Report
DYNAMO 90
2/4 2016

Resilience and Robustness

The speed with which new companies reach the Forbes 500 list is twice as fast as twenty years ago. The number of American companies that have filed for bankruptcy in the last twenty years is six times larger than in the prior twenty years. A more dynamic and competitive market environment raises companies' threshold for survival. Businesses with competitive barriers once considered unsurmountable have suffered critical infiltrations. Companies once considered largely dominant have faced some uncomfortable surprises. Contemporary economies live a curious paradox: while the Central Banks, the money monopolists, coordinate in the search for a "great moderation" of economic cycles, the companies, subject to the inescapable laws of competition, experience unprecedented volatility in their results.

Resilience and robustness have become fundamental predicates of the struggle for survival in the corporate universe. With the help of a search engine, scraping the financial reports of listed companies in the main stock exchanges of the northern hemisphere, we find almost two thousand passages in just one week where executives define their businesses as resilient and/or robust. Even we highlight these attributes when we list the qualities of our invested companies. In the previous Report, we revisited this theme when we suggested following "North's indicator", which defines good companies as those who suffer in less magnitude the impacts of low business cycles. Finding companies with high immunity in this environment of constant threats is far from a trivial challenge to any investor.

The idea now is to think about the resilience/robustness theme in a more structured and deep way. As usual, we sought out clues in other areas that could provide us with parallels to explore the subject from our favorite perspective, the corporate universe. We begin with an incursion through psychology. Then, a brief passage through complexity theory, before we begin our reflections on the resilience/robustness of companies through two aspects that seem essential to us: flexibility and culture.

Before we move on, a semantic curiosity. Resilience comes from the Latin word *resilire*, from *re* "back" and *salire* "to jump, leap". *Resilire*, jump back, rebound, recoil. *Robustus* is also Latin, originally from "red tree" (oak), meaning something that is strong and hardy ("as strong as oak"). Keeping with the etymological line, both in Portuguese and in English, resilience is defined as something that possesses elasticity, that has the property of returning to its normal state after suffering a shock or deformation. While robust applies to what is solid and vigorous, that does not shake, flex, or weakens.

Our challenge as investors is to find companies that are robust and resilient. At first, robustness might seem like the more seductive property. Avoiding the deformations, the experiences in the negative quadrant, produces an extraordinary effect in the arithmetic of compounded returns. In the long time series of countries' GDPs, as we saw in the previous Report, the property of contracting less than others in cyclical downturns makes all the difference, serving as a reliable demarcation criteria to those Nations that have reached higher levels of socioeconomic development.

It turns out that the business environment for investors is much more fluid than countries' domestic output. Periods of relative stability are commonly followed by sudden and unexpected bumps. Perhaps we are in the world of evolutionary biology of Stephen Jay Gould's punctuated equilibrium rather than the more gradual and regular transformations of Darwin. That is, time and again, external events arise reformatting the competitive landscape of companies. Revenues and margins shrink. Adaptations become necessary. And it is here that resilience applies. The company's capacity to reshape itself, to find competencies to overcome the difficulties of the new environment. Companies need both robustness, to keep steady in their established course under ordinary threats, and resilience to regain direction after times of acute turbulence that will surely be found along the way.

Resilience and Psychology

In the field of psychology, resilience is defined as the individual's ability to recover from setbacks, to adapt well to change, and to continue to thrive even in the face of adversity. The definition involves two distinct elements: recovery and sustainability. Faced with stress shocks, our central nervous system triggers mechanisms of homeostatic regulation seeking its previous psychological rebalancing. Returning as quickly as possible to the state of natural comfort alludes to the elastic

property of the concept, to the etymological root of its name. That is, automatic physiological processes arise as fundamental elements to the aspect of psychological recovery.

The second part of the definition concerns the ability to endure and even make progress in the face of difficulties. It is the prerogative of preserving one's health and psychological well-being while living in a dynamic environment with permanent threats to the elements that bring meaning and purpose to one's life. What is sought is a positive state of mind, keeping alive the motivations that make us pursue our goals, even when under heavy artillery from difficulties. The greater the individual's ability to maintain the course of his life, the greater his resilience. Here, the mechanisms in play are no longer automatic but conscious, and relate to the constitution of identity, and to choices that characterize the development of sustainable values and purposes. In the psychology literature, this component is usually associated with so-called "protective factors", ingredients that help in the pursuit of this stability of character. They are: affective relationships, support and trust in the family or community, positive self-confidence and self-image, ability to accept reality and to plan realistically, good communication skills, ability to control strong feelings and impulses, optimistic attitude, good humor.

