CFA Institute Research Challenge

Hosted in

CFA Society Brazil

Team 18

Raia Drogasil S.A.

CFA INSTITUTE RESEARCH CHALLENGE

Team 18 | Student Research

Rating	**HOLD**
12m Price Target	109.84 BRL
Price	100.98 BRL
Ticker	**RADL3**

Stock Data

Market Cap (mn)	33,323 BRL
LTM Performance	+ 50.6%
Lowest Price (LTM)	57.38 BRL
Highest Price (LTM)	102.13 BRL
% Free Float	72.51%
Avg Daily Volume LTM (000 shares)	1,504
Stock Exchange	B3 | Novo Mercado
Industry	Drug Retailers
Last Update: 10/11/2019	Source: Bloomberg, Eikon

Figure 1: RADL3 vs. IBOV

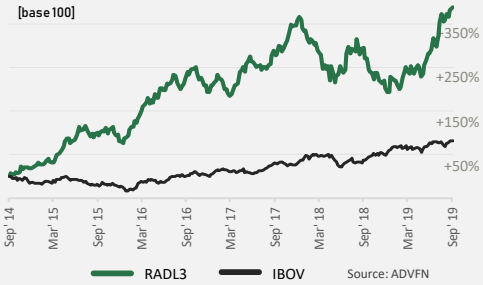
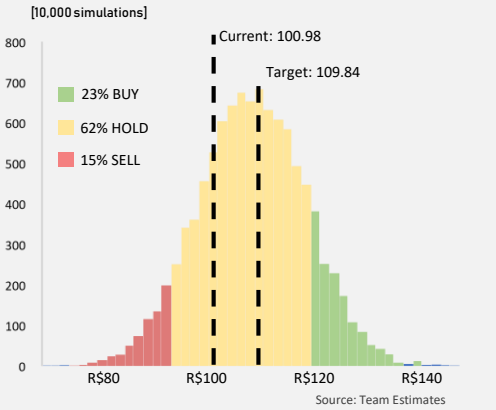


Figure 2: Monte Carlo Simulation



Highlights

We are initiating coverage on Raia Drogasil S.A. (RADL3) with a HOLD recommendation and a YE20 target price of R$ 109.84/share, representing an 8.8% upside from current levels. Our rating is based on the following pillars: (i) secular growth of addressable market: Brazilian drug market has solid long term prospects, particularly the aging population and potential for consolidation; (ii) best in class operational efficiency, with well managed in-store economics and strategic positioning to obtain the best margins and revenues; (iii) best prepared company to lead sector consolidation – RD exploits sector growth through aggressive organic expansion, while maintaining strong cash flow and (iv) a demanding valuation, with both RD's growth and market opportunities already built-into current stock price as we don't see any major price catalyst for the coming years. Raia Drogasil is an outstanding company but has already come close to its fair value.

Favorable Sector Dynamics

Drug retailing industry in Brazil is at an inflection point. It has grown at a CAGR of 12.8% in the last five years and will keep its pace as population pyramid inverts – increasing the overall weight of the highest spending age group in population. Meanwhile, GDP has contracted 3.76% in the same period, demonstrating sector resilience to macroeconomic adversity. The industry is also highly fragmented in comparison to other more developed markets, with an HHI of 229, evidencing significant room for consolidation.

Without any Compromises, RD's Positioning is Top of the Line

Highly competitive sector dynamics demand from players top notch operation to succeed. Government price caps that can pressure margins, the need for extensive investments in working capital to prevent stock-out, fierce competition and store maturation curves are some of the challenges that harm cash flow and must be overcome. We believe Raia Drogasil's extensive experience and flawless track record establishes the foundation for its consolidation as the prevalent player. RD's main competitive advantages are: (i) geographic strategic positioning of stores, exploiting areas of both stronger demand and higher average income; (ii) an outstanding execution and store-level operations profitability, enhancing conversion of top- into bottom-line; and (iii) ability to grow organically at a rate unmatched by any other player, sustained by its strong cash flow generation.

RD to Lead Sector Consolidation

The only way to consolidate a sector is opening new stores. An aggressive expansion is no easy task, though, as cash flow generation can be an important setback. We believe that Raia Drogasil's extensive experience and unit economics are important features that prove its ability to maintain a high store opening rate while still preserving healthy financials and FCF conversion. Besides that, RD is ready to face the recent competitive scenario: the company's policy of increasing generic discounts, and its ability to sustain it for longer, gives Raia a competitive edge over independents and associated chains. Meanwhile, the recent deceleration of some other players that had previously boasted an aggressive store expansion, such as Pague Menos and Extrafarma, leaves RD in an advantageous position to gain market share from both fronts.

Great Company… – Just an Expensive One

On our DCF model, we achieved our fair value from our Free Cash Flow to Firm (FCFF) projections, with an adopted WACC of 10.8% and terminal growth of 6%. Despite our premises of impressive growth and market share gains, highlighting NE penetration, and the company's consolidation as unreachable market leader – totaling 16% of market share in 2024 – we arrived at a neutral rating, with potential upside of 8.8%. We obtained the same results on our multiples study, after analyzing both: (i) our and consensus' forward multiples; and (ii) historic trends of foreign peers in more mature markets.

No Gambling with the Odds

After our thorough study, we conclude Raia Drogasil is unlikely to surprise the market; the company seems to be priced to perfection. The recent improvement in key indicators (i.e. SSS), market share gain, stronger store opening guidance, and secular trend of falling interest rates – in both Brazil and the U.S. – made the stock price rally more than 50% in LTM period. Consensus already prices a high growth and profitable perspective, and sensitive analysis show significant downside risk should RD fail to keep up with market projections. A Tornado and Monte Carlo Sensitivity Analysis (Figure 2) corroborated our model.

Investment Risks:

As we are issuing a HOLD recommendation, our risks can be associated with either an upside or a downside trend. Among the most relevant upside risks we highlight an aggressive store openings campaign lasting longer than expected. Our main downside risks include (i) inability to find new points of sale maintaining current levels of store profitability, (ii) tougher than expected competitive landscape and (iii) execution risks as RD increases its participation in previously underexplored regions.

Highlights		2018 A	2019 E	2020 E	2021 E	2022 E	2023 E	2024 E	2025 E	2026 E	2027 E	2028 E
Net Revenue	[BRL mn]	14,801.4	17,213.7	20,316.8	23,661.2	27,071.7	30,511.3	33,982.0	37,477.5	41,084.7	44,659.5	48,210.6
Adj. EBITDA Margin	[%]	8.1%	7.8%	8.4%	8.9%	9.6%	10.6%	11.1%	11.5%	11.8%	12.1%	12.4%
Adj. Net Margin	[%]	3.4%	3.3%	3.7%	4.2%	4.9%	5.4%	5.8%	6.0%	6.3%	6.5%	6.7%
P/E	[x]	37.2x	64.7x	48.6x	36.0x	27.4x	22.0x	18.5x	16.1x	14.1x	12.4x	11.1x
EV/EBITDA	[x]	16.1x	29.3x	23.0x	18.0x	14.4x	11.9x	10.2x	9.0x	8.0x	7.1x	6.4x
EPS	[BRL]	1.54	1.69	2.26	3.04	3.99	4.98	5.92	6.81	7.79	8.82	9.83
FCF Yield	[%]	0.1%	0.3%	0.3%	1.2%	2.2%	3.1%	3.9%	4.7%	5.5%	6.4%	7.3%
ROIC ex-goodwill	[%]	17.4%	17.7%	19.5%	22.4%	25.6%	28.3%	30.1%	31.3%	32.2%	33.2%	33.7%
ROE	[%]	14.3%	13.8%	16.4%	20.0%	24.2%	27.9%	30.7%	32.3%	33.9%	35.2%	36.2%

*All ratios were calculated using adjusted EBITDA and Net Income.

Business Description

Raia Drogasil S.A., created in 2011 from a merger of equals between Raia S.A. and Drogasil S.A., is the largest drug retailer in Brazil, both in gross revenue (BRL 15.5 bn) and total number of stores (1,917). The company's business model is based on two main brands (Droga Raia and Drogasil) that operate independently, with complementary characteristics and store formats. In 2015 RD acquired stock control of 4Bio Medicamentos S.A., constituted in 2004 and focused in special medication and high technology correlated products, as well as providing medication administering services, patient infrastructure and support, among other activities.

Brands

Droga Raia: focused on classes A and B, the family targeted brand has a high-quality wellness and beauty standard. Besides pharmaceuticals, Droga Raia has also a large variety of cosmetics and dermocosmetics, especially attractive to the female public, proportionally larger customers than men. Droga Raia has 846 stores in 8 different states.

Drogasil: the brand traditionally targets retirees and medication commerce, reaching a broader publicum. With 1,066 stores in 18 states, the brand has the strongest footprint of RD.

4Bio: special medication for complex diseases is the brand's primary business. 4Bio still accounts for just 4.8% of RD's revenue but had a 2010-18 gross revenue CAGR of over 50%, growing more than 60% just in 2018. RD bought 55% of 4-Bio in 2015 for BRL 24 million, joining a pharmaceutical segment that has the highest growth rate in Brazil.

Farmasil – learning from mistakes: created to lead RD's down-market move, the brand focused on classes C, D and E. Its value proposition was different from its RD's flagship model: Farmasil focused on lower operational costs, with fewer employees and reduced shifts, and smaller stores in less premium locations. Product Mix was also adapted, prioritizing generics and similar medication. RD failed to successfully implement the newer model, and the reasons were threefold: (i) smaller stores were less visible and compromised variety; (ii) stores faced direct competition from more visible medium/large players offering lower prices and better generics mix; (iii) despite the new model's higher gross margin, the lower average ticked demanded a very high customer flow to be profitable. Now, RD is revamping Farmasil stores: they will retain a different product mix and store layout, but the branding will be Droga Raia.

Products

RD has as its primary activity the retail commerce of pharmaceutical and cosmetic products: medication, both branded (i) and generics (ii), over-the-counter drugs (iii), and non-medication (iv) (HPC), all within a single operational segment. There is also (v) private label products, a subcategory of both OTC and HPC. RD has currently more than 12.7 thousand products in its portfolio.

I. **Branded:** Medical prescriptions are necessary to buy branded medication, and these products have a significantly lower gross margin of 20% since most of their patents have not yet expired, limiting supplier options and, consequently, RD's bargaining power. They were responsible for 44% of gross revenue in 2018, divided between Reference and Similar Medication. The first are new products, still protected by patents and with lower gross margins, while the second is similar to generics but still carries the supplier's brand.

II. **Generics:** Introduced in Brazil in 2000, generics made medications widely accessible and increased both total sales volume and revenue, despite lower unit price. They were responsible for 10.9% of gross revenue in 2018, with a gross margin of 50%. Projections indicate generics will grow to be even more important in the future, since Brazil is still an underpenetrated market (27%) when compared to other developed countries.

III. **OTC Medication:** These medications are commonly used to treat diseases of simple diagnosis; therefore, no prescription is needed. They represent 19% of gross revenue and have a gross margin of 30%. There are seasonality effects on OTC medication, with greater revenue in winter.

IV. **Non-medication (HPC):** Representing 26.1% of gross revenue with a gross margin of 30%, these products comprise mostly of personal hygiene and beauty items, from national, international and own brands, the latter having the highest margins.

V. **Private Label:** A subcategory of both OTC and non-medication, these products have significantly higher gross margin, at around 50%. Although they correspond to only 6% of total front-store sales, their participation in total product mix is projected to grow. Besides margin gain, private label penetration is an important driver and has an important bargain power with suppliers as they become more important in the company.

Complementary services: Besides its core business, RD also offers: (i) special lounges for beauty attendance; (ii) agreement with Health Ministry for subsidy of medications; (iiii) agreements with largest PBMs ("Pharmacy Benefit Management"), and (iv) Customer Loyalty programs. It also offers consulting services to all its stores.

PBM (Pharmacy Benefit Management): RD's PBM program, Univers, consists of subsidy for medications in all RD'S stores throughout the country through agreements with companies that offer contributors one of two options: (i) paycheck discount of medication expenses; (ii) direct subsidy for medication (the company covers part of costs). PBM allows for strategic data collection through customer credential, boosting loyalty programs' success.

Working Capital Dynamics

The pharmaceutical sector is highly working capital intensive, primarily because of its extensive inventory. Stock out can be a serious problem for pharmacies, since the lack of one item can lead a customer to abandon a whole basket. Figure 6 presents the items of high (A) and low turnover (C) and their respective revenue correspondence. We see that most of the revenue comes from high turnover items, while most of the inventory is occupied by low turnover ones. As discussed above, the lack of the latter does compromise the former's sale, meaning it is important for pharmacies to have a robust supply and extensive inventory, thus compromising its cash cycle by increasing days of inventory and decreasing available cash. For further analysis, refer to Appendix M.

E-Commerce and Onofre Acquisition

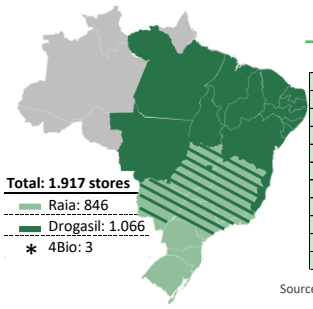
The company enjoys a good position in E-Commerce, with a share of 16.5% divided between its two main brands. With the recent acquisition of Onofre (online share of 5.6%), the company consolidates its dominance in the online environment, surpassing Extrafarma (15.5%). Onofre has a strong online focused operation that started back in 2016 and represents 45% of Onofre's BRL 480 mn Gross Revenue. RD can not only benefit from Onofre's long online track record, but also leverage on its strong online brand.

The acquisition of Onofre was also strategic in the physical world, adding 50 stores to RD's base. They had high overlap with those of RD, so logistics integration should be seamless, and competitive pressure will be relieved. Furthermore, this acquisition marked the forfeit of an international player with deep pockets from Brazil, and RD's move prevented another local player from acquiring Onofre and increasing competitive pressure.

Corporate Governance

Founded in 1905, Droga Raia has a long history, and still keeps members of the founding family in the management. However, since the entrance of Private Equity funds Pragma and Gávea in 2008, corporate governance has strongly benefited from the professionalization of its directors and managers. The merging with Drogasil, in 2011, has also brought synergy between the market and the founding families, as the resulting stockholders' balance is regarded in the market as one of RDs strengths most closely related to its expansion capacity since the merging. Current stockholders' lock-up agreement states that the founding families of both Droga Raia and Drogasil may not alienate 30% of shares until November 2021, guaranteeing voting rights in the assembly for both families, thus preserving RD's tradition. However, there is still 5.1% of controllers' stock in free-float that remain unsold, evidencing their belief in the company's long run.

Figure 3: RD's Store Footprint

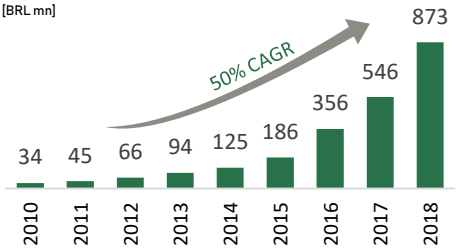


# of Stores

AL	17	PB	15
BA	67	PR	109
CE	28	PE	63
DF	69	PI	8
ES	44	RJ	44
GO	71	RN	14
MA	13	RS	38
MT	21	SC	49
MS	25	SP	1020
MG	134	SE	16
PA	30	TO	7

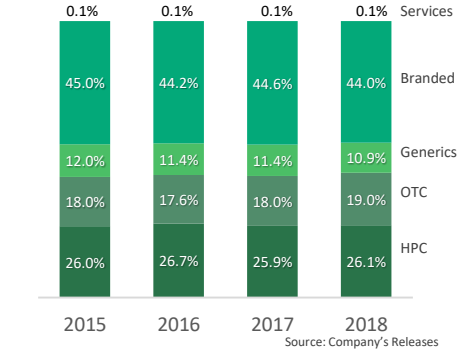
Source: Company's Releases

Figure 4: 4Bio Gross Revenue



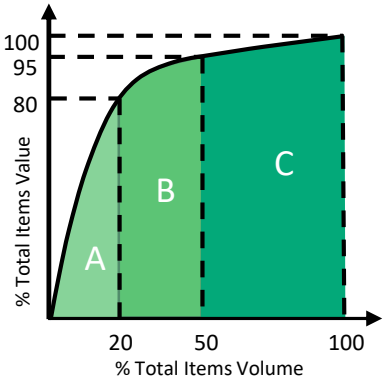
Source: Company's Releases

Figure 5: Product Mix



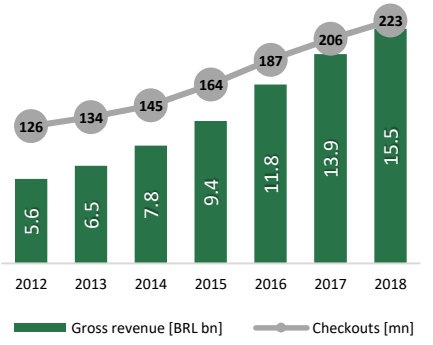
Source: Company's Releases

Figure 6: Qualitative Turnover of Products Mix



Source: Neo Química

Figure 7: Gross Revenue Evolution



Source: Company's IR

High-level governance standard: RD has abided by "Novo Mercado", which sets clear guidelines for transparency and fairness, establishing several of RADL3 stockholders' rights. A few of them include: 100% tag along right, right to minimum 25% dividend yield, full vote and refunding rights. Besides, all RADL3 stock is common.

Experienced and up-to-the-task management: RD has a seasoned and prepared management that sailed to establish Raia Drogasil as the fifth largest Brazilian retailer company in 2018, with an impressive Gross Revenue growth between 2012 and 2018 (Figure 7). It contains names like Antonio Carlos Coelho, the CFO, that has an in-house experience of 34 years, and Marcílio Pousada, with a 26-year background in the retail sector, that has given the executive committee know-how to execute and architecture Raia's entire operations. More than the ability to implement a prime execution, we believe that the management is prepared to face the challenging competitive scenario in the drugstore market, as they already demonstrated. For instance, as competition got tougher, with cheaper generics offer in the market, Raia Drogasil lost share. Although it took some time, management was able to react and implement a new and aggressive tactic of more significant discounts in generics, a strategy that is already paying off as store traffic resumed and RD started to regain market share at an even higher pace.

Guidance as a rule of thumb: Raia's execution is one of the best in country, thus making it one of the most prominent stocks in Bovespa. Every year since 2013, with no exception, management was able to follow its guidance of store openings or even surpass it, proving not only its ability to keep its promises but also to maintain its expansion rate.

Higher compensation demands better performance: The members of the BoD only get a fixed compensation for their work. On the other side, the variable payment portion to the Executive Committee is based on the company's performance (Sales, EBITDA, Customers and Expansion metrics), as well as goals for each specific area. Following recent years' good results, compensation is high, but in line with the market. We highlight that since 2016 the company adopted Stock-Based Remuneration, which explains the soar in compensation in 2017, as the stock rallied more than 50% in that year (Figure 9). We believe that a highly variable-based compensation is a proper way to align management's interests with those of minority stockholders.

Industry Overview & Competitive Positioning

The pharmaceutical sector in Brazil is poised for strong secular growth and consolidation, supported by the inversion of the age pyramid. It has presented a double-digit growth for the past 5 years (CAGR 12.8%) and in our projections for the next 5, growth will remain strong border-lining double-digit (CAGR 9.0%). According to IQVIA, Brazil will become the fifth largest pharma market by 2022, up from today's sixth position. A movement of consolidation in the coming years is also foreseeable, as Brazil's highly fragmented market follows more developed countries' steps.

Resilience to adversity, yet leverage on prosperity

In the last five years, Brazil experienced a 3.76% accumulated contraction of its GDP. Meanwhile pharmacies revenue continued to grow, expanding 64% in the same period (a 7200bps spread, as seen in Figure 10), and thus demonstrating remarkable resilience. Furthermore, we see that the sector also benefits from stronger population purchasing power. According to an IPC Maps 2018 survey, household spending in the pharmaceutical sector has a strong correlation with income, at an average β of 1.4x for medication, and 1.5x for HPC. Unlike in other countries, household spending is a particularly important driver in Brazil, especially since most of pharmaceutical expenditure in the country is Out-of-Pocket (82.6%, IQVIA) – government drug purchasing program "Assistência Farmacêutica" accounts for less than 6.9% of the market. Future projections are optimistic, as the market moves towards consumer purchasing power recovery in the coming years.

Strong Secular Growth

The primary indicator that drives market growth is the inversion of the age pyramid. Brazilian population is aging rapidly – faster than other developed countries – and IBGE estimates that the number of individuals aged 65 and above will rise from 19 mn to 34 mn in the next 15 years (CAGR 4.2%), reaching 25.5% of the population by 2060, up from current 9.5% level. Analyzing the frequency of medicine use per age group, the driver becomes self-explanatory. Individuals aged over 65 years have almost twice-as-high use frequency when compared to that of 20-30 age group (Figure 11). Furthermore, medication for the former is considerably more expensive: the average spending among people under 18 years old is R$ 45.40 per month, increasing to R$ 193.90 among people over 55 years (IQVIA). To verify adhesion of market growth correlation to population aging, we created a linear regression between historic percentage of elderly (over 65 years old) and the evolution of market size and found an R-squared of 0.9941, corroborating a remarkable correlation, as seen in Figure 12. We were able to extrapolate this model to estimate market size for the next five years, obtaining a CAGR 19-24E of 9.04% (Appendix G).

What about saturation?

Brazil has the biggest number of drugstores worldwide and one of the highest concentrations of drugstores per inhabitant in the world, averaging one pharmacy for every 2,401 inhabitants, over 3 times WHO's one for every 8,000 inhabitants recommendation. Even the US falls behind Brazil in absolute number of pharmacies: 78,000 from the former against the latter's 67,000. From a layman's perspective numbers point to market saturation, but per capita and per store data tell a different story: a pharmacy in Brazil sells on average BRL 1.1 mn a year, while an American store sells BRL 10.6 mn. Per capita spending is also a key differential, with Brazilians spending around BRL 520 a year, against Americans BRL 2,900. In fact, market size per capita is minimal in Brazil, below world average (Figure 13) and the potential for expansion is clear even when compared to countries such as Portugal and Spain. It is commonplace that US pharmaceutical store and market dynamics is different from Brazil's, as we noticed in a visit to a CVS and a Walgreens store in California (Appendix J), highlighting the difference in product mix, sector spending model (Brazil has higher out-of-pocket spending), and store area: average of 202 sqm in Brazil vs. 850 sqm in the USA, resulting in a total sales area of 11,300 thous. sqm compared to US's 28,100 thous. (Euromonitor).

Room for Consolidation

We calculated the HHI (Herfindal-Hirschman Index) using the eleven largest companies' market share, arriving at a figure of 229. As defined, any market with less than 1,800 HHI is considered of low concentration. We also verified the top five players add up to 29% of total market; in the USA and Chile, for example, top 5 players hold 66% and 78%, respectively, demonstrating there is room for large drugstore chains to surf on sector growth and consolidate Brazilian market. For a deeper analysis of market fragmentation, refer to Appendix I.

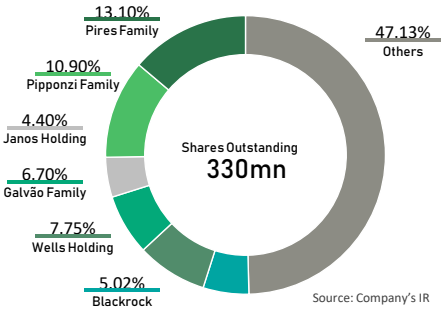
Government Interference

Brazil's Price Cap: Brazil's Pharma Market is highly regulated: all commercialized products and establishments must be registered and have proper authorization by Anvisa, while CMED, the Chamber of Medicine Regulation, establishes the most meaningful legal boundaries. First, CMED defines the maximum price the industry or distributor can charge (PF). Then, maximum retail price (PMC) is determined based on a mark-up that usually ranges from ~33% to ~38%. Despite well-defined PF and PMC, actual retail prices tend to diverge due to discounts. For more details on this subject, we invite you to read Appendix Z.

