond's duration is higher when the coupon rate is lower.
- c. When the coupon rate is constant, a bond's duration increases with its time to maturity.  
Duration always increases with maturity for bonds selling at par or at a premium.  
With deeply discounted bonds duration decreases with maturity.
- d. Other factors being constant, the duration of a coupon bond is higher when the bond's YTM is lower.
- e. The duration of a level perpetuity =  $1+y / y$
- f. The duration of a level annuity =  $1+y/y - T/(1+y)^T - 1$
- g. The duration of a coupon bond =  $1+y/y - (1+y)+T(c-y) / c[(1+y)^T-1]+y$
- h. The duration of coupon bonds selling at par values =  $\{1+y/y \cdot [1 - 1/(1+y)^T]\} \cdot 100$

9. Passive bond management - control of the risk, not of prices.

- indexing (market risk)

- immunization (zero risk)

10. Some are interested in protecting the current net worth

- others with payments (=the future worth).

11. BANKS: mismatch between maturities of liabilities

and assets.

Gap Management: certificates of deposits (liability side) and adjustable rate mortgages (assets side)

12. Pension funds: the value of income generated by assets fluctuates with interest rates

13. Fixed income investors face two types of risks:

Price risk

Reinvestment (of the coupons) rate risks

14. If duration selected properly the two effects cancel out.

For a horizon equal to the portfolio's duration - price and re-investment risks cancel out.

15. BUT: Duration changes with yield rebalancing

16. BUT: Duration will change because of the passage of time (it decreases less rapidly than maturity)

17. Cash flow matching -buying zeros or bonds yielding coupons equal to the future payments (dedication strategy)

18. A pension fund is a level perpetuity and its duration is according to rule (E).

19. There is no immunization against inflation (except indexation).

20. Active bond management

- Increase / decrease duration if interest rate declines / increases are forecast

- Identifying relative mispricing

21. The Homer - Leibowitz taxonomy:

- a. Substitution swap - replacing one bond with identical one.
- b. Intermarket spread swap - when the yield spread between two sectors of the bond market is too wide.
- c. Rate anticipation swap - changing duration according to the forecasted interest rates.
- d. Pure yield pickup swap - holding higher yield bond.
- e. Tax swap - intended to exploit tax advantages.

22. Contingent immunization (Leibowitz - Weinberger):

Active management until portfolio drops to

minimum future value /  $(1+I)^T$  = Trigger value

if portfolio drops to trigger value - immunization.

23. Horizon Analysis

Select a Holding Period

Predict the yield curve at the end of that period

[We know the bond's time to maturity at the end of the holding period]

{We can read its yield from the yield curve} determine price

24. Riding the yield curve

If the yield curve is upward sloping and it is projected not to shift during the investment horizon as maturities fall (=as time passes) - the bonds will become shorter - the yields will fall - capital gains

Danger: Expectations that interest rates will rise.

## INTEREST RATE SWAPS

1. Between two parties exposed to opposite types of interest rate risk.

Example: SNL CORPORATION

Short term - Long term

Variable rate liabilities - Fixed rate liabilities

Long term - Short term

Fixed rate assets - Variable rate assets

Risk: Rising interest rates Risk: Falling interest rates

2. The Swap

SNL would make fixed rate payments to the corporation based on a notional amount

Corporation will pay SNL an adjustable interest rate on the same notional amount

3. After the swap

SNL CORPORATION

ASSETS LIABILITIES ASSETS LIABILITIES

Long term loans Short term deposits Short term assets

Long term bonds

(claim to) variable (obligation to) make (claim to) fixed  
(obligation to) make

- rate cash flows fixed cash payments cash flows variable-  
rate payments

net worth net worth

William Sharpe, John Lintner, Jan Mossin

1. **Capital Asset Pricing Model (CAPM)** predicts the relationship between an asset's risk and its expected return = benchmark rate of return (investment evaluation) = expected returns of assets not yet traded

## 2. Assumptions

[Investors are different in wealth and risk aversion} but:

- a. Investor's wealth is negligible compared to the total endowment;
- b. Investors are price - takers (prices are unaffected by their own trade);
- c. All investors plan for one, identical, holding period (myopic, suboptimal behaviour);
- d. Investments are limited to publicly traded financial assets and to risk free borrowing / lending arrangements;
- e. No taxes on returns, no transaction costs on trades;
- f. Investors are rational optimizers (mean variance - Markowitz portfolio selection model);
- g. All investors analyse securities the same way and share the same economic view of the world ® homogeneous expectations identical estimates of the probability distribution of the future cash flows from investments.

## 3. Results

- a. All the investors will hold the market portfolio.

- b. The market portfolio is the best, optimal and efficient one.

A passive (holding) strategy is the best.

Investors vary only in allocating the amount between risky and risk - free assets.

- c. The risk premium on the market portfolio will be proportional to:

its risk

and the investor's risk aversion

- d. The risk premium on an individual asset will be proportional to the risk premium on the market portfolio

and the beta coefficient of the asset (relative to the market portfolio).

Beta measures the extent to which returns on the stock and the market move together.