The study of resilience has until recently focused on the ability of individuals to recover from adverse events. With a primary interest in pathology, in "social problems", traditional research sought to associate the inadequacies with individuals' personality traits. More recent empirical studies have drawn attention to a different reality, noting that patterns of resilient behavior reveal themselves more frequently than previously imagined. Abilities to adapt and to recover from traumatic shocks do not seem to be rare virtues, and they do not require exceptional individual qualities. The understanding that previously sought the evidence in the extraordinary eventually revealed the "magic of the ordinary" (Masten, 2001).

What, then, explains this healthy capacity for overcoming hardships, fortunately more common than previously supposed? Some studies mention the contribution of genetic elements as potential inducers of resilient behavior, eventually identifying the responsible genes, for example, by the production of certain enzymes or by promoting a more efficient transport of serotonin (Luthar, 2006). But it is still a preliminary hypothesis, only a partial connection. As for the attribution of resilience to individual personality traits, it is clear that these are also influenced by those "protective factors". For example, children with higher self-esteem present better resilience scores, but to what extent does this self-esteem come from a healthier parenting environment? On the other hand, an increasingly accepted and endorsed result of empirical studies is the fact that resilience can be learned and developed throughout life, which agrees with the prevailing understanding that it must be seen as a conquered resource, and not as a talent endowed at birth.

If it does not come primarily from a gene or from a particular trait of the individual's personality, where would such a psychological resilience come from? The results show that it derives from the basic operations of individuals' adaptive systems: brain and cognitive development, emotional and behavioral regulation, motivation to learn and interact with the environment, a positive self-view, healthy affective relationships with one's family and/or community. If these systems are protected and working in good order, even in the face of severe difficulties individuals can develop themselves in a healthy way.

Some examples as illustration. Follow-up studies on widows show that most individuals present low levels of depression or distress after the death of their spouses – a result completely unrelated to potential absence of affective bonds between the couple, as supposed by interpretations of the previous dominant line of research. Several studies with a more epidemiological approach have concluded that about 50%-60% of the American population is subjected to some violent shock, but that only 5%-10% develop post-traumatic stress disorders (PTSD) (Bonanno, 2004). Likewise, a sample survey after the September 11 terrorist attacks indicated that 65% of New Yorkers met the resilience criteria and only 6% suggested PTSD (Zautra and Arewasikpom, 2010). Similar statistics have emerged in surveys following other shocking events such as the Oklahoma bombing, Los Angeles riots, or even Gulf War veterans.

Let us now hold on to the lessons learned so far in this brief and sweeping incursion into the psychology of resilience – they will be useful later. Resilience can be learned, does not necessarily require unusual individual attributes, and is mainly explained by the presence of "protective factors", fortunately more common than initially imagined. Looking at the two elements of psychological resilience, in the recovery aspect, we rely on the help of automatic homeostatic devices. Nature clearly prevails. In the second element, sustainability, environmental elements appear as determinants. Nurture seems to matter more.

Robustness and Complexity

Another field of research that addresses the property of resistance to external shocks is complexity theory. There is a vast literature on the robustness of so-called complex adaptive systems (CAS). Under what conditions do such systems, after exposed to threats, remain unscathed? As we saw in Dynamo Report 55, companies can be perfectly defined as CAS. They are a complex phenomenon because they result from the repetitive and non-linear interaction of a large number of

independent agents endowed with local information. They are adaptive because they have the ability of learning over time, producing in general a coherent collective behavior, different and superior when compared to the simple horizontal sum of the activities carried out by its members individually. Therefore, investigating the robustness properties of complex systems may bring some insight to our purpose of deciphering the issue from the viewpoint of companies.

