Breaking the Pattern

Brazil is experiencing a moment of clear cyclical recovery, with falling interest rates, increasing GDP growth, declining unemployment and improving profitability in the corporate sector.

We can also say that we have been living the beginning of a period of liberal economic reforms in the last two years, with the introduction of the spending ceiling, the approval of the labor reform, the gradual linkage of the interest rates of the National Development Bank to market rates and privatization of state-owned enterprises, among other measures.

Less obvious, however, is to judge whether we are experiencing a structural change in our political-economic institutional system.

For this purpose, it is valid to follow the concepts developed by the economists Daron Acemoglu and James Robinson in the book "Why Nations Fail"[1]. Through an extensive series of historical examples, they analyze and theorize about the factors that make certain countries rich and others poor. At first, they discard some common hypotheses, which are not supported by data:

- **Ignorance Hypothesis:** It makes no sense to argue that poor countries do not know how to become rich. Indeed, such governments consciously sustain poverty for the enrichment of an elite associated with power.

- **Colonizing Country Hypothesis:** England colonized the United States and Canada, which are rich countries today, but also colonized Sierra Leone and Nigeria. Argentina and Uruguay have a greater proportion of Europeans than Canada and the United States but are way beyond these countries in terms of GDP per capita.

- **Geographic or Climatic Hypothesis:** Mexico, Central America and the Andes had higher standards of living than the United States before 1492, but they reversed positions even though there was no change in their climate or geography. The idea that hot climates are unfavorable to wealth is questioned by the Singapore and Malaysia cases, among others. It is very illustrative the case of the city of Nogales, which belonged to Mexico but was divided with the United States by a fence in 1853 and today presents on its North American side the triple of the income per capita of its Mexican side.

- **Cultural Hypothesis:** Religion, ethics and regional values are not relevant to explain differences of wealth. Only the culture associated with the institutional regime is shown as a relevant explanatory variable in the analysis.

According to the authors, the factor that best explains the difference in wealth standards across countries is the political-economic institutional regime. Poor countries have "extractive" institutional regimes, while rich countries have "inclusive" institutional regimes. The authors argue that it is very difficult to change regimes, which tend to perpetuate in vicious cycles in the case of "extractive" ones and in virtuous cycles in the case of "inclusive" ones. But in certain situations of rupture, conditions may be created for a change in regime.

[1] *Why Nations Fail – The Origins of Power, Prosperity and Poverty* by Daron Acemoglu and James A. Robinson, Crown, New York, 2012.

"Extractive" regimes are very common in Latin American and African countries and are so called because they "extract" income and wealth from the society to benefit a small group associated with the government, which has the incentive to maintain "extractive" institutions to preserve its generation of wealth and ability to perpetuate its command. At the limit, they can develop their own personal army, buy judges, manipulate elections, and censor opponents. These regimes may violate property rights and expropriate land to avoid enrichment of opponents and to favor members of the government's support group. And they may grant and sustain monopolies because they need this economic stability to know that the beneficiaries of today will support them in power in the next election. Thus, they avoid the incentives for "creative destruction", which would generate development for society, but could jeopardize its partners that are expected to finance the electoral renewal of its mandate.

At the same time "extractive" regimes offer few defense mechanisms against the usurpation of power. They tend to have expensive licenses, heavy bureaucracy and favorable financing for incumbent companies. In general, they offer low incentives for education and innovation. In colonization times, forced labor and expropriation of wealth strengthened the power elite and increased the dependence of workers on the resources they could provide. The wealth generated by the regime, and necessary for its maintenance, raises the incentives for the political game. Even when revolutions take place by overthrowing governments, the incentives are so high that the new ruler ends up maintaining the "extractive" regime and taking advantage of the privileges in his new situation of power[2].

"Inclusive" regimes may be illustrated by countries such as the United States and England, among others. They usually occur in states with centralized power, but with pluralistic political institutions. In countries where political power does not reside in an individual or small group, but in a broad coalition or plurality of groups, and with broadly distributed political rights. "Inclusive" political institutions tend to overthrow economic institutions that expropriate resources, place barriers on entry or repress market functions for the benefit of the privileged few. Their governments are accountable and responsive to citizens.

In general, "inclusive regimes" have secure property rights, an impartial legal system and egalitarian conditions. Workers are qualified and free to pursue activities of higher productivity. The great mass of people can benefit from economic opportunities. The process of creative destruction is encouraged, and less efficient companies are continually replaced by more efficient ones. This creates incentives for the acquisition of skills and education generating a good offer of schools and of skilled labor. It is generally easy to open new businesses, with a good availability of financing and a strong trust in institutions, law and property rights. These countries tend to allow a free media to flourish, helping the threats against "inclusive" institutions to be known and resisted. Breaking an "inclusive" regime would involve losses for the elite and the incentives of this political game are smaller because there is no income associated with monopolies or coerced labor to preserve.