#### 4. Calculating the Beta

- a. The graphic method

The line from which the sum of standard deviations of returns is lowest.

The slope of this line is the Beta.

- b. The mathematical method

$$\frac{\sum y_i}{\sum y_i}$$

$$b_i = \text{Cov}(r_i, r_m) / s_m^2 = \sum (y_{it} - y_{ai})(y_{tm} - y_{am}) / \sum (y_{tm} - y_{am})^2$$

$$t=1 \quad t=1$$



## 5. Restating the assumptions

- a. Investors are rational
- b. Investors can eliminate risk by diversification
  - sectoral
  - international
- c. Some risks cannot be eliminated - all investments are risky
- d. Investors must earn excess returns for their risks (=reward)
- e. The reward on a specific investment depends only on the extent to which it affects the market portfolio risk (Beta)

6. Diversified investors should care only about risks related to the market portfolio.

Return

Beta

$1/2$   $1$   $2$

Investment with Beta  $1/2$  should earn 50% of the market's return

with Beta  $2$  - twice the market return.

7. Recent research discovered that Beta does not work.

A better measure:

$B / M$

(Book Value) / (Market Value)

8. If Beta is irrelevant - how should risks be measured?

9. NEER (New Estimator of Expected Returns):

The B to M ratio captures some extra risk factor and should be used with Beta.

10. Other economists: There is no risk associated with high B to M ratios.

Investors mistakenly underprice such stocks and so they yield excess returns.

#### 11. FAR (Fundamental Asset Risk) - Jeremy Stein

There is a distinction between:

- a. Boosting a firm's long term value and
- b. Trying to raise the share's price

#### If investors are rational:

Beta cannot be the only measure of risk ® we should stop using it

Any decision boosting (A) will affect (B) ® (A) and (B) are the same

#### If investors are irrational

Beta is right (it captures an asset's fundamental risk = its contribution to the market portfolio risk) ® we should use it, even if investors irrational if investors are making predictable mistakes - a manager must choose:

If he wants (B) ® NEER (accommodating investors expectations)

If he wants (A) BETA

## **TECHNICAL ANALYSIS - Part A**

1. Efficient market hypothesis - share prices reflect all available information

## 2. Weak form

Are past prices reflected in present prices?

No price adjustment period - no chance for abnormal returns

(prices reflect information in the time that it takes to decipher it from them)

If we buy after the price has changed - will we have abnormal returns?

Technical analysis is worthless

## 3. Semistrong form

Is publicly available information fully reflected in present prices?

Buying price immediately after news will converge, on average, to equilibrium

Public information is worthless

## 4. Strong form

Is all information - public and private - reflected in present prices?

No investor can properly evaluate a firm

All information is worthless

5. Fair play - no way to use information to make abnormal returns

An investor that has information will estimate the yield and compare it to the equilibrium yield. The deviation of his estimates from equilibrium cannot predict his actual yields in the future.

His estimate could be  $>$  equilibrium  $>$  actual yield or vice versa. On average, his yield will be commensurate with the risk of the share.

#### 6. Two basic assumptions

- a. Yields are positive
- b. High / low yields indicates high / low risk

7. If (A) is right, past prices contain no information about the future

#### 8. Random walk

- a. Prices are independent (Monte Carlo fallacy)
- b. Prices are equally distributed in time

9. The example of the quarterly increase in dividends

10. The Rorschach Blots fallacy (patterns on random graphical designs)

® cycles (Kondratieff)

11. Elton - Gruber experiments with series of random numbers

12. Price series and random numbers yield similar graphs

#### 13. The Linear model

$$P_a - P_{a-1} = (ED P + )' ( P_{a-1-c} - P_{a-z-c} + R )$$

P = Price of share

C = Counter

ED P = Expected change in Price

R = Random number

14. The Logarithmic model

= cum. Y

Sometimes, instead of  $P_c$  we use  $D P +$

15. Cluster analysis (Fama - Macbeth)

+ and - distributed randomly. No statistical significance.

16. Filter models - share prices will fluctuate around equilibrium because of profit taking and bargain hunting

17. New equilibrium is established by breaking through trading band

18. Timing - percentage of break through determines buy / sell signals

19. Filters effective in BEAR markets but equivalent to random portfolio management

20. Fama - Blum: best filter is the one that covers transaction costs

21. Relative strength models - P / P

Divide investment equally between top 5% of shares with highest RS and no less than 0,7

Sell shares falling below this benchmark and divide the proceeds among others

22. Reservations:

- a. High RS shares are the riskiest
- b. The group selected yield same as market -  
- but with higher risk



## TECHNICAL ANALYSIS - Part B

1. Versus fundamental: dynamic (trend) vs. static (value)
2. Search for recurrent and predictable patterns
3. Patterns are adjustment of prices to new information
4. In an efficient market there is no such adjustment, all public information is already in the prices
5. The basic patterns:
  - a. momentum
  - b. breakaway
  - c. head and shoulders ® chartists
6. Buy/sell signals  
Example: Piercing the neckline of Head and Shoulders
7. The Dow theory uses the Dow Jones industrial average (DJIA) as key indicator of underlying trends + DJTransportation as validator
8. Primary trend - several months to several years  
Secondary (intermediate) trend - deviations from primary trend: 1/3, 1/2, 2/3 of preceding primary trend  
Correction - return from secondary trend to primary trend  
Tertiary (minor) trend - daily fluctuations
9. Channel - tops and bottoms moving in the direction of primary trend
10. Technical analysis is a self fulfilling prophecy - but if



everyone were to believe in it and to exploit it, it would self destruct.