Price caps below inflation can pressure margins: Even though the government's medication prices readjustment – which are usually below inflation – expands population's access to medicine, the practice may cost profitability for drugstores: in the last ten years, only in 2016 the price cap was above LTM inflation. In 2019, for instance, the price cap of 4.3% was below the LTM IPCA of 4.6%, pressuring margins and negatively impacting SSS for all major peers.

Brazil's high tax burden over drugs: The excessive tax burden is a significant constraint to both the development of the domestic pharmaceutical industry and population's access to drugs. Estimates from The Brazilian Institute of

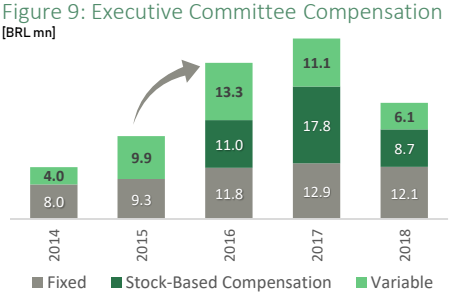
Figure 8: Ownership Summary



Source: Company's IR

Figure 9: Executive Committee Compensation

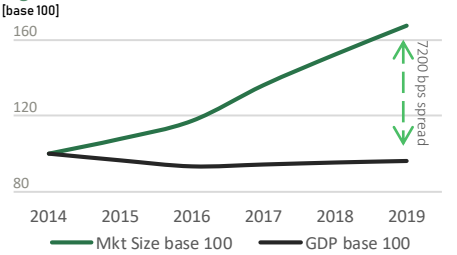
[BRL mn]



Source: Company's IR

Figure 10: Market Size vs. GDP

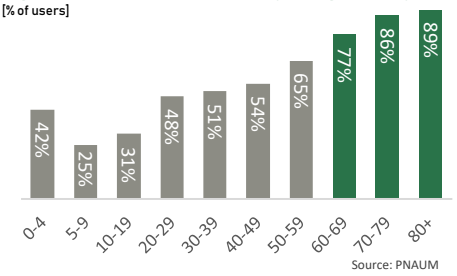
[base 100]



Source: IQVIA, RD

Figure 11: Use of Medicines per Age Group

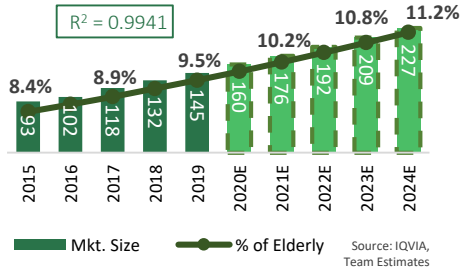
[% of users]



Source: PNAUM

Figure 12: Market Size vs. Percentage of Elderly

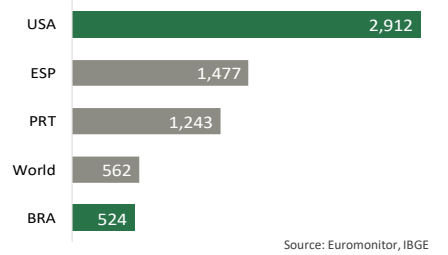
[BRL bn]



Source: IQVIA, Team Estimates

Figure 13: Pharmaceutical Spending per Capita

[BRL/year]



Source: Euromonitor, IBGE

Planning and Taxation (IBPT) show that the country has the highest tax burden on drugs in the world, accounting for 31.3% of the final retail price.

Generics: medication within reach

Smaller prices, bigger margins: Generics are required by law to be at least 35% cheaper than their reference drugs, but discounts can get as high as 85%, averaging 60-65%. They must be identified only by its active ingredient – no branding is allowed – thus eliminating R&D and marketing built-in costs. Impossibility of product differentiation, absence of patent protection and higher supply variety determines a price-based competitive laboratory environment: EMS, Medley and Neoquímica, some of the largest players, are on a constant price war over the best conditions offered to retail companies. Therefore, retailers themselves enjoy high-profit margins through low purchasing price (PPP), while industry also increase theirs through low production costs.

Growing heavier in the mix: Generics are gaining ever more space and have proven to be the most dynamic drug segment. According to IQVIA, its share of prescription medicine increased from 35.1% in 1Q14, to 45.8% in 4Q18. A few explanations for the growth include: (i) diversification of therapeutic classes that use generics, (ii) recent patent expiration, and (iii) strong competitive prices that significantly expand accessibility in Brazil. On the other hand, generics can decrease total revenue for the pharmacies, as their final retail price is lower. As a result, we see that despite generics quickly expanding market volume for industry and pharmacies, their total participation in gross revenue remains low (Figure 16).

Generics perspective: The Brazilian pharma market is underpenetrated in terms of generic drugs when compared to other countries. While generic medications represent about 34% of volume in Brazil, other more developed markets like the U.S. and Germany have 80% and 66% penetration, respectively, showing that there is much room for growth. Despite Brazilians' skepticism regarding generic's quality, current rigorous process of bioequivalence tests, used to standardize their efficiency against respective reference medication benchmark, have proven successful on improving overall generics perception. According to an SPC/CNDL study, 67.6% of Brazilians prefer generics over other types of drugs due to more affordable prices, the key segment growth driver. Besides, the expiration of important patents in the coming years for cardiology products, nervous system diseases and Parkinson's should increase the availability and variety of generics and support an increase in total penetration. However, we believe RD does not wish to become a strong generic player, so we don't see any major changes in Raia's mix soon.

Services as a driver?

We understand that the future perspective is that drugstores will find new ways to create value and product differentiation, so health services such as vaccines and basic check-up services (i.e., blood pressure measurements) can be an important driver in the future. In the US, for instance, CDC estimates that over 20% of total vaccinations were made in pharmacies. In 2014, the American drugstore chain Walgreen's was responsible for 7.6 million flu shots, meaning 7.6 million more potential clients that could also buy an aspirin, an HPC or pain killers. However, we don't see such scenario for Brazil in the short term, as drugstores in the USA have a different business model than those in Brazil, and consumer habits in the country are a setback for services to succeed in Brazil. According to a survey held by IFPEC and UNICAMP, 96.8% of the 4,000 subjects didn't seek any of those services in a pharmacy. Therefore, we think services are a long-term driver that shouldn't impact the short/middle term.

And what about RD's competitive positioning?

Despite the industry rivalry being the most significant force in our Porter analysis (Figure 17), Raia's track record and best-in-class operation puts the company in a favorable position to surf the sector growth and gain market share. To develop our analysis on how Raia is situated within its peers, we divided its competitive positioning in 2 main pillars: (i) its well-proven strategy, understanding consumer behavior and finding the most advantageous spots to open its stores and (ii) its ability to lead the consolidation of the market, sustaining growth levels above its peers and overcoming possible threats from both small and large chains.

Understanding Regional Competitive Dynamics

To comprehend market dynamics, we must first understand how the consumer chooses a pharmacy. If we look at Figure 18, we see that the primary decision factor is (i) the price, followed by (ii) the proximity and (iii) the certainty of finding the desired product. In this section, we will analyze each of the decision factors, explaining how Raia positions itself regarding each one of them.

Pricing Policy: We conducted a field research to analyze pricing policies: we set a standard basket containing over 20 items (Appendix J), including Prescription, Generics, OTC, and HPC, at the proportion of sales indicated by RD. Analyzing the price fluctuations on all major drugstore chains in São Paulo, we found that the brand is positioned in line with the average. Meanwhile, Pague Menos is the cheapest: the company has different value propositions and target audience, willingly sacrificing margins to sustain the lowest prices. We normalized the prices based on each products average, thus avoiding results tempering from expensive items discrepancies. Results are presented in Figure 19. We understand that in this market, buyers' bargaining power is high, since there are multiple players to shop from; at the same time, despite scale gains, pharmacies represent only a moderate percentage of revenue from individual suppliers, implying the latter's power is moderate. Raia seems to be positioned according to the market, and we do not see competitive advantages tangible to neither suppliers nor customers.

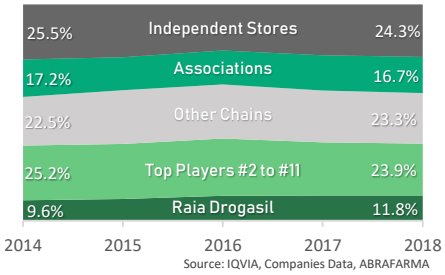
Let's now take a closer look at convenience: The company always had a clear understanding of the role convenience plays in pharmacy dynamics and is comfortable paying a premium for well-located stores in high-income regions, containing parking lots (71.8%) or in shopping malls (11.0%), a key differential for the brand. Raia's target public is mostly from classes A and B, providing a specific profile for Raia to tailor its operation to. Classes A and B have higher average tickets when compared to lower classes' (Figure 20) but convenient positioning becomes critical to maintaining the company's dominance.

We did an extensive geospatial analysis in São Paulo using QGIS software and IBGE data, plotting all major companies' stores in the capital and intersecting with IBGE Census data by sector (Figure 21). We analyzed over 700 points of sale distributed along 1,594 census sectors. A few of the leading economic indicators analyzed include: (i) Average Income of the Richest Fifth – to evaluate the consumption power of classes A and B by region – and (ii) Proportion of Elderly, a major driver. As a result, we found that Droga Raia branded pharmacies have the best market positioning, with an Average Income of the Richest Fifth around pharmacies of R$ 11,357/mo, and a proportion of elders of 13.15%. The brand is followed by Pague Menos, Drogasil (also RD), and DPSP (Figure 21). The ranking is consistent throughout all indicators analyzed. It is important to consider that, although Pague Menos is well-positioned, it has only 49 stores in the city – as opposed to 141 Droga Raia and 200 Drogasil stores. So, the two better-located brands to seize the market opportunity are Droga Raia and Drogasil, both belonging to the Subject Company. RD concentrates its stores in the most attractive markets with the highest per-capita incomes and proportion of elders. Meanwhile, DPSP seems to fall behind when it comes to positioning itself in these attractive regions. For the full extent of this analysis refer to Appendix S, T and U.

What about the rest of Brazil? We verified that the same pattern could be observed in most cities where Raia Drogasil has a foothold. Using a standardized sample of 50 stores for each brand, we were able to verify that the company is, in fact, closer to high-income classes when compared to its main competitors – Average Income of R$4,922 vs. R$4,750 Panvel, R$4,320 DPSP and R$2,913 Pague Menos – despite its recent down-market move into more densely populated areas with lower income throughout Brazil.

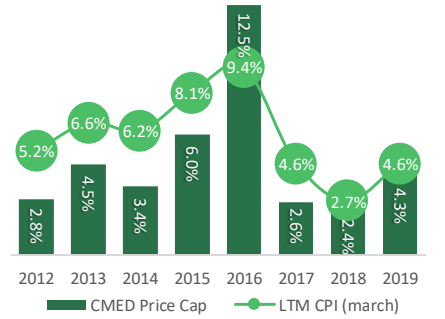
And what does this reflect to Raia Drogasil's stores? Being closer to higher income classes results in stronger sales per sqm for the company's stores when compared to its peers (Figure 23) and the second highest average ticket in

Figure 14: Market Share Evolution



Source: IQVIA, Companies Data, ABRAFARMA

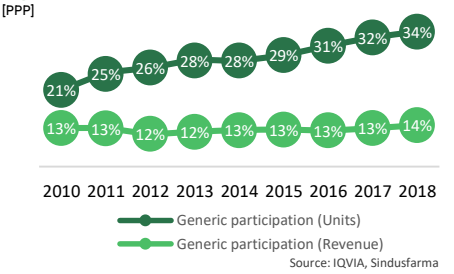
Figure 15: CMED Price Cap vs. CPI



Source: Anvisa, CMED, IBGE

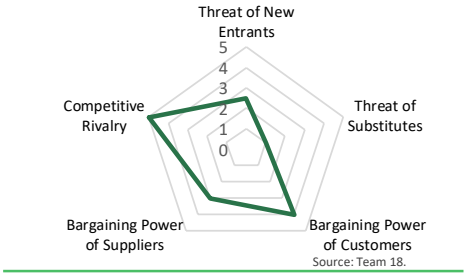
Figure 16: Generics Share of the Market

[PPP]



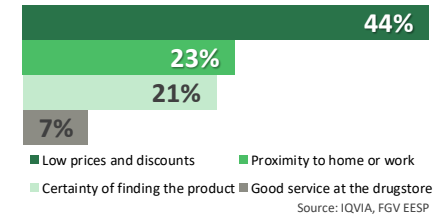
Source: IQVIA, Sindusfarma

Figure 17: Porter Analysis



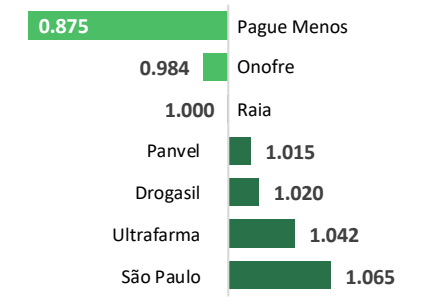
Source: Team 18.

Figure 18: Consumer Decision Factors



Source: IQVIA, FGV EESP

Figure 19: Normalized Basket Prices



Source: Team's Field Research

the entire market – the biggest among the top 10 drug retailers, a perfect demonstration of its competitive strategy.

What about cannibalization and competition? Using the same tool, we found that on a 1.5km radius Raia Drogasil competes with 5.6 stores, DPSP competes with 6.0 and Pague Menos competes with 6.7 stores on average, including stores from the same brand and independent drugstores. Management's speech appears to be coherent, saying that often a pharmacy is opened near another of the same brand to prevent competition from doing so. However, we reckon cannibalization is a problem to be taken into consideration. In fact, the company has been tackling the issue, deconcentrating its store openings in São Paulo, thus offsetting the cannibalization effect by expanding to new regions, but the threat remains. Further analysis will be made on this expansion.

Stock-out Analysis: During the year of 2015 ILOS conducted a research on stock-out in partnership with ABRAFARMA, obtaining information on over 3 mn orders on various drugstores throughout Brazil. It concluded that on average, 14% of the orders could not be fulfilled due to inventory shortage. In order to estimate Raia's stock-out levels, we conducted a thorough field research via telephone. We called 40 stores located throughout Guarulhos (SP), Fortaleza (NE), Anápolis (GO) and Porto Alegre (S) and weighed the rupture levels using the company's revenue distribution by region, obtaining a value of 4.2±0.5% at 5% significance level, almost three times lower than the industry average (Appendix V). We see RD's efforts to invest heavily in distribution as an efficient way to improve the stock-out index, as seen between 2014 and 2016 when the stock-out index had a cumulative drop of 53.5%.

What about E-Commerce? Not only is Raia the best-positioned brand in the physical world, but it is also on the online universe. It boasts a 22% share of online traffic through its three brands (Droga Raia, Drogasil, and recently acquired Onofre) – 650bps above its second competitor, Ultrafarma. We can see online traffic distribution in Figure 24. Regarding the Cost-per-Click, it is positioned at the average, with a CpC of BRL 0.37, compared to sector's median of BRL 0.38. However, its engagement metrics fall behind the competition – the average RD online customer spends less time on the website and visits fewer pages. We see Onofre's acquisition as strategical in reversing the picture, as an attempt to enable Raia to enjoy its preponderant market share and optimize its online sales. If it works, the company may be able to leverage itself on E-Commerce growth and boost its online sales, consolidating its dominance in yet another front. For a more thorough analysis of E-Commerce, refer to Appendix E.

Tailoring the War for Each Battlefield

Raia Drogasil is the biggest pharmaceutical company in Brazil, with 13% of market share as of the end of 2Q19. Despite its presence in 21 states and the Federal District, the company still has over 50% of its 1917 stores concentrated in the state of São Paulo. To better understand the competitive dynamics and opportunities in each geography, let's take a closer look into some of Brazil's most relevant macro regions:

South: RD's strong presence in the South is based on 188 Droga Raia stores, comprising 7.9% of local market share (2Q19) and representing 9.5% of the company's total revenue. It's a highly attractive market, representing 15.9% of the total. Local competition is fierce, though: there are some notably well-positioned regional players, such as Drogaria São João (14.2% market share in the south), Panvel (12.2%), and Nissei (6.4%). We recognize Panvel as one of the best in the industry due to its impressive execution, cash flow generation, and benchmark position in sector trends like E-Commerce and Private Label. With a Gross Revenue of BRL 2.3 bn in 2018 and a total 426 stores (421 in the Southern states), it has a solid operation. In Appendix K we take a closer look at this market's dynamics and analyze possible acquisition of Panvel by RD, as we believe it would have considerable synergies.

Southeast (excl. SP): The region represents 24.1% of the pharmaceutical retail market as of 2Q19. Despite Raia Drogasil's strong footprint in the region, with a total of 301 stores that represent 16.9% of its revenue, we perceive competitive dynamics similar to those of the South: some strong regional players toughen competition up and make share gain difficult. The most relevant players in the region include: Drogarias Pacheco, from DPSP, with strong presence in the state of Rio de Janeiro, and Drogarias Araújo, which although restricted to Minas Gerais, reached BRL 2.3 bn Revenue in 2018 – it is Minas Gerais' isolated leader. With different business concepts, such as larger stores and greater variety of SKU's ranging from food to pet shop items, Araújo aims to turn pharmacies into a one stop shop for the client. Its aggressive store expansion in the city of Belo Horizonte occupies most of the best spots, shielding itself from competitor's penetration.

São Paulo: By far the most important region for the company, it is responsible for 49.8% of RD's revenue. With 1.020 stores in the state, the company holds almost 25% of this market, which by itself accounts for 26.7% of the entire Brazilian pharma retailing market. DPSP also has a strong presence in the area; it is the second biggest pharmaceutical retailer in the country, and it has a strategy similar to that of RD – focusing mainly in São Paulo and adopting an aggressive expansion policy (avg. yearly store openings of 105 since 2012). Despite being a highly desirable area due to considerable market size and higher-income population, we can already see signs of saturation – especially when it comes to those wealthy neighborhoods where RD finds its primary audience. As depicted in the previous section, Raia Drogasil locates itself in close proximity to its customers. However, the company' future lies in its ability to find new points of sale and adapt its stores' format to reach new target public – as even the management admits there is not much room left to open pharmacies in those high-income neighborhoods. Performing well in São Paulo is crucial to sustaining Raia Drogasil's above-average results. However, in 2018, mature SSS suffered a significant downfall, with -1.0%, -1.4%, and -3.2% in the 1Q18, 2Q18, and 3Q18, respectively, raising a red flag in the market, which feared that the effect of new entrants such as Extrafarma, competition with independents and associated chains, and cannibalization between its own stores would affect the company's performance, corroborated by a slight loss of market share. The company's recent results indicate that the situation has already turned over, presenting positive and above CPI mature SSS and regaining share, meaning the initiatives to strengthen its competitive positioning are bearing fruit.

Northeast Expansion as a Driver

We see NE as the region with the most significant expansion potential for RD. We highlight three pillars sustaining that this region will be an epicenter of growth in the coming years: (i) fragmentation above the Brazilian average, (ii) weakened local competitors, and (iii) a fast-growing market, in line with our estimates of TAM in Brazil.

(i) There is a good opportunity for consolidation: It is more fragmented than the national average, with small chains and independent pharmacies occupying a significant market share. However, we see that the region's consolidation strategy does not work through M&A; BR Pharma undertook a series of medium drugstore chains acquisitions based on this thesis and suffered disruption, eventually filling for bankruptcy. This process contributed for even further fragmentation of the market, as it removed medium drugstore chains from the equation. For a thorough analysis on BR Pharma's rise and downfall, please refer to Appendix O.

(ii) Local competitors are fragilized: Taking a closer look at Pague Menos' operations, we see key deficiencies that may leave it lagging behind upon fiercer competition from players like RD. Although it remains the regional market leader with 20.1% in 2018 and almost 58% of its 1,164 stores in this area, the company is losing its dominance, with a total loss of 200bps in share just over the past year. Raia Drogasil, in this same period, gained 3.4% of market share in NE, as seen in Figure 27. Pague Menos couldn't thrive among fiercer competition, as evidenced by last year's 4.1% downfall in mature SSS, extending operating FCF deterioration, and increased financial leverage. We believe Pague Menos' measures to try and recover its operational profitability, cash flow generation, net debt levels won't be enough to offset the high-competition effects and consequent loss of market share.

(iii) A fast-growing market: Using the same mathematical approach as before, we calculated a linear regression between percentage of elders and market size, both for NE region. Again, we found a strong correlation – R-squared of 0.9934, as seen in Figure 28. This method returned a CAGR 19-24E of 9.5% vs. a historical CAGR 14-19A of 11.5%,

Figure 20: Household Spending by Income Level
[BRL/Year]

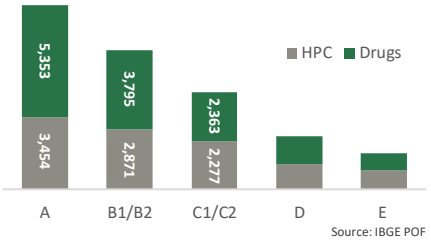


Figure 21: Geospatial Distribution of Main Chains

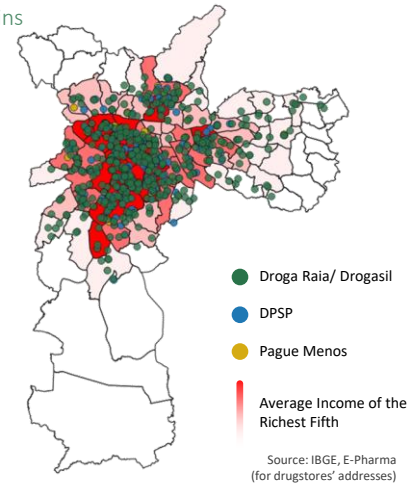


Figure 22: Conclusions from Geospatial Analysis

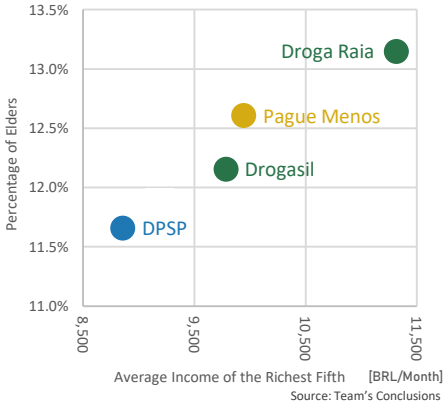


Figure 23: Sales per sqm.
[BRL/Year]

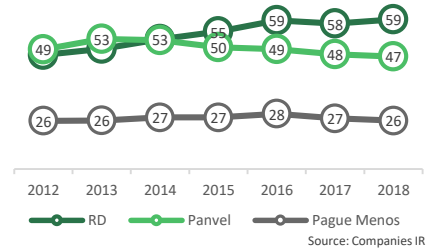
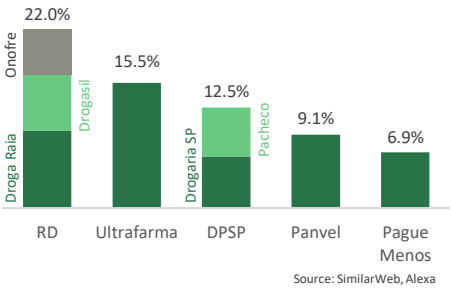


Figure 24: Online Traffic Share Distribution
[Unique Visitors]



in line with our projections and evidencing a towering market potential.

Considering these factors, the competitive environment and growth forecasts in NE make it the perfect target region for substantial RD expansion. However, this market may pose different challenges to the company. One key point of analysis to support this organic expansion is the ability to surpass logistical barriers. Recently Raia Drogasil has announced the conclusion of two new Distribution Centers (DCs), one of which is in Fortaleza. NE's capacity increase is strategic, as it generates capacity to sustain future growth – rising the average DC area per store in NE from 81sqm to 128sqm vs. 85sqm Brazil average. For further analysis into its distribution capabilities, refer to Appendix L.

