Report
DYNAMO 55
JUL AUG SEP 2007

The Order of Complexity

In this month of August, there have been several hiccups in the global financial markets. The *Ibovespa* dropped by 13.8% and the *Nikkei* by 11.5% within six trading days. The S&P and the Dow Jones plummeted by 6.2% and 6.1% respectively, in five days. These were the highest accumulated drops for the same number of trading days since July 2002 for the *Ibovespa*, October 2002 for the S&P, January 2003 for the Dow Jones, and December 2000 for the *Nikkei*.

At first glance, these fluctuations seemed unfathomable. The trading desks were a sea of questions and bewilderment. Then, the first pieces of news started arriving. This time, the US credit market was the eye of the storm. More specifically, a certain CDO backed by RMBS. In plain English, the market for collateralized debt obligations backed by riskier (sub-prime) residential mortgage security loans. Indicators that the final borrowers of these lower quality loans were defaulting spread panic through a number of other segments. Interbank loan interest rates shot up, liquidity disappeared from the short-term money market, corporate debt interest rates increased immediately, and volatility indices exploded.

Gloomy forecasts assailed e-mail boxes. The mortgage market coup would soon shatter consumer confidence and reduce demand. On the supply side, by penalizing bank sector financial statements, the resulting generalized delinquency would nock down credit availability. Analysts raised a chorus of alarm that a pandemic was approaching. Virulent credit never forgives; it victimizes.

Then came the first explanation attempts. Over the last few decades, there was the alignment of a number of factors that significantly stabilized the economic environment of the US, Europe, and other parts of the world[1]. The combination of this more predictable business environment, financial innovations, and improved management techniques produced growing profits and robust corporate financial statements. As a result, risk premiums went for a sharp dip. This hitherto unknown prosperity contributed to the creation of a conniving and more permissive psychological environment. On the other hand, in order to obtain the same absolute returns, tighter spreads require increased leverage. Leverage produces an exponential impact on the positions payoffs, thereby disproportionally increasing the system's liquidity. This excess of money supply encourages the creation of new financial products (such as different types of structured investment vehicles) that, packaged and stamped by the rating agencies, are greedily consumed by asset managers. Financial gains reinforce the savings supply, and contribute to a further reduction of risk premiums. This jumpstarts a new cycle that feeds optimism, leniency, leverage, liquidity, financial innovation, and risk premium reduction.

After locating the context, analysts addressed themselves to their standard routine: analogy. When it is hard to comprehend events, the instinctive reflex is to seek parallels in the past that could reveal a possible path for the future. Thus were born the most comparable related insights, such as the Black Monday of October 1987 or the collapse of the LTCM in 1998. (não consegui achar o final dessa primeira nota de rodapé).

At this point, the first news of heavy losses reported by investment funds and financial institutions emerge. The first few billion dollars are written off. Rumors abound that this is but the tip of

1 *Some of these: better coordinated fiscal and monetary policies, a more diversified work force, the economy less exposed to cyclical sectors – either via government efforts to stabilize agricultural prices, or due to the secular drop of the share of industry in the global output, increased credit access, unemployment insurance, and pension plans minimizing the volatility of households income and consumption over time, increasingly stable productivity, and a more stable GDP in these countries (cf. Bookstaber 2007).*

As always, complete bibliographical references can be found in our website www.dynamo.com.br.

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Over the third quarter of the year, Dynamo Cougar earned 2.6%, accumulating a gain of 31.1% in nine months. The Ibovespa appreciated by 11.1% and the IBX by 13.8%, for the quarter, making up to September 35.9% and 36.9%, respectively. Over the last ten years, Dynamo Cougar has recorded a real gain of 22.4%pa above inflation measured on the IGP-M, and 27.5%pa in US dollars. During this same period, the Ibovespa appreciated by 7.3%pa over the IGP-M and 11.9%pa in US dollars and the IBX 12.5%pa and 17.3%pa, respectively.

Despite the uproar in the markets during this month of August, the Fund was able to withstand the drops, when compared with the indices. At the peak of the crisis, the worst quote since April, Dynamo Cougar still recorded an accumulated gain of 12.8% during the year, while the Ibovespa increased by a mere 8.0% and the IBX by 7.8%.

the iceberg. So complex in their sophistication are these financial instruments, so intricate the tangle of derivatives and securitizations, that nobody really knows the losses' address.