People buy close to resistance because they do not believe in it.

11. The Elliott Wave theory - five basic steps, a fractal principle

12. Moving averages - version I - true value of a stock is its average price

prices converge to the true value

version II - crossing the price line with the moving

average line predicts future prices

13. Relative strength - compares performance of a stock to its sector or to the performance of the whole market

14. Resistance / support levels - psychological boundaries to price movements assumes market price memory

15. Volume analysis - comparing the volume of trading to price movements high volume in upturns, low volume in down movements - trend reversal

16. Trin (trading index) =

Trin > 1 Bearish sign

17. BEAR / Bull markets - down/up markets disturbed by up/down movements

18. Trendline - price moves upto 5% of average

19. Square - horizontal transition period separating price trends (reversal patterns)

20. Accumulation pattern - reversal pattern between

## BEAR and BULL markets

21. Distribution pattern - reversal pattern between BULL and BEAR markets

22. Consolidation pattern - if underlying trends continues

23. Arithmetic versus logarithmic graphs

24. Seasaw - non breakthrough penetration of resistance / support levels

25. Head and shoulder formation (and reverse formation):

Small rise (decline), followed by big rise (decline), followed by small rise (decline).

First shoulder and head-peak (trough) of BULL (BEAR) market.

Volume very high in 1st shoulder and head and very low in 2nd shoulder.

26. Neckline - connects the bottoms of two shoulders.

Signals change in market direction.

27. Double (Multiple) tops and bottoms

Two peaks separated by trough = double tops

Volume lower in second peak, high in penetration

The reverse = double bottoms

28. Expanding configurations

Price fluctuations so that price peaks and troughs can be connected using two divergent lines.

Shoulders and head (last).

Sometimes, one of the lines is straight:

UPPER (lower down) or - accumulation, volume in penetration

LOWER (upper up) 5% penetration signals reversal

29. Conservative upper expanding configuration

Three tops, each peaking

Separated by two troughs, each lower than the other

Signals peaking of market

5% move below sloping trendline connecting two troughs

or below second through signals reversal

30. Triangles - consolidation / reversal patterns

31. Equilateral and isosceles triangle (COIL - the opposite of expansion configuration)

Two (or more) up moves + reactions

Each top lower than previous - each bottom higher than previous

connecting lines converge

Prices and volume strongly react on breakthrough

32. Triangles are accurate when penetration occurs

Between 1/2 - 3/4 of the distance between the most congested peak and the highest peak.

33. Right angled triangle

Private case of isosceles triangle.

Often turn to squares.

#### 34. Trendlines

Connect rising bottoms or declining tops (in Bull market)

Horizontal trendlines

#### 35. Necklines of H&S configurations

And the upper or lower boundaries of a square are trendlines.

#### 36. Upward trendline is support

Declining trendline is resistance

#### 37. Ratio of penetrations to number of times that the trendline was only touched without being penetrated

Also: the time length of a trendline

the steepness (gradient, slope)

#### 38. The penetration of a steep trendline is less meaningful and the trend will prevail.

#### 39. Corrective fan

At the beginning of Bull market - first up move steep, price advance unsustainable.

This is a reaction to previous downmoves and trendline violated.

New trendline constructed from bottom of violation (decline) rises less quickly, violated.

A decline leads to third trendline.

This is the end of the Bull market

(The reverse is true for Bear market.)

#### 40. Line of return - parallel to upmarket trendline,

connects rising tops (in uptrends) or declining bottoms (in downtrends).

41. Trend channel - the area between trendlines and lines of return.

42. Breach of line of return signals (temporary) reversal in basic trend.

43. Simple moving average

Average of N days where last datum replaces first datum changes direction after peak / trough.

44. Price < MA ® Decline

Price > MA ® Upturn

45. MA at times support in Bear market

resistance in Bull market

46. Any break through MA signals change of trend.

This is especially true if MA was straight or changed direction before.

If broken trough while continuing the trend - a warning.

We can be sure only when MA straightens or changes.

47. MA of 10-13 weeks secondary trends

MA of 40 weeks primary trends

Best combination: 10+30 weeks

48. Interpretation

30w down, 10w < 30w downtrend

30w up, 10w > 30w uptrend

49. 10w up, 30w down (in Bear market)

10w down, 30w up (in Bull market)

No significance

50. MAs very misleading when market stabilizes and very late.

51. Weighted MA (1st version)

Emphasis placed on 7w in 13w MA (wrong - delays warnings)

Emphasis placed on last weeks in 13w

52. Weighted MA (2nd version)

Multiplication of each datum by its serial number.