The book argues that while economic institutions are critical to determine whether a country is poor or rich, it is politics and

[2] In line with the theory of "Iron Law of Oligarchy" of the German Robert Michels, who argues that the internal logic of oligarchies and of any hierarchical structures is to reproduce itself even when a new group takes power.

political institutions that determine the economic institutions of a country.

Despite the tendency to maintain the regime, there are societies that have managed to break the pattern and abandon a historical "extractive" one to migrate to a more "inclusive" one[3]. Significant institutional changes, which are prerequisites for significant economic change, result from the interaction between existing institutions and critical circumstances, events of considerable magnitude that break the existing political and economic equilibrium.

We believe that Brazil is experiencing a moment of considerable rupture, which could give rise to the possibility of structural change in its institutional regime.

The severity of the economic crisis (7% decline in GDP), its association with a corruption scandal and practices of the "extractive" regime (Car Wash investigation) and the contribution of social media to the mobilization of society created a favorable scenario for changes.

One of the most important factors to enable a change in regime is the end of criminal impunity, symbolized by the Car Wash Operation. The independence of the Federal Police enabled the investigation of politicians and businessmen of the power elite. The Criminal Organizations Act of 2013 consolidated the plea-bargain practice, which has been used as an important investigative tool. A good cooperation among Federal Police, Federal Judges and Prosecutors was also important in this process. At the same time, banks in tax havens are disclosing their clients' bank accounts for criminal investigations, influenced by global cooperation agreements against money laundering post September 11th, 2001. New technologies and the growth of a digital society increased the amount of data subject to scanning systems, expanding evidences and criminal proofs.

The Brazilian judicial system has four instances and usually imprisonment does not take place until all appealing possibilities are exhausted. Endless procedural inquiries can easily delay the process until all crimes prescribe. Perhaps reflecting the current context, the Federal Supreme Court in a very important recent decision accepted that the conviction in the second instance court could authorize imprisonment. Provisional imprisonment has also been gaining acceptance. As a result, the arrest of dozens of corrupt powerful businessmen and politicians is leading to the breakup of a pattern of impunity and a shift in incentives for white-collar crime, such as corruption. The Federal Public Prosecutor's proposal of "Ten Anti-Corruption Measures" is a roadmap of what should be pursued for a structural improvement in this field.

At the same time, we have seen signs of growth in the independence of Brazilian institutions, whose manifestations have served as counterpoint to other powers, avoiding unreasonable decisions. Notwithstanding the merits and motives for the decisions, the fact is that the Federal Public Ministry criminally accused the current President of the Republic Michel Temer, the Congress impeached the prior President Dilma Roussef and the previous one, Lula, has been convicted in first and second instances of the judiciary system. In the economic field, the Anti-Trust Commission has vetoed important transactions due to market concentration (Ultrapar acquisition of Ale and Kroton acquisition of Estacio) and overturned

[3] The author mentions major events such as the Glorious Revolution in England in 1688, the French Revolution in 1789, the US Civil War and the Civil Rights Movement in 1950-60. But it also mentions the leadership of Deng Xiaoping in China at the end of the 1970s and the post-military regime in Brazil, among others.

competitive barriers in credit card acquiring. At the same time, the Court of Auditors has shown a position of strong independence, defending the interest of the State in renewals of public concessions or of contracts with state owned enterprises. The Central Bank has acted independently by holding back inflation and the Regulatory Agencies tend to gain more independence as their members are gradually replaced by more technical candidates and less politicized under the new legislation passed.

After Dilma's state interventions and selective subsidies concessions, we are now observing a new tendency to adopt fairer practices. The National Development Bank (BNDES) will now use the TLP rate, which will gradually align the remuneration required by the bank in long-term financing with market rates, eliminating the selective concession of subsidized rates. The new model of infrastructure concessions is also oriented to level the playing field. It introduced a clause that allows for the costless return of the concession won in an auction, in case the company does not obtain long-term financing with the BNDES. The use of detailed executive projects before auctions gives little scope for further negotiation of contract amendments and prior environmental licensing reduces its subsequent risk. This model is more conducive to attracting foreign capital as it mitigates the advantages of local government partners.

At the same time, we see an increasing acceptance of privatizations and a reduction in the size of the State. The mere proposal of privatization of Eletrobrás does not imply it will be implemented, but certainly increases its chance in the future. At regional state level, where there is greater limitation on fundraising, more privatizations tend to happen. The trend is reinforced by greater professionalism in the management of state-owned enterprises (New State Law) and new compliance standards at companies affected by the Car Wash investigations. The smaller the state´s involvement and the related privileges, and the greater the threat of criminal punishment, the less incentives a group of "extractive" intentions has to fight for power.

In terms of political reform, we have seen few advances, but a potential reduction of political parties would favor institutional improvement by reducing the demand for financial resources to attract partners in a coalition regime and to finance electoral campaigns with so many participants. The approved 3% minimum threshold for a party to exist has the potential to reduce the number of parties from 35 to 11. The prohibition of election donations by companies also points to a less "extractive" regime. However, the creation of a campaign fund with public money and allocation proportional to the current seat distribution in Congress tends to favor the status quo.