Among other specificities that the company will have to handle, we highlight higher share of medicine use coming from governmental programs such as SUS (Appendix F), reduced Income per Capita, and regional differences of consumer preferences. However, RD can offset this specificities by following the same strategy of expansion as previously presented for São Paulo: starting with the highest-income areas, consolidating, and then moving gradually to more popular ones, adopting a cluster model that fits each social class and region. Classes A and B in Northeast have similar purchasing power to those of regions where Raia has established dominance, such as the Southeast (Figure 29) and therefore present a comparable consumption potential.

But will Raia Drogasil lead market consolidation?

Until now, we depicted vast opportunities as the market grows and the sector develops. But as seen earlier, competitiveness in this industry is hard. In this section, we analyze how Raia Drogasil will manage to succeed in this task, overcoming its competitors in the clash for market dominance.

Ability to grow organically throughout the entire country

Although the initial investment to open a single new store is not very high, sector dynamics make substantial expansion a considerable setback for cash generation in the short term. Since it takes time for a store revenue to reach its potential, it's hard to generate cash to make up for Capex and low FCF from recently opened stores. Therefore, an aggressive expansion cycle could be challenging as a company may not be able to compensate for the park of maturation stores' cash expenditure.

Cash is King: Even though Raia Drogasil faced a very aggressive expansion cycle, it was a healthy process with a good cash flow generation (Figure 30 - CFO/EBITDA) that allowed the company to finance its growth with its own operation (Figure 31 - CFO-CFI), maintaining healthy levels of leverage and the best average cash flow generation in the last 5 years in comparison to all other players.

Replicating Raia Drogasil's expansion strategy is no easy task: RD's solid execution allows it to maintain its expansion rate and profitability while peers are slowing their growth and seeing margins decline. As the worst-case examples, we can take a closer look at Pague Menos and Extrafarma. These two companies had been following an aggressive store openings campaign since 2014, with Extrafarma even surpassing Raia's pace (as % of store base). However, none of them were able to transform Top-Line growth into Bottom-Line growth. As seen in Figure 32, there are clear deceleration signs for these players: in 1S19 Pague Menos had a net closure of 1 store, and Extrafarma merely maintained its store base – with only 15 new stores added.

Expansion is the way: Opening new stores at strategic points is vital to maintaining store-level profitability while capturing market share from other players. Maintaining strong mature stores' SSS is crucial, yet a company's ability to gain market share is more closely related to its capacity to open new stores and expand in different macro-regions. With its impressive track record in mature and new markets, solid FCF generation, and aggressive guidance for store openings in 2019 and 2020, RD shows that it can still cover a lot of ground before it slows down.

Build or buy? When it comes to expansion, it's essential to consider Unit Economics (Appendix Q). In order to analyze store profitability, we calculated the IRR of a store opened at the beginning of 2019 to understand if the required discount rate was above cost of capital. We reached in an IRR of 20.6%, a comfortable 9.8% spread from 2019's WACC, thus confirming RD's ability to grow organically, while achieving top of the line store profitability.

Ability to face competition

Competition got tougher: Other than DPSP's direct rivalry in the Southeast region – where most of its stores are concentrated – the competitive landscape for RD got tougher. On the one hand, big players like Pague Menos and Extrafarma dictated a high expansion pace until the end of 2018, entering Raia's core market – the city of São Paulo. On the other hand, we highlight the improved execution of small and independent drugstores when combining their operations in franchises or associated chains, toughening the competitive landscape.

And what are these associated chains? Proliferating throughout Brazil, they originate from the union of small and medium players, seeking to obtain a better bargaining power with suppliers and improve store execution, enhancing their operation, decreasing stock out levels and improving product assortment. A widespread practice between these associated chains is the centralization of purchasing, organizing a center that negotiates directly with labs at more competitive prices due to the considerable volume of products that can be purchased collectively. Their bargain power increases so significantly that at times, these associated chains receive even better discounts than those offered to some of the biggest players in the market, especially for generics. As a consequence of greater generics offering, we see a decrease in average retail prices, as seen in Figure 33.

How has this affected Raia Drogasil? Cheaper generics offering led to market share loss to associativity. The company dropped from 7.6% generics market share in 2Q17 to 7.2% in 4Q17 and 6.9% in 2Q18. However, RD's management measures of mix and price reactions were successful – investing heavily in discounts. Soon after, these share losses began to stabilize and went through an inflection point, with RD conquering even more market than before and reaching a total of 12.1% in 1S19. Yearly share distribution can be seen on Figure 34.

What can we expect from now on? This discount policy proved to be an assertive measure for the company amid fiercer competition from small and associated players. Raia Drogasil has shifted its attention to fighting back these players; a strategy that we see as positive not only for market share gain, but also to expand and face competition in other regions like North and Northeast, where this type of players composes the bulk of the market. Therefore, this price investment strategy in generics should continue even though it pressures margins.

Price war simulation: RD's management affirms that they have a competitive edge – especially over associated and independent drugstores. Those players are heavily exposed by a product mix composed mostly of generics and similars, while RD has a much lower competitive exposure, allowing it to take a more aggressive stance and be less affected. To evaluate this affirmative, we conducted a simulation and sensitized to analyze the possible outcomes of this price war over generics (Figure 35), thus evidencing how the company is better positioned to gain share through this strategy. It would be less harmed than other competitors and could sustain a longer-lasting war. To better understand how we architectured this simulation, we invite you to read Appendix R.

Financial Analysis

A Financial Stronghold: RD has consistent cash generation to sustain its aggressive expansion. Since the merger in 2011, the company has opened nearly 1300 stores, maintaining low leverage levels, while its main competitors struggled to keep up (Figure 36). For instance, Pague Menos' openings were mainly financed through debt and backed up by receivables factoring, raising the company's leverage to 3.7x EBITDA, and exceeding its 3.0x Net Nebt/EBITDA covenant.

Point of inflection: Due to its massive opening of stores, RD's revenue soared from just over BRL 5.5bn in 2012 to over 15bn in 2018, representing a CAGR of 18.5%, while the industry grew at a much slower 10.9% CAGR. As a result,

Figure 25: Market Size Distribution per Region

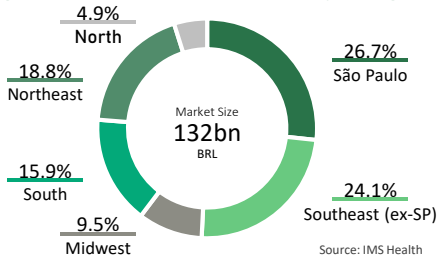


Figure 26: RD's Market Share per Region

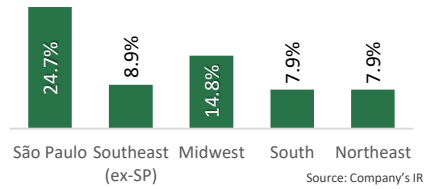


Figure 27: NE Market Share Evolution

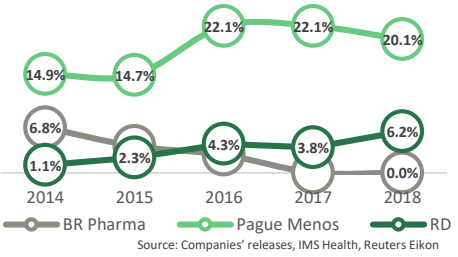


Figure 28: Market Size vs. % of Elderly Projections for NE

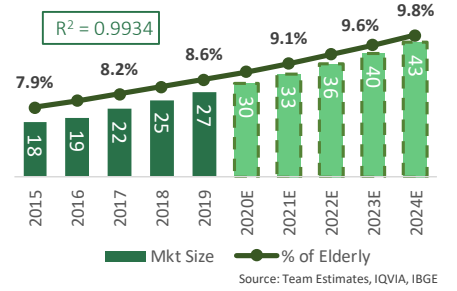


Figure 29: Average Spending on HPC and Drugs by Income Level per Household

[BRL/Year]

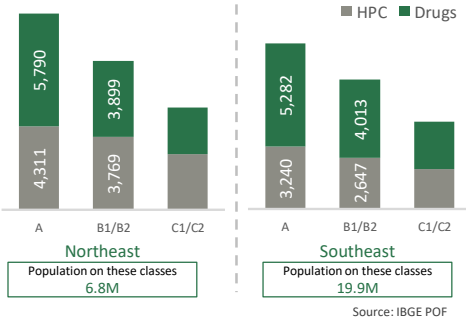
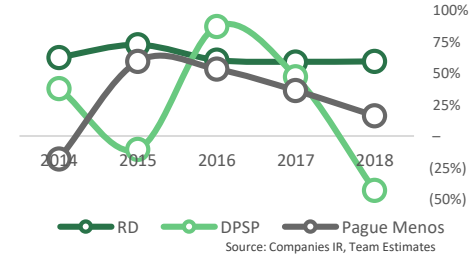


Figure 30: CFO/EBITDA Ratio



RD posed as the leading consolidator of the sector in Brazil. However, we observed deceleration in the last two years (CAGR 17-18 of 12% vs. CAGR 12-16 of 21%) due to two main factors: (i) the intensification of competition, as previously analyzed; and (ii) cannibalization of revenue among the companies' stores, caused by large concentration in SP and resulting in mature SSS below inflation for six consecutive quarters (Figure 37).
Improving 2Q19 results indicate overcoming these problems, as there was real growth in mature SSS and significant gain of share in SP. We believe the improvement is a result of RD's deconcentration of store openings, other leading chains' loss of expansion momentum and accuracy of generics price investments, raising traffic in RD's stores.

EBITDA may be misleading: The Present Value Adjustment (PVA) is an accounting adjustment with no cash effect. It consists of discounting (by CPI) to present value the Gross Revenue to be received in the future, as well as bringing to present value by the same rate the Cost of Goods Sold. As RD's average DSO are much lower than its average DPO, this practice has a net outcome of reducing more the COGS than the Revenues. Thus, key operational metrics like EBITDA can be misleading, as this difference is only corrected in the financial result. To obtain a more precise and fair analysis, when adjusting EBITDA and EBIT for all the drug retailers, we excluded PVA impacts in companies that reported their results this way – for example Pague Menos – as it's a common practice in the market.

Store-level efficiency explains financial health: Tight margins are natural to the pharmaceutical retail industry, as medicines are low value-added products – creating a competitive environment in which firms battle for price. In this kind of industry, companies with greater operational efficiency tend to thrive, and we believe that is precisely the case with Raia Drogasil.
On a trip to the drugstore, an average RD customer buys three units and spends BRL 70. The company buys these same products for BRL 46 from a supplier and spends another BRL 7 to pay the employees who served the customer; other expenses account for BRL 6. All summed up, it represents an BRL 11 Pre-Tax Profit to the store. A DPSP customer, on the other hand, pays BRL 54 on products that cost BRL 37 for the company, BRL 7.8 goes to expenses regarding employees' salaries and BRL 3 in store maintenance and distribution expenses, thus resulting in a BRL 6.2 profit. The same comparison with Pague Menos ends in a BRL 6.1 profit. In addition to better store profitability, RD has lower G&A expenses (2.4% vs. 3.5% and 5.7% of Pague Menos and DPSP, respectively) and greatest number of checkouts in the industry, explaining why Raia Drogasil has a higher EBITDA per store (Figure 39).

"Operational effectiveness can be the single most important factor in the success, or indeed in the survival, of any business." – Bruce Greenwald

2Q Margins: As explained, every March, CMED sets the readjustments to factory prices and maximum consumer prices. In order to enhance their results, RD and other players usually increase their inventories as the readjustment date approaches, selling products bought at old prices after the readjustment and boosting second-quarter results.

Top-down conversion: Approximately 80% of Raia Drogasil's store expenses are fixed, including rent, personnel, and electricity, which makes dilution possible as sales increase. To put it into perspective, if RD were to stop opening stores today, it would have a 1.5% positive impact on its EBITDA margin by 2021. This translates into high operational leverage, evidenced by Raia's superior ability to convert top-line growth into the bottom-line (Figure 40).

Capital structure: Since it always had low leverage levels, with a 0.67x LTM Net Debt/Adj.EBITDA and high Cash Generation, RD benefits from a comfortable capital structure, with 72% of its debt in the long term and the lowest interest expenses among its peers (Figure 38). As covenants to the BRL 979.7 mn gross debt, there are restrictions to the EBITDA margin, which can't drop below 3.6%, a 20% restriction to the Net Debt/Total Assets ratio and a 3.0x limit to Net debt/EBITDA. Currently, Raia has a pre-tax cost of debt of just under 8% and an 'AAA(bra)' Fitch rating.

Lower Invested Capital Turnover harms RD's ROIC: Despite its outstanding execution, RD's Adj. ROIC is only in line with its peers: 17.4% in 2018 versus 16.6% and 17.9% from DPSP and Pague Menos, respectively. In a DuPont analysis (Appendix AB), it is clear that in terms of NOPAT margin, no player excels over the others, as it is a sector with little product differentiation, and low customer loyalty. Thus, the most significant differences lies in the Invested Capital Turnover, where RD falls short. Each sqm of store opening represents an investment of BRL 12.5 thous. for Raia Drogasil, while DPSP and Pague Menos invest BRL 8.1 thous. and BRL 5.6 thous. respectively. This differential investment, which is part of Raia's policy of owning flashier stores, hasn't been fully translated into incremental revenue. It is also noteworthy that, due to higher investments, RD has higher D&A expenses that pressure its NOPAT margin, and Pague Menos has a higher tax burden due to tax benefits (Figure 38).

Intensive in working capital: Drugstores demand high working capital, mainly due to inventories. To maintain supplies of all SKUs and low stock-out levels, drugstores need to always keep both high and low turnover products in stock, requiring high supply capacity and working capital. According to CRF-SP, 21% of independent drugstores shut down in the first year due to lack of working capital. As recently mature SSS decreased, RD's DIO hit the historical maximum of 99 days in 2018, but still bellow DPSP's 101 days and Pague Menos' 126 days. Inventory accounts for 40% of RD's assets – a number that could look high at first glance, but when compared to other players like Panvel (42%), DPSP (43%) and Pague Menos (45%), we see it's in line with industry levels.

IFRS 16 impacts: The new accounting standard released in 2018 by the IASB changes the way companies report rent and leasing expenses, bringing them into the balance sheet. In IFRS 16, the present value of future rent payments go into the balance sheet as financial leases obligations and as right of use intangible assets. There is now an amortization expense related to the right of use and a financial expense linked to the lease obligation, in substitution of the old standard rent expenses reported in SG&A. This causes a positive impact on EBITDA, as rent expenses are now considered non-operational. The impact on net income varies with time, as the liability decreases with the payments and interest expenses are recalculated, while the amortization is linear. It's noteworthy that the government still adopts the old standard in tax calculations. RD's management decided to also keep reporting in the old standard, which they judge to be more correct despite the relevant impacts on the company's statements (Appendix AA).

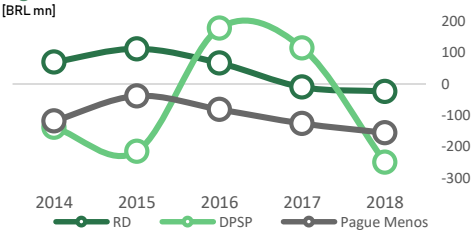
Investment Thesis Summary

Up to this section, we have presented a rather optimistic view of the company, thus not justifying our hold recommendation yet. We reiterate our projections of market expansion and consolidation, with Raia remaining the leader in the market and outgrowing its peers through solid operations and financials. However, we believe our projections are not unique; consensus' estimates are in line with ours, and therefore the company's thriving future is already priced in. Our HOLD recommendation on Raia Drogasil S.A. (RADL3) is based on the Target Price of BRL 109.84 obtained from our DCF model, an expected 8.8% upside from current levels. We believe this return is not sufficient to justify the risk of purchasing the stock, as it trades as one of the most expensive on Bovespa. We based our investment thesis on 4 main pillars: (i) a promising industry, facing secular expansion with a long-term growth perspective, (ii) RD's operational efficiency and strategic geospatial positioning to obtain the best margins and bigger revenues; (iii) best prepared company to lead sector consolidation, (iv) a valuation that already reflects its fair value.

Even after the past sector growth, will there be a positive tailwind in the future? It's the same old story – as Brazil's population pyramid sets to inflect in the coming years, Total Addressable Market will grow substantially, as the average age population is increasing, and medicine expenditure follows. We reiterate our projections of a 9.04% 19-24E CAGR, along with substantial room for consolidation.

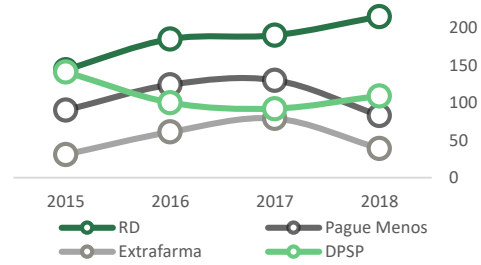
What makes Raia Drogasil different in an industry with intense rivalry? Through intensive analysis, we have been able to confirm that the company's incisive strategic positioning excels in the regions in which it has established dominance, understanding the local consumer habits and prevailing in each of the locations. We highlight RD's

Figure 31: CFO – CFI



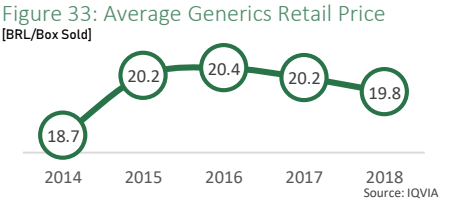
Source: Companies IR, Team Estimates

Figure 32: Net Store Openings



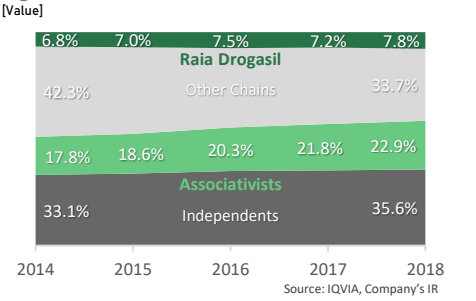
Source: Companies IR, "Diário Oficial da União"

Figure 33: Average Generics Retail Price



Source: IQVIA

Figure 34: RD's Share of Generics Sales



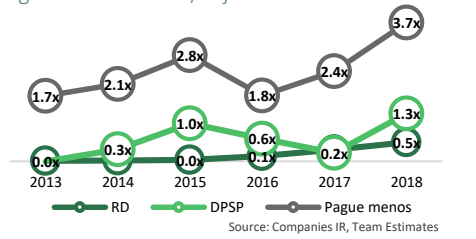
Source: IQVIA, Company's IR

Figure 35: Price War Simulation

Gross Margin Impact	5% discount increase	10% discount increase	15% discount increase
RD	-1.6%	-3.2%	-4.7%
Associated	-3.5%	-7.0%	-10.4%
Independents	-3.9%	-7.7%	-11.6%

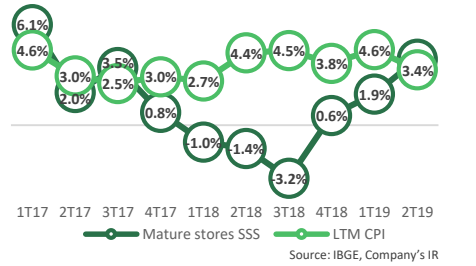
Source: Company's IR, Team Estimates

Figure 36: Net Debt/adj. EBITDA Ratio



Source: Companies IR, Team Estimates

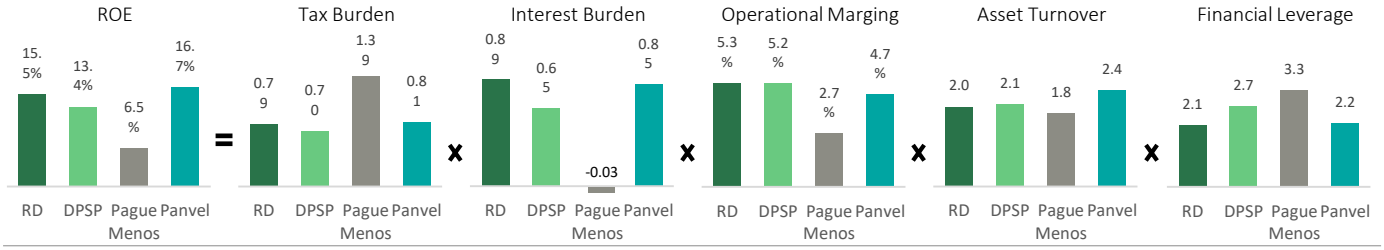
Figure 37: Mature SSS vs. LTM CPI



Source: IBGE, Company's IR

Figure 38: ROE DuPont Analysis

Source: Bloomberg, Companies IR, Team Estimates



geographical positioning in its central city, São Paulo – it is positioned to reach higher income areas and the older portion of the public, at a rate unmatched by any other player. Having the best POS allows Raia Drogasil to have higher revenue per square meter than its competitors, which RD manages to into profit due to its superior store profitability and operational leverage.

But is there room for RD to grow outside São Paulo? Although we believe São Paulo will remain the company's golden goose, we see new expansion opportunities in the country. RD's expansion strategy does not hinge upon NE region exclusively, but we can see that in the last two years, openings in the Northeast accounted for 28% of RD's stores opening, and the perspective according to management's guidance is that this deconcentrating trend will remain. That so, we see a huge window of opportunity in Northeast, as although the dynamics are different, we see the (i) downfall of BR Pharma; (ii) Pague Menos's fragility to face competition entering its core region and (iii) RD's ability to compete with independents and associated chains – the bulk of Northeast market – as positive trends for Raia Drogasil to enter this region.

Will the company sustain its expansion? The best way to win market share in this industry is to open new stores. However, as described before, an aggressive store opening policy can be challenging. Capex in this industry is mainly related to opening new points of sale, and the cash flow generation from recently opened stores is low. Players like Pague Menos and Extrafarma boasted an aggressive expansion in recent years but already showed signs of deceleration with their operations compromised by low cash generation, high leverage and low margins. However, Raia Drogasil proved that it can sustain aggressive levels of store openings for longer, as it has solid cash generation and does not have to leverage its capital structure to achieve this goal. In our valuation, although CFI will surpass CFO in 2019 by BRL 24.0 mn, we expect that CFO minus CFI will become positive in 2020, with a total difference of BRL 28.0. This gap will widen until 2028 as the store base maturates – thus financing its expansion through its own operations.

Is Raia prepared to face competition? A new challenge has surfaced with recent changes in smaller and medium players joining associations and improving its execution. However, we see RD management's assertive measures to raise generics discounts reaping its fruits, as stores movement increased and RD's started to recover market share in generics and in São Paulo. Going forward, we picture a more positive scenario to Raia Drogasil, as market deceleration of big players in stores opening and the possibility of the company to continue to invest heavily on generic prices to gain share from smaller players should be a driver. Notwithstanding, share gains come at a price, as those discounts should pressure margins in the short term.

Will Raia solve the cannibalization problem? We think Raia's effort to deconcentrate the opening of stores should reduce cannibalization effects on its stores in the medium term. However, we believe that in the long term, the difficulty to find new strategic places to open a store away from current ones and market maturation should take a toll on SSS, but still with a comfortable gap above CPI level in 2028 (4.8% vs. 3.6%), according to the team's estimates.

RADL3 – Priced to Perfection: We used our qualitative and quantitative repertoire of the company to make assumptions in our DCF model. These assumptions include: (i) aggressive expansion rates into new regions (over 200 stores per year until 2021); (ii) improvement of SSS above inflation as concentration and cannibalization weakens, competition eases its hand and price investment in generics pays off, and (iii) dilution of fixed costs as operations scale up. Still, we only see modest upside of 8.8%. Raia Drogasil will hardly surprise the consensus, as it is already priced to perfection, considering elevated growth rates (Revenues CAGR 19-24E 14.6%) and margins improvement for the long run. Additionally, trading multiples are on an all-time high, leaving the investor with no margin of safety. Downside risks, on the other hand, are more palpable. RADL can surprise the market negatively even by presenting a growth that is way above the competition if this growth is below consensus estimates. We are optimistic that the company will grow as projected; however, return levels are not enough to justify the risk of buying.

Valuation

We reiterate our HOLD recommendation for Raia Drogasil, with a YE20 target price of BRL 109.84 per share, representing an upside of 8.8% from the closing price of 10/10/2019, obtained through a 10-year nominal DCF model. Comparing our DCF with the company's trading multiples we verified our thesis that Raia Drogail is very close to its fair value, with little margin for a significant upside (Figure 42).