53. Weighted MA (3rd version)

Adding a few data more than once.

54. Weighted MAs are autonomous indicators - without being crossed with other MAs.

55. Exponential MA - algorithm

- a. Simple 20w MA
- b. Difference between 21st datum and MA multiplied by exponent  $(2/N) = \text{result 1}$
- c. Result 1 added to MA
- d. If difference between datum and MA negative - subtract, not add

56. Envelopes

Symmetrical lines parallel to MA lines (which are the centre of trend) give a sense of the trend and allow for fatigue of market movement.

### 57. Momentum

Division of current prices by prices a given time ago

Momentum is straight when prices are stable

When momentum > reference and going up market up  
(Bull)

When momentum > reference and going down Bull  
market stabilizing

When momentum < reference and going down market  
down (Bear)

When momentum < reference and going up Bear market  
stabilizing

58. Oscillators measure the market internal strengths:

### 59. Market width momentum

Measured with advance / decline line of market

(=the difference between rising / falling shares)

When separates from index - imminent reversal

momentum = no. of rising shares / no. of declining shares

### 60. Index to trend momentum

Index divided by MA of index

### 61. Fast lines of resistance (Edson Gould)

The supports / resistances will be found in 1/3 - 2/3 of  
previous price movement.

Breakthrough means new tops / bottoms.

### 62. Relative strength

Does not indicate direction - only strength of movement.

### **More Technical Analysis:**

1. Williams %R =  $100 \times$

$r =$  time frame

2. The Williams trading signals:

a. Divergence:

1. Bearish - WM% R rises above upper reference line

Falls

Cannot rise above line during next rally

2. Bullish - WM% R falls below lower reference line

Rallies

Cannot decline below line during next slide

b. Failure swing

When WM%R fails to rise above upper reference line during rally

or

Fall below lower reference line during decline

3. Stochastic

A fast line (%K) + slow line (%D)

#### Steps

a. Calculate raw stochastic (%K) =  $x \times 100$

$n =$  number of time units (normally 5)

b. %D =  $x \times 100$  (smoothing)



#### 4. Fast stochastic

%K + %D on same chart (%K similar to WM%R)

#### 5. Slow stochastic

%D smoothed using same method

#### 6. Stochastic trading signals

##### a. Divergence

###### 1. Bullish

Prices fall to new low

Stochastic traces a higher bottom than during previous decline

###### 2. Bearish

Prices rally to new high

Stochastic traces a lower top than during previous rally

##### b. Overbought / Oversold

1. When stochastic rallies above upper reference line - market O/B

2. When stochastic falls below lower reference line - market O/S

##### c. Line direction

When both lines are in same direction - confirmation of trend

#### 7. Four ways to measure volume

a. No. of units of securities traded

b. No. of trades

c. Tick volume

d. Money volume

8. OBV Indicator (on-balance volume)

Running total of volume with +/- signs according to price changes

9. Combined with:

a. The Net Field trend Indicator

(OBV calculated for each stock in the index and then rated +1, -1, 0)

b. Climax Indicator

The sum of the Net Field Trend Indicators

10. Accumulation / Distribution Indicator

$A/D = x V$

11. Volume accumulator

Uses P instead of 0.

12. Open Interest

Number of contract held by buyers or

owed by short sellers in a given market on a given day.

13. Herrich Payoff Index (HPI)

$HPI = K_y + (K' - K_y)$

$K = [(P - P_y) \times C \times V] \times [1 \pm \{(\frac{1}{2} I - I_y \frac{1}{2} \times 2 / G\}]$

G= today's or yesterday's I (=open interest, whichever is less)

+/- determined: if  $P > P_y$  (+), if  $P < P_y$  (-)

***Annex: The Foundations of Common Investment***

## ***Schemes Challenged***

The credit and banking crisis of 2007-9 has cast in doubt the three pillars of modern common investment schemes. Mutual funds (known in the UK as "unit trusts"), hedge funds, and closed-end funds all rely on three assumptions:

### **Assumption number one**

That risk inherent in assets such as stocks can be "diversified away". If one divides one's capital and invests it in a variety of financial instruments, sectors, and markets, the overall risk of one's portfolio of investments is lower than the risk of any single asset in said portfolio.

Yet, in the last decade, markets all over the world have moved in tandem. These highly-correlated ups and downs gave the lie to the belief that they were in the process of "decoupling" and could, therefore, be expected to fluctuate independently of each other. What the crisis has revealed is that contagion transmission vectors and mechanisms have actually become more potent as barriers to flows of money and information have been lowered.

### **Assumption number two**

That investment "experts" can and do have an advantage in picking "winner" stocks over laymen, let alone over random choices. Market timing coupled with access to information and analysis were supposed to guarantee the superior performance of professionals. Yet, they didn't.

Few investment funds beat the relevant stock indices on a regular, consistent basis. The yields on "random walk" and stochastic (random) investment portfolios often surpass managed funds. Index or tracking funds (funds who automatically invest in the stocks that compose a stock

market index) are at the top of the table, leaving "stars", "seers", "sages", and "gurus" in the dust.