There are three elements that give CAS robustness: diversity, modularity and redundancy. There is abundant evidence of the importance of diversity in CAS. In biology, the greater the variety of individuals and species in an ecosystem, the more robust it will be. Diversity, in addition to increasing the chance of mutation giving the opportunity for evolutionary adaptation, prevents some virus or external imbalance from threatening the integrity of the system as a whole. In the financial markets, we remember well the lessons of the last great crisis of 2007/2008. The domino effect of the collapses of markets occurred – it is now known – precisely because the correlations tended to 1, that is, the assets performed monotonically in tune, without any practical effect of diversification in the portfolios. In companies, the diversity of personalities and backgrounds among employees, generating greater volume of ideas and initiatives, strategic heterogeneity, breadth of suppliers, geographical latitude, or amplitude of the customer base, for example, usually act as risk dilutions. An already classic example of diversity in the corporate environment was Fujifilm's decision in the late 1990s to adopt aggressive strategic diversification. The company invested heavily in R&D, accelerating acquisitions, moving to different segments such as pharmaceuticals and cosmetics, and this ultimately ensured its corporate survival at a time of disruption to its main business, the photographic film. Kodak, on the other hand, being more conservative, opted to explore only the vicinity of the industry and eventually did not avoid bankruptcy.

Another aspect that confers robustness to complex systems is modularity, that is, the ability of a system to maintain weakly connected components. Here the insight is borrowed from network theory (cfr. Dynamo Report 63), also related to the study of complexity. In modular systems, shocks are absorbed locally, minimizing systemic risks. This occurs for example in the automatic detachment mechanisms of interconnected electrical systems. In the event of a lightning strike in a certain location, the local system is shut down, avoiding a general blackout in the country. Examples of the principle of modularity applied to business strategy are the so-called pilot projects, controlled experiments, circumscribed in time and space, where certain concepts or situations are tested and, according to the result, are replicated on a larger scale. In retail, this is often used to test alternative distribution channels or even new designs of physical stores. A simple and commonplace device, but when ignored may provoke disastrous outcomes, as we have already seen some. Modularity is also present in the business models of "digital" companies, where peripheral applications are coupled to the system or central platform as they are developed. These are called APIs (application programming interfaces), interfaces that make it easy for developers to add new applications. At the end of the day, modularity explains much of the success of Google, Amazon, the major Stock Exchanges in the world, as well as the personal computer and smartphones. A fourth illustration of modularity is the initiative of established companies to promote new business areas uniquely focused on developing or anticipating innovations that may eventually disrupt their core businesses. Already common among technology companies, this more recently has been spreading among consumer names, as in the case of Ambev with the creation of ZX Ventures and Coca-Cola with the Coca-Cola Founders program[1].

The third ingredient of robust complex systems is redundancy, where several elements play overlapping roles. When one component fails, another one can fill the same function. Redundancy is particularly important in very dynamic environments, where adverse shocks are common. Examples of redundant complex systems are the human immune system, composed of diverse assemblages of cells, tissues and organs (macrophages, lymphocytes, ganglia, spleen, bone marrow, etc.) that establish successive levels of defense against invading antigens. Companies, now increasingly technology-intensive, are dependent on information flows, connectivity and digital processes, and have sought to ensure redundancy through so-called contingency sites, where data backups and surplus processing capacity are installed. Deutsche Bank, with redundant IT systems and backup in Ireland, was able to settle operations on the order of $300 million on the day of the WTC terrorist attacks. Merrill Lynch also operated normally that day, through its New Jersey contingency site (Sheffi, 2007).

The company where these three attributes seem most pervasive is Google. Diversity, modularity and redundancy are in the company's DNA. The product strategy is abundant in illustrations. At Google, it is common to see different solutions competing within the same category. In instant messaging, for example, Google has offered four distinct options for its users simultaneously (Google Talk, Google+ Messenger, Messaging, and Google Voice). The company assumes that it will face competition, does not believe in a single approach