Social media is also a factor that helps institutional change. Firstly, it favors communication and coordination of the masses, allowing the organization of protests such as those that overthrew President Dilma Roussef. In addition, social media increases the competitiveness of new political actors who do not have TV time because they are not associated with the parties currently represented in Congress. Some speculate that the elections this year may see an inflection where the audience of digital media will equal the one of television.

Members of society are no longer just watching. Many non-politicians have decided to abandon passivity and engage in politics, either behind the scenes or as actual candidates, including many entrepreneurs, consultants and financial market executives, as well as famous artists and sportsmen, among others. At the same time, institutions have been formed to encourage a political renewal, such as the "Partido Novo" and the "Agora", "Renova Brasil" and "Brasil 200" movements, not to mention activists "Vem pra Rua" and "MBL", among others. The mobilization and active participation of society is one of the most relevant factors in determining a process of institutional change, even if the benefits may come gradually over the next electoral cycles.

Brazil is not isolated from the world and of course part of what happens here is also occurring in other countries. In the criminal field, Romania is experiencing a major investigation similar to the Car Wash one, according to prosecutor Deltan Dallagnol[4], with the criminal prosecution of more than 100 politicians helped by plea-bargain agreements. In the political field, the election of Emmanuel Macron in France and Donald Trump in the United States suggests a more favorable environment for outsiders, a possibility presented in the Brazilian election this year.

However, as commented in the book, the resistance against the change in regime is naturally very intense. We live, therefore, a strong alternation between actions to change and reactions to maintain the status quo. In 2012, for instance, we celebrated the conviction of powerful politicians in the "Mensalão" scandal, which seemed to be a landmark of institutional change. In the following years, however, we saw a worsening of the "extractive" model with the growth of state interventions in the economy; the creation and concession of subsidies for companies and sectors chosen by the government (TJLP, FIES, My House My Life, INSS bracket by sector, among others); increase of cartelized works for Petrobrás or World Cup/Olympic events and even speculations on press censorship.

Now, with the Car Wash and Dilma's impeachment, the move for positive institutional change has once again strengthened. Nevertheless, resistance is seen as politicians try to amplify the Christmas release for prisoners, create and propose bills for abuse of authority of judges and for the amnesty on clandestine bookkeeping practices. On the economic front, there was the approval of the refinancing of corporate tax debts (REFIS) and the resistance of business associations against TLP and the withdrawal of protectionist policies. We believe that despite the ups and downs, the trend is positive.

A process of change in institutional regime is highly costly in the short run, with the punishment of businessmen and politicians generating economic downturn (i.e. construction sector) and political instability. But its long-term structural benefits could be very positive, assuming the change is consolidated.

We do not know if the current movement will be strong enough to allow Brazil to reach a new equilibrium in a more "inclusive" regime, with its consequent bright development prospects. Alternatively, it could end in "pizza", with a rearrangement of interests helped by the improvement in the economic cycle, allowing the maintenance of the selective and "extractive" practices of the past.

Regardless of the outcome, the analysis brings us more clarity on which achievements really matter for a potential structural evolution in our country. And it makes us reflect on what would be the impact on the economy of a possible change in institutional regime.

A few years ago, as the Lula government increased BNDES subsidies and the Dilma government made many sector interventions, we easily took into account the direct impacts on companies, but were later surprised by the second order effects of the incentive system, with the strong

[4] *A Luta Contra a Corrupção – A Lava Jato e o Futuro de Um País Marcado pela Impunidade* by Deltan Dallagnol, Primeira Pessoa, Rio de Janeiro, 2017.

deterioration of productivity and growth. This time, it is also easy to calculate the direct impacts of a concession granted in a competitive auction under rules leveling the playing field, of Petrobras´ new pricing policy under a more professional management, the antitrust vetoes on acquisitions and even the possible implementation of a positive credit scoring system in the banking sector. But if a structural change in our political-economic institutional regime really takes place, we will once again be surprised by its positive impact on the country´s productivity and growth.

Investment Case: SER Educacional (SEER3)

SER Educational currently represents the largest single position of the Vertra Capital funds. The company is one of the largest post-secondary education institutions in Brazil.

Jose Janguiê Bezerra Diniz (Janguiê) founded the company. He evolved from a poor social class in the Northeast to someone with a graduate, master and PdD degrees in Law and later approved in a public examination for the Regional Labor Attorney´s Office. Over time, he opened a few businesses, including the "*Bureau Jurídico*", a preparation course for Brazilian competitive exams in the civil service. This was the seed for the foundation, in 2003, of his first post-secondary education operation in Recife through Faculdade Maurício de Nassau. After several expansions and acquisitions, the group was named SER Educacional in 2010.

In 2017, SER had 140 thousand on-campus students, of which 97 in the Northeast (under the Uninassau and Faculdade Joaquim Nabuco brands), 27 in the North (Uninassau and Unama) and 16 in the Southeast (Univeritas). In addition, SER also had 8 thousand graduate students and thousand distance learning (DL) students. Its brands have strong regional recognition, with a General Course Index ("*IGC*") equal to or higher than 3 out of 5.