This manifest market efficiency is often attributed to the ubiquity of capital pricing models. But, the fact that everybody uses the same software does not necessarily mean that everyone would make the same stock picks. Moreover, the CAPM and similar models are now being challenged by the discovery and incorporation of information asymmetries into the math. Nowadays, not all fund managers are using the same mathematical models.

A better explanation for the inability of investment experts to beat the overall performance of the market would perhaps be information overload. Recent studies have shown that performance tends to deteriorate in the presence of too much information.

Additionally, the failure of gatekeepers - from rating agencies to regulators - to force firms to provide reliable data on their activities and assets led to the ascendance of insider information as the only credible substitute. But, insider or privileged information proved to be as misleading as publicly disclosed data. Finally, the market acted more on noise than on signal. As we all know, noise is perfectly randomized. Expertise and professionalism mean nothing in a totally random market.

### **Assumption number three**

That risk can be either diversified away or parceled out and sold. This proved to be untenable, mainly because the very nature of risk is still ill-understood: the samples used in various mathematical models were biased as they relied on data pertaining only to the recent bull market, the longest in history.

Thus, in the process of securitization, "risk" was dissected, bundled and sold to third parties who were equally at a loss as to how best to evaluate it. Bewildered, participants and markets lost their much-vaunted ability to "discover" the correct prices of assets. Investors and banks got spooked by this apparent and unprecedented failure and stopped investing and lending. Illiquidity and panic ensued.

If investment funds cannot beat the market and cannot effectively get rid of portfolio risk, what do we need them for?

The short answer is: because it is far more convenient to get involved in the market through a fund than directly. Another reason: index and tracking funds are excellent ways to invest in a bull market.

[Return](#)

## ***Going Bankrupt in the World***

Close to 1.6 million Americans filed for personal bankruptcy (mostly under chapter 7) in 2004 - nine times as many (per capita) as did the denizens of the United Kingdom (with 35,898 insolvencies). The figure in the USA 25 years ago was 300,000. Bankruptcy has no doubt become a growth industry. This surge was prompted by both promiscuous legislation (in 1978) and concurrent pro-debtor (anti-usury) decisions in the Supreme Court.

Under chapter 7, for instance, cars and homes are exempt assets, untouchable by indignant creditors. Even under chapter 13, debt repayments are rescheduled and spread over 5 years to cover only a fraction of the original credit.

A new reform bill, passed in both the Senate and the House of Representatives in April 2005 seeks to reverse the trend by making going financial belly up a bit less easy. The Economist noted that:

***"While consumers do carry more debt than they used to, the amount of income devoted to servicing that debt has not gone up that much, thanks to falling interest rates and longer maturities. Other factors must be at work; plausible candidates include greater income volatility,***

***legalised gambling, bigger medical bills, increased advertising by lawyers offering to help people in debt, and a cultural shift that has destigmatised bankruptcy."***

Personal bankruptcies are rare outside the United States. Besides being stigmatized, such debtors surrender most of their income and virtually all their assets to their creditors. If the money they borrowed was spent frivolously or recklessly - or if they have a tainted credit history - borrowers are unlikely to be granted bankruptcy protection to start with.

Still, personal bankruptcies are dwarfed by corporate ones. In the plutocracy that the United States is fast becoming, corporations and their directors remain largely shielded from the consequences of the profligacy and malfeasance of their management.

The new bill merely curtails bonus schemes to executives and key personnel in firms under reorganization and introduces bankruptcy trustees where the management is suspected of fraud. Compare this to Britain where managers are responsible for corporate debts they knowingly incurred while the firm was insolvent.

Moreover, debts owed by individuals to firms take precedence over all other forms of personal financial obligations. In other words, as *The Economist* notes: "The new treatment of secured car loans could put child-

support and alimony payments behind GM's finance arm in the queue."

It all starts by defaulting on an obligation. Money owed to creditors or to suppliers is not paid on time, interest payments due on bank loans or on corporate bonds issued to the public are withheld. It may be a temporary problem - or a permanent one.

As time goes by, the creditors gear up and litigate in a court of law or in a court of arbitration. This leads to a "***technical or equity insolvency***" status.

But this is not the only way a company can be rendered insolvent. It could also run liabilities which outweigh its assets. This is called "***bankruptcy insolvency***". True, there is a debate raging as to what is the best method to appraise the firm's assets and its liabilities. Should these appraisals be based on market prices - or on book value?

There is no one decisive answer. In most cases, there is strong reliance on the figures in the balance sheet.

If the negotiations with the creditors of the company (as to how to settle the dispute arising from the company's default) fails, the company itself can file (ask the court) for bankruptcy in a "***voluntary bankruptcy filing***".

Enter the court. It is only one player (albeit, the most important one) in this unfolding, complex drama. The



court does not participate directly in the script.

Court officials are appointed. They work hand in hand with the representatives of the creditors (mostly lawyers) and with the management and the owners of the defunct company.