Key assumptions on our DCF

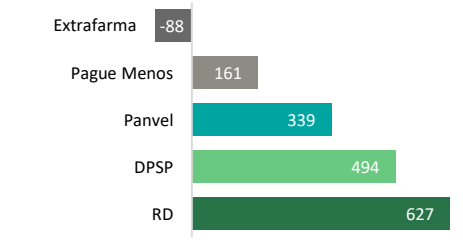
Aggressive store openings will remain until 2021: Raia Drogasil has opened an average of over 200 stores per year since 2016, always following its guidance. In the last investor's day, Marcílio Pousada, the CEO, announced the company's intention to end 2019 with 240 new stores and open another 240 by 2020. We followed the management's guidance in our assumptions due to its proven track record. However, we believe store openings will start slowing down from 2021, as we find it difficult to maintain a yearly opening of a quarter of a thousand stores for too long – even for RD – as finding that many good POS is a challenging task. We estimated an opening of 200 stores for 2021 and 182 for 2022.

Off to conquer new territories: The company's guidance and store openings in recent quarters point to a strong decentralization trend of Raia Drogasil. Openings in the state of São Paulo, its main market, went from 78% of the total in 4Q15 to 27.3% in 2Q19, while openings in the Northeast went from 3.6% to 29.5% in the same period. The company has been capturing significant market share in other regions, especially in the Northeast, where it went from 1.5% share in 1Q15 to 7.9% in 2Q19. We believe this strategy of deconcentrating will continue, and Raia Drogasil will succeed in its expansion, reaching a market share of 11.4% in the Northeast by 2024 (Figure 43). As for São Paulo, its main market, we do not see significant market share gains for the future, but we believe that RD will maintain its share due to its excellent positioning. See Appendix G for our market size projections and Appendix B for our market share projections for RD.

Back to real mature SSS growth: With the deconcentrating of store openings diminishing revenue cannibalization, the weakening of its main competitors, and effectiveness of the recent generics price investments, we see a favorable scenario ahead for Raia Drogasil. We expect an accumulated mature SSS growth of 4.0% in 2019, slightly above inflation. For the following years, we see the gap to CPI increasing, with a 2020E mature SSS growth of 4.6% and 2021E of 4.9%. Such numbers were based on the strong correlation between the average mature store revenue, Brazil CPI (as a proxy to CMED price cap), % of elderly in the population and store deconcentrating; the

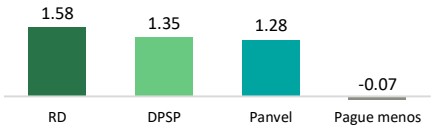
Figure 39: Adj. EBITDA per Store (2018)

[BRL thous.]



Source: Companies IR, Team Estimates

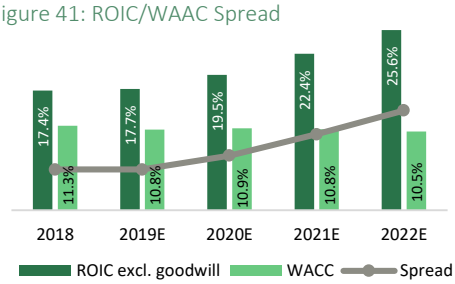
Figure 40: Opex Leverage[1]



1: % Change in Op.Income/% Change in sales. 2014-2018

Source: Companies IR, Team Estimates

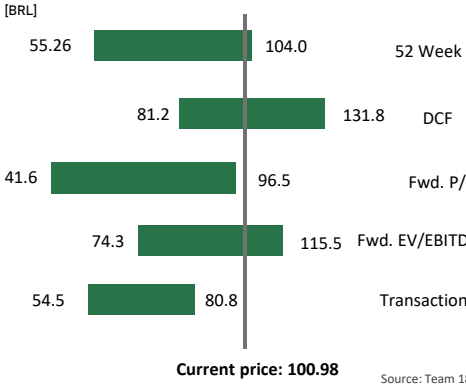
Figure 41: ROIC/WAAC Spread



Source: Team 18.

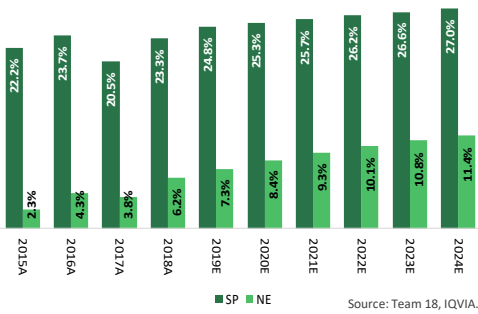
Figure 42: Football Field

[BRL]



Source: Team 18.

Figure 43: Market Share per Region



Source: Team 18, IQVIA.

latter of which was calculated through the proxy % of net store openings outside São Paulo. The resulting multivariable regression was obtained with an R-squared of 0.98 and a p-value of 0.003. For more details, please refer to Appendix B.

Private label comes in handy: RD's own products have been increasing relevance in front store (HPC sales, as the company shows continuous efforts in developing new brands and advertising, reaching a 6% penetration in 2Q19. With a 50% gross margin versus 29% of standard front store products, own brands are relevant to the company's gross margin, since 45% of its revenue comes from the front store. We sensitized our model to Private Label products and projected a 13.7% penetration in front store by 2028.

Short term pressure on gross margins: In the end of 2018, RD's management adopted what they called "a very strong price investment policy in generics" in approximately 400 stores and "a strong one" in 500 stores by the end of 2019, half of the 1800 total stores at the end of. We expect that this strategy shall prevail in the short term, thus pressuring 2020's gross margin by 42 bps according to our estimates. However, in our view, gross margin should start its recovery by 2021, when competition offered by associated drug store chains will probably start to loosen up and RD's generic prices normalize, reaching a 30.5% gross margin in 2028, driven by a slight generic penetration in the sale mix and by private label. Yet, 2028's level is still 63 bps below the 2016 historical peak of 31.1%, when Price Cap was almost 3% above inflation.

SG&A dilution will drive LT operational margin gains: As mentioned before, most of RD's sales expenses are fixed for each store, so we see a gradual improvement in operating margin as store openings slow down and stores finish the maturation process. Among selling expenses, personnel and rent represent the largest portion. A Raia Drogasil store has between 14 and 28 employees, who receive an average of 3.6 minimum wages. We believe this policy will sustain for the next years and projected an average of 20 hirings per store opened. As RD's rent contracts follow the Brazilian Tenancy Law, we assumed that rent per sqm will be readjusted by IGP-M. In our estimates, fixed expenses dilution will raise RD's EBITDA margin from today's 7.7% to 9.8% by 2023 due to the maturation of stores, opex leverage and a long term SSS above inflation levels.

Working capital: When RD opens a new store, it takes a while for people to get used to the new store and inventories – w hich are often constant over time, start to turnover. As a result, DIO for new stores tend to be higher than those for a mature store, causing RD's DIO to increase as the number of stores opened per year grows. As we believe the pace of store openings won't increase, we anticipate a gradual reduction in Raia Drogasil's DIO as stores matures, from 97 days in 2019 to 94.5 in 2028 as a result of a higher inventory turnover. About DSO, in the last 3 quarters the company increased receivables factoring due to working capital needs. However, the recent debenture and CRI issuance should support working capital investments, normalizing, thus, the average DSO from 2019 on, as receivables factoring are nonrecurring for RD. As for suppliers, we think RD's bargain power won't change much in the following years. Due to its expansion, RD's DPO went from 61 in 2015 to 70 in 2018, an all-time high. Recently the company renegotiated conditions and contracts with suppliers, and management claims to have achieved better conditions. However, we find it difficult for RD to achieve longer payment lead times since DPO are at historical maximum and bargain power is limited in this industry due to the high fragmentation. RD's supplier list and analysis can be found in Appendix N.

Less intense pace of openings will boost cash generation: Most of Raia Drogasil's Capex is destinated to store openings, accounting for over 60% of the company's investments. The other 40% is for infrastructure and store renovations. Therefore, we believe that the company's cash generation will increase over the next few years as store openings decrease, and less opening of stores enhances operation cash generation and improve FCFF levels (Figure 46).

DCF Methodology

WACC: To calculate the cost of equity we used (i) a risk-free rate of 1.5% (US 10Y Treasury bond); (ii) an adjusted Beta of 0.71, calculated as the average of CVS's and Walgreens' 3Y unlevered Betas against the S&P 500 index, adjusted to RD's capital structure and its 2020E effective tax rate of 23%; (iii) an equity risk premium of 5.6% calculated by Aswald Damodaran; (iv) Brazil risk premium of 4.17% also calculated by Damoradan; (v) the inflation differential between Brazil and USA; arriving at a Ke of 12.1%. We calculated our cost of debt as the average of the interest rates in the borrowings the company has, weighted by each borrowing's value, resulting in a pre-tax Kd of 7.8%. Using the effective tax rate, we finally arrived at a 10.8% WACC.

Perpetuity considerations: We estimated a terminal growth rate of 6%, calculated by adding Brazil's long-term inflation projection of 3.6% and the long-term GDP real growth of 2.4%. In perpetuity, we assumed a marginal tax rate of 34% and arrived at a terminal value contribution of 80%.

Multiples

Not exactly a bargain: There are no companies in Brazil with operations and scales similar to those of Raia Drogasil, which makes relative valuation complicated. However, it's not difficult to conclude that the stock is expensive. RD trades today at one of B3's highest multiples, with an LTM P/E of 72 and an LTM EV/EBITDA of 30. When we look at forward multiples for 2020, we see that the company is at its historical maximum P/E (Figure 47), over two standard deviations above average, and its Fwd. EV/EBITDA sits on the pricier side when compared with other player's ROIC (Figure 48). Given the lack of comparable companies in the same industry, we brought together some retail companies known for their outstanding operation, such as Renner and Magazine Luiza, and Brazilian healthcare and pharmaceutical companies, which share some industry drives with Raia Drogasil (see Appendix C). In our comparison, we found that the company is valued quite above the median, with a 95.8 BRL/share target price through 2020 Fwd. EV/EBITDA, representing a 5.0% downside and a 62.9 target price via 2020 Fwd. P/E, representing a 37.7% downside.

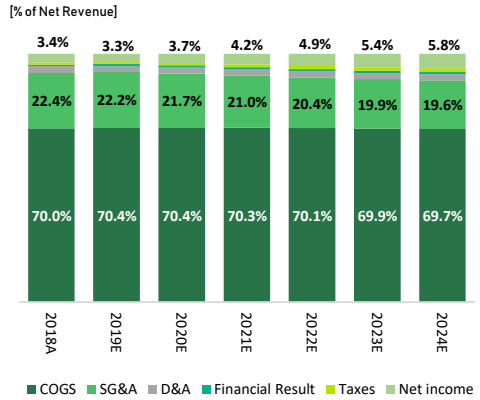
Three-year investment simulation: Using our forward P/E and 2023 earnings projections, we evaluated a three years investment in a Raia Drogasil stock. Assuming that the stock was purchased for BRL 100.98 in October 15 and taking into account the expected dividends per share paid during the period, at the end of 2023 our exit P/E multiple and projected earnings would result in an IRR of only 4.2%, way below our 12% cost of equity. Sensitivity can be found in (Figure 49) and the whole analysis in Appendix AC.

Scenarios

Bull and Bear case: Assessing the future is no easy task, and we are aware that our premises can be wrong. For this reason, we recalculated the target price for two different scenarios, one optimistic and one pessimistic, in which we altered our assumptions for mature stores' SSS, percentage of stores closing every year, yearly opening of stores, Gross Margin and days of inventory outstanding (Figure 50). In our bull case, we reached a target price of BRL 131.80, with a Strong Buy recommendation, as the upside would be 30.5%, in a perfect expansion and operational scenario. However, in our bear scenario we came to a target price of BRL 81.25, with a 19.5% downside from stock's current price.

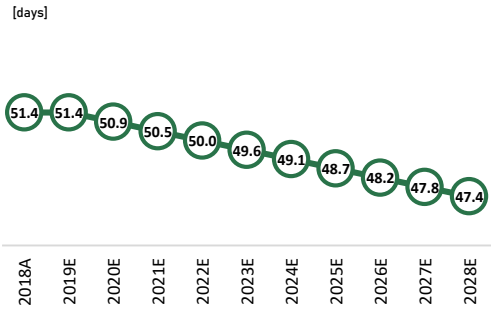
Sensitivity analysis reiterates HOLD: We used a Monte Carlo analysis to measure how uncertainty in our key assumptions affects our valuations. After running 10,000 different scenarios, the result was a 62% Hold probability (Figure 2), with only 23% chances of a Buy recommendation and 15% chances of a Sell recommendation. In a WACC versus perpetuity growth sensitivity analysis (Figure 52) we achieved 56% of HOLD, 40% BUY and 4% SELL. Finally, we ran a Tornado sensitivity to highlight the most volatile inputs of our model and arrived at the results shown in Figure 51.

Figure 44: P&L Breakdown



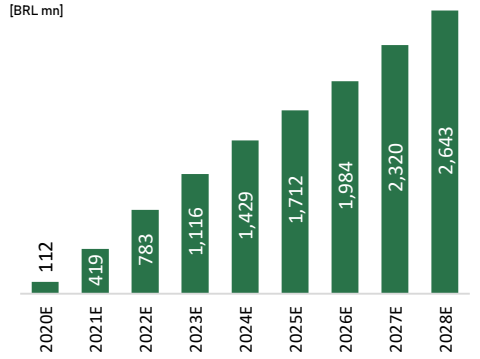
Source: Team 18.

Figure 45: Cash Conversion Cycle



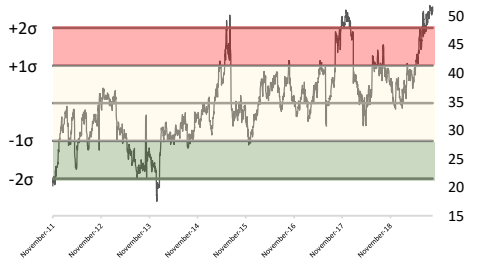
Source: Team 18.

Figure 46: FCFF



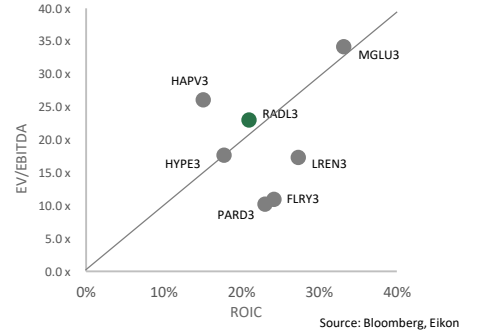
Source: Team 18.

Figure 47: Historic P/E Forward (1Y)



Source: Bloomberg, Eikon

Figure 48: Fwd. EV/EBITDA vs. 2020E ROIC



Source: Bloomberg, Eikon

Investment Risks

In this section we will take a closer look at the main risks associated with our valuation, whose impacts on our target price we analyzed through a Tornado Analysis (Figure 51). As we are issuing a HOLD recommendation, our risks may shift trends toward an upside (+) or a downside (-). We fully assessed them, considering their likelihoods and probable impacts on the company's fair price (Figure 53). Additionally, we classified them among Business and Operational (B), Market Risks (M) and Regulatory Risks (R).

Business and Operational Risks (B)

(+) Aggressive store opening levels for longer than predicted (B1). This is our main upside risk. As we have seen before, Raia has a proven track record to maintain its aggressive growth expansion plans. It opened more stores than its guidance in seven of the last ten years. Raia's impressive growth in the past years came mainly by the opening of new POS and their maturation. Although we believe that the company will slow down its expansion rhythm by 2021 as new and advantageous locations to open stores near RD's target audience will be harder to find, we acknowledge that Raia Drogasil's track record could surprise the market as a hole, leading to a higher than expected store opening process.

(-) Inability to find new points of sale (B2). Antagonistically to the first-mentioned risk, there is a possibility that the company will not be able to maintain the opening pace of 240 stores/year, severely undermining its valuation – especially its topline growth; There is also the possibility that the company will not find profitable POS that meet its standards, but may choose to open stores nonetheless – damaging its profitability. The team and consensus expects aggressive store openings, and if the pace slows or the profitability of new stores is impaired, we have significant downside potential and cash flow deterioration.

(-) E-Commerce execution risks (B3). RD may not be able to implement its e-commerce after the acquisition of Onofre in a value-adding manner, thus misemploying the cash used to structure the operation; this risk is also related to the loss of online market share, lagging behind competition on the race for the online customer.

Market Risks (M)

(+) M&A Opportunities (M1). This is yet another upside risk. We see a fragmented market with potential for large M&As – just like those that originated Raia Drogasil and DPSP. A strategic player that we consider to be an ideal target is Panvel (Appendix K) – a southern regional player with high market share and structured local operations. In the event of an M&A operation where Raia acquires control of Panvel, the company would enjoy a stronger position in the South and consolidate its presence in the most relevant regions of the Brazilian pharmaceutical market, generating high incremental return to its shareholders.

(-) Tougher competitive landscape (M2). This is a downside risk associated with the intensification of the competitive scenario. Threat can emerge from two sources: (i) Top players can improve their store execution and point-of-sale selection, thereby enhancing their market-share defenses in regions where they already lead and making it difficult for Raia to penetrate, or by capturing sales in areas that Raia Drogasil is already established. Top players can also take advantage of a lower interest rate to leverage their store openings without a significant increase in the cost of debt and invest in their expansion. Besides, (ii) associativity may pose a more substantial threat to Raia if it can sustain a generics price war beyond the team's estimates (Appendix R) and get better discount conditions on generics, following the past trend.

(-) Northeastern market risks (M3). In our premises, we assumed that a higher pace store opening in the NE region will continue in the next years, making this region a potential value driver for the company. If it fails to live up to these expectations, however, shareholder value may be eroded. The main market differences we observed are the higher share of medicine use coming from governmental programs such as SUS (Appendix F), reduced Income per Capita, and regional differences of consumer preferences. If Raia fails to adapt to these market conditions, expansion and profitability in this region can be severely compromised.

(-) Decrease of Out-of-Pocket spending (M4). In this risk, we will assess the potential change in Brazilian market profile. It may migrate from the "Out-of-Pocket" spending model to the US-like model – where health insurance companies buy medicines in bulk from pharmacies, thus increasing the bargaining power of consumers and negatively impacting RD's margins.

Macroeconomic Risks (E)

(-) Purchasing power deterioration (E1). Although we have previously proven that the sector is resilient, no segment of the economy is completely disconnected from the macroeconomic scenario. We consider that a delay in the recovery of the economy, with the consumption power of the population still taking a long time to present real growth, may negatively impact the company's sales as it depends on disposable income mainly in the HPC segment.

Regulatory Risks (R)

As seen before, the industry is intense in regulation and government interference can have a significant impact on pharmaceutical companies

(-) CMED price cap (R1). As described before, the government has a direct impact in Raia's Drogasil margins through the price cap. Although we find it unlikely a significantly lowering in maximum prices, past years readjustments proved that it's a significant risk to industry profitability if the government set a price cap much below inflation, as happened in the year of 2014, when the gap was almost 3%. Although the discount policies practiced between the industry and the retailers help mitigate the price cap effects, a significantly bellow the inflation price readjustment would have a direct impacts in RD's margins.

(-) De-regulation of online sales of medicines (R2). Nowadays, only drugstores that have a physical store open to the public can retail medicines and products online. At this location, there should be a responsible pharmacist throughout the remote order opening hours and should follow carefully the instructions contained in RDC 44/09, established by ANVISA. However, we believe that E-Commerce regulation for drugs could loosen up, allowing players without physical stores to enter this business, which could ease the entrance of giants like Amazon and MELI. It's also important to notice that are another ways for these companies to start competing in the business, as so happened in the US, where Amazon acquired PillPack in May 2018, in a deal valued at about $ 750 million. With this M&A, the E-Commerce giant entered the retail pharmaceutical business (especially the prescription market), already impacting Walgreen's and CVS' revenues and forcing both to take action. Besides that, legislation doesn't allow prescription drugs to be commercialized in the internet.

Figure 49: Three-Year Investment IRR

PE (3Y) \ Earnings CAGR 2019-2022	23,0%	28,0%	33,0%	38,0%	43,0%
17,5	-16%	-13%	-10%	-7%	-3%
22,5	-9%	-6%	-2%	1%	5%
27,5	-3%	0%	4,2%	8%	12%
32,5	2%	6%	10%	14%	18%
37,5	7%	11%	15%	19%	24%

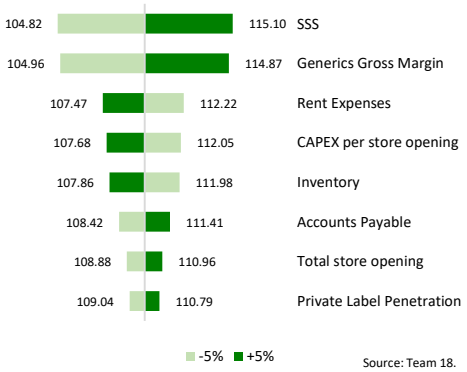
Source: Team 18.

Figure 50: Scenario Assumptions

Annual avg.2019-2024	Bull	Base	Bear
Stores opened	240	200	170
Mature SSS	5.1%	4.6%	4.0%
Stores closed	1.2%	1.45%	1.70%
Gross margin	31%	30.10%	29.00%
DIO	95.8	97.5	99.0
Target (BRL)	**131.80**	**109.84**	**82.25**

Source: Team 18.

Figure 51: Tornado Analysis



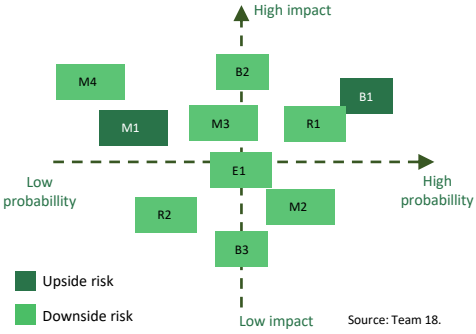
Source: Team 18.

Figure 52: WAAC vs. g Sensitivity

Perpetuity growth (g) \ WACC	9%	10%	11%	12%	13%
7,0%	157	145	135	125	115
6,5%	141	130	121	112	104
6,0%	128	118	110	102	94
5,5%	117	108	101	93	87
5,0%	108	100	94	87	80

Source: Team 18.

Figure 53: Risks Matrix



Source: Team 18.