The company has one of the highest profitability rates in the sector, with EBITDA margin at around 30% and return on adjusted capital of 33% p.a. It is going through a strong expansion process, having grown its revenues by 30% p.a. over the past 4 years.

The company's IPO took place in 2013. In September 2017, the company held an equity offering, expanding its capital by R$ 400 million. This funding will help the company to finance acquisitions and organic expansion. As we will describe further on, we believe that the company should maintain a growth rate above 20% per year for the next 5 years.

Business Quality

The largest private post-secondary companies in Brazil do not have comparable global peers. In Europe, the supply of post-secondary education is concentrated in the public sector. In the US, the public sector coexists with top-notch philanthropic entities, while private for-profit companies represent only 10% of the market and have lower quality, often focusing on distance learning. In Brazil, with the State fiscal distress and the 1997 deregulation under Fernando Henrique Cardoso's government, the for-profit private education sector has grown considerably and today represents approximately 40% of national supply. The arrival of private equity funds in 2005 unlocked a consolidation process and improvement in management quality in the industry. This enabled the creation of the largest private post-secondary companies in the world, such as Kroton and Estacio. Ser Educational and Anima round out the group of large public companies.

Scale is an obvious competitive advantage for those large companies. The dilution of general, administrative and marketing expenses allows large companies to have a relevant return differential when compared to small and medium-sized companies.

Access to capital enables these companies to invest in infrastructure, a highly valued attribute by the student, and to expand the number of *campi* (plural of Latin word *campus*). It also enables investments in distance learning (DL), a tool that lowers the cost of the on-campus programs, allowing the students to have 20% of his/her credits in this modality, or even more in the hybrid one. Capital was also important for the acceptance of the FIES program in the beginning, when the working capital risks were substantial. Moreover, it will support the increasingly proprietary financing programs offered to new students, which is a competitive advantage.

The sector presents a high fixed cost and low marginal cost, which could be associated with the airline and telecommunications sectors, where strong competition generates price wars. We are convinced, however, that this analogy is not correct, as shown in the book *Competition Demystified* by Bruce Greenwald[5], that describes strong competitive advantages of companies with high fixed costs and low marginal costs, such as Walmart.

One relevant difference between the education and the airline industry is that competition occurs between companies with different scales (large vs. small). In this case, the scale advantage is amplified by the high fixed cost component, increasing the business quality.

In addition, other relevant differences make the comparison an improper one and reduce the tendency of price competition. In the freshman's intake, the large education companies condition the launching of programs to a minimum demand threshold, avoiding unnecessary costs for teachers (major cost item) and reducing competitive pressure. Finally, for veteran students, the switching cost is high, since they cannot use all the credits from disciplines studied, need to incur extra costs (enrollment, books, etc.) and suffer from the bureaucracies of the transition. A lost semester represents an increase of at least 12% of the marginal cost for the completion of a program.

Despite the clear advantages of scale and capital, we believe that the most important competitive advantage in the industry is the difference in management. Some large companies have developed superior techniques for optimizing students/class ratio, modular curricula, optimizing the ratio of students/class and increasing gross margins. They also developed more effective sales techniques and program mix optimization as a function of demand and profitability. Recently, they have been developing dropout reduction techniques, another determining factor in the ratio of students/class and gross margin.

The differentiation of scale, capital and management have enabled large companies to offer a better product at a lower cost with an attractive rate of return on equity of 30% p.a., which is a relevant characteristic in a still fragmented industry that offers many capital allocation opportunities.

[5] *Competition Demystified: A Radically Simplified Approach to Business Strategy* by Bruce Greenwald and Judd Kahn, Penguin Group, New York, 2005.

FIES

The FIES is a government fund for financing post-secondary students that gained great importance in 2010 after the reduction of its rates, collateral requirements and grace period, boosting demand for post-secondary education in the country and the profitability of educational companies. With the Brazilian fiscal crisis, the program was reduced from 2015 onwards and had to be redesigned in 2017.

There is a general misperception that the profitability of post-secondary education companies is a temporary phenomenon, explained mainly by subsidies from FIES. With the strong reduction of FIES in new funding since 2015, many investors expected a strong reduction in companies' profitability and a return to the meager earnings levels of the past.

In fact, the removal of this subsidy, combined with the deterioration of the labor market, generated a relevant reduction of demand in the education sector. Many medium and small companies only joined FIES in 2013 and 2014, and have suffered from the withdrawal of the program right after their expansion and faculty hiring. In a high fixed cost industry, these companies were left with relevant idle structure.

Companies like Kroton have made full usage of the program by optimizing the pricing based on the penetration of FIES students in each specific program and site. SER Educacional tends to lose less with the FIES reduction, because it did not optimize its course prices by this factor, having less impact on its earnings/student ratio. In fact, its margin held up well to the changes in FIES, falling from 34% to 31%, after adjusting for the cost of the expansion projects, which is underway. This was made possible, partially, by the introduction of a new academic model with modular flexibility of the courses, which improves the number of students/class ratio.