They face a tough decision: should they liquidate the company? In other words, should they terminate its business life by (among other acts) selling its assets?

The proceeds of the sale of the assets are divided (as "bankruptcy dividend") among the creditors. It makes sense to choose this route only if the (money) value yielded by liquidation exceeds the money the company, as a going concern, as a living, functioning, entity, can generate.

The company can, thus, go into "*straight bankruptcy*". The secured creditors then receive the value of the property which was used to secure their debt (the "collateral", or the "mortgage, lien"). Sometimes, they receive the property itself - if it is not easy to liquidate (sell) it.

Once the assets of the company are sold, the first to be fully paid off are the secured creditors. Only then are the priority creditors paid (wholly or partially).

The priority creditors include administrative debts, unpaid

wages (up to a given limit per worker), uninsured pension claims, taxes, rents, etc.

And only if any money is left after all these payments it is proportionally doled out to the unsecured creditors.

The USA had many versions of bankruptcy laws. There was the 1938 Bankruptcy Act, which was followed by amended versions in 1978, 1984, 1994, and, lately, in 2005.

Each state has modified the Federal Law to fit its special, local conditions.

Still, a few things - the spirit of the law and its philosophy - are common to all the versions. Arguably, the most famous procedure is named after the chapter in the law in which it is described, Chapter 11. Following is a brief discussion of chapter 11 intended to demonstrate this spirit and this philosophy.

This chapter allows for a mechanism called "reorganization". It must be approved by two thirds of all classes of creditors and then, again, it could be voluntary (initiated by the company) or involuntary (initiated by one to three of its creditors).

The American legislator set the following goals in the bankruptcy laws:

- a. To provide a fair and equitable treatment to the holders of various classes of securities of the firm (shares of different kinds and bonds of different types).
- b. To eliminate burdensome debt obligations, which obstruct the proper functioning of the firm and hinder its chances to recover and ever repay its debts to its creditors.
- c. To make sure that the new claims received by the creditors (instead of the old, discredited, ones) equal, at least, what they would have received in liquidation.

Examples of such new claims: owners of debentures of the firm can receive, instead, new, long term bonds (known as reorganization bonds, whose interest is payable only from profits).

Owners of subordinated debentures will, probably, become shareholders and shareholders in the insolvent firm usually receive no new claims.

The chapter dealing with reorganization (the famous "Chapter 11") allows for "*arrangements*" to be made between debtor and creditors: an extension or reduction of the debts.

If the company is traded in a stock exchange, the Securities and Exchange Commission (SEC) of the USA advises the court as to the best procedure to adopt in case

of reorganization.

***What chapter 11 teaches us is that:***

American Law leans in favor of maintaining the company as an ongoing concern. A whole is larger than the sum of its parts - and a living business is sometimes worth more than the sum of its assets, sold separately.

A more in-depth study of the bankruptcy laws shows that they prescribe three ways to tackle a state of malignant insolvency which threatens the well being and the continued functioning of the firm:

**Chapter 7 (1978 Act) - Liquidation**

A District court appoints an "interim trustee" with broad powers. Such a trustee can also be appointed at the request of the creditors and by them. The debtor is required to file detailed documentation and budget projections.

The Interim Trustee is empowered to do the following:

- Liquidate property and make distribution of liquidating dividends to creditors;
- Make management changes;
- Arrange unsecured financing for the firm;
- Operate the debtor business to prevent further losses.

By filing a bond, the debtor (really, the owners of the debtor) is able to regain possession of the business from the trustee.

## **Chapter 11 - Reorganization**

Unless the court rules otherwise, the debtor remains in possession and in control of the business and the debtor and the creditors are allowed to work together flexibly. They are encouraged to reach a settlement by compromise and agreement rather than by court adjudication.

Maybe the biggest legal revolution embedded in chapter 11 is the relaxation of the age old ***ABSOLUTE PRIORITY*** rule, that says that the claims of creditors have categorical precedence over ownership claims. Rather, under chapter 11, the interests of the creditors have to be balanced with the interests of the owners and even with the larger good of the community and society at large.

And so, chapter 11 allows the debtor and creditors to be in direct touch, to negotiate payment schedules, the restructuring of old debts, even the granting of new loans by the same disaffected creditors to the same irresponsible debtor.

## **Chapter 10**

Is sort of a legal hybrid, the offspring of chapters 7 and

11:

It allows for reorganization under a court appointed independent manager (trustee) who is responsible mainly for the filing of reorganization plans with the court - and for verifying strict adherence to them by both debtor and creditors.

## **Chapter 15**

Adopts the United Nations model code on cross-border bankruptcy of multinationals.

Despite its clarity and business orientation, many countries found it difficult to adapt to the pragmatic, non sentimental approach which led to the virtual elimination of the absolute priority rule.

***In England***, for instance, the court appoints an official "receiver" to manage the business and to realize the debtor's assets on behalf of the creditors (and also of the owners). His main task is to maximize the proceeds of the liquidation and he continues to function until a court settlement is decreed (or a creditor settlement is reached, prior to adjudication). When this happens, the receivership ends and the receiver loses his status.