Some voices start demanding stricter regulatory action, given that financial markets suffer congenitally from "chronic institutional debilitation". Others recommend immediate action from the life guard of monetary stability, the restorer of confidence, and corrector of expectations. So the Central Banks took joint action: injection of US$120 billion into the system, and FED funds droping 0.5% in the US prime rate, followed by another of 0.25%. This highly prophylactic move was one step ahead of the economic indicators, which had given no warning of any potential deceleration.

This Central Bank action was warmly welcomed. After a few unsettled days, the market rose again. Attaining and even surpassing their pre-crisis levels, contrary to the more pessimistic forecasts. New explanations were demanded. This is the decoupling, folks! The world has changed and the vitality of emerging countries is capable of sustaining the deceleration of a weary US economy. Adjustments will be found in specific markets and life goes on.

Mid-October brought a further jolt. The S&P rate dropped 2.5%, exactly twenty years after that shadowy Monday. At the beginning of November, the drops accumulated 7% with the announcement of further bank write-offs. This total had already reached US$50 billion, and projections indicated US$200 to US$300 billion. A new wave of depression set in. Later in the month, the S&P climbed back up. The focus was now on the weak dollar as it exasperated the sleeping giant: the export sector could wrench the US GDP out of the hole.

Four months went by after these initial disturbances. The US stock exchanges hold out and keep trading at close to pre-crisis levels. Brazil remains unscathed and the *Ibovespa* shows a total gain of 18%. Caution still prevails in most analyses, which occasionally manifest a glimmer of optimism. Attuned to market balances, the mood of the projections fluctuates nervously.

This description of recent financial market events identifies behavioral standards that merit careful consideration:

i) Perplexity and insecurity dog the market agents. Market outcomes lead to recurring surprises. Expectations are out of step.
ii) Huge difficulty in understanding aggregate market movements based on individual opinions. The fragmented views of the specialists do not allow them to see the complexity of the financial markets.
iii) Market participants' clear inability to make accurate forecasts. Opinions are anchored in recent price behavior and researches are based in hindsight perspective, seeking to identify analogies in the past.
iv) Interminable search for outside variables to explain facts and align expectations (e.g., demand for Central Bank action).
v) Widespread inter-connections among events. Positive feedback process pervades market phenomena.vi)

We have no intention of sweeping through far-flung and sophisticated markets in which we have no specific competence. Nor would we be able to venture into forecasting any future events relating to this credit crisis. Our aim is far less ambitious and more theoretical. What interests us here is more the plot and less the actors. Our intention is to seek paths towards comprehending the trends identified above. The challenge is to be able to answer some intriguing questions: How to explain this enormous perplexity reigning among specialists? Why do these increasingly abrupt market movements still bring surprises among professionals? Why are the markets so defiant about confirming the projections of so many highly qualified analysts?

Given the depth of the topic, we have divided this task into two Reports. In this one, we identify problems in the traditional analisys framework, the preferred manual of most investors and market participants. We suggest an alternative mental model, which we describe below. In our next Report, we shall explain the reason why this other approach seems better attuned to market reality, and deserves to become part of our analysis toolkit.

The Traditional Approach

Scrutinizing the mental model of market agents in considerably more than mere academic curiosity. The fact of the matter is that every investor should seek to know this and all asset managers should be capable of describing it. Behind every single asset management proposition or investment strategy should be built over some kind of market behavioral premise.

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Since then, these indices performed significantly better than the Fund. The quotas of Dynamo Cougar increased by 13.6% by the close of the quarter, while the Ibovespa increased by 25.9% and the IBX by 26.5%, strengthened by Petrobrás' performance and, particularly that of Vale. During this recovery period, that lasted little more than one and half months, Petrobrás PN rose 28% and Vale PNA by no less than 56%! It is hard to explain this kind of performance in purely fundamentalist reasons. Rumors that the iron ore price annual revision would attain 50% maybe could explain most of the story. The fact is that the shares of Vale skyrocketed and carried the indices along with it. It is worth bearing in mind that, during the quarter, the joint performances of Petrobrás and Vale accounted for 76% of Ibovespa's appreciation and 79% of IBX.

For example, at Dynamo, we always say that we seek to identify distortions between asset price and value and that, over time, the trend is for these discrepancies to be perceived by market participants. In other words, behind this view of the world lies the premise that market presents imperfections (buy opportunities) and, at the same time, carries some kind of trend to rectify such distortions. A value-oriented research is our basic tool for identifying these differences. An active approach towards investments aims to promote corporate decisions which will act as a catalyst and narrow down this differential. And, a long term investment horizon is the virtue that we ask for ours clients, due to our inability to predict market correction timing.