The difference between the dropout curve in FIES and Non-FIES students occurs almost entirely during the first two years of the course. After the lower participation of FIES students in the total student's intake in the recent years, the percentage of FIES students has fallen drastically. Therefore, we believe that the future reduction in the FIES student base will not have a relevant impact in the company's dropout rate.

As the courses generally last 4 years, the decrease in enrollments in 2015 will only have its full effect recognized in 2018. That is the reason why the market still fears the actual impact of the withdrawal of FIES on the profitability of the companies. We understand that as time goes by this concern will diminish.

In addition to the factors above, SER benefits from the FIES's new distribution criteria, since the program will prioritize students in the North, Northeast and Midwest, areas where SER concentrates its operations. The availability of this student's financing depends on the support of private banks, which still have not given clear signs of interest. However, factors such as a structurally lower interest rate scenario in Brazil and the consignment of payroll-deductions should contribute to the reduction in the costs of funding and default rate, and may foster greater interest among banks with respect to the new FIES program.

Last, but not least, the definition of the new rules of FIES in 2017 reduced the tail risk of retroactive changes in the program.

Distance Learning

Distance learning (DL) is a business with even higher fixed costs and very low marginal costs, amplifying the fear of price competition. One could speculate that in a distant future, with 100% of programs online, the competition could shift from regional to national and include free courses. However, we believe that socialization is a relevant part of the learning experience, so the best model probably will be a hybrid one combining classroom experience with online concepts. In this case, the advantages of scale of the on-campus players will be preserved and even accentuated, because the bundled offer with DL will become a competitive advantage against smaller universities.

The Brazilian DL model works almost as a franchise. In this case, building a network of partners for the DL centers is one of the main competitive differentials.

Until recently, regulation for DL expansion was restrictive, generating some market reserve. Last May, however, the Ministry of Education (MEC) published the new regulatory framework for DL, loosening the expansion of supply based on the scores of the General Courses Index (IGC). It allowed 50, 150 and 250 centers/year for entities with IGC grades 3, 4 and 5, respectively.

If, on the one hand, this may lead to a reduction in the DL margins of already established companies, on the other hand it greatly benefited SER, which enjoyed robust operations in this field but had almost no DL operations. The company monitored very closely the regulatory developments and anticipated, over the last 2 years, the creation of a network of partners ready to go into operation when the regulation changed. Based on the criteria of IGC, SER already has the authorization to open 700 centers a year, contemplating its main brands: Uninassau, Unama and UNG.

Management Quality

The CEO of SER is Janyo Diniz, brother of Janguiê Diniz. While Janguiê has a legal background and stands out for his entrepreneurship and good relationships, his brother Janyo is an engineer and has a more strategic and reflective style, being responsible for many of the good management techniques implemented by the company.

SER has shown itself to be one of the best execution players in the sector in recent years, and has managed to grow very fast and with high profitability.

We should highlight two internal projects of the last few years. Firstly, the New Academic Model, implemented after the hiring of Antonio Carbonari, former employee of Anhanguera and Kroton. It allowed the flexibilization and optimization of the curriculum, without jeopardizing the quality of the courses. Secondly, the Shared Services Center, with clear responsibilities and processes defined, that enabled the reduction of costs and the creation of a scalable management platform.

For the coming years, we see two internal projects that should have a relevant impact in operations:

- **Hybrid Courses:** in 2018, SER will launch its hybrid courses. Until recently, the company offered only two types of programs: on-campus courses or 100% DL. Now, with the hybrid products, SER offers a more flexible course for students, without giving up the campus experience and reduces the dropout impact of not reaching minimum threshold for course launch. Generally speaking, for a new class to be profitable, the institutions need a minimum number of students to cover their costs. If the course does not have enough demand to reach this minimum number, the course is not launched and the company loses those students. As hybrid courses have fewer on-campus classes, their costs are lower and the minimum number of students required for formation of classes is also lower. Therefore, this new hybrid product will result in a higher student intake and reduction in the dropout ratio by optimizing the student/class ratio. Finally, while in on-campus programs the regulation does not allow a new campus to offer more than 5 courses, the DL regulation does not have this limit. SER intends to launch up to 30 hybrid courses per campus, including health and engineering programs, which have higher tickets and are avoided by smaller competitors, since they require vast investments in laboratory's infrastructure.

- **Dropout Reduction Efforts:** dropout is one of the most relevant profitability drivers in the sector, since it affects directly the students/class ratio and is historically high in Brazil. After a relatively good period for the post-secondary market between the years of 2010 and 2014, companies have raised their focus on the retention of students. SER launched in 2016 the SER Retention System (SRS), which is a predictive system that uses historical statistics to identify and anticipate future dropouts. E.g.: (i) students who miss a test have X% chance of dropping out in the semester; (ii) students who do not enter the virtual environment in the week have a Y% chance of dropping out. The system informs unit coordinators of the likelihood of a dropout for each student so that they can start focusing on the riskier group. In addition to SRS, SER also launched in the DL courses the concept of Guardian Tutor, where each student has a professional mentor, who is responsible for the student's adaptation at the institution, which has proven to be effective in the retention of students. It is worth pointing out that the DL segment has the highest dropout rates, especially at the beginning of the courses, and therefore offers a fertile field for efficiency improvement.