Appendix A: Financial Statements

Income Statement [BRL K]	2017A	2018A	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E
Gross Revenue	**13,852,468**	**15,519,133**	**18,048,351**	**21,301,931**	**24,808,434**	**28,384,344**	**31,990,724**	**35,629,667**	**39,294,684**	**43,076,815**	**46,824,901**	**50,548,201**
Deductions	(639,964)	(717,688)	(834,653)	(985,116)	(1,147,275)	(1,312,644)	(1,479,423)	(1,647,707)	(1,817,197)	(1,992,103)	(2,165,435)	(2,337,620)
Net Revenue	**13,212,504**	**14,801,445**	**17,213,698**	**20,316,815**	**23,661,159**	**27,071,699**	**30,511,302**	**33,981,960**	**37,477,487**	**41,084,712**	**44,659,466**	**48,210,581**
COGS	(9,224,505)	(10,355,924)	(12,116,860)	(14,295,836)	(16,631,085)	(18,977,816)	(21,331,305)	(23,692,494)	(26,081,867)	(28,564,320)	(31,019,315)	(33,453,045)
Gross Profit	**3,987,999**	**4,445,521**	**5,096,838**	**6,020,980**	**7,030,073**	**8,093,883**	**9,179,996**	**10,289,466**	**11,395,620**	**12,520,391**	**13,640,151**	**14,757,536**
% Net Revenue	30%	30%	30%	30%	30%	30%	30%	30%	30%	30%	31%	31%
SG&A	(2,857,501)	(3,309,879)	(3,829,802)	(4,409,717)	(4,969,652)	(5,514,386)	(6,067,319)	(6,660,435)	(7,269,338)	(7,863,679)	(8,424,691)	(8,998,296)
Sales Expenses	(2,529,050)	(2,901,012)	(3,364,799)	(3,881,204)	(4,377,801)	(4,864,298)	(5,365,145)	(5,878,388)	(6,406,847)	(6,918,173)	(7,396,917)	(7,888,798)
G&A	(328,663)	(349,318)	(389,034)	(438,849)	(487,426)	(530,612)	(567,518)	(632,073)	(697,091)	(764,186)	(830,678)	(896,729)
Other expenses/revenues	212	(59,549)	(75,969)	(89,664)	(104,424)	(119,476)	(134,656)	(149,973)	(165,400)	(181,320)	(197,096)	(212,768)
EBITDA	**1,130,498**	**1,135,642**	**1,267,036**	**1,611,262**	**2,060,422**	**2,579,497**	**3,112,677**	**3,629,031**	**4,126,282**	**4,656,712**	**5,215,459**	**5,759,240**
% Net Revenue	8.6%	7.7%	7.4%	7.9%	8.7%	9.5%	10.2%	10.7%	11.0%	11.3%	11.7%	11.9%
Adj. EBITDA	**1,130,286**	**1,195,191**	**1,343,005**	**1,700,927**	**2,164,846**	**2,698,973**	**3,247,333**	**3,779,004**	**4,291,681**	**4,838,032**	**5,412,556**	**5,972,008**
% Net Revenue	9%	8.1%	7.8%	8.4%	8.9%	9.6%	10.6%	11.1%	11.5%	11.8%	12.1%	12.4%
D&A	(337,915)	(414,134)	(417,403)	(491,196)	(572,647)	(655,380)	(738,250)	(822,443)	(907,047)	(994,260)	(1,080,834)	(1,166,766)
EBIT	**792,583**	**721,508**	**849,633**	**1,120,066**	**1,487,774**	**1,924,117**	**2,374,427**	**2,806,588**	**3,219,235**	**3,662,452**	**4,134,625**	**4,592,474**
% Net Revenue	6%	5%	5%	6%	6%	7%	8%	8%	9%	9%	9%	10%
Financial Result	(106,040.0)	(82,654.0)	(144,352)	(180,979)	(222,349)	(262,168)	(303,185)	(343,372)	(383,933)	(422,148)	(462,401)	(500,825)
Interest Expenses	(212,922)	(154,437)	(152,658)	(194,698)	(236,737)	(278,777)	(320,817)	(362,856)	(404,896)	(446,936)	(488,975)	(531,015)
Financial revenues	106,882	71,783	8,306	13,719	14,388	16,609	17,632	19,484	20,963	24,787	26,574	30,191
EBT	**686,543**	**638,854**	**705,281**	**939,087**	**1,265,425**	**1,661,949**	**2,071,242**	**2,463,215**	**2,835,301**	**3,240,304**	**3,672,224**	**4,091,649**
% Net Revenue	5%	4%	4%	5%	5%	6%	7%	7%	8%	8%	8%	8%
Income tax and social contribution	(173,890)	(131,665)	(145,355)	(193,542)	(260,798)	(342,520)	(426,874)	(507,658)	(584,343)	(667,812)	(756,829)	(843,270)
Tax rate	-25%	-21%	-21%	-21%	-21%	-21%	-21%	-21%	-21%	-21%	-21%	-21%
Net Income	**512,653.0**	**507,189.4**	**559,926**	**745,546**	**1,004,627**	**1,319,429**	**1,644,369**	**1,955,558**	**2,250,959**	**2,572,492**	**2,915,395**	**3,248,379**
% Net Revenue	4%	3%	3%	4%	4%	5%	5%	6%	6%	6%	7%	7%

Balance Sheet in [BRL K]	2017A	2018A	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E
Assets	**6,464,249**	**7,352,006**	**8,267,034**	**9,520,881**	**10,852,829**	**12,140,878**	**13,477,439**	**14,835,971**	**16,313,762**	**17,835,892**	**19,444,941**	**21,029,377**
Current Assets	**3,928,204**	**4,529,826**	**5,051,534**	**5,863,097**	**6,817,360**	**7,752,372**	**8,714,034**	**9,676,929**	**10,725,764**	**11,739,646**	**12,795,205**	**13,782,006**
Cash and Cash Equivalents	264,873	241,568	398,991	418,459	483,046	512,797	566,658	609,669	720,902	772,872	878,049	919,301
Accounts Receivable	930,071	937,389	1,085,904	1,281,660	1,492,634	1,707,783	1,924,766	2,143,708	2,364,219	2,591,776	2,817,285	3,041,302
Inventories	2,517,594	3,087,275	3,299,769	3,865,751	4,497,228	5,131,809	5,768,219	6,413,201	7,074,260	7,747,583	8,413,458	9,073,566
Other current assets	215,666	263,594	263,594	293,953	341,178	396,707	451,116	507,076	563,108	624,140	683,139	744,563
Non-current Assets	**2,536,045**	**2,822,180**	**3,215,500**	**3,657,784**	**4,035,469**	**4,388,506**	**4,763,405**	**5,159,042**	**5,587,999**	**6,096,246**	**6,649,735**	**7,247,371**
PP&E	1,276,276	1,546,960	1,921,688	2,330,427	2,670,047	2,983,036	3,314,273	3,661,971	4,038,521	4,489,351	4,979,407	5,508,430
Intangible	1,191,016	1,202,388	1,220,979	1,244,375	1,271,025	1,301,327	1,335,878	1,374,142	1,416,338	1,462,686	1,513,002	1,567,331
Other non current assets	68,753	72,832	72,832	82,982	94,396	104,143	113,254	122,929	133,139	144,209	157,326	171,610
Liabilities and shareholders' equity	**6,464,249**	**7,352,006**	**8,267,034**	**9,520,881**	**10,852,829**	**12,140,878**	**13,477,439**	**14,835,971**	**16,313,762**	**17,835,892**	**19,444,941**	**21,029,377**
Current Liabilities	**2,493,779**	**2,913,443**	**3,162,236**	**3,696,321**	**4,309,147**	**4,937,659**	**5,570,150**	**6,204,795**	**6,845,192**	**7,504,358**	**8,161,495**	**8,814,220**
Suppliers	1,815,687	2,141,274	2,314,904	2,731,193	3,177,339	3,625,677	4,075,307	4,526,408	4,982,893	5,457,162	5,926,184	6,391,144
Loans and Financing	196,248	272,939	348,102	423,266	498,429	573,592	648,756	723,919	799,082	874,246	949,409	1,024,573
Salaries and Social Charges Payable	202,799	237,542	237,542	257,827	301,372	351,338	402,583	454,152	505,896	558,110	611,853	665,432
Other current liabilities	279,045	261,688	261,688	284,035	332,007	387,051	443,505	500,316	557,320	614,841	674,048	733,073
Non-current Liabilities	**720,098**	**903,794**	**1,060,822**	**1,275,807**	**1,512,184**	**1,756,456**	**2,003,643**	**2,251,905**	**2,500,564**	**2,749,370**	**2,998,230**	**3,247,110**
Loans and financing	414,711	570,211	727,239	884,266	1,041,294	1,198,322	1,355,349	1,512,377	1,669,405	1,826,432	1,983,460	2,140,487
Income taxes and Social Charges	228,714	237,757	237,757	279,066	335,621	397,803	462,063	527,089	592,399	657,812	723,264	788,731
Other non current liabilities	76,673	95,826	95,826	112,475	135,269	160,331	186,231	212,439	238,761	265,126	291,506	317,891
Shareholders' equity	**3,250,372**	**3,534,769**	**4,043,976**	**4,548,753**	**5,031,498**	**5,446,763**	**5,903,645**	**6,379,272**	**6,968,006**	**7,582,164**	**8,285,216**	**8,968,047**
Common Stock	1,808,639	1,808,639	1,808,639	1,808,639	1,808,639	1,808,639	1,808,639	1,808,639	1,808,639	1,808,639	1,808,639	1,808,639
Capital Reserves	151,156	116,363	116,363	116,363	116,363	116,363	116,363	116,363	116,363	116,363	116,363	116,363
Income Reserves	1,228,149	1,522,073	2,031,280	2,536,057	3,018,802	3,434,067	3,890,949	4,366,576	4,955,310	5,569,468	6,272,520	6,955,351
Others	62,428	87,694	87,694	87,694	87,694	87,694	87,694	87,694	87,694	87,694	87,694	87,694

Cash Flow [BRL K]	2017A	2018A	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E
(=) Net Income	512,653	507,189	559,926	745,546	1,004,627	1,319,429	1,644,369	1,955,558	2,250,959	2,572,492	2,915,395	3,248,379
(+) D&A	337,915	414,134	417,403	491,196	572,647	655,380	738,250	822,443	907,047	994,260	1,080,834	1,166,766
(-/+) Change in other assets and liabilities	107,212	(2,346)	-	70,231	123,641	136,726	143,448	143,655	144,349	140,480	145,784	143,031
(-/+) Change in WK	(325,855)	(251,412)	(187,379)	(345,448)	(396,305)	(401,393)	(403,762)	(412,824)	(425,084)	(426,612)	(422,362)	(419,165)
(=) CFO	**631,925**	**667,565**	**789,950**	**961,525**	**1,304,610**	**1,710,142**	**2,122,304**	**2,508,832**	**2,877,270**	**3,280,620**	**3,719,652**	**4,139,011**
(-) Capex	(630,874)	(708,617)	(813,998)	(923,330)	(938,918)	(998,670)	(1,104,038)	(1,208,405)	(1,325,794)	(1,491,438)	(1,621,207)	(1,750,118)
(-) Change in investments	(17,895)	(4,079)	-	(10,150)	(11,414)	(9,747)	(9,111)	(9,675)	(10,210)	(11,070)	(13,116)	(14,284)
(=) CFI	**(630,874)**	**(708,617)**	**(813,998)**	**(933,480)**	**(950,332)**	**(1,008,417)**	**(1,113,149)**	**(1,218,080)**	**(1,336,004)**	**(1,502,508)**	**(1,634,323)**	**(1,764,402)**
(+/-) Change in Gross Debt	196,991	232,191	232,191	232,191	232,191	232,191	232,191	232,191	232,191	232,191	232,191	232,191
(-) Dividends	(29,339)	(34,080)	(50,719)	(240,768)	(521,882)	(904,164)	(1,187,486)	(1,479,932)	(1,662,224)	(1,958,334)	(2,212,343)	(2,565,548)
(=) CFF	**61,612**	**115,457**	**37,120**	**(189,556)**	**(512,040)**	**(934,141)**	**(1,258,480)**	**(1,591,113)**	**(1,813,966)**	**(2,148,291)**	**(2,442,553)**	**(2,834,181)**

Source: Team estimates, company's fillings.

Revenue Assumptions [BRL K]	2017A	2018A	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E
Raia Drogasil	**13,306,468**	**14,770,133**	**17,037,201**	**19,987,436**	**23,165,315**	**26,412,601**	**29,723,221**	**33,135,413**	**36,675,717**	**40,326,899**	**43,937,489**	**47,516,419**
growth YOY	*16%*	*11%*	*15%*	*17%*	*16%*	*14%*	*13%*	*11%*	*11%*	*10%*	*9%*	*8%*
% of Gross Revenue	*96%*	*95%*	*94%*	*94%*	*93%*	*93%*	*93%*	*93%*	*93%*	*94%*	*94%*	*94%*
Number of stores	**1,610**	**1,825**	**2,040**	**2,252**	**2,421**	**2,570**	**2,715**	**2,854**	**2,989**	**3,097**	**3,175**	**3,252**
Opened	210	240	240	240	200	182	180	176	174	149	120	120
% of the stores	*13%*	*13%*	13%	12%	9%	8%	7%	7%	6%	5%	4%	4%
Closed	20	25	25	28	31	33	35	37	39	41	42	43
% of the stores	*1%*	*1%*	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Stores (per maturity)	**1,610**	**1,825**	**2,040**	**2,252**	**2,421**	**2,570**	**2,715**	**2,854**	**2,989**	**3,097**	**3,175**	**3,252**
Year 1	225	234	240	240	200	182	180	176	174	149	120	120
Year 2	209	235	234	240	240	200	182	180	176	174	149	120
Year 3	145	190	235	234	240	240	200	182	180	176	174	149
Mature	1024	1166	1331	1538	1741	1948	2153	2316	2459	2598	2732	2863
Revenue per mature store	**9,862**	**9,609**	**9,991**	**10,450**	**10,969**	**11,529**	**12,105**	**12,711**	**13,346**	**14,013**	**14,700**	**15,406**
Mature SSS	1.8%	-2.6%	4.0%	4.6%	5.0%	5.1%	5.0%	5.0%	5.0%	5.0%	4.9%	4.8%
4bio	**546,000**	**749,000**	**1,011,150**	**1,314,495**	**1,643,119**	**1,971,743**	**2,267,504**	**2,494,254**	**2,618,967**	**2,749,915**	**2,887,411**	**3,031,782**
growth YOY	53%	37%	35%	30%	25%	20%	15%	10%	5%	5%	5%	5%

Source: Team estimates, company's fillings.

Store openings per region[1]	2016A	2017A	2018A	2019E	2020E	2021E	2022E	2023E	2024E
Total	**212**	**210**	**240**	**240**	**240**	**200**	**182**	**180**	**176**
São Paulo	107	82	73	77	77	64	58	58	56
Sudeste (ex-SP)	23	39	39	43	43	36	33	32	32
Centro Oeste	17	26	14	17	17	14	13	13	12
Sul	31	20	23	31	31	26	24	23	23
Nordeste	32	41	70	48	48	40	36	36	35
Norte	2	2	21	24	24	20	18	18	18

Source: Team estimates, Company's IR.

Store maturation curve*	
Year 1	50%
Year 2	69%
Year 3	83%
Mature	100%

* % of a mature store's revenue

Source: Company's IR.

SP	2015A	2016A	2017A	2018A	2019E	2020E	2021E	2022E	2023E	2024E
Mature store revenue[3] [BRL K]	8,434	9,229	9,497	9,609	10,020	10,500	11,022	11,573	12,146	12,747
Mature SSS	-	-	-	-	4.0%	4.6%	5.0%	5.1%	5.0%	5.0%
Market size[2] [BRL bn]	24.6	27.2	31.6	35.3	38.8	43.0	47.2	51.6	56.1	60.7
Market share	**22.2%**	**23.7%**	**20.5%**	**23.3%**	**24.8%**	**25.3%**	**25.7%**	**26.2%**	**26.6%**	**27.0%**

Northeast	2015A	2016A	2017A	2018A	2019E	2020E	2021E	2022E	2023E	2024E
Mature store revenue[3] [BRL K]	8,013	8,768	9,023	8,964	9,348	9,796	10,283	10,797	11,331	11,892
Mature SSS	-	-	-	-	4.0%	4.6%	5.0%	5.1%	5.0%	5.0%
Market size[2] [BRL bn]	18	19	22	25	27	30	33	36	40	43
Market share	**2.3%**	**4.3%**	**3.8%**	**6.2%**	**7.3%**	**8.4%**	**9.3%**	**10.1%**	**10.8%**	**11.4%**

Brazil	2015A	2016A	2017A	2018A	2019E	2020E	2021E	2022E	2023E	2024E
Mature store revenue[3] [BRL K]	8,957	9,692	9,862	9,609	9,991	10,450	10,969	11,529	12,105	12,711
Mature SSS	-	-	-	-	4.0%	4.6%	5.0%	5.1%	5.0%	5.0%
Market size[2] [BRL bn]	93	102	118	132	145	160	176	192	209	227
Market share	**10.1%**	**11.6%**	**11.7%**	**11.8%**	**12.4%**	**13.3%**	**14.1%**	**14.7%**	**15.3%**	**15.7%**

Source: Team estimates, Company's IR.

1: We based our projections in recent company guidances.
2:We used or own calculated market sizes, wich can be found in Appendix E.
3: Mature store revenue per region was estimated using our approximation of historical stores per age in each region, company's guidance of maturation curves, historical RD's market share per region and market sizes.

Net revenue breakdown	2017A	2018A	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E
Services	**13,213**	**14,801**	**17,214**	**20,317**	**23,661**	**27,072**	**30,511**	**33,982**	**37,477**	**41,085**	**44,659**	**48,211**
% of Net revenue	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Front store (excl. private label)	**5,452,272**	**6,274,925**	**7,307,903**	**8,500,352**	**9,754,076**	**10,993,546**	**12,202,690**	**13,381,756**	**14,630,836**	**15,899,373**	**17,130,924**	**18,329,181**
% of Net revenue	41.3%	42.4%	42.5%	41.8%	41.2%	40.6%	40.0%	39.4%	39.0%	38.7%	38.4%	38.0%
Private label	**348,017**	**400,527**	**524,329**	**687,927**	**881,615**	**1,100,735**	**1,344,328**	**1,612,784**	**1,906,105**	**2,229,256**	**2,575,065**	**2,943,738**
% of Net revenue	2.6%	2.7%	3.0%	3.4%	3.7%	4.1%	4.4%	4.7%	5.1%	5.4%	5.8%	6.1%
% of Front store	6.0%	6.0%	6.7%	7.5%	8.3%	9.1%	9.9%	10.8%	11.5%	12.3%	13.1%	13.8%
Generic	**1,506,225**	**1,613,358**	**1,807,438**	**2,189,137**	**2,614,558**	**3,065,870**	**3,539,311**	**4,035,358**	**4,450,452**	**4,878,810**	**5,303,312**	**5,725,006**
% of Net revenue	11.4%	10.9%	10.5%	10.8%	11.1%	11.3%	11.6%	11.9%	11.9%	11.9%	11.9%	11.9%
Branded	**5,892,777**	**6,512,636**	**7,574,027**	**8,939,399**	**10,410,910**	**11,911,548**	**13,424,973**	**14,952,062**	**16,490,094**	**18,077,273**	**19,650,165**	**21,212,655**
% of Net revenue	44.6%	44.0%	44.0%	44.0%	44.0%	44.0%	44.0%	44.0%	44.0%	44.0%	44.0%	44.0%

Source: Team estimates, Company's IR.

Amortization schedule [BRL K]	2020	2021	2022+
Value	119,932	168,013	417,021

Source: Company's IR.

Appendix B: Valuation | Assumptions

COGS Breakdown [BRL K]	2017A	2018A	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E
COGS	**(9,224,505)**	**(10,355,924)**	**(12,116,860)**	**(14,295,836)**	**(16,631,085)**	**(18,977,816)**	**(21,331,305)**	**(23,692,494)**	**(26,081,867)**	**(28,564,320)**	**(31,019,315)**	**(33,453,045)**
% of Net revenue	*-69.8%*	*-70.0%*	*-70.4%*	*-70.4%*	*-70.3%*	*-70.1%*	*-69.9%*	*-69.7%*	*-69.6%*	*-69.5%*	*-69.5%*	*-69.4%*
Front store (excl. private label)	**(3,886,194)**	**(4,472,553)**	**(5,115,532)**	**(5,950,247)**	**(6,827,853)**	**(7,695,482)**	**(8,541,883)**	**(9,367,229)**	**(10,241,585)**	**(11,129,561)**	**(11,991,647)**	**(12,830,426)**
Gross margin		*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*	*30%*
Private Label	**(174,009)**	**(200,264)**	**(262,165)**	**(343,964)**	**(440,807)**	**(550,368)**	**(672,164)**	**(806,392)**	**(953,052)**	**(1,114,628)**	**(1,287,532)**	**(1,471,869)**
Gross margin		*50%*	*50%*	*50%*	*50%*	*50%*	*50%*	*50%*	*50%*	*50%*	*50%*	*50%*
Generics	**(677,801)**	**(726,011)**	**(831,422)**	**(1,028,894)**	**(1,241,915)**	**(1,440,959)**	**(1,645,780)**	**(1,856,265)**	**(2,024,955)**	**(2,219,858)**	**(2,413,007)**	**(2,604,878)**
Gross margin		*55%*	*54%*	*53%*	*53%*	*53%*	*54%*	*54%*	*55%*	*55%*	*55%*	*55%*
Branded	**(4,714,221)**	**(5,210,109)**	**(5,907,741)**	**(6,972,731)**	**(8,120,510)**	**(9,291,007)**	**(10,471,479)**	**(11,662,609)**	**(12,862,273)**	**(14,100,273)**	**(15,327,129)**	**(16,545,871)**
Gross margin		*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*	*22%*

Source: Team 18

Expenses breakdown [BRL K]	2017A	2018A	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E
Sales expenses	**(2,529,050)**	**(2,901,012)**	**(3,364,799)**	**(3,881,204)**	**(4,377,801)**	**(4,864,298)**	**(5,365,145)**	**(5,878,388)**	**(6,406,847)**	**(6,918,173)**	**(7,396,917)**	**(7,888,798)**
% Net Revenue	-19.1%	-19.6%	-19.5%	-19.1%	-18.5%	-18.0%	-17.6%	-17.3%	-17.1%	-16.8%	-16.6%	-16.4%
Logistics	**(277,049)**	**(310,383)**	**(360,967)**	**(426,039)**	**(496,169)**	**(567,687)**	**(639,814)**	**(712,593)**	**(785,894)**	**(861,536)**	**(936,498)**	**(1,010,964)**
% of Gross revenue	-2%	-2%	-2%	-2%	-2%	-2%	-2%	-2%	-2%	-2%	-2%	-2%
Personnel	**(1,295,206)**	**(1,551,913)**	**(1,786,986)**	**(2,042,838)**	**(2,277,907)**	**(2,502,750)**	**(2,735,927)**	**(2,976,242)**	**(3,225,832)**	**(3,459,409)**	**(3,671,031)**	**(3,892,095)**
Employees	32,265	36,510	40,755	44,941	48,278	51,219	54,082	56,827	59,492	61,625	63,165	64,685
Hirings per store opened	18	20	20	20	20	20	20	20	20	20	20	20
Net opening of stores	190	215	215	212	169	149	145	139	135	108	78	77
Annual minimum wage	11	11	12	12	13	13	14	14	15	15	16	16
RD's avg. annual salary (n° of m.w.)	3.6	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Rent	**(450,658)**	**(543,170)**	**(639,979)**	**(735,806)**	**(822,902)**	**(907,616)**	**(996,410)**	**(1,088,482)**	**(1,184,656)**	**(1,275,577)**	**(1,358,965)**	**(1,446,486)**
Annual rent per sqm. of store[1]	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0
Sales area	235,749	269,343	301,920	333,296	358,308	380,360	401,820	422,392	442,372	458,356	469,900	481,296
Area per store	146	148	148	148	148	148	148	148	148	148	148	148
Number of stores	1,610	1,825	2,040	2,252	2,421	2,570	2,715	2,854	2,989	3,097	3,175	3,252
Credit cards	**(346,312)**	**(387,978)**	**(451,209)**	**(532,548)**	**(620,211)**	**(709,609)**	**(799,768)**	**(890,742)**	**(982,367)**	**(1,076,920)**	**(1,170,623)**	**(1,263,705)**
Average fee	-2.5%	-2.5%	-2.5%	-2.5%	-2.5%	-2.5%	-2.5%	-2.5%	-2.5%	-2.5%	-2.5%	-2.5%
Electricity	**(86,838)**	**(108,634)**	**(125,658)**	**(143,974)**	**(160,613)**	**(176,636)**	**(193,226)**	**(210,330)**	**(228,098)**	**(244,730)**	**(259,801)**	**(275,548)**
Number of stores	1,610	1,825	2,040	2,252	2,421	2,570	2,715	2,854	2,989	3,097	3,175	3,252
Annual spend per store	54	60	62	64	66	69	71	74	76	79	82	85
General and administrative expenses	**(328,663)**	**(349,318)**	**(389,034)**	**(438,849)**	**(487,426)**	**(530,612)**	**(567,518)**	**(632,073)**	**(697,091)**	**(764,186)**	**(830,678)**	**(896,729)**
% of Net revenue	*-2.5%*	*-2.4%*	*-2.3%*	*-2.2%*	*-2.1%*	*-2.0%*	*-1.9%*	*-1.9%*	*-1.9%*	*-1.9%*	*-1.9%*	*-1.9%*
Others	**212**	**(59,549)**	**(75,969)**	**(89,664)**	**(104,424)**	**(119,476)**	**(134,656)**	**(149,973)**	**(165,400)**	**(181,320)**	**(197,096)**	**(212,768)**
% Net Revenue	0.0%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%	-0.4%