The most common mental model among managers and traders is based on the efficient market hypothesis (EMH[2]). Basically, EMH assumes that: i) market agents make strictly rational/logical decisions, ii) any potential errors by these agents are simply individual decision anomalies that, in the long run, are cancelled out, iii) prices immediately reflect all available information, thereby allowing no leeway for arbitrage.

If, at every moment in time, strictly rational market agents immediately incorporate all available new information, prices have neither memory nor feelings. They are moved solely by the arrival of something new. As these are fortuitous, prices then take a random walk.

Without entering into the merit of how suppositions so distant from day-to-day business widely dominate the way to think finance, our interest here is to bear in mind that these assumptions have led to a specific description of the markets, based on two propositions: i) asset price variations are statistically independent of one another, ii) these price variations is described by a distribution of frequencies which can be fitted by a normal or Gaussian curve (bell-shaped). As a corollary to this view of world, the ideal investment strategy would be that of passive funds.

The advantage of a normal distribution arises from the fact that it can be totally known based on only two parameters: average and standard deviation. In this case, 68% of value frequencies can be found at a standard deviation of the sample average, 95% at two standard deviations, and 99.7% at three standard deviations. Differences greater than three standard deviations are regarded as extremely remote events, which do, however, happen to occur, as our LTCM colleagues are only too well aware. This type of distribution describes a number of several run-of-the-mill phenomena, such as, for example, height, weight, corporate mass index, and blood pressure of a given population. In fact, any group of large quantities, whose values are randomly selected, could, in theory, be adjusted by a normal curve.

If prices vary under normal distribution, pursuant to the widely accepted theory in the textbooks of finance, then the major variations in asset prices are rare and negligible events. Under this model, an event such as that of October 19, 1987, in which the S&P dropped by 22.6%, could not statistically happen (Sornette 2003). From 1916 to 2003, the traditional theory suggests that the Dow Jones could drop below -3.4% fifty-eight times, when, in fact this occurred 1001 times. The theory estimated only six days for below -4.5%, when it happened 366 times. For below -7%, the Gaussian model would expect such an event to occur every 300 thousand years. It happened on 48 occasions. "A calamitous era that insists on flaunting all predictions. Or, perhaps, our assumptions were wrong" (Mandelbrot, 2004).

When extreme results occur, only one reaction can be expected: confusion and generalized perplexity. Sound familiar in the light of recent events?

Searching for another model, which could closer reflect reality, the Behavior Finance (BF) appears as a candidate. The BF proposition is to base financial studies on a more realistic psychological premise. Accordingly, it openly criticizes the traditional paradigm by, through a number of empirical experiments, showing that people very frequently deviate from the world of purely logical choices. The BF program had the great merit of light up the microcosm of the individual decision process, but it hesitated to find a satisfactory explanation for the aggregate behavior of markets. By focusing on the individual and his judgment limitations, the BF merely suggested that "moves in stock prices reflect something other than news about fundamental values" (Cutler, Poterba, and Summers 1993). It hinted that not strictly rational individual decisions could lead to generalized irrational behavior. However, it happens that, in practice, the aggregated behavior of the market is frequently

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We live now in a time of ambiguities. The microeconomic indicators remain robust: a strong demand with volumes hovering close to two digits in many sectors, industrial activity attaining record capacity utilization levels over the last ten years, and investments in machinery, equipment, and construction in outright expansion. Our chief investments are excellently positioned to benefit from this growth and, for this reason, we have every confidence in the good performance of these companies. However, as we see it, many asset prices have already anticipated some of the inventory of good news. Moreover, the atmosphere overseas remains doubtful, suggesting further prices adjustments. For no other reason, we continue working at cash levels above historical degrees.

2 *We had an opportunity to describe in greater detail the basic concept of EMH in our Report 44, as being the counterpoint of an alternative view of the individual decision process proposed by* Behavioral Finance.

quite coherent. This is most clearly evidenced by the difficulty encountered by active managers in outperforming the indices over a prolonged period of time. In other words, BF remained stuck on the limitation of its own proposition. On concentrating its efforts on the psychology of irrational decisions, it was unable to climb the step that would lead to collective rational coherence.

CASs

Let us now follow another path, an alternative mental model that could more clearly reflect reality, both in terms of assumptions of individual actions and of its aggregate result, the market behavior. And here we encounter the Complex Adaptive System (CAS[3]). Basically, CAS is a system defined by the following components: i) it consists of a large number of heterogeneous market agents holding local information, ii) it has a certain aggregate mechanism that produces **emergent** behavior.