1 *ZX Ventures arose from AB InBev's own need to promote innovation in a startup model, outside the traditional structure of a large company. The company is a developer, incubator and equity fund hybrid, occupies an independent physical structure and has its own team, a team of young people that calls itself "global disruptive growth group". Coca-Cola has also created an alternative model for developing startups, through which it selects entrepreneurs with ideas that can leverage its global presence. The program is called Coca-Cola Founders, and provides the 'parent' company's resources and relationships to help these young entrepreneurs design, build and 'scale' their business.*

to problem solving, and does not know in advance which alternative will eventually become dominant. Therefore, Google prefers to encourage internal competition, in the hope that one of its solutions will be adopted by users. Examples abound. Google bought Waze and did not take down Google Maps. After acquiring Youtube, its previous product, Google Video, still went through a redesign. They tried to attack their own Gmail service with Google Wave. They launched Google TV and Chromecast. Google+ co-existed for three years with Orkut, and so on. Knowing the risks of disruption in its business, Google seeks to protect itself through a broad strategy of segment diversification. In addition, in seeking to 'tame' the competition, it selects winners and losers at home, generating robustness in a creative application of the concept of modularity.

Perhaps the company with the highest usage and storage of data, Google is always thinking about contingencies: it prepares for hard disk failures, bugs in data manipulation programs, and even catastrophes in data centers, such as floods, explosions, earthquakes, etc. At all levels we see enormous redundancy. Famous since the company's early years, the system originally called BigFiles evolved into the Google File System (GFS) and then to Colossus, always observing the fundamental principle of redundancy. One of the principles of BigFiles, for example, is that every stored file is broken into pieces. The pieces are copied at least three times and each copy is saved on a different disk in the datacenter, so that each disk contains mixed pieces of different files. In this way, when one disk fails, there is no loss of files. There is loss of pieces of files, but each piece has copies stored on other disks. Central nodes along this network monitor disk failures and the locations of each file and its constituting chunks. In this way, you can replicate the information lost on the failed disk and save it in a new one. In an environment where the disk mortality rate is close to two failures per minute, Google does not dream of infallible components. It acknowledges failures and has developed a system to address its effects.

Variety, modularity and redundancy are important assets that contribute to the robustness of complex systems. On the other hand, in the case of companies, the three elements also mean costs. There are few business models – such as Google's – where pursuing these attributes without any concern for budget constraints is justified. Generally, in the battles of competition, excess cost becomes a threat to survival. In this case, a trade-off between robustness and efficiency arises. A typical example is the case of information technology systems. Generally, the higher the integration level of the company's ERP system, the greater the degree of control of internal processes, the better the flow of information, the greater the coordination among different areas. A more comprehensive system tends to generate more efficiency. On the other hand, the company becomes dependent on the proper functioning of this management tool. A localized problem in the ERP can paralyze the entire company. A comprehensive ERP functions as an aggregator, produces tight coupling, and greater interconnectivity. There are gains in efficiency, and losses in modularity and redundancy.

Although conceptually it has given us interesting clues, the analogy of complexity must pass through a filter of efficiency. The three elements need to be properly weighed.

Resilience/Robustness in Companies

With this background in mind, we venture some comments from now on about resilience/robustness in the corporate environment. What makes a company more resilient/robust than others? Of course, the business segment itself matters. Apparel companies subject to changing consumer preferences, or companies in technology-intensive segments that are more exposed to disruptive innovations, or sectors where product differentiation is low and competition intense, tend to suffer more impacts over time. On the other extreme, companies that provide utilities – sanitation, electricity, gas – for example, where demand is more predictable, where competition is less significant or even absent, typically regulated monopolies, are much more stable. As our object of interest begins and ends in the companies themselves, we suggest for the moment to leave aside the comparative analysis of the business segments and focus on the companies. That is, given two companies in the same business, submitted to identical competitive pressures, how can one explain any differences in their resilience/robustness? We propose two candidates: operational flexibility and cultural elements.

Flexibility

The first idea reminds us of the etymological origin of the word: resilience presumes elasticity. That is, resilient companies are flexible. Flexibility in the sense of being able to keep viable alternatives available, relying on the asset of redundancy as an optionality, without, however, exerting too much pressure on the cost base. This is when you get redundancy without having to increase the amount of resources used. For example, maintaining high inventories of replacement components or building excess capacity. The idea is to develop flexibility, eventually intensifying the relationship with suppliers, designing commercial contracts that adjust to the circumstances, building industrial facilities with greater productive mobility, and employing a workforce with multi-tasking skills and autonomous and local decision-making capacity.