The receiver takes possession (but not title) of the assets and the affairs of a business in a receivership. He collects rents and other income on behalf of the firm.

So, British Law is much more in favor of the creditors. It recognizes the supremacy of their claims over the property claims of the owners. Honoring obligations - in the eyes of the British legislator and their courts - is the cornerstone of efficient, thriving markets. The courts are entrusted with the protection of this moral pillar of the economy.

And what about developing countries and economies in transition (themselves often heavily indebted to the rest of the world)?

Economies in transition are in transition not only economically - but also legally. Thus, each one adopted its own version of the bankruptcy laws.

***In Hungary***, Bankruptcy is automatically triggered. Debt for equity swaps are disallowed. Moreover, the law provides for a very short time to reach agreement with creditors about a reorganization of the debtor. These features led to 4000 bankruptcies in the wake of the new law - a number which mushroomed to 30,000 by May 1997.

***In the Czech Republic***, the insolvency law comprises special cases (over-indebtedness, for instance). It delineates two rescue programs:

- a. A debt to equity swap (an alternative to bankruptcy) supervised by the Ministry of

Privatization.

- b. The Consolidation Bank (founded by the State) can buy a firm's obligations, if it went bankrupt, at 60% of par.

But the law itself is toothless and lackadaisically applied by the incestuous web of institutions in the country. Between March 1993 and September 1993 there were 1000 filings for insolvency, which resulted in only 30 commenced bankruptcy procedures. There hasn't been a single major bankruptcy in the Czech Republic since then - and not for lack of candidates.

**Poland** is a special case. The *pre-war (1934) law* declares bankruptcy in a state of lasting illiquidity and excessive indebtedness. Each creditor can apply to declare a company bankrupt. An insolvent company is obliged to file a maximum of 2 weeks following cessation of debt payments. There is a separate liquidation law which allows for voluntary procedures.

Bad debts are transferred to base portfolios and have one of three fates:

1. Reorganization, debt-consolidation (a reduction of the debts, new terms, debt for equity swaps) and a program of rehabilitation.
2. Sale of the corporate liabilities in auctions.
3. Classic bankruptcy (happens in 23% of the cases of insolvency).

No one is certain what is the best model. The reason is



that no one knows the answers to the questions: are the rights of the creditors superior to the rights of the owners? Is it better to rehabilitate than to liquidate?

The effects of strict, liquidation-prone laws are not wholly pernicious or wholly beneficial. Consumers borrow less and interest rates fall - but entrepreneurs are deterred and firms become more risk-averse.

Until such time as these questions are settled and as long as the corporate debt crisis deepens - we will witness a flowering of disparate versions of bankruptcy laws all over the world.

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# THE AUTHOR

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Born in 1961 in Qiryat-Yam, Israel.

Served in the Israeli Defence Force (1979-1982) in training and education units.

## **Education**

Completed a few semesters in the Technion – Israel Institute of Technology, Haifa.

Ph.D. in Philosophy (major: Philosophy of Physics) – Pacific Western University, **California**, USA.

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## **Business Experience**

*1980 to 1983*

Founder and co-owner of a chain of computerised information kiosks in Tel-Aviv, Israel.

***1982 to 1985***

Senior positions with the Nessim D. Gaon Group of Companies in Geneva, Paris and New-York (NOGA and APROFIM SA):

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- Vice President in charge of RND and Advanced Technologies
- Vice President in charge of Sovereign Debt Financing

***1985 to 1986***

Represented Canadian Venture Capital Funds in Israel.

***1986 to 1987***

General Manager of IPE Ltd. in London. The firm financed international multi-lateral countertrade and leasing transactions.

### ***1988 to 1990***

Co-founder and Director of "Mikbats-Tesuah", a portfolio management firm based in Tel-Aviv.

Activities included large-scale portfolio management, underwriting, forex trading and general financial advisory services.

### ***1990 to Present***

Freelance consultant to many of Israel's Blue-Chip firms, mainly on issues related to the capital markets in Israel, Canada, the UK and the USA.

Consultant to foreign RND ventures and to Governments on macro-economic matters.

Freelance journalist in various media in the United States.

### ***1990 to 1995***

President of the Israel chapter of the Professors World Peace Academy (PWPA) and (briefly) Israel representative of the "Washington Times".

### ***1993 to 1994***

Co-owner and Director of many business enterprises:

- The Omega and Energy Air-Conditioning Concern
- AVP Financial Consultants
- Handiman Legal Services

Total annual turnover of the group: 10 million USD.

Co-owner, Director and Finance Manager of COSTI Ltd.

- Israel's largest computerised information vendor and developer. Raised funds through a series of private placements locally in the USA, Canada and London.

### ***1993 to 1996***

Publisher and Editor of a Capital Markets Newsletter distributed by subscription only to dozens of subscribers countrywide.

In a legal precedent in 1995 – studied in business schools and law faculties across Israel – was tried for his role in an attempted takeover of Israel's Agriculture Bank.

Was interned in the State School of Prison Wardens.