It is complex because it leads to a repetitive and non-linear interaction of a wide variety of independent agents. It is adaptive because, over time, the system learns and, as a general rule, results in richly coherent collective behavior[4].

The CAS intelligence base lies in market agents who hold specialized knowledge and local information. The dispersed intelligence of individuals is aggregated by some mechanism or code that auto-organizes and coordinates a wide spectrum of activities. And the outcome of this mechanism is an emerging, perceptible, and different property.

The chief CAS virtue is its ability to settle extremely complicated problems based, generally, on fairly limited knowledge, one of simple rules. The intelligence of these systems comes from the bottom up, is extensively spread and manifests itself through the interaction of this huge widely dispersed contingent. In this intricate network of interconnections, non-linear relations prevail, represented by non-equilibrium conditions. And, in this state, positive feedback prevails. Minor variations in inputs tend to result in major changes, whereby the entire system reorganizes itself. And all this without the support of a central command. In complex systems, controls are produced internally by competition and coordination mechanisms between agents.

Connectivity and interdependence propagate the effects of individual actions, decisions and behaviors. This reverberation of individual activities ends up influencing and even transforming the system itself. Out of this continuous balance of reciprocal influences and successive feedbacks among the micro events and macro structures, something new is born: An emergent property. This movement, based on simple rules aimed at a greater level of sophistication is what is known as emergency (Johnson 2001). But emergency is only present if these dynamic interactions at micro level result in a clearly discernible macro behavior. The emerging property is a concept of a whole entity, "which derives from its component activities and their structure, but cannot be reduced to them" (Checkland 1981).

Emergent phenomena cannot be understood through the traditional analytical focus of segregating the components and studying them individually. In this case, reductionism does not work. Just one simple and classic example: water. The behavior of the atoms of hydrogen, oxygen, and of the water molecule itself are well understood and described by atomic physics equations. It so happens that, if we join together billions of these molecules, we will have something different. A substance that "shimmers, gurgles, sloshes" (Waldrop 1992). The liquidness, aqueousness, are emergent properties. The sum of the parts is not the whole. The whole is different, perceptible, and superior. Similarly, the climate, the mind, life, money, language are emergent properties from complex systems.

Another distinctive CAS feature is its capacity to adapt. Behaviors, actions, strategies, and products are continually reviewed, as individuals accumulate experience. In this environment of perpetual novelty, of continuous change, of an apparent base disorganization, the system evolves and generates emergent properties that are more ordered and coherent. As a rule, emergence is a process that creates "new order together with self-organization" (Mitleton-Kelly 2003). And it is precisely this capacity for learning, adapting, and evolving that differentiates complex systems from purely chaotic ones. Both systems are non-linear, are critically dependent on the initial conditions, are unstable, and self-regulated. However, in chaos, the rules of interaction remain constant, and generate intricate but identical patterns. For example, fractal geometry, the usual expression of the theory of chaos, is based on the perfect sub-division of the whole in little replicable parts (Mandelbrot, 2004). But complex systems are capable of learning, and of changing the rules of interaction. "Chaos by itself doesn't explain the structure, the coherence, the self-organizing cohesiveness of complex systems" (Waldrop 1992). "Applying chaos theory to human systems therefore may not always be appropriate, because human behaviour does not always mimic mathematical algorithms (Mitleton-Kelly 2003).

There are many examples of CAS: economies, governments, companies, beehives and anthills, the biosphere and the ecosystem, language, the human body, the immunological system, and the central nervous system, the brain, and also markets. The behavior of social insects, for example, has already been documented in detail (Seeley 1996). Bees have developed a highly efficient food prospecting system. The foragers are dispatched randomly to search throughout the hive surroundings. When they locate nectar, they

3 *This term was devised by John Holland, Murray Gell-Mann, Stuart Kauffman, Chris Langton, and other members of the Santa Fe Institute (SFI), an independent scientific research center founded in New Mexico, USA in 1984. The SFI is a think tank seeking interdisciplinary cooperation to study topics common to the natural, artificial, and social systems.*

4 *Complex Adaptive Systems are one of the research programs that convention labels the Theory of Complexity. Other attempts have concentrated, for example, in dissipative structures (Nicolis and Prigogine 1989), autopoiesis (Varela and Maturana 1992), computational simulation and modeling (Epstein and Axtel 1996), the theory of chaos (Gleick 1987), cooperation (Axelrod 1990), and increasing returns (Arthur 1990, 1995).*

return and perform a type of dance, whose intensity is proportional to the quality of the outside banquet, which attracts other bees nearby. And, in this way, storage groups of varying sizes are formed to maximize individual energy and work based on the availability of supplies in each location. The dance is a complete communication mechanism that simultaneously communicates the magnitude of the hive's "opportunities and its needs" (Mauboussin, 2006), thereby producing an ingenious solution without a central command[5].