With respect to related parties' potential conflicts, it is worth mentioning that the company leases real estate from the controlling family. However, the lease term was set before the IPO. Moreover, following a good governance, the company froze these rates nominally in the period of the Brazilian financial crisis. In the compensation front, we see no excess from the controlling family. The highest individual compensation was R$1.4 million p.a. at the Board of Directors and R$0.9 million p.a. at the C-level.

Despite the reduction of his participation in September 2017, Janguiê is still well aligned with the company, owning 53% of total capital and having 2/3 of his total net worth in the company stocks.

Growth

SER's growth in the coming years should not be limited to the growth of the education sector. The company has a wide avenue of organic and inorganic growth opportunities through the growth of its market share, which currently represents only 3% of the country's post-secondary education sector.

We believe that SER can grow 20% p.a. over the next 5 years, even excluding acquisitions. Overall, the growth should come from three fronts:
a) On-campus
b) Distance Learning
c) M&A

On-Campus Organic Expansion

In the on-campus programs, the company will evolve over the next 5 years from 45 to 90 *campi*. There are 45 *campi* in accreditation process at the Ministry of Education, which usually takes 36 months. Of these, 33 have been already fully accredited, including 4 that started operations in 1H17, 10 in 2H17 and 15 which will begin operations in 1H18, implying 64% growth in the number of *campi* in operation.

It is not trivial to analyze the level of assertiveness and the number of students per *campus* in past expansions to define expectations for future ones. But, looking at its 15 years of existence, SER results were undeniably positive. Besides excellent execution, a crucial component for this good performance was the choice of entering new markets. Most of the cities where SER launched new units had a large number of small universities, often poorly managed. With better marketing, dropout and student per class management, SER has a competitive advantage over its direct peers.

We believe that the company will continue to show a good performance and great implementation capacity, which it has delivered since day one. Among the 29 new *campi* already announced, about 70% will be launched under the Nassau and Unama brands in the North and Northeast, where they have strong recall and prestige. The cities´ profile and competitive dynamics are also similar to the patterns of the past. Therefore, the same mechanisms that granted SER a strong performance until now will continue to help the company going forward.

Distance Learning Expansion

With the new regulatory framework for DL, SER should enter this sector in a fast and effective way. Having prepared itself in advance, it already has the partnerships and sites mapped out to launch 300 new centers in the short term and 800 in the next few years. As a reference, Kroton, the largest company in the sector, currently has 1,100 centers.

We have great confidence in the success of DL within SER's *campi*, where it already has brand recognition and infrastructure. Based on industry references, we believe that these centers may have 1,500 students each, totaling 135 thousand additional students for SER. On top of that, we would still have almost 700 centers built outside its traditional *campi*.

M&A Consolidation

The post-secondary education sector offers great opportunities to create value with the acquisition of companies, through synergies due to scale, access to capital and management. SER has been successful in the past, with a history of discipline in terms of valuation and integrating its acquisitions over a period of six months.

With the recent demand reduction due to the macro crisis and the withdrawal of subsidies in the FIES, many smaller or poorly managed companies have become fragile. This increases the pipeline of good opportunities for SER. Regulatory changes in DL may also foster some transactions. SER has been monitoring the market for a long time and maturing some conversations. In one of them, it obtained exclusive negotiation rights. We believe that last year's equity offering is evidence of the high probability of some acquisition occurring in the near future.

Unlike Kroton and Estacio, SER has only R$4.5 billion of market value. Thus, the value created in acquisitions may be more relevant to SER, since it is easier to find meaningful targets given its 140 thousand student base.

Valuation

The company trades at around 14x 2018 earnings, despite the potential to triple its student base. In the past, the best companies in the sector traded at 16-20x earnings, which we believe to be justifiable given the growth prospects and margin resilience that we see in SER. Even if we assume that the current multiple remains the same, SER shares should follow the growth of its profits, which we estimate would be around 20-25% p.a.

Risks

The main risk of the thesis is the execution of the organic and inorganic expansion strategy. Trying to estimate future events is an arduous and fruitless task. What we consider important is that the processes, people, and alignment are nicely intertwined. As mentioned above, the owners seem aligned with the business and the company has a very positive track record of execution.

With regard to macro and regulatory risk, the current asymmetry seems favorable, because we have just gone through a period where FIES subsidies were withdrawn and unemployment rates sharply increased. Going forward, it is difficult to imagine a worse macro and regulatory scenario relative to this starting point.

On the regulation front, the last clear advantage of the companies may be the tax benefit associated with the Prouni, although this was shielded in the contracts until 2025. Prouni was already the target of a lot of scrutiny and it seems to be consensus that it is an efficient program. Through tax exemption, the Government pays the institutions considerably lower value than that of the market. At the same time, companies can improve their profitability by optimizing their students/class ratio.