The rigidity of the lack of alternatives is often fatal for companies. Nothing more reckless for a business model than relying on a single buyer, an exclusive supplier, a logistics

route without alternatives, or concentrating goods on a single distribution center or the entire production on just one manufacturing site. Ericsson was virtually cut off from the handset market after the fire in the Phillips semiconductor plant in Albuquerque in 2000. Phillips was Ericsson's only supplier of this component (Sheffi, 2007). Petrobras acts in practice as a monopsonist in the oil and gas supply chain in Brazil. The company's recent financial turmoil, with drastic reductions in orders and contract reviews has put many suppliers and sub-suppliers in a very delicate situation. Another example that concerns commercial contracts is Usiminas, an interesting case because it illustrates both extremes, flexibility and rigidity. During the period of depleted reservoir levels and of increased cost of energy production with the use of the more expensive thermal power plants, the Brazilian energy spot price (PLD) reached the maximum allowed limit, an exorbitant R$822 per MWh. As Usiminas' contracts provided for the possibility of resale, the company obtained significant profits by selling part of its contracted capacity in the market. On the other hand, during the recent drop in iron ore prices, Usiminas was forced to stop part of the production of its mining subsidiary, Musa. But its agreement with the railroad operator, MRS Logística, was in the take-or-pay model, so the company continued to bear the costs of railroad capacity even without actually transporting any product.

Companies become flexible in several different ways. One way is through the standardization of processes, tasks or assets, through which the company obtains a greater degree of operational substitutability. A common thread in the auto-industry, for example, is for companies to develop identical industrial plants in several countries, allowing for the reallocation of product pieces in the event of local crises or even significant changes in the relative costs of production, from sudden movements of the respective country currencies. Of course, this intra-country production shift is not achieved overnight. It requires adaptations in commercial contracts and distribution channels, designs that have been developed by the industry for a long time. Even engineering designs, the well-known production "platforms" of the auto industry, are designed to serve as a common basis for several different car models, giving OEMs several advantages such as reduced production and product development costs, simplifying quality controls and inventory management, and allowing for a greater diversification of models and brands.

In the airline business, asset standardization has also been gaining ground, notably among the so-called low cost carriers, through more uniformity in the aircraft fleet. The initiative generates substantial cost reductions in several important lines – maintenance, crew, systems, etc. – as well as significant economies of scale in aircraft purchases from manufacturers. As these low-cost airlines generally work with a point-to-point grid of flights and more homogeneous distances, they are able to capture the significant gains in costs and operational expenses from a uniform fleet, without incurring in a counterbalancing revenue loss, which would invariably occur in the hub and spoke model typical of the most traditional airlines (long flights that unfold in several smaller flights in the terminal-hub).

Another example of flexibility that we have been following closely is Klabin. With 230,000 hectares of pine and eucalyptus forests, 10 industrial paper and conversion plants spread throughout the country, and a newly inaugurated state-of-the-art pulp mill, Klabin has a production capacity of 3.5 million tons of cellulose per year and can choose to sell hardwood or softwood pulp directly on the market, manufacture fluff-type cellulose (diaper and absorbent material), produce cards of various weights and specifications, including those used in Tetrapack packaging, produce kraftliner paper and sell it on the market, or use it in converting industrial bags and corrugated paper from the blend of recycled paper chips. As one of the industry's lowest cost integrated producers in the world, Klabin has a high market share in all segments where it operates in Brazil, and is able to place its products in a very competitive way in the foreign market. That is, the company has three major flexibilities: i) in production, because it is fully integrated, from the forest to the conversion; ii) product / business segment mix, based on access to the two types of fibers – hardwood and softwood, eucalyptus and pine; iii) commercial, given the possibility to direct its products to both the domestic and export markets. Such flexibility has ensured a clear competitive advantage to Klabin, which translates into operating margins consistently above the competition.