Let us look at companies. The basic element of a company is people. Here, we also see a diversity of market agents (shareholders, managers, employees, clients, suppliers, lenders) all interacting on different levels (economic, financial, corporate, regulatory, governmental, judicial, social/environmental). This entanglement of relationships is shaped by the company's by-laws, its proposed mission/values, and by its corporate culture. Under this coded DNA (aggregating factor) each company would find its own structure of cooperation, learning, creation, and adaptation. The resulting (emergent property) of this dynamic and non-linear process is something quite different. If we were to carry out an isolated study of the day-to-day work of a given category of agents in a company, the employees, for example, we would note little more than a handful of tasks and succession of routines. Microsoft, GE, Amazon, Toyota, Petrobrás, and Vale are unlikely to admit that they are understood based on the activity of each worker. Going even further, not even by the arithmetical sum of the work of all company associates. The whole is greater than the sum of its parts. The body is greater than the grouping of its members. The resultant is different. As we see them, companies are emergent properties of complex systems.

Markets as CASs

Thus, financial markets can also be regarded as CASs. Uncountable dispersed individuals, each of them pursuing their own investment strategies, based on individual experiences and local sources of knowledge. The rules of conduct are simple – there is no central control. Investment strategies and financial products evolve constantly. Market agents interactions occur in a common forum, the stock market exchange, which instantly groups this medley of dispersed decisions, ending up with an emergent end result: the market price. This one, in turn, influences the investors' future decisions, producing a self-feeding process between the emergent macro property and the micro decisions of the market participants.

And, what about the standards we recognized at the beginning of this Report, in the description of recent financial market events? Any resemblance between typical CAS properties? Well, let's see: a vast connectivity among different market segments (contagion effect), ability to adapt/evolve manifested in the ongoing innovation of financial products and in the competitive selection of successful investment strategies, difficulties encountered by analysts holding partial information in understanding the totality of the system, emergent properties (market prices) that differ from local expectations, and the preponderance of positive feedback mechanisms.

If markets were to behave in the manner of CASs, prices would then be emergent properties. They arise as a macro, perceptible, and different result, exactly because they are capable of obtaining and digesting a huge amount of local intelligence, the vastness of the irreplaceable experience of individual people. And, for this reason, they reflect the best estimation of value of the underlying assets. In this case, using standard language, the markets would be efficient. Not in the traditional sense of reflecting the precise calculations of omniscient individuals, but by translating the best estimation of value of investors which have cognitive limitations. However, were this true, we would be dismissing active asset management as a valid investment strategy. And, thus, what would be the *raison d'etre* of investors such as Dynamo? Wouldn't we be placing ourselves at a dangerous crossroads?

Since we do not wish to test the limits of our readers' acknowledged patience, this is where we halt these conceptual deviations. Now that the road has been paved, dear reader, it is our intention to reward your efforts in our next Report. There, we will propose a solution to the above dilemma and we promise to provide conclusions closer to our day-to-day work.

Dynamo Cougar x IBX x Ibovespa
Performance up to September/2007 (in R$)

Period	Dynamo Cougar	IBX	Ibovespa
60 months	529.46%	655.87%	606.89%
36 months	153.33%	196.16%	159.39%
24 months	94.54%	100.90%	92.84%
12 months	54.14%	68.08%	65.80%
3 months	2.59%	13.82%	11.12%

NAV/Share on September 30th = R$ 192,696164025

5 *In the ant colony, this communication occurs via a chemical signal, the emission of pheromones, and another physical signal, the gathering together of the ants. The intensities of the pheromones express differing messages such as "there's food outside", "let's clean up this mess". The random bumping enables the identification and count of individuals of the different function/classes, the foragers, the nest-builders, and the waste collectors. A worker expects to find another three workers per minute. If it comes upon a greater number, it will return to the nest. The rules, of course, vary based on the size of the community. In this way, ant colonies settle the difficult problem of allocating and balancing resources through decentralized decisions based on statistical probabilities (Johnson 2001).*

DYNAMO COUGAR x IBOVESPA x FGV-100
(in US$ dollars)