Conclusion

We believe that the market overly discounts the education sector due to the perception of FIES dependence and the risks of margin sustainability. It also discounts the recent lower growth rates.

We understand, however, that the education sector will undergo a very favorable cycle from 2018 on, with strong student intake, given the pent-up demand created during the crisis and reductions in dropout rates due to macro and management improvements. In addition to that, the results of 2018 should calm investors' fears about the FIES' relevance to the industry's current profitability. Finally, in the case of SER, the first half of 2018 will bring the first results of new *campus* intakes. If this initial diagnosis is favorable as foreseen by our qualitative thesis, there should be a favorable improvement in the perception of risk and growth outlook of this expansion strategy. This environment may lead into multiple expansion in the stock.

From a strategic point of view, the big management advantage of large companies compared to small groups and the excellent track record of execution and capital allocation of SER make us believe that we are partners of a company that could be the largest consolidator of the Brazilian education industry in the coming years.

The combination of strong earnings growth, a potential multiple rerating and M&A optionalities make this a very promising investment case under a quantitative point of view. At the same time, our confidence in the work of SER management team, the alignment of its main decision makers and the clarity of its long-term strategy bring us comfort under a qualitative point of view. This combination offers us what we consider to be an excellent investment opportunity.

VERTRA CAPITAL

VERTRA FUND SP

December 2017

Fund Description

Vertra Fund SP is a fund with predominantly long exposure to Brazilian Equities. In managing the fund, we value the quality of the companies we invest in, as well as the quality of their management teams, maintaning a rigorous value discipline. We conduct original, proprietary research, enabling us to diverge from market consensus, identify good investment opportunities and continuously monitor internal and external factors with the potential to bring additional risks or affect the value of our investees. We may occasionally take up short positions with the objective to generate absolute gains. Vertra Fund SP was established on October 18th, 2016. Even though its NAV is measured in USD, the fund typically will be fully exposed to BRL currency. For convenience, we also present the historical performance of the domestic equivalent fund, Vertra FIC FIA, measured in BRL.

Performance Vertra Fund SP USD [1]

Vertra Fund SP		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2016	**Fund**										**1.28%**	**-13.93%**	**3.88%**	**-9.45%**
	Ibovespa[2]										1.49%	-10.23%	1.32%	-7.69%
	Small Caps[3]										0.83%	-13.79%	3.58%	-9.96%
2017	**Fund**	**10.43%**	**7.52%**	**-1.91%**	**-0.43%**	**-5.61%**	**0.87%**	**11.22%**	**6.61%**	**6.38%**	**-5.67%**	**-2.66%**	**3.66%**	**32.57%**
	Ibovespa[2]	10.79%	4.38%	-3.18%	-0.90%	-5.86%	-1.77%	11.06%	6.66%	4.29%	-3.61%	-3.03%	5.57%	25.07%
	Small Caps[3]	14.96%	7.07%	-2.12%	1.82%	-2.84%	-1.69%	14.60%	7.77%	3.07%	-5.06%	-2.34%	6.44%	47.18%

Since Inception	**Fund**	**20.03%**
	Ibovespa[2]	15.45%
	Small Caps[3]	32.52%

Performance in BRL (Domestic Fund)[10]

Vertra FIC FIA		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2013	**Fund**										**2.05%**	**1.91%**	**-1.88%**	**2.04%**
	IPCA + IMA-B5+[11]										0.81%	0.89%	1.28%	3.01%
	Ibovespa[12]										2.66%	-3.27%	-1.86%	-2.54%
2014	**Fund**	**-4.73%**	**2.35%**	**2.61%**	**1.69%**	**-0.62%**	**1.94%**	**0.98%**	**6.01%**	**-9.60%**	**5.11%**	**0.92%**	**-4.97%**	**0.56%**
	IPCA + IMA-B5+[11]	1.09%	1.15%	1.36%	1.16%	0.97%	0.87%	0.58%	0.74%	1.09%	0.98%	0.99%	1.30%	12.99%
	Ibovespa[12]	-7.51%	-1.14%	7.05%	2.40%	-0.75%	3.76%	5.01%	9.78%	-11.70%	0.95%	0.07%	-8.52%	-2.91%
2015	**Fund**	**-4.10%**	**7.23%**	**0.94%**	**1.79%**	**-3.03%**	**1.03%**	**-0.39%**	**-6.35%**	**-2.88%**	**3.27%**	**0.55%**	**-1.83%**	**-4.40%**
	IPCA + IMA-B5+[11]	1.70%	1.63%	1.84%	1.19%	1.20%	1.27%	1.18%	0.74%	1.03%	1.31%	1.48%	1.49%	17.28%
	Ibovespa[12]	-6.20%	9.97%	-0.84%	9.93%	-6.17%	0.61%	-4.17%	-8.33%	-3.36%	1.80%	-1.63%	-3.92%	-13.31%
2016	**Fund**	**1.65%**	**2.42%**	**4.62%**	**6.60%**	**-1.72%**	**5.76%**	**7.76%**	**-1.83%**	**-0.22%**	**6.59%**	**-8.25%**	**-0.29%**	**24.24%**
	IPCA + IMA-B5+[11]	1.81%	1.45%	1.07%	1.16%	1.36%	-0.19%	1.01%	2.18%	0.60%	0.73%	0.66%	0.82%	13.40%
	Ibovespa[12]	-6.79%	5.91%	16.97%	7.70%	-10.09%	6.30%	11.22%	1.03%	0.80%	11.23%	-4.65%	-2.71%	38.93%
2017	**Fund**	**7.16%**	**5.94%**	**-0.65%**	**1.19%**	**-2.61%**	**3.32%**	**5.04%**	**6.82%**	**6.16%**	**-1.55%**	**-2.15%**	**3.31%**	**36.14%**
	IPCA + IMA-B5+[11]	0.88%	0.74%	0.79%	0.56%	0.81%	0.28%	0.66%	0.68%	0.58%	0.85%	0.71%	0.65%	8.52%
	Ibovespa[12]	7.38%	3.08%	-2.52%	0.65%	-4.12%	0.30%	4.80%	7.46%	4.88%	0.02%	-3.15%	6.16%	26.86%