Dynamo Cougar x IBX x Ibovespa
Performance up to September 2016 (in R$)

Period	Dynamo Cougar	IBX	Ibovespa
60 months	118,3%	34,1%	11,6%
36 months	51,3%	13,6%	11,5%
24 months	40,6%	8,5%	7,9%
12 months	25,7%	27,8%	29,5%
Year to date	23,0%	33,3%	34,6%

NAV/Share on September 30 = R$ 633,448482

The trend towards more specialization, the growing focus on their core business, and the need for cost reduction have pushed companies to outsource much of the productive stages that were once internally executed. As an unintended consequence, businesses have become more vulnerable, dependent on what happens outside their walls. Under this imperative of efficiency, another way of ensuring flexibility and creating more corporate resilience is to pursue a greater management of the supply chain. In some cases, it is a question of anticipating potential problems and working in partnership with suppliers to avoid further consequences of eventual disruptions. In other cases, it means establishing routines to support and promote desirable attributes with suppliers. The good fashion retailers in the world – notably the Spanish Inditex (Zara) – are typical examples of this active management in the supply chain. Here in Brazil, Renner and Arezzo have been concentrating on this for many years. There are several objectives: to avoid surprise complaints that could damage the companies' image of sustainability (working conditions, origin of raw materials, etc.), reduce the delivery time of goods, or even improve the reactivity of the entire chain to the sometimes abrupt fluctuations of consumer preferences, reducing the markdown of the products in the stores and increasing the turnover of sales.

Operational flexibility emerges as an interesting antidote to external threats. It acts as a buffer that helps neutralize the effects of shocks, providing economically viable alternatives. It is an asset that definitely brings greater resilience/robustness to companies.

Culture

Paradoxical as it may seem, resilient individuals assembled in a partnership do not necessarily guarantee that the company will be resilient. Personal virtues, personality elements, or temperamental traits are necessary initial conditions, but not sufficient. A successful corporate story is often confused at first with elements of the entrepreneur's personality. In fact, this is the most common roadmap of business success. But over time, these qualities must permeate the corporate fabric and ultimately become the company's "way of being", in what is commonly called "culture".

We know several examples of visionary entrepreneurs who were ahead of their time, technically competent, dedicated, who have failed to transform this repertoire of virtues into a set of differential qualities for their companies. Perhaps we are talking about a very particular aspect of personality, which is the ability to transform personal values, beliefs, and assumptions into a shared experience, a peculiar ability to inspire others to also act as owners, or to think of a team lineup that will produce greater chances of solving the problems of external survival and internal coordination. Perhaps this very element differentiates an executive-entrepreneur from the true leader: the leader, at the end of the day, is the one who creates culture (Shein, 2004).

Personality is to the individual as culture is to the group. In psychology, we have seen that the personality alone cannot explain the resilience of individuals, which is more related to the "protective factors". In the case of companies, we might say, these "protective factors" are ingrained with cultural elements. They are the structures, codes, processes, strategies, objectives, beliefs, and values, that intertwine to give life to the corporation. From there we can say that it is in the culture of a company that we find the main clues that determine its resilience or lack of resilience. The challenge is to make the correct reading of the culture, beyond those more obvious and external aspects. Culture is focal point. We need to identify the basic, deep-rooted, and even unconscious assumptions that ultimately determine the values and guide the actions of the company and understand the learning process through which these deeper elements are disseminated and consolidated.

Looking at successful/admired companies, the most common case is where the founder/CEO acted as a true leader and was able to print his or her fingerprints in the cultural fabric of their companies (Microsoft, Dell, Amazon, Facebook, Zara, Nike). Sometimes there are two or three individuals, a small consortium of founders, or a family (Google, Inbev, Reckitt Benkisier, Weg, HP, ICE). Still, as culture is a living thing, and companies are systems that adapt over time, these original cultural elements also need to be updated. This is always a delicate moment in the life of the company. Sometimes, cultural identity ends up being infused by a long-term CEO with an owner's mentality (Renner, Pixar, GVT). In other cases, the dominant cultural traits originate from the miscegenation of several founding families, or synthesize different cultures after a merger or acquisition process (Raia Drogasil, Itaú Unibanco).

As culture is a very broad concept and everything at the end of the day can be defined as coming from a cultural source, some more specific definitions will help us. From our experience, we have been able to catalog some of these manifestations, which appear to us as common traits in the paths of proven resilient/robust companies. They are: i) a realistic view of the world, associated with the ability to anticipate risks and adapt, promoting the necessary changes; ii) decentralization of power, granting decision-making autonomy with accountability to the various hierarchical levels, even if the strategic orientation emanates from a more centralized command center; iii) unconditional commitment of employees, reflected in a willingness to surpass obstacles and a nonconformity with their personal achievements, a desire for individual fulfillment that blends with the pursuit of collective goals, a zeal for everything that concerns the construction and defense of the interests of the company – that is, owner mentality, nonconformity and "passion".