1: Adjusted by IGP-M

Free Cash Flow to Firm	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	Perpetuity
(=) EBIT	**849,633**	**1,120,066**	**1,487,774**	**1,924,117**	**2,374,427**	**2,806,588**	**3,219,235**	**3,662,452**	**4,134,625**	**4,592,474**	**129,292,176**
(-) EBIT*taxes	(175,105)	(230,841)	(306,624)	(396,552)	(489,359)	(578,425)	(663,470)	(754,815)	(852,128)	(946,488)	(43,959,340)
(=) NOPAT	**674,527**	**889,225**	**1,181,151**	**1,527,565**	**1,885,068**	**2,228,163**	**2,555,765**	**2,907,637**	**3,282,498**	**3,645,985**	**85,332,836**
(+) D&A	417,403	491,196	572,647	655,380	738,250	822,443	907,047	994,260	1,080,834	1,166,766	25,854,827
(-/+) Change in WK	(187,379)	(345,448)	(396,305)	(401,393)	(403,762)	(412,824)	(425,084)	(426,612)	(422,362)	(419,165)	(9,288,447)
(-) Capex	(813,998)	(923,330)	(938,918)	(998,670)	(1,104,038)	(1,208,405)	(1,325,794)	(1,491,438)	(1,621,207)	(1,750,118)	(25,854,827)
(=) Free Cash Flow to Firm	**90,553**	**111,644**	**418,574**	**782,882**	**1,115,518**	**1,429,377**	**1,711,934**	**1,983,848**	**2,319,763**	**2,643,469**	**76,044,389**

Same Store Sales calculation

	CPI	% of Elderly	% openings outside SP	Revenue per Mature Store	SSS
2012	5.8%	7.71%	81.5%	7,313	-
2013	5.9%	7.93%	69.1%	7,587	3.7%
2014	6.4%	8.17%	63.6%	7,902	4.2%
2015	10.7%	8.41%	41.6%	8,434	13.3%
2016	6.3%	8.67%	48.2%	9,229	8.2%
2017	2.9%	8.94%	59.6%	9,497	1.8%
2018	3.7%	9.22%	72.5%	9,609	-2.6%
2019E	3.5%	9.52%	68.3%	**9,993**	**4.0%**
2020E	3.8%	9.83%	68.3%	**10,453**	**4.6%**
2021E	3.8%	10.15%	68.3%	**10,976**	**5.0%**
2022E	3.6%	10.49%	68.3%	**11,535**	**5.1%**
2023E	3.6%	10.84%	68.3%	**12,112**	**5.0%**
2024E	3.6%	11.20%	68.3%	**12,718**	**5.0%**
2025E	3.6%	11.57%	68.3%	**13,354**	**5.0%**
2026E	3.6%	11.95%	68.3%	**14,021**	**5.0%**
2027E	3.6%	12.35%	68.3%	**14,708**	**4.9%**
2028E	3.6%	12.74%	68.3%	**15,414**	**4.8%**

Regression Statistics	
Multiple R	0.99
R Square	0.98
Adjusted R Square	0.97
Standard Error	174.60
Observations	7

	df	SS	MS	F	Significance F
Regression	3	5268604.07	1756201.36	57.61	0.004
Residual	3	91460.61	30486.87		
Total	6	5360064.68			

	Coefficients	Standard Error	t Stat	P-value
Intercept	-1715.07	2494.11	-0.69	0.54
CPI	-8472.90	5401.50	-1.57	0.21
% elderly	140557.63	21001.66	6.69	0.01
% openings outside sp	-1807.66	920.56	-1.96	0.14

We conducted a statistical study to verify which parameters were most closely related to SSS. We knew:

i. SSS is impacted by IGPM, which affects products price caps;
ii. Stores cannibalization have a negative impact on SSS;
iii. The percentage of elderly drives sector sales and boosts the average pharmacy ticket.

For those reasons, we decided to test SSS correlation to three variables, one related to each of the previously mentioned parameters: CPI, % elderly and % of stores opened outside of SP, representing the company's store deconcentrating move and consequent offset of cannibalization.

Our study resulted in a multivariable linear regression with an outstanding r-squared of 0.98, and a very high significance, as can be seen from both our low F statistic and p-values.

Appendix C: Valuation | Methodology

Kd	Value [BRL K]	Interest rate
Borrowings - BNDES		
Developments (TJLP + 2,11%)	54,285	8%
Developments (SELIC + 2,36%)	65,983	8%
Machines, equipment and vehicles(TJLP + 2,02%)	9,840	8%
Machines, equipment and vehicles (PSI + 9,50%)	1,775	10%
Machines, equipment and vehicles (SELIC + 2,42%)	43	8%
Others	1,648	
Financings - Debentures		
Developments (TJLP + 2,11%)	201,712	8%
Developments (SELIC + 2,36%)	360,669	8%
Machines, equipment and vehicles (TJLP + 2,02%)	247,612	8%
Borrowings - Others		
Others	36,503	
Kd pre-tax	**7.8%**	

Source: Company's IR.

Ke	
Risk Free	2%
Unlevered Beta	0.59
Debt/Equity	0.27
Levered Beta	0.71
Equity Risk Premium	6%
Brazil Risk Premium	4%
Nominal Ke (USA)	10%
USA CPI	2%
Real Ke (USA)	8%
Brazil CPI	3%
Cost of equity	**12.1%**

Source: Team estimates.

WACC	
Debt	1,307,532
Equity	4,548,753
tax	-21%
WACC	**10.8%**

Source: Team estimates.

Unleavered Beta (USA): **0.59**

CVS		Walgreens	
3Y Beta	0.84	3Y Beta	0.94
Avg. D/E	0.91	Avg. D/E	0.55
Unl. Beta	0.51	Unl. Beta	0.67
Tax rate	27%	Tax rate	18%

Source: Eikon Reuters, Yahoo Finance.

Brazilian companies multiples

Company Name	EV/Sales 2020	EV/Ebitda 2020	P/E 2020	PEG 2020	ROIC 2020	ROE 2020	Country
Raia Drogasil S.A. (Team 18)	1.7 x	23.0 x	48.8 x	1.5 x	21%	16%	Brazil
Raia Drogasil S.A. (Consensus)	1.9 x	23.5 x	47.3 x	2.6 x	20%	17%	Brazil
Lojas Renner	4.0 x	17.3 x	27.9 x	1.9 x	27%	28%	Brazil
Magazine Luiza	2.8 x	34.1 x	75.6 x	4.1 x	33%	23%	Brazil
Fleury SA	2.9 x	10.9 x	19.3 x	2.1 x	24%	24%	Brazil
Instituto Hermes Pardini SA	2.1 x	10.2 x	18.5 x	1.5 x	23%	-	Brazil
Hapvida Participacoes SA	5.0 x	26.1 x	37.3 x	3.4 x	15%	18%	Brazil
Notre Dame Intermedica SA	3.5 x	22.6 x	42.7 x	1.3 x	-	25%	Brazil
Sul America SA	0.8 x	-	15.1 x	0.1 x	16%	-	Brazil
Hypera S.A.	5.0 x	17.7 x	17.7 x	5.6 x	18%	14%	Brazil
First quartile	**2.1 x**	**15.7 x**	**18.5 x**	**1.5 x**			
Median	**2.9 x**	**20.1 x**	**27.9 x**	**2.1 x**			
Third quartile	**4.0 x**	**24.2 x**	**42.7 x**	**3.4 x**			
Average	**3.1 x**	**20.3 x**	**33.5 x**	**2.5 x**			

RD's 2020E	
EBITDA	1.611.262
Earnings	742.777
Earnings Growth	32,7%
Net debt	858.594
Sales	21.301.931

Source: Team 18

Foreign companies multiples

Company Name	EV/Sales 2020	EV/Ebitda 2020	P/E 2020	PEG 2020	ROIC 2020	ROE 2020	Country
Walgreens Boots Alliance Inc	0.5 x	7.8 x	9.1 x	33.6 x	16%	18.0%	USA
CVS Health Corporation	0.6 x	8.1 x	9.0 x	5.4 x	7.9%	12.6%	USA
Rite Aid Corp.	0.2 x	8.7 x	-	-	-	-6.7%	USA
Clicks Group Limited	1.9 x	22.5 x	35.5 x	3.3 x	43%	36%	South Africa
Dis-Chem Pharmacies	0.8 x	12.5 x	20.7 x	1.4 x	28%	32%	South Africa
Welcia Holdings Co.	0.7 x	11.8 x	26.0 x	1.2 x	12%	15%	Japan
Corporativo Fragua	0.4 x	5.9 x	11.5 x	1.0 x	23%	14%	Mexico
Average	**0.7 x**	**11.0 x**	**18.6 x**	**7.6 x**			
Median	**0.6 x**	**8.7 x**	**16.1 x**	**2.3 x**			

Source: Eikon Reuters, S&P.

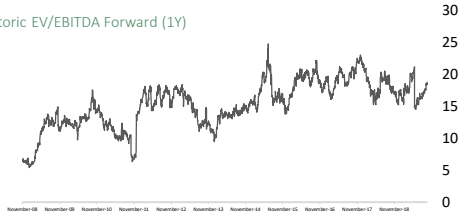
Precedent transactions

Aquirer	Target	Deal value [BRL K]	Stake	Date	EV/EBITDA
General Atlantic	Pague menos	600,097	17%	21/12/2015	14.0 x
Profarma	Drogarias Tamoio	260,000	50%	01/11/2015	7.5 x
Raia Drogasil	4bio	23,678	55%	10/01/2015	10.2 x
Ultrapar	Extrafarma	447,000	100%	09/30/2013	12.9 x
BR Pharma	Big Benn	471,515	100%	11/03/2011	22.6 x
Drogasil	Droga Raia	1,812,230	100%	01/08/2011	16.9 x

Source: Eikon Reuters, Exame,Valor.

First quartile	10.9 x
Median	13.5 x
Third quartile	16.2 x

Historic EV/EBITDA Forward (1Y)



Appendix D: Macroeconomic assumptions

Macro Assumptions	2017A	2018A	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E
GDP (Brazil)	1.1%	1.1%	0.9%	2.0%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
CPI (Brazil)	2.9%	3.7%	3.5%	3.8%	3.8%	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%
CPI (USA)	2.1%	1.9%	2.5%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%
USA 10Y Bonds	2.4%	2.7%	1.7%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%	1.9%
IGP-M	-0.5%	7.6%	5.1%	4.2%	4.0%	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%	3.9%
INPC	2.1%	3.4%	3.7%	3.8%	3.6%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
CDI (Brazil)	7.0%	6.4%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%	4.9%
TJLP	7.0%	7.0%	5.7%	5.1%	4.7%	4.6%	4.6%	6.0%	6.0%	6.0%	6.0%	6.0%
SELIC (Avg.)	9.9%	6.6%	6.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	5.0%
SELIC (FY)	7.0%	6.5%	4.8%	4.8%	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%	6.8%
Minimum annual wage [BRL K]	11.2	11.4	12.0	12.4	12.9	13.3	13.8	14.3	14.8	15.3	15.9	16.4

Source: Itaú BBA, BACEN,IBGE.

Appendix E: E-Commerce

Main metrics that were evaluated in this research are presented here. They were obtained using SimilarWeb, Amazon Alexa and SEMRush, website analysis tools.

Name	Monthly Visits	Unique Visitors (mn)	Average Visit Duration	Pages per Visit	Bounce Rate	Cost/Click (USD)	Share of Traffic
Ultrafarma	6.58	3.71	03:42	4.41	53%	R$ 0.08	15.50%
Droga Raia	3.94	2.45	02:25	2.82	65%	R$ 0.10	9.56%
Pague Menos	3.63	2.04	03:04	3.88	56%	R$ 0.08	7.52%
Drogasil	2.72	1.65	02:49	3.12	60%	R$ 0.09	6.90%
Drogaria SP	2.59	1.61	02:18	2.31	64%	R$ 0.13	6.39%
Drogarias Pacheco						R$ 0.11	6.05%
Drogaria Onofre	2.41	1.58	02:07	2.37	68%	R$ 0.08	5.59%
Araujo						R$ 0.09	4.12%
Panvel	2.22	1.24	03:27	3.27	66%	R$ 0.09	9.07%
World	**294.90**		**02:43**	**3.18**	**60%**		

Mobile	Desktop
72%	28%

Share of World Traffic .	
USA	33%
Russia	17%
Brazil	12%
Poland	4%
Germany	3%

Source: Team 18, SimilarWeb, Amazon Alexa, SEMRush

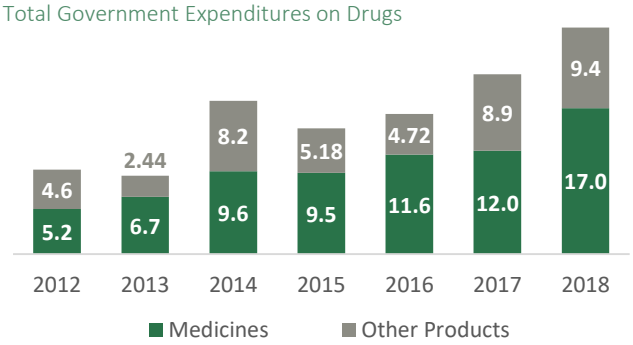
Appendix F: Government Drug Purchasing Programs

In this section we will analyze the impact of government project "Assistência Farmacêutica", as well as its budget evolution and distribution per macro-region. In order to access this information, we filed a request for information on Health Ministry, according to law n°12.527 (Information Access Law). We were able to access information on how this program has evolved over the last years, and how it is distributed as of today. Crossing this information with market sizes per region, we could estimate how much does SUS represent in each state and region of Brazil.

We see that total government spending amounts to 26.4bn in 2018, with medicines representing over 60% of total expenditures. In order to analyze its regional distribution, we used a different data set. The main difference is that, for our regional approach we do not include spending in Vaccines and DST Programs, for instance. We considered the following actions:

- 4705 – Financial Support for Acquisition and Distribution of Specialized Medicines
- 4368 – Acquisition and Distribution of Specialized Medicines and Pharmaceutical Assistance
- 20ae – Promotion of Pharmaceutical Assistance and Strategic Inputs on Basic Health Care

Total Government Expenditures on Drugs



Spending per Region

Region	Spending (BRL bn)	Share of Spending
São Paulo	2769	7.85%
Northeast	1976	7.94%
Southeast (ex-SP)	1649	5.18%
South	1362	6.47%
Midwest	724	5.76%
North	574	8.90%

But how does the government acquire drugs? Components are divided into three main sections, with acquisition method varying for each one:

- In the **Basic Component of Pharmaceutical Care (CBAF)**, are the drugs that are part of primary health care, such as acetylsalicylic acid, amoxicillin, dipyrone sodium, ibuprofen, loratadine, paracetamol, propranolol, among many others. The Popular Pharmacy Program in Brazil is part of the Basic Component. In a system of partnership with private drugstore chains, the government pays per dispensed product, and the citizen picks-up the item at the nearest pharmacy.
- The **Specialized Pharmaceutical Care Component (CEAF)** includes diseases such as rheumatoid arthritis, asthma, Alzheimer's, Parkinson's, epilepsy, multiple sclerosis, glaucoma, hepatitis, lupus, among many others, including rare diseases such as Gaucher's Disease, Inflammatory Spondylopathy and Syndrome. from Guillain-Barré. Transplant patients who need expensive drugs are also included in this component.
- Finally, comes the **Strategic Component of Pharmaceutical Assistance (CESAF),** which includes drugs and inputs for prevention, diagnosis, treatment and control of diseases of endemic profile, with epidemiological importance, socioeconomic impact or affecting vulnerable populations, contemplated in programs. SUS health strategies. The diseases treated by this component are tuberculosis, leprosy, malaria, leishmaniasis, Chagas disease, cholera, schistosomiasis, leishmaniasis, filariasis, meningitis, onchocerciasis, plague, trachoma, systemic mycoses and other diseases that result and perpetuate poverty. Medicines for influenza, hematological diseases, smoking and nutritional deficiencies are guaranteed, as well as vaccines, serums and immunoglobulins.

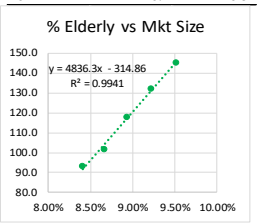
On CBAF, medicines are acquired directly from drugstore chains, at an average discount of 64%. On the latter two components, a bidding takes place and the producer or distributer with the most competitive prices get to fulfill the order.

Source: SUS, e-Sic

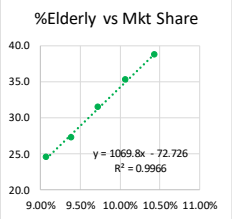
Appendix G: Market size projections.

We used a statistical tool to determine the correlation between the aging of the population and the growth of the pharma retail market size. In this Linear Regression, the value of R-squared represents how accurate one parameter is in estimating the other. A R-squared higher than 0.99 is considered to be an excellent fit. We obtained excellent linear fit for Brazil as a whole, and for every macro-region analyzed, except for the North – in this region there are other factors that may be more decisive in determining market size and will not be discussed in this topic.

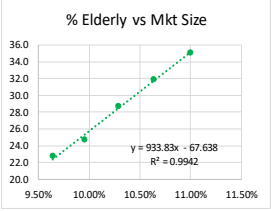
Brazil	% of Elderly	Mkt Size
2015	8.41%	93.4
2016	8.67%	101.7
2017	8.94%	118.0
2018	9.22%	132.0
2019	9.52%	145.2
2020E	9.83%	160.5
2021E	10.15%	176.2
2022E	10.49%	192.5
2023E	10.84%	209.4
2024E	11.20%	226.9



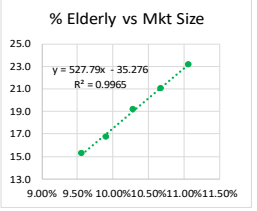
SP	% of Elderly	Mkt Size
2015	9.08%	24.6
2016	9.39%	27.2
2017	9.73%	31.6
2018	10.07%	35.3
2019	10.44%	38.8
2020E	10.82%	43.0
2021E	11.21%	47.2
2022E	11.62%	51.6
2023E	12.04%	56.1
2024E	12.47%	60.7



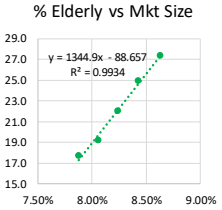
Southeast (excl.SP)	% of Elderly	Mkt Size
2015	9.64%	22.7
2016	9.95%	24.7
2017	10.29%	28.6
2018	10.64%	31.8
2019	11.00%	35.0
2020E	11.38%	38.7
2021E	11.78%	42.4
2022E	12.20%	46.3
2023E	12.63%	50.3
2024E	13.06%	54.3



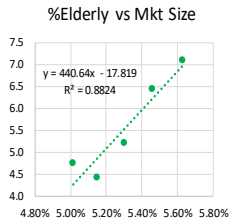
South	% of Elderly	Mkt Size
2015	9.56%	15.3
2016	9.91%	16.7
2017	10.29%	19.2
2018	10.67%	21.1
2019	11.08%	23.2
2020E	11.49%	25.4
2021E	11.91%	27.6
2022E	12.35%	29.9
2023E	12.80%	32.3
2024E	13.26%	34.7



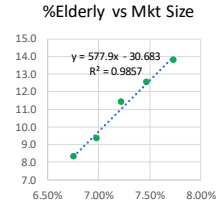
Northeast	% of Elderly	Mkt Size
2015	7.88%	17.7
2016	8.05%	19.2
2017	8.24%	22.0
2018	8.43%	24.9
2019	8.63%	27.4
2020E	8.84%	30.2
2021E	9.06%	33.2
2022E	9.30%	36.4
2023E	9.55%	39.8
2024E	9.82%	43.5



North	% of Elderly	Mkt Size
2015	5.01%	4.8
2016	5.15%	4.4
2017	5.30%	5.2
2018	5.46%	6.4
2019	5.63%	7.1
2020E	5.81%	7.8
2021E	6.00%	8.6
2022E	6.20%	9.5
2023E	6.41%	10.4
2024E	6.62%	11.4



Midwest	% of Elderly	Mkt Size
2015	6.75%	8.3
2016	6.98%	9.4
2017	7.22%	11.4
2018	7.47%	12.6
2019	7.73%	13.8
2020E	8.01%	15.6
2021E	8.29%	17.2
2022E	8.59%	19.0
2023E	8.90%	20.8
2024E	9.23%	22.6



Source: Team 18, IQVIA, Raia Drogasil, IGBE

Mid-West: Accounting for 9.7% of the market in 2Q19, the region has moderate relevance. RD already has a strong footprint there, with 185 stores and 11,1% of RD's revenue comes from this region. Despite the presence of some big players like Santa Maria and Rosário, of the biggest chains Raia Drogasil is the only one with a strong presence in the region, as the bulk of this market is composed by small and associativists chains. The company's market share in the region is 14,8%, a representing a 70 bps fall from last quarter, that could be explained by the net addition of only 3 stores in the region and by the tougher local competition.

North: Despite its meager 5.1% representation of the total market, Raia Drogasil has recently made a strong entrance in the region, going from a total of 7 stores as of 1Q18 to 35 by 2Q19's end. RD's focus is Pará, where it opened 28 stores since 2018, and although local revenue accounts for only 1.2% of RD's Gross Revenue, the company already has 3% of the market size. Logistics is by far the greatest challenge to be overcome in the region: states like Amazonas, Roraima and Amapá are supplied by air, making it much harder to maintain a good lead time without compromising budget. The presence of big players like Pague Menos and Extrafarma also contribute to toughen up the competitive landscape, especially given the latter's strong footprint in Pará.

Appendix H: Is the Market Saturated ?– A closer look

We see an elevated number of drugstores in Brazil, the highest in the world. Concentration is high on most states of Brazil. However, market sizes per capita and per household are still a long way behind world averages, as well as sales per square-meter and average square-meter per store.

Mkt Size PER HOUSEHOLD		(USD)			
Location	**2014**	**2015**	**2016**	**2017**	**2018**
World	257	241	243	247	254
LATAM	203	176	168	187	178
Brazil	248	187	190	229	215
Mexico	234	210	195	205	214
USA	1,011	1,050	1,075	1,083	1,097
France	819	693	706	720	759
Germany	962	832	848	876	939
Greece	791	643	662	642	662
Italy	569	476	479	491	522
Portugal	448	386	388	400	426
Spain	507	433	442	466	505
Turkey	97	82	77	70	56
United Kingdom	380	352	314	302	318

Region	Drugstores	Inhabitants	Inhabitants/Drugstores	Income PC	RADL Stores
Midwest	**8649**	16,297,074	1884	1,567	185
Northeast	21,047	57,071,654	2712	824	233
North	6,628	18,430,980	2781	900	35
Southeast	37,432	88,371,433	2361	1,692	1,276
South	14,038	29,975,984	2135	1,657	188
Brazil	87,794	210,147,125	2394	1372	1917

Source: Euromonitor, IQVIA, ABRAFARMA, IGBE

Appendix I: Market Fragmentation

We see Brazil with a highly fragmented market. We calculated Market Share for all top players, calculated HHI and compared to USA and Chile. Results are presented below.

Market share					
	2014	**2015**	**2016**	**2017**	**2018**
RD	9.6%	10.1%	11.6%	11.7%	11.8%
DPSP	7.5%	7.5%	7.8%	7.5%	6.9%
Pague menos	5.2%	5.1%	5.7%	5.3%	5.0%
Panvel	2.5%	2.3%	2.2%	2.0%	2.0%
Extrafarma	1.4%	1.5%	1.6%	1.7%	1.6%
São João	1.6%	1.7%	2.0%	2.2%	2.3%
Nissei	1.4%	1.2%	1.1%	1.0%	1.0%
Clamed	1.4%	1.5%	1.7%	1.7%	1.8%
Araújo	0.0%	1.6%	1.9%	1.8%	1.8%
BR Pharma	4.3%	2.6%	1.5%	0.0%	0.0%
Farmarcas	0.0%	0.6%	0.9%	1.3%	1.7%
Other associations	17.2%	15.3%	15.8%	16.3%	16.7%
Other chains	22.5%	24.7%	24.9%	23.9%	23.3%
Independent stores	25.5%	24.4%	21.2%	23.5%	24.3%
HHI[1]	188	200	248	241	229

1: Calculated with the 11 largest players share.