Since Inception	**Fund**	**65.92%**
	IPCA + IMA-B5+[11]	67.98%
	Ibovespa[12]	44.57%
	Small Caps[12]	22.75%

Sectors (% NAV)	Delta	Cash
Agribusiness	6%	6%
Banks	8%	8%
Consumer & Retail	4%	4%
Education	19%	19%
Electric Utilities	8%	8%
Financials	8%	8%
Food & Beverage	4%	4%
Healthcare	4%	4%
Malls	4%	4%
Real Estate	3%	3%
Services	3%	3%
Transportation and Logistics	10%	10%
Water Utilities	6%	6%
Market Protections	-4%	0%
Net Exposure	83%	88%

Concentration	
Company positions	18
5 largest	43% of NAV
10 largest	65% of NAV

Liquidity					
% NAV	Days[9]	Mkt Cap	% NAV	Volume/day	% NAV
30%	4	<R$1bi	6%	<R$2mm	0%
60%	4	R$1bi-5bi	41%	R$2-5mm	16%
90%	4	R$5bi-10bi	6%	R$5-10mm	14%
100%	4	>R$10bi	29%	>R$10mm	52%

Characteristics

Fund Inception	Oct 18th, 2016
Initial Investment and Min. Balance	US$ 100,000
Additional Min. Investment/Redemption	US$ 100,000
Investment Conversion	End of month
Redemption Conversion[4]	Last business day of the month
Prior Notice	Sixty calendar days
Redemption Payment[5]	D+15
Management Fee[6]	1% p.y.
Performance Fee[2]	20% over Ibovespa
Current NAV - Avg NAV[7]	US$ 6MM - R$ 5MM
Strategy NAV[8]	US$ 90MM
Status	Open for subscriptions and redemptions
Manager	Vertra Capital Gestão de Recursos Ltda
RTA / Nav Calculator	BNY Mellon
Custodians	Credit Suisse - Pershings
Auditor	KPMG
Domicile	Cayman Islands

Contacts

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The numbers in this document were calculated at the close of December 29, 2017.

1. Profitability is presented in USD net of fees but not of taxes with inception date on October 18th, 2016. **2.** Ibovespa is an index of about 50 stocks that are traded on the São Paulo Stock, the number is presented in USD and it is used for performance benchmark of Vertra Fund SP. **3.** Mere economic reference, presented in USD and not a target or performance benchmark for the fund. **4.** Redemptions can be made on the last business day of every month, provided that, a redemption notice in the form of a validly and duly executed Redemption Request is received by the Registrar and Transfer Agent no later than sixty (60) calendar days prior to the intended Redemption Day**. 5.** Redemption proceeds will be paid within fifteen (15) calendar days after the relevant Redemption Day. **6.** Vertra Fund SP charges a management fee of 1% per year. **7.** Average NAV since the fund inception in October 16th, 2016. **8.** Strategy NAV includes the NAV of Vertra Fund SP, Vertra Master FIA fund and Vertra Institucional Master FIA fund. **9.** Business Days needed to convert the indicated percentual number into cash, negotiating 20% of the past 30-day negotiation average. **10.** Profitability is presented in BRL net of fees but not of taxes with inception date on October 4th, 2013. **11.** IPCA is the Brazilian Broad Consumer Price Index. IMA-B 5+ is an ANBIMA index that comprises Brazilian Treasury Inflation Protected Securities (NTN-B's) maturing in more than five years. The number used for performance benchmark of the Vertra FIC FIA fund and will be updated at the beginning of every semester based on the arithmetic mean of the yields of the NTNB's of the IMA-B 5+ portfolio negotiated in the 3-month period before the start of the semester. For the secound half of 2017, Vertra FIC FIA is charging performance over IPCA + 5.47% per annum **12.** Mere economic reference presented in BRL, and not a target or performance benchmark for the fund.