Let us consider each of these items:

i) A realistic view of the world translates into the mentality of thinking of risks as a permanent exercise. In practical terms, it leads to a proactive attitude in the company that seeks to intercept problems when they are still outside the impact zone and/or promote the needed adjustments to escape from the trajectory of collision. Moreover, it usually acts as an antidote against the overconfidence of boom cycles or after a phase of persistent corporate successes. Not coincidentally, in the management literature, this type of characteristic is confused with a so-called 'strategic resilience'. Extreme and classic example is Morgan Stanley at the World Trade Center. After the 1993 bombing, the bank created an evacuation plan that was frequently exercised with its employees. In the tragic event of September 11, 2001, out of the 2.7 thousand employees of the bank in the building, only six did not survive.

ii) Experience shows that companies that can respond well to crises often have a common trait: their nervous connections are sensitive and possess capillarity. Generally, the first signs of operational problems arise at the far end of the central command center: store counters, factory floors, distribution channels. Companies that deal well with difficulties are those where such information is readily perceived, provoking prompt and adequate responses. Often the reaction occurs locally, as an initiative of employees directly involved with decision-making power. They are store managers with autonomy to change the product mix, sales representatives with ability to calibrate discount levels, or even assistants with initiative to suggest solutions outside the company's manuals. When the information has to go through a long hierarchical path until it reaches the decision nucleus, and then go back the long way down until it turns into action/response, that is a red flag. It is a symptom that the company is losing the memory of the decision-making agility of the beginnings, exposing itself to the risk of succumbing in the quicksand of internal bureaucracy. Unfortunately, there is no shortage of examples of companies that exhibit this perverse form of organizational complexity.

iii) An owner's mentality, nonconformity and passion, could easily make up an entire Report. They admit different shades, but we prefer to treat them through a single, perhaps more original aspect, an insight that we do not find in literature, but which stems from our experience and closeness to the day-to-day life of companies. In the market environment, marked by competition, all the companies that progress do so on the basis of a lot of work. Simply, to 'work a lot' is to spend a lot of time working. We found no exception to this rule. Job-saving shortcuts often reveal their true cost in the future and do not serve us as long-term investors. However, at certain times in the life of the company, in addition to working a lot, it is also necessary to work hard. It is doing what you do not like to do, but is necessary. Hard work is that which is outside the ordinary agenda of the natural inclinations of employees, requiring them to cope with unpleasant situations. These are costly decisions or actions, such as laying off the head of a household, leading a discussion to the courts, dealing with a reputational crisis, taking on responsibilities involving socio-environmental risks, opening an inhospitable commercial channel, and so on. The way in which each individual employee and the company as a whole deals with these situations usually separates those that reach the most exclusive group of operational excellence. We are not saying that effort alone ensures this privileged condition. The contemporary is identified with satisfaction in what one does. The physical structures, the internal atmosphere, and the design of the productive organization of the so-called innovative companies are the strongest evidence that efficiency needs neither a Pavlovian view that threats one´s "comfort zone", nor a Darwinian perspective of competition for survival in the inverted funnel of vertical organizational charts. Assuming that the strategic orientation is adequate, the point here is that at certain times in the life of the company, the willingness of partners, executives and employees to face the troublesome challenges by putting their personal preferences at the service of the collective goal can translate into a competitive differential. The strength of personal growth tends to function as an internal propulsion, and the resulting collective vector ultimately pushes the company to a higher level of resilience and excellence.

The narratives of extraordinary resilience are admirable. They are unlikely feats that fascinate, surprise and instigate, often by the rawness of the life threat in extreme situations. They can be reports of survivors after accidents in inhospitable places, of unusual diseases, of individuals subjected to the brutal violence in concentration camps, hostages in wars, or in urban captivity. There are countless lessons to be learned in these spectacular stories and the victory of their hero's resilience will always bring valuable purposes to those who read, hear, or watch them. Here at Dynamo we often accompany them with admiration and curiosity, seeking, even remotely, some angle of personal inspiration. On the other hand, the recent findings of psychology, rediscovering the magic of ordinary resilience have made us think about. It seems equally disconcerting and more appropriate as a metaphor for our ongoing search for tools that can help us decipher the complex reality of companies. In this sense, the insight of individual psychology is at odds with our daily observations.