Top 5 player's market share			
Brazil	**Mexico**	**USA**	**Chile**
29%	34%	66%	78%

Source: Companies' IR, Valor 1000, FIA, Diário da União, Exame.

Appendix J: Field Research

This is the standard basket we used to evaluate pricing policies of major drugstore companies in SP. It is also the products we used to calculate disruption and Stock-Out indexes for companies.

		Raia	São Paulo	Onofre	Pague Menos	Ultrafarma	Panvel
Category	**Product**	Price	Price	Price	Price	Price	Price
Branded	XARELTO 20MG 28 Comp	232.99	268.1	276.59	213.1	212.17	239.88
	ARADOIS 25MG 60 Comp	44.59	45.99	44.59	45.1	47.79	47.79
	TORSILAX 30 Comp	19.9	9.49	15.49	13.7	17.15	13.99
	DIOVAN 160MG 28 Comp	88.49	99.51	76.91	76.7	86.31	81.23
	ZYAD DIÁRIO 30 Comp	39.79	85	44.65	39.7	47.28	42.02
	GLIFAGE XR 500MG 30 Comp	7.59	5.99	5.69	6.75	5.88	7.14
	SAXENDA 6MG 3 cartelas	676.99	670	670	653.9	702.23	624.2
	GALVUS 50MG 56 Comp	161.69	185.09	161.15	142.6	169.98	151.1
	VYTORIN 10/40MG 30 Comp	239.99	256.42	253.8	197.55	209.32	209.32
Generic	DIPIRONA SÓDICA 500MG	4.36	3.89	2.25	2.25	6.27	3.49
	PREDNISOLONA 20MG	8.85	14.99	9.92	8.25	8.58	10.99
OTC	DORFLEX 24 Comp.	12.84	12.84	10.91	11.1	10.27	12.07
	ADDERA D3 7.000UI	85.49	89	85.49	82.05	95.76	101.39
	NEOSALDINA 20	16.9	13.99	13.99	15.25	16.9	24.39
	BUSCOPAN 10MG	14.4	15.55	12.24	11.35	12.73	14.08
HPC	HIDRATANTE DESODORANTE NIVEA SOFT MILK	18.39	18.99	18.99	16.99	16.44	21.14
	DESODORANTE ANTITRANSPIRANTE AEROSOL DOVE MEN+CARE SEM PERFUME	11.33	16.99	16.99	15.49	15.49	16.41
	SHAMPOO DOVE ÓLEO NUTRIÇÃO	19.79	21.9	21.99	14.79	17.56	17.99
	PROTETOR SOLAR SUNDOWN PRAIA E PISCINA FPS50	34.9	48.9	54.99	39.79	66.96	43.23
	KIT SABONETE EM BARRA DOVE BRANCO	14.45	8.39	15.99	10.35	17.2	13.15
	Unit: BRL **Total**	1753.72	1891.02	1812.62	1616.76	1782.27	1695

Source: Team 18.

Source: Team 18.

In order to better understand pharmaceutical sector dynamics in Brazil and comprehend its difference from other international models, our team conducted a field research in both a CVS and a Walgreens store in San Francisco, CA. Results were threefold: (i) American pharmacies have a much different product mix, non medication and other items such as food end beverages account for significant part of revenue and demand for much bigger stores; (ii) medication spending is not out-of-pocket, health insurance is responsible for most of the costs; (iii) medication seems to represent merely a secondary line of revenue, as in many stores these products are stored on the back or on a different floor entirely.

Appendix K: M&A Analysis

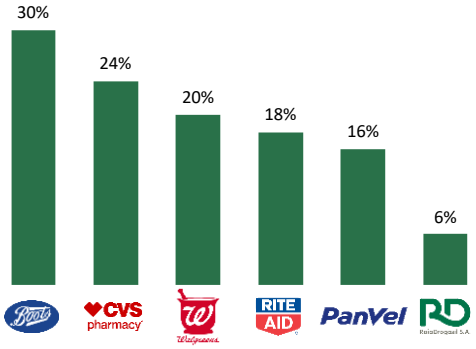
Raia Drogasil acquiring Dimed group simulation

The Dimed group is the controller of the Panvel drugstore chain, which is a very strong local player in southern Brazil that accounts for over than 90% of the group's revenue. We believe the transaction would make sense to RD due to some key rationales: (i) RD could use Panvel's high range of Private Label products as a way to boost its front store margin, as its own brand's is 50% and the gross margin of other front store products is just under 29%. Today RD's own products account for about 6% of front store sales, while Panvel's own brands account for 16% in 2018 (Figure X); (ii) Panvel is also a benchmark in terms of ecommerce. With this segment accounting for more than 10% of its Revenue (biggest number between the top 10 pharmacies in Brazil), the quality and efficiency of its ecommerce, with an impressive costumer service and modern delivery solutions that goes beyond more traditional soluctions, as for an example the possibility of products withdrawal in Lockers in the middle of the city, a practice that international ecommerce juggernaut players like Amazon also use; (iii) The acquisition would be an effective way for Raia Drogasil to strengthen its market share in the southern region. Currently, RD is the third-largest player in the region, with a 6.8% market share. Raia's consolidation in the region faces barriers due to the strong presence of regional competitors, e.g. São João and PanVel. After the deal, RD would have a 19,1% market share in the area; (iv) Panvel is similar to Raia Drogasil in terms of execution and financial health. The network is a benchmark in the industry due to its quality of service and logistics efficiency, which would facilitate its integration with RD in a possible acquisition. In addition, the company has the best financials in the industry, matching Raia Drogasil with solid cash generation, low leverage and above-average returns for the industry. We highlight that the company has a more conservative expansion policy, focusing in preserving the cash flow generation by expanding in a slower pace than the others. Considering that a store reaches its maturity by year 4, Panvel has a store age profile composed by 82.4% of mature stores, while Pague menos has 67.4% and Raia Drogasil has 65.3%.

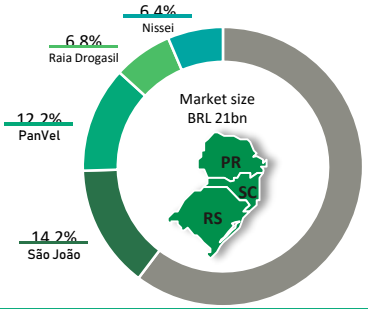
Recently acquisition by Kinea: On May 23rd, Kinea, a private equity firm from Itaú Unibanco, bought 10,56% of Dimed Group shareholders equity, a holding composed by the distributing company Dimed, Panvel and Lifar, a pharmaceutical lab. Although the PE firm entrance could change the expansion strategy to outside southeast region (in 2Q19, the company had only 5 stores outside the south region, located in São Paulo) and could increase even more the competition in São Paulo and Southeast, we believe that in the middle/long term an eventual effort to divest from Kinea should open a window of opportunity for Raia Drogasil to materialize this deal.

South competitive dynamics: Since Drogasil does not have a foothold in the region, all RD's strong presence in this region is based on 188 Droga Raia's stores, which comprise 7.9% of local market share (2Q19) and represent 9.5% of the company's total revenue. It's a highly attractive market, representing 15,6% of the total. Local competition is fierce, though. Nissei, for instance, has a very strong presence in Paraná as the eight biggest Brazilian drugstore in terms of revenue (BRL 1.35 bn) and responsible for 6.4% of regional market size. Despite its initial suffering with the entrance in Paraná of big players, like RD and Panvel, between 2014 and 2016, virtually stopping its gross revenue growth, the company was able to resume growth and share gain as reported from recent results, consolidating itself a tough player. There is also Drogaria São João, with BRL 3.0 bn of Gross Revenue, 700 stores and 14.2% of South's market. The company's expansion in the region was rather impressive, going from 9.4% of market share in 2014 to 14.2% in 2018. Last but not least, there is Panvel, whose core market is Rio Grande do Sul. A trademark in Porto Alegre's landscape, we recognize the company as one of the best in the pharmaceutical retail industry due to its impressive execution, cash flow generation and leading position in sector trends. Panvel is also a benchmark in Brazil for both its Private Label penetration in front store products and e-commerce operations, which was accountable for 10.6% of the company's revenue. Even though the strategy was likely responsible for Panvel's recent loss of market share, the company's solid indicators, such as SSS growth of 9.1%, 10.6% and 8.8% in the last three quarters, show the stores still face a favorable tailwind. On a broader perspective, we see the south market as a challenging competitive scenario, especially in Rio Grande do Sul, where Pague Menos, for example, opened 3 stores just to close them shortly after in 1Q19 due to poor performance, and marking the company's forfeit from the state, evidencing this arduous competitive dynamics.

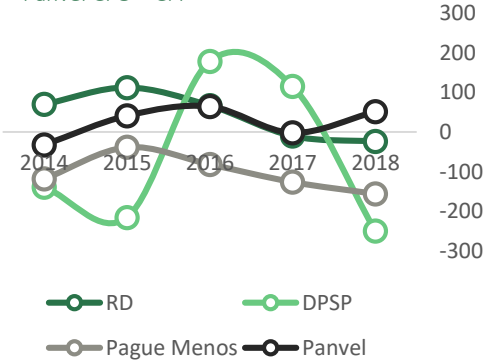
Private label penetration in front store



Drug retail market share in the south



Panvel CFO – CFI



Accretion / dilution sensitivity at various % of stock considerations, annual synergies and control premium over spot price assumptions

Annual synergies (millions of BRL)

Control premium	R$90,00	R$80,00	R$70,00	R$60,00	R$50,00
20%	R$0,29	R$0,27	R$0,25	R$0,22	R$0,20
30%	R$0,28	R$0,26	R$0,23	R$0,21	R$0,18
40%	R$0,26	R$0,24	R$0,22	R$0,19	R$0,17
50%	R$0,25	R$0,23	R$0,20	R$0,18	R$0,15
60%	R$0,24	R$0,21	R$0,19	R$0,16	R$0,14

100% stock scenario

Annual synergies (millions of BRL)

Control premium	R$90,00	R$80,00	R$70,00	R$60,00	R$50,00
20%	R$0,26	R$0,23	R$0,21	R$0,19	R$0,16
30%	R$0,24	R$0,22	R$0,19	R$0,17	R$0,14
40%	R$0,22	R$0,20	R$0,17	R$0,15	R$0,13
50%	R$0,21	R$0,18	R$0,16	R$0,13	R$0,11
60%	R$0,19	R$0,16	R$0,14	R$0,12	R$0,09

75% stock scenario

Annual synergies (millions of BRL)

Control premium	R$90,00	R$80,00	R$70,00	R$60,00	R$50,00
20%	R$0,22	R$0,20	R$0,17	R$0,15	R$0,12
30%	R$0,20	R$0,18	R$0,15	R$0,13	R$0,10
40%	R$0,18	R$0,16	R$0,13	R$0,11	R$0,08
50%	R$0,16	R$0,14	R$0,11	R$0,09	R$0,06
60%	R$0,14	R$0,12	R$0,09	R$0,07	R$0,04

50% stock scenario

Annual synergies (millions of BRL)

Control premium	R$90,00	R$80,00	R$70,00	R$60,00	R$50,00
20%	R$0,18	R$0,16	R$0,14	R$0,11	R$0,09
30%	R$0,16	R$0,14	R$0,11	R$0,09	R$0,07
40%	R$0,14	R$0,12	R$0,09	R$0,07	R$0,04
50%	R$0,12	R$0,09	R$0,07	R$0,04	R$0,02
60%	R$0,09	R$0,07	R$0,05	R$0,02	(R$0,00)

25% stock scenario

Annual synergies (millions of BRL)

Control premium	R$90,00	R$80,00	R$70,00	R$60,00	R$50,00
20%	R$0,15	R$0,12	R$0,10	R$0,08	R$0,05
30%	R$0,12	R$0,10	R$0,07	R$0,05	R$0,03
40%	R$0,10	R$0,07	R$0,05	R$0,03	R$0,00
50%	R$0,07	R$0,05	R$0,02	(R$0,00)	(R$0,02)
60%	R$0,05	R$0,02	(R$0,00)	(R$0,03)	(R$0,05)

0% stock scenario

Base case

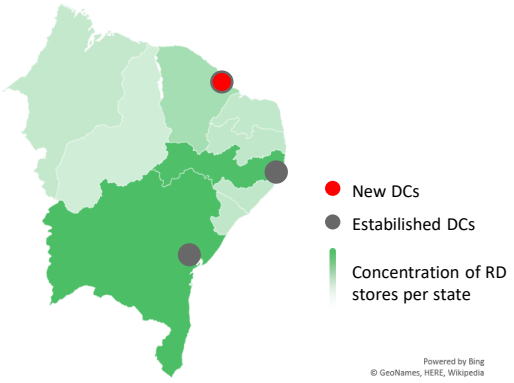
Estimated annual synergies	R$	75.961.305
Pro Forma EPS		$1,59
Acquirer standalone EPS		*$1,53*
Accretion / Dilution per share		*$0,06*
Accretion / Dilution %		*4,2%*

Source: Team 18, Companies' IR

Appendix L: Supply and Logistics

Supply management: RD operates on a centralized supply management structure through a unified inventory control system and process automation. The delicate balance between product availability and cost, related stock out probability, investment in working capital and logistics expenses is fully established through full supply chain integration. Daily inventory product depletion is tracked both on distribution centers and stores, and all purchase and product displacement suggested automatically by the management system based on statistical models and historical data. Stores track their inventory in real time and all purchases are instantly communicated to the central system, which then recalculates RD's total inventory periodically. Stock out ratio is closely tracked and compared to competitors' through various researches.

Logistics: RD is present in 22 states, which represent 94% of Brazilian potential market. Logistics operation is decentralized, based on 9 distribution centers scattered across 7 states and totaling 124.8 thous. sqm in storage capacity, with 2 more set to open before the end of the year, scaling up to 165 thous. sqm. The decentralized strategy not only improves scalability, but also allows the company to better adapt to Brazilian own decentralized tax structure: for many states, companies that have local DC's can be privileged while there is strong taxation over product transport to other states. All but São Paulo's DC are rented, contributing to a lighter logistics operation. RD has a rigorous quality control and verification process for all product traffic in its DCs, minimizing errors and consequent losses. Although DCs operate with both manual and semi-automated separation processes, RD has been investing in process automation, significantly increasing overall process efficiency and minimizing errors. Throughout the DC's operation all inventory movement is tracked in real time.



This table analyses the average sqm of distribution centers per store, divided in regions and Brazil average, before and after the two new DC openings set to take place before the end of the year

	Stores	DC sqm/store before	DC sqm/store after
NE avg.	233	80.69	128.76
Sudeste Avg.	1276	78.10	83.15
Brazil Avg.	1917	65.10	85.55

Appendix M: Working Capital Dynamics

Seasonality plays an important role in revenue distribution during the financial year.

1Q: In the first quarter, school vacations and the Carnival lead families away from large urban centers, thus decreasing overall gross revenue. Furthermore, February is also a shorter month, contributing even further to 1Q poorer performance. Since most of RD's expenses are fixed, comprised primarily of paycheck and store rent expenses, below year's average revenue performance is perceived both in absolute and margin figures.

2Q: In the second quarter, however, RD usually benefits from strong gross margin gains. Brazilian government approves the inflation readjustments to both the maximum retail and factory prices in March 31st , and all prices are then immediately corrected. As a result, the RD can sell in April products acquired before readjustments, at lower costs, for the higher corrected prices, thus improving gross margin. As the old inventory products are depleted and resupplied at corrected prices, gross margins return to normal values.

3Q: In the third quarter, there is a significant increase in payroll expenses. That is mainly due to the annual salary readjustment for SP employees of the administrative headquarters, distribution centers and most of RD's stores.

4Q: The fourth quarter has the highest gross revenue, explained by the stronger consumer flow to the stores and higher average family expenditure in the weeks prior to Christmas. Additionally, the week between Christmas and New Year's Eve is characterized by strong inventory resupply and preparations for vacations. Finally, the payment of 13th salary in December also boosts available families' income, increasing overall retail consumption.

Final working capital considerations: The second and fourth quarters are the most favorable for RD. Raia begins New Year's Eve is characterized by strong inventory resupply and preparations for vacations. Finally, the payment of 13th salary in December also boosts available families' income, increasing overall retail consumption.

Final working capital considerations: The second and fourth quarters are the most favorable for RD. Raia begins the second quarter purchasing large amounts of products subject to winter seasonality, such as anti-flu medication. These are usually subject to extended supplier cycle, and Raia sells most of such excess inventory (higher inventory turnover) before the end of 2Q, much before the cash out-flow for suppliers (lower supplier turnover). In the fourth quarter the same process takes place, just with higher intensity. RD buys large amounts of summer seasonal products of long supplier cycle. In the end of the quarter most of these products have already been sold, while the cash out-flow from their acquisition from suppliers takes place just in the next quarter. The stronger the winter-summer cycles, the stronger the working capital seasonality.

Appendix N: RD's Suppliers

As seen in the table below, Raia Drogasil purchases its products from a wide variety of suppliers, including distributors and manufacturers. Although RD has a wide variety of suppliers, bargaining power is limited, since the market is highly fragmentated (RD represents only 12% of the revenue of its second biggest suppliers). Also, all of RD's main suppliers are large scale enterprises, with whom is hard to gain bargaining power.

Supplier	%
Santa Cruz Distribuidora	9.20%
Hypera S.A.	7.09%
Panpharma Distribuidora	4.74%
Johnson & Johnson	4.36%
Sanofi Aventis	3.82%
Biolab	2.60%
Takeda Distribuidora	2.48%
Nivea	2.35%
L'Oreal	2.30%
Others	61.06%

RD accounts for 12% of Hypera's sales.

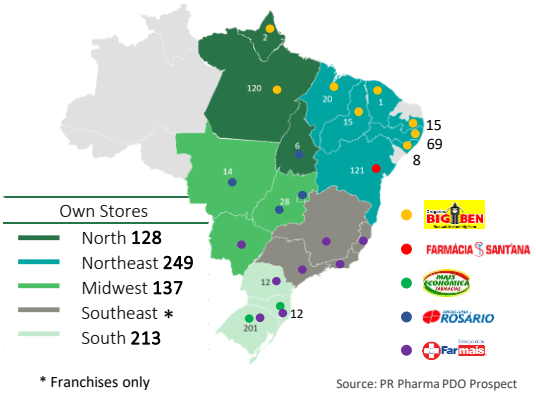
Source: Team 18

Appendix O: The case of BR Pharma

"The Issuer's strategy involves risks related to the integration of acquired businesses", Public Debentures Offering Prospect, Brasil Pharma, 28 October 2013.

Brasil Pharma's creation was just a logic move back in 2010. Brazilian pharmaceutical market was highly fragmented, and no player seemed to crave a leading role in the consolidation process. Droga Raia and Drogasil, had way lower market penetration when compared to American market leaders: while Walgreens and CVS both had more than 8,000 and 7,000 stores respectively, Droga Raia and Drogasil had fewer than 400 each. BTG Pactual saw the opportunity and brought Brazil Pharma to the market through M&A: in 2009, the company entered the market through the acquisition of "Rede Nordeste", and "Farmácia dos Pobres" operations would soon follow. In fact, inorganic expansion became BR Pharma's operation staple: after its Northeast debut, the company acquired during the following two years "Drogarias Rosário", in the Midwest and Federal District, "Guararapes" back at NE, "Farmais" that operated through franchising in South and Southeast, "Mais Econômica" centered in the South region and "Big Ben" in the North. Two years after its creation, BR Pharma had a national footprint, built on top of several medium brands acquisition that formed the largest pharmaceutical retail company in Brazil. At its pinnacle, the company had 727 own stores and 433 franchises. But the greater the height, the harder the fall. In 2011 Droga Raia and Drogasil announced their merging, following DPSP's creation in the same year. BR Pharma lost its leading position, and other of its poor choices started haunting its future. Despite large, BR Pharma's operation was highly fragmented. Its management remained decentralized, the brands usually just earned a seat in the council while maintaining its own directors and managers. All back office, supply, logistics, HR and others were not integrated and therefore the company failed to benefit from advantages of scale. In fact, it had costs and expenses far above the other players, all of whom valued operational efficiency. BR Pharma's downfall was coming close as its operational bottleneck of logistics increased stock out, leading to customer loss to the increasingly strong competition of the new merged players and other more efficient brands. After years of accumulated losses, BR Pharma filed bankruptcy in January 2018 .

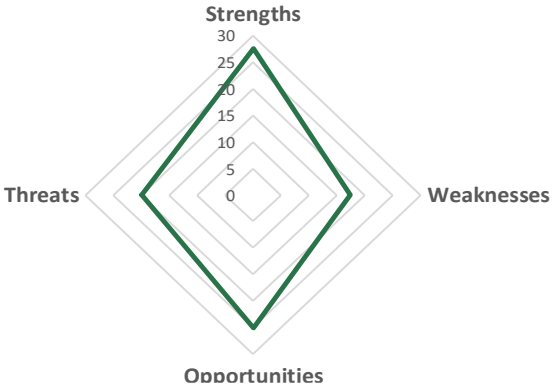
BR Pharma's Scattered Footprint



Source: PR Pharma PDO Prospect

Appendix P: SWOT

SWOT	
Strengths	**Weaknesses**
Best in class operation in the industry Highest margins Management Geospatial positioning Good capital structure	Low added value products Cannibalization Regionalized brand recognition
Opportunities	**Threats**
Sector growth Room for consolidation Northeast expansion War pricing E-commerce penetration	Fierce competition in São Paulo CMED Price Cap Difficulty to find new POS Operational Improvement in associated chains



Source: Team 18

Appendix Q: IRR of a RD's store opened in the first day of 2019 - Unit Economics

Assumptions: Inventory in a RD's store is majorly well determined. That is, there is low variation in inventory level, only a few punctual changes (the mix is determined when before the store is opened, according to some factors like target audience, competitors in the surroundings, so on). The initial investment, by the end of 2018, was BRL 1,799 thousand in Capex for store opening, BRL 169 thousand in pre-operating expenses and 745 as working capital, so to open a store at the beginning of 2019, RD's initial investment would be BRL 2,713. As SSS premise, we adopted a conservative posture and indexed to CPI level, then maintaining a flat 3.6% As DIO, DPO and DSO, we chose the same days value as 2018, as the team wanted to investigate how affordable would be a store following current company's level and without taking into consideration any working capital seasonality (for example, in the 2Q usually inventory turnover is higher than in 1Q). We adopted a linear 5-year depreciation of the initial Capex (1,799), with a store renovation Capex half the store opening Capex, with also a 5-year linear depreciation (Initial Capex, depreciation premises and renovation Capex are company's guidance). As seen with the cash flow bellow, it's possible to see how inventory turnover grows throughout store maturation (as the inventory needed remains flat, but revenue increase, DIO decrease). 2019's WACC, through the team's calculations is 10.8% and the terminal growth was in line with the one used in our model, with 6% as total value. SSS assumption was used in a conservative scenario, growing in line with CPI.