Period	DYNAMO COUGAR*			FGV-100**			IBOVESPA***		
	Quarter	Year to Date	Since 01/09/93	Quarter	Year to Date	Since 01/09/93	Quarter	Year to Date	Since 01/09/93
1993	-	38.78	38.78	-	9.07	9.07	-	11.12	11.12
1994	-	245.55	379.54	-	165.25	189.30	-	58.59	76.22
1995	-	-3.62	362.20	-	-35.06	87.87	-	-13.48	52.47
1996	-	53.56	609.75	-	6.62	100.30	-	53.19	133.57
1997	-	-6.20	565.50	-	-4.10	92.00	-	34.40	213.80
1998	-	-19.14	438.13	-	-31.49	31.54	-	-38.40	93.27
1999	-	104.64	1,001.24	-	116.46	184.73	-	69.49	227.58
2000	-	3.02	1,034.53	-	-2.63	177.23	-	-18.08	168.33
2001	-	-6.36	962.40	-	-8.84	152.71	-	-23.98	103.99
1st Quar/02	13.05	13.05	1,101.05	3.89	3.89	162.55	-2.76	-2.76	98.35
2nd Quar/02	-19.15	-8.60	871.04	-22.45	-19.43	103.60	-31.62	-33.51	35.63
3rd Quar/02	-22.31	-28.99	654.37	-31.78	-45.04	38.90	-44.17	-62.88	-24.28
4th Quar/02	29.76	-7.86	878.90	38.00	-24.15	91.67	45.43	-46.01	10.12
1st Quar/03	4.47	4.47	922.65	4.63	4.63	100.55	5.39	5.39	16.06
2nd Quar/03	27.29	32.98	1,201.73	38.16	44.55	177.07	34.33	41.58	55.91
3rd Quar/03	19.37	58.73	1,453.83	24.72	80.29	245.56	22.34	73.20	90.74
4th Quar/03	22.18	93.94	1,798.51	35.98	145.16	369.91	39.17	141.04	165.44
1st Quar/04	4.67	4.67	1,887.16	2.35	2.35	380.16	-1.40	-1.40	161.72
2nd Quar/04	-4.89	-0.45	1,790.04	-8.66	-6.51	339.30	-11.31	-12.56	132.11
3rd Quar/04	35.12	34.52	2,453.91	23.73	15.67	443.56	21.13	5.92	181.16
4th Quar/04	22.17	64.35	3,020.19	25.32	44.96	581.16	21.00	28.16	240.19
1st Quar/05	-1.69	-1.69	2,967.41	-1.66	-1.66	569.87	1.06	1.06	243.80
2nd Quar/05	5.41	3.62	3,133.23	2.98	1.27	589.80	7.51	8.65	269.60
3rd Quar/05	32.32	37.12	4,178.29	25.21	26.80	763.71	31.63	43.01	386.50
4th Quar/05	2.97	41.19	4,305.49	3.13	30.77	790.73	0.75	44.09	390.17
1st Quar/06	23.32	23.32	5,332.90	18.89	18.89	958.98	22.51	22.51	500.48
2nd Quar/06	-3.88	18.54	5,122.20	-4.58	13.44	910.48	-2.68	19.23	484.40
3rd Quar/06	5.68	25.27	5,418.57	2.64	16.44	937.17	-1.03	17.99	478.36
4th Quar/06	19.56	49.77	6,498.25	23.01	43.23	1,175.83	24.08	46.41	617.65
1st Quar/07	9.67	9.67	7,136.29	10.07	10.07	1,304.32	6.72	6.72	665.84
2nd Quar/07	29.34	41.85	9,259.40	28.84	41.81	1,709.26	27.19	35.73	874.08
3rd Quar/07	7.46	52.43	9,957.63	15.72	64.10	1,993.66	16.39	57.98	1,033.74

Average Net Asset Value for Dynamo Cougar (Last 36 months): R$ 642.544.538,35

(*) The Dynamo Cougar Fund figures are audited by Price Waterhouse and Coopers and returns net of all costs and fees, except for Adjustment of Performance Fee, if due.
(**) Index that includes 100 companies, but excludes banks and state-owned companies. (***) Ibovespa average.

Please visit our website if you would like to compare the performance of Dynamo funds to other indices:
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DYNAMO
DYNAMO ADMINISTRAÇÃO DE RECURSOS LTDA.
Av. Ataulfo de Paiva, 1351 / 7º andar. Leblon. 22440-031. Rio. RJ. Brazil. Phone: (55 21) 2512-9394. Fax: (55 21) 2512-5720