DYNAMO COUGAR x IBOVESPA
(Performance – Percentage Change in US$ dollars)

Period	DYNAMO COUGAR* Year	DYNAMO COUGAR* Since Sep1,1993	IBOVESPA*** Year	IBOVESPA*** Since Sep1,1993
1993	38,8%	38,8%	7,7%	7,7%
1994	245,6%	379,5%	62,6%	75,1%
1995	-3,6%	362,2%	-14,0%	50,5%
1996	53,6%	609,8%	53,2%	130,6%
1997	-6,2%	565,5%	34,7%	210,6%
1998	-19,1%	438,1%	-38,5%	91,0%
1999	104,6%	1.001,2%	70,2%	224,9%
2000	3,0%	1.034,5%	-18,3%	165,4%
2001	-6,4%	962,4%	-25,0%	99,0%
2002	-7,9%	878,9%	-45,5%	8,5%
2003	93,9%	1.798,5%	141,3%	161,8%
2004	64,4%	3.020,2%	28,2%	235,7%
2005	41,2%	4.305,5%	44,8%	386,1%
2006	49,8%	6.498,3%	45,5%	607,5%
2007	59,7%	10.436,6%	73,4%	1.126,8%
2008	-47,1%	5.470,1%	-55,4%	446,5%
2009	143,7%	13.472,6%	145,2%	1.239,9%
2010	28,1%	17.282,0%	5,6%	1.331,8%
2011	-4,4%	16.514,5%	-27,3%	929,1%
2012	14,0%	18.844,6%	-1,4%	914,5%
2013	-7,3%	17.456,8%	-26,3%	647,9%
2014	-6,0%	16.401,5%	-14,4%	540,4%
2015	-23,3%	12.560,8%	-41,0%	277,6%

2016	DYNAMO COUGAR* Month	DYNAMO COUGAR* Year	IBOVESPA*** Month	IBOVESPA*** Year
JAN	-5,8%	-5,8%	-10,0%	-10,0%
FEB	4,9%	-1,2%	7,6%	-3,1%
MAR	22,1%	20,7%	30,8%	26,7%
APR	8,3%	30,7%	11,1%	40,7%
MAY	-6,2%	22,6%	-13,7%	21,4%
JUN	17,6%	44,3%	19,1%	44,6%
JUL	4,4%	50,7%	10,2%	59,4%
AUG	-1,7%	48,0%	1,0%	61,0%
SEP	-0,1%	47,9%	0,6%	62,0%

Average Net Asset Value for Dynamo Cougar
(Last 12 months): R$ 2.516.799.301

(*) 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 closing.

The mystery of corporate success lies in the quieter construction of the day-to-day, when visions and purposes are transformed into zeal and competence, usually through the presence of authentic leadership. It is culture in movement. The "protective factors" that explain individual resilient behavior, will be the cultural aspects in companies, or the "way things are done here". In addition to a strategic mindset that seeks the important asset of operational flexibility, it is the level of vibration of this cultural substrate that will determine the pattern of corporate immunity. Realistic vision, accountability, owner mentality, nonconformity and passion are some manifestations of the elements of culture that we find in robust/resilient companies.

These are clues that can help us see the behavior of companies at the key moment of the business cycle, when the tide is low. This is a particularly important period in which two simultaneous phenomena usually occur: i) a reconfiguration of the competitive environment, when the future survivors begin to differentiate themselves from the others; ii) a loss of understanding by the market of the companies' communications, since the narratives of executives become more vague and diversionist. It is then necessary to calibrate one's vision to see correctly through this double fog that makes the truth not stay straight aligned with one's view. For us at Dynamo, as long-term investors, knowing the gears of resilience/robustness works as a guide to our perception, showing what is actually happening, under the dense fog. We imitate here some species of fisher birds that rectify part of their vision that is refracted when meeting the sea, the only way to accurately reach the fish at any depth – even under the muddy and misleading waters of the ocean.

Rio de Janeiro, October 18th 2016.

Please visit our website if you would like
to compare the performance of
Dynamo funds to other indices:

www.dynamo.com.br

DYNAMO

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