Managed the Central School Library, wrote, published and lectured on various occasions.

Managed the Internet and International News Department of an Israeli mass media group, "Ha-Tikshoret and Namer".

Assistant in the Law Faculty in Tel-Aviv University (to Prof. S.G. Shoham).

### ***1996 to 1999***

Financial consultant to leading businesses in Macedonia, Russia and the Czech Republic.

Economic commentator in "[Nova Makedonija](#)", "[Dnevnik](#)", "Makedonija Denes", "Izvestia", "Argumenti i Fakti", "The Middle East Times", "[The New Presence](#)", "[Central Europe Review](#)", and other periodicals, and in the economic programs on various channels of Macedonian Television.

Chief Lecturer in courses in Macedonia organised by the Agency of Privatization, by the Stock Exchange, and by the Ministry of Trade.

### ***1999 to 2002***

Economic Advisor to the Government of the Republic of Macedonia and to the Ministry of Finance.

### ***2001 to 2003***

Senior Business Correspondent for [United Press International \(UPI\)](#).

### ***2007 -***

Associate Editor, [Global Politician](#)

Founding Analyst, [The Analyst Network](#)

Contributing Writer, [The American Chronicle Media Group](#)

Expert, [Self-growth.com](#)

### ***2008***

Columnist and analyst in "[Nova Makedonija](#)", "Fokus", and "[Kapital](#)" (Macedonian papers and newsweeklies).

Seminars and lectures on economic issues in various forums in Macedonia.

### ***2008-***

Advisor to the Minister of Health of Macedonia on healthcare reforms

## **Web and Journalistic Activities**

Author of extensive Web sites in:

– Psychology ("[Malignant Self Love](#)") - An [Open](#)

[Directory Cool Site](#) for 8 years.

– Philosophy ("[Philosophical Musings](#)"),

– Economics and Geopolitics ("[World in Conflict and Transition](#)").

Owner of the [Narcissistic Abuse Study Lists](#) and the [Abusive Relationships Newsletter](#) (more than 6,000 members).

Owner of the [Economies in Conflict and Transition Study List](#), the [Toxic Relationships Study List](#), and the [Links and Factoid Study List](#).

Editor of mental health disorders and Central and Eastern Europe categories in various Web directories ([Open Directory](#), [Search Europe](#), [Mentalhelp.net](#)).

Editor of the [Personality Disorders](#), Narcissistic Personality Disorder, the [Verbal and Emotional Abuse](#), and the [Spousal \(Domestic\) Abuse and Violence](#) topics on Suite 101 and [Bellaonline](#).

Columnist and commentator in "The New Presence", [United Press International \(UPI\)](#), InternetContent, eBookWeb, [PopMatters](#), [Global Politician](#), The [Analyst Network](#), Conservative Voice, The [American Chronicle Media Group](#), [eBookNet.org](#), and "[Central Europe Review](#)".

## **Publications and Awards**

"Managing Investment Portfolios in States of Uncertainty", Limon Publishers, Tel-Aviv, 1988

"The Gambling Industry", Limon Publishers, Tel-Aviv,

1990

["Requesting My Loved One – Short Stories"](#), Yedioth Aharonot, Tel-Aviv, 1997

["The Suffering of Being Kafka"](#) (electronic book of Hebrew and English Short Fiction), Prague, 1998-2004

"The Macedonian Economy at a Crossroads – On the Way to a Healthier Economy" (dialogues with [Nikola Gruevski](#)), Skopje, 1998

["The Exporters' Pocketbook"](#), Ministry of Trade, Republic of Macedonia, Skopje, 1999

["Malignant Self Love – Narcissism Revisited"](#), Narcissus Publications, Prague, 1999-2007 (Read excerpts - click [here](#))

[The Narcissism Series](#) (e-books regarding relationships with abusive narcissists), Prague, 1999-2007

[Personality Disorders Revisited](#) (e-book about personality disorders), Prague, 2007

["After the Rain – How the West Lost the East"](#), Narcissus Publications in association with [Central Europe Review/CEENMI](#), Prague and Skopje, 2000

Winner of numerous awards, among them [Israel's Council of Culture and Art Prize for Maiden Prose](#) (1997), The Rotary Club Award for Social Studies (1976), and the Bilateral Relations Studies Award of the American Embassy in Israel (1978).

[Hundreds of professional articles](#) in all fields of finance and economics, and numerous articles dealing with geopolitical and political economic issues published in



both print and Web periodicals in many countries.

[Many appearances in the electronic media](#) on subjects in philosophy and the sciences, and concerning economic matters.

***Write to Me:***

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[narcissisticabuse-owner@yahogroups.com](mailto:narcissisticabuse-owner@yahogroups.com)

***My Web Sites:***

***Economy/Politics:*** <http://ceeandbalkan.tripod.com/>

***Psychology:*** <http://www.narcissistic-abuse.com/>

***Philosophy:*** <http://philosophos.tripod.com/>

***Poetry:*** <http://samvak.tripod.com/contents.html>

***Fiction:*** <http://samvak.tripod.com/sipurim.html>