Income Statement		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
SSS (mature)	**[%]**		3.6%	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%	3.6%
Gross Revenue	**[BRL K]**	**4,805**	**6,869**	**8,263**	**9,557**	**9,955**	**10,313**	**10,685**	**11,069**	**11,468**	**11,881**
Maturation Curve		50.0%	69.0%	83.0%	96.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Gross Profit	[BRL K]	1,167	1,836	2,333	2,754	2,868	3,078	3,189	3,304	3,423	3,546
as % Gross Revenue	*[%]*	24.3%	26.7%	28.2%	29.1%	29.8%	29.8%	29.8%	29.8%	29.8%	29.8%
Store Expenses	[BRL K]	(1,167)	(1,335)	(1,449)	(1,521)	(1,532)	(1,694)	(1,755)	(1,818)	(1,883)	(1,951)
as % Gross Revenue	*[%]*	-20.3%	-18.4%	-17.5%	-16.6%	-16.4%	-16.4%	-16.4%	-16.4%	-16.4%	-16.4%
Store Contribution Margin	**[BRL K]**	**0**	**501**	**884**	**1,233**	**1,336**	**1,385**	**1,434**	**1,486**	**1,540**	**1,595**
Contribution Margin Ramp-up	*[%]*	0%	7.3%	10.7%	12.9%	13.4%	13.4%	13.4%	13.4%	13.4%	13.4%
Present Value Adjustment	[BRL K]	(34)	(34)	(34)	(34)	(34)	(34)	(34)	(34)	(34)	(34)
Depreciation	[BRL K]	(360)	(360)	(360)	(360)	(360)	(180)	(180)	(180)	(180)	(180)
Tax Expense	[BRL K]	0.0	(37)	(167)	(285)	(320)	(398)	(415)	(432)	(451)	(470)
Tax Rate	*[%]*	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%	34.0%
Nopat	**[BRL K]**	**(394)**	**71**	**323**	**554**	**622**	**773**	**805**	**840**	**875**	**911**
as % Gross Revenue	*[%]*	-8.2%	0.9%	3.8%	5.7%	6.2%	6.2%	6.2%	6.2%	6.2%	6.2%

Cash Flow Statement		2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Perpetuity
(=) Nopat	[BRL K]	(394)	71	323	554	622	773	805	840	875	911	20,420
(+) Depreciation	[BRL K]	360	360	360	360	360	180	180	180	180	180	4,033
(+) Present Value Adj.	[BRL K]	34	34	34	34	34	34	34	34	34	34	762
(-) dWC	[BRL K]	(340)	(206)	(143)	(101)	(47)	(31)	(40)	(41)	(42)	(44)	(986)
(=) CFO	**[BRL K]**	**(340)**	**259**	**574**	**847**	**969**	**955**	**980**	**1,013**	**1,046**	**1,081**	**24,228**
CFO/EBITDA	*[%]*	0%	52%	65%	69%	72%	69%	68%	68%	68%	68%	
(-) Capex (store renovation)		**0.0**	**0.0**	**0.0**	**0.0**	**(900)**	**0.0**	**0.0**	**0.0**	**0.0**	**(900)**	**(4,033)**
		0	1	2	3	4	5	6	7	8	9	10
Cash flow	**[BRL K]**	**(340)**	**259**	**574**	**847**	**69**	**955**	**980**	**1,013**	**1,046**	**181**	**20,195**
NPV	**[BRL K]**	**(340)**	**233**	**468**	**622**	**46**	**572**	**530**	**494**	**461**	**72**	**7,242**

NPV	10,399
Initial Investment	2,713
IRR	**20.6%**

Spread (IRR - WACC) **9.8%**

Mature store ROIC		2018
Gross Revenue	[BRL K]	9,609
Gross Profit	[BRL K]	2,868
as % Gross Revenue	*[%]*	29.8%
Store Expenses	[BRL K]	(1,579)
as % Gross Revenue	*[%]*	-16.4%
Store Contribution Margin	**[BRL K]**	**1,290**
Present Value Adjustment	[BRL K]	(34)
Depreciation	[BRL K]	(360)
Tax Expense	[BRL K]	(305)
Tax Rate	*[%]*	*34%*
Nopat	**[BRL K]**	**591**
as % Gross Revenue	*[%]*	6.2%
Invested Capital	**[BRL K]**	**2,713**
Capex	[BRL K]	1,799
Pre-Operational Expenses	[BRL K]	169
Operational WK	[BRL K]	745
ROIC	**22%**	

Appendix R: Generic Price War Simulation

In this section, the group made a simulation to see to which extent Raia Drogasil could maintain a higher generic discount harming the other players in the market. To architecture this simulation to understand how the **Gross Margin** would be affected, the group used some assumptions. Supposing that an average branded sale price is BRL 100, using the average market discount of 60% for generics and similar, we would arrive at a generic and similar sale price of BRL 40. Considering generic and similar gross margins 55% and branded margin as 20%, in line with RD's guidance, we arrive at the "healthy" gross margin proxy considering this sale mix. With a 5% "price investment", the average discount for non-reference medicines would be 63% (60%*5%). When analyzing profitability, the impact would be a real gross margin compression of 158 bps. Using that same line of thought, the group estimated how an increase of 10 and 15% in generic and similar discounts would bring on the margins. The same rational process was used to determine how other players would be affected by a generic discount increase, in the case of a Price War.

Important: All margins and revenues are in terms of the "x" units sold

How an increase in generic discount would impact RD's margins?

RD

Normal		5% price investment		10% price investment		15% price investment	
Sales Mix (units)		**Sales Mix (units)**		**Sales Mix (units)**		**Sales Mix (units)**	
Generic and Similar	40%	Generic and Similar	40%	Generic and Similar	40%	Generic and Similar	40%
Branded	60%	Branded	60%	Branded	60%	Branded	60%
Average discount for non-reference	60%	**Average discount for non-reference**	63%	**Average discount for non-reference**	66%	**Average discount for non-reference**	69%
Total units sold	X	**Total units sold**	x	**Total units sold**	x	**Total units sold**	x
Branded sale price [BRL]	100	**Branded sale price [BRL]**	100	**Branded sale price [BRL]**	100	**Branded sale price [BRL]**	100
Generic and similar sale price [BRL]	40	**Generic and similar sale price [BRL]**	37	**Generic and similar sale price [BRL]**	34	**Generic and similar sale price [BRL]**	31
Generic and similar Revenue	16.00x	Generic and similar Revenue	14.80x	Generic and similar Revenue	13.60x	Generic and similar Revenue	12.40x
Branded Revenue	60.00x	Branded Revenue	60.00x	Branded Revenue	60.00x	Branded Revenue	60.00x
Total Revenue	76.00x	**Total Revenue**	74.80x	**Total Revenue**	73.60x	**Total Revenue**	72.40x
GOGS (Generics and similar)	7.20x	GOGS (Generics and similar)	7.20x	GOGS (Generics and similar)	7.20x	GOGS (Generics and similar)	7.20x
GOGS (Branded)	48.00x	GOGS (Branded)	48.00x	GOGS (Branded)	48.00x	GOGS (Branded)	48.00x
Total COGS	**55.20x**	**Total COGS**	**55.20x**	**Total COGS**	**55.20x**	**Total COGS**	**55.20x**
Gross Profit (Generics and similar)	8.80x	Gross Profit (Generics and similar)	7.60x	Gross Profit (Generics and similar)	6.40x	Gross Profit (Generics and similar)	5.20x
Gross Margin [%]	55%	*Gross Margin [%]*	51%	*Gross Margin [%]*	47%	*Gross Margin [%]*	42%
Gross Profit (Branded)	12.00x	Gross Profit (Branded)	12.00x	Gross Profit (Branded)	12.00x	Gross Profit (Branded)	12.00x
Gross Margin [%]	20%	*Gross Margin [%]*	20%	*Gross Margin [%]*	20%	*Gross Margin [%]*	20%
Total Gross Profit	20.80x	**Total Gross Profit**	19.60x	**Total Gross Profit**	18.40x	**Total Gross Profit**	17.20x
Gross Margin [%]	27.4%	*Gross Margin [%]*	26.2%	*Gross Margin [%]*	25.0%	*Gross Margin [%]*	23.8%
		Gross Profit variation [BRL]	(1.2x)	*Gross Profit variation [BRL]*	(2.4x)	*Gross Profit variation [BRL]*	(3.6x)
		Change in Gross Margin - real term [bps]	**(158)**	***Change in Gross Margin - real term [bps]***	**(316)**	***Change in Gross Margin - real term [bps]***	**(474)**

Source: Team 18, Company's IR

How an increase in generic discount would impact associated chains' margins?

Associated chains

Normal		5% price investment		10% price investment		15% price investment	
Sales Mix (units)		**Sales Mix (units)**		**Sales Mix (units)**		**Sales Mix (units)**	
Generic and Similar	68%	Generic and Similar	68%	Generic and Similar	68%	Generic and Similar	68%
Branded	32%	Branded	32%	Branded	32%	Branded	32%
Average discount for non-reference	60%	**Average discount for non-reference**	63%	**Average discount for non-reference**	66%	**Average discount for non-reference**	69%
Total units sold	x	**Total units sold**	x	**Total units sold**	x	**Total units sold**	x
Branded sale price [BRL]	100	**Branded sale price [BRL]**	100	**Branded sale price [BRL]**	100	**Branded sale price [BRL]**	100
Generic and similar sale price [BRL]	40	**Generic and similar sale price [BRL]**	37	**Generic and similar sale price [BRL]**	34	**Generic and similar sale price [BRL]**	31
Generic and similar Revenue	27.36x	Generic and similar Revenue	25.31x	Generic and similar Revenue	23.26x	Generic and similar Revenue	21.20x
Branded Revenue	31.60x	Branded Revenue	31.60x	Branded Revenue	31.60x	Branded Revenue	31.60x
Total Revenue	58.96x	**Total Revenue**	56.91x	**Total Revenue**	54.86x	**Total Revenue**	52.80x
GOGS (Generics and similar)	12.31x	GOGS (Generics and similar)	12.31x	GOGS (Generics and similar)	12.31x	GOGS (Generics and similar)	12.31x
GOGS (Branded)	25.28x	GOGS (Branded)	25.28x	GOGS (Branded)	25.28x	GOGS (Branded)	25.28x
Total COGS	**37.59x**	**Total COGS**	**37.59x**	**Total COGS**	**37.59x**	**Total COGS**	**37.59x**
Gross Profit (Generics and similar)	15.05x	Gross Profit (Generics and similar)	13.00x	Gross Profit (Generics and similar)	10.94x	Gross Profit (Generics and similar)	8.89x
Gross Margin [%]	55%	*Gross Margin [%]*	51%	*Gross Margin [%]*	47%	*Gross Margin [%]*	42%
Gross Profit (Branded)	6.32x	Gross Profit (Branded)	6.32x	Gross Profit (Branded)	6.32x	Gross Profit (Branded)	6.32x
Gross Margin [%]	20%	*Gross Margin [%]*	20%	*Gross Margin [%]*	20%	*Gross Margin [%]*	20%
Total Gross Profit	21.37x	**Total Gross Profit**	19.32x	**Total Gross Profit**	17.26x	**Total Gross Profit**	15.21x
Gross Margin [%]	36.2%	*Gross Margin [%]*	33.9%	*Gross Margin [%]*	31.5%	*Gross Margin [%]*	28.8%
		Gross Profit variation [BRL]	(2.05x)	*Gross Profit variation [BRL]*	(4.1x)	*Gross Profit variation [BRL]*	(6.16x)
		Change in Gross Margin - real term [bps]	**(348)**	***Change in Gross Margin - real term [bps]***	**(696)**	***Change in Gross Margin - real term [bps]***	**(1,044)**

Source: Team 18, Company's IR

Appendix R: Generic Price War Simulation (continuation)

How an increase in generic discount would impact independents' margins?

Independents

	Normal	5% price investment	10% price investment	15% price investment
Sales Mix (units)				
Generic and Similar	73%	73%	73%	73%
Branded	27%	27%	27%	27%
Average discount for non-reference	60%	63%	66%	69%
Total units sold	x	x	x	x
Branded sale price [BRL]	100	100	100	100
Generic and similar sale price [BRL]	40	37	34	31
Generic and similar Revenue	29.08x	26.90x	24.72x	22.54x
Branded Revenue	27.30x	27.30x	27.30x	27.30x
Total Revenue	56.38x	54.20x	52.02x	49.84x
GOGS (Generics and similar)	13.09x	13.09x	13.09x	13.09x
GOGS (Branded)	21.84x	21.84x	21.84x	21.84x
Total COGS	**34.93x**	**34.93x**	**34.93x**	**34.93x**
Gross Profit (Generics and similar)	15.99x	13.81x	11.63x	9.45x
Gross Margin [%]	55%	51%	47%	42%
Gross Profit (Branded)	5.46x	5.46x	5.46x	5.46x
Gross Margin [%]	20%	20%	20%	20%
Total Gross Profit	**21.45x**	**19.27x**	**17.09x**	**14.91x**
Gross Margin [%]	38.1%	35.6%	32.9%	29.9%
Gross Profit variation [BRL]		(2.18x)	(4.36x)	(6.54x)
Change in Gross Margin - real term [bps]		(387)	(774)	(1,161)

Source: Team 18, Company's IR

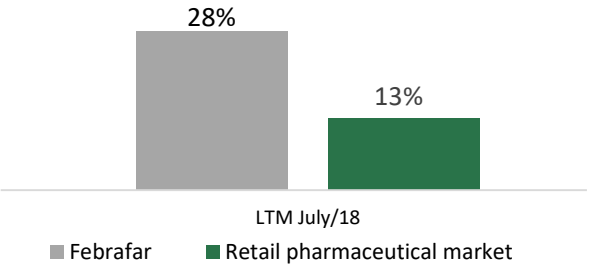
Appendix S: Associated chains and independents players analysis

Febrafar

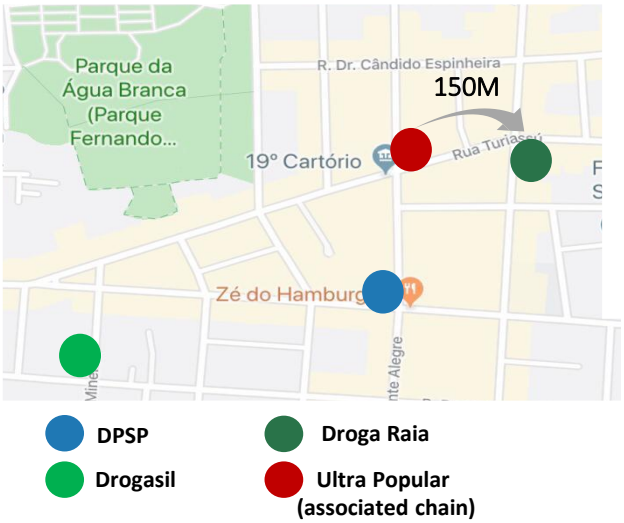
Federação Brasileira das Redes Associativistas e Independentes de Farmácia

- 58 pharmacy chains and over 10,000 stores in all Brazilian states
- BRL 1.38 bn revenue (LTM July/18) → +28.2% yoy *vs* 12.7% market
- 2,900 municipalities (48% of Brazil's total)
- 78% of Brazil's total population is within reach a drugstore associated with Febrafar
- 19% of its drugstores are in cities above 400 thousand people →Also a threat to big players!

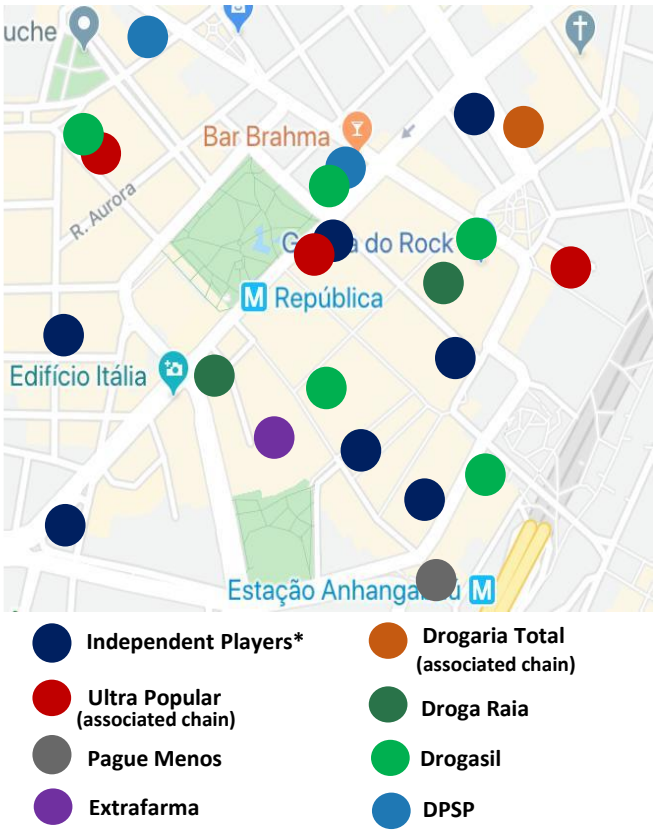
Febrafar's growth *vs* market growth



Associated chains *vs* RD (Barra Funda - São Paulo)



Associated chains and Independents *vs* RD (Center - São Paulo)



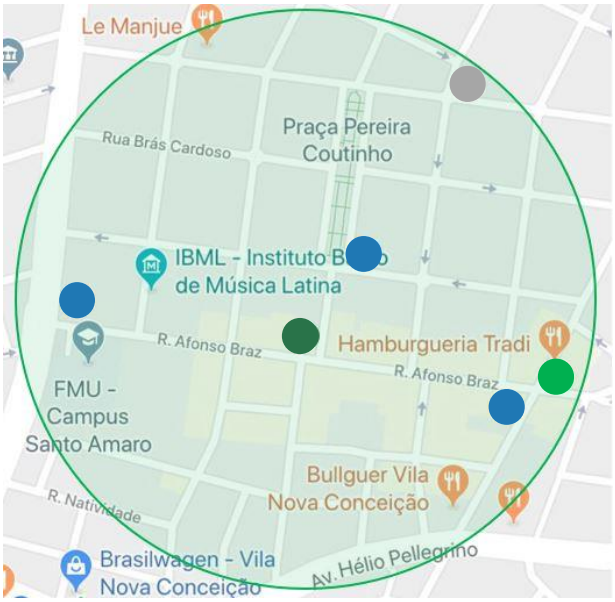
Source: IBOPE Inteligência, Google Maps, Febrafar

* Drogaria Campeã (2), Drogaria Quinta Avenida (1), Drogaria Gentil (1), DrogaDerma (2), FarmaPonte (1)

Appendix T: Unit locations and comps – São Paulo

Vila Nova Conceição – 300m radius

We believe that competition in São Paulo is fierce, with RD's and DPSP competing for spaces in the best neighborhoods in close spaces



DPSP **Drogasil**

Raia **Drogaria Sanches**

Competitive analysis – Pinheiros

When comparing Pinheiros district, we observe the same intense competition between players for costumers. However, we realize that the RD's bigger problem is not cannibalization but in fact competition from other plyers, as also seen in Appendix M

DPSP **Farmácia Medicinalis**

Raia **Pague Menos**

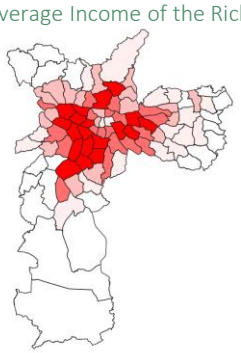
Drogasil

Source: IBOPE Inteligência, Google Maps

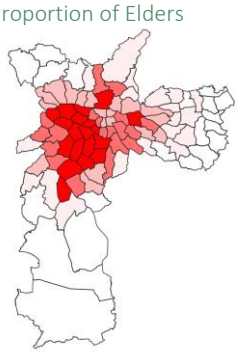
Appendix U: Geospatial Analysis

In this section we explain our method of analysis used to assess the geographical positioning of drugstores in the city of São Paulo, and in Brazil. Using a program to extract from E-Pharma's website all the addresses of drugstores belonging to Droga Raia, Drogasil, DPSP and Pague Menos in the city. These addresses were coded in coordinates and inserted in QGIS software to plot special distribution. After that, we downloaded from GeoSampa a thorough IGBE dataset, compiling all major indicators covered in the Census in a map format, distributed by sector. This dataset has an outstanding precision, with over 1,300 sectors in the city of São Paulo. What we did then was pure statistical correlations. Our objectives were two: (i) find the average indicators of the surroundings of drugstores and (ii) evaluate overlap, plotting a 1,5km radius for each store and checking how many more were on this area. Results are presented below.

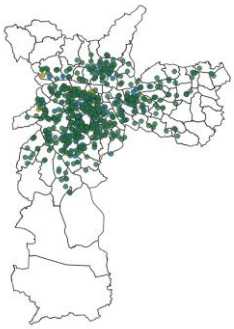
Indicator 1: Average Income of the Richest Fifth



Indicator 2: Proportion of Elders



Positioning of All Stores



Proportion 45 to 64 years	Average	Median	Std. Dev.
Drogasil	24.10%	24.50%	2.70%
Drogaraia	25.19%	25.90%	2.40%
DPSP	24.03%	24.50%	2.95%
Pague Menos	24.54%	25.80%	2.80%

Proportion above 65 years	Average	Median	Std. Dev.
Drogasil	11.93%	13.30%	3.37%
Drogaraia	13.15%	14.10%	3.00%
DPSP	11.63%	12.30%	3.50%
Pague Menos	12.60%	13.70%	3.25%

Average Income of Surroundings	Average	Median	Std. Dev.
Drogasil	3227	2874	2052
Drogaraia	3980	4077	1938
DPSP	3109	2543	2110
Pague Menos	3500	3288	1906

Average Income (Richest Fifth)	Average	Median	Std. Dev.
Drogasil	9234	7830	6604
Drogaraia	11357	11412	5932
DPSP	8847	7060	6617
Pague Menos	9936	9125	5688

HDI of Surroundings	Average	Median	Std. Dev.
Drogasil	0.870	0.888	0.062
Drogaraia	0.894	0.914	0.055
DPSP	0.862	0.873	0.069
Pague Menos	0.884	0.902	0.057

HDI (Life Expectancy Dimension)	Average	Median	Std. Dev.
Drogasil	0.912	0.924	0.030
Drogaraia	0.924	0.931	0.026
DPSP	0.912	0.924	0.030
Pague Menos	0.920	0.928	0.026

HDI (Income Index)	Average	Median	Std. Dev.
Drogasil	0.895	0.933	0.090
Drogaraia	0.932	0.962	0.077
DPSP	0.884	0.894	0.098
Pague Menos	0.915	0.956	0.089

Overlapping with other Stores	Average	Median	Std. Dev.
Drogasil	5.4	5.2	0.20
Drogaraia	5.5	5.5	0.34
DPSP	6	5.9	0.5
Pague Menos	6.7	6.8	0.1

Brazil Sampling - Average Income	Average	Median	Std. Dev.
Drogasil	4,956	5,111	3,768
Drogaraia	4,888	4,987	4,323
DPSP	4,322	4,221	3,123
Pague Menos	2,913	3,002	2,543
Panvel	4,755	5,067	5,345

Source: Team 18, QGIS, E-Pharma, IBGE, Google Maps coding

Appendix V: Stock-Out Analysis

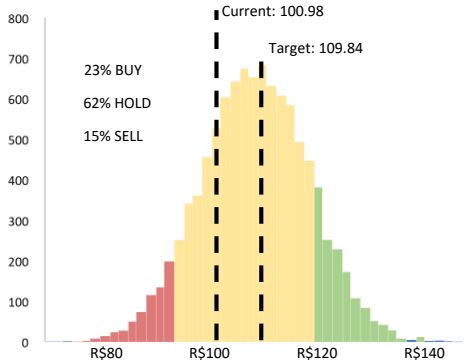
In this section we explain our field research to determine stock-out levels. We called 40 stores located throughout Guarulhos (SP), Fortaleza (NE), Anápolis (GO) and Porto Alegre (S) and weighed the rupture levels using the company's revenue distribution by region. Our products that we analyzed were the same contained in the basket used for our pricing policy on an earlier Appendix. Results are as follows:

Stock Out	Average	Std. Dev.
Guarulhos	2.5%	0.2%
Fortaleza	3.5%	0.7%
Anápolis	8.6%	1.2%
Porto Alegre	5.4%	3.5%

Source: Team 18, IBOPE Inteligência, Google Maps

Appendix W: Montecarlo Analysis

Parameters	2019E	2020E	2021E	2022E	2023E	2024E	2025E	2026E	2027E	2028E	Average
Gross Revenue											
Mean	16%	18%	16%	14%	13%	11%	10%	10%	9%	8%	13%
Std. Dev	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Deductions											
Mean	-5%	-5%	-5%	-5%	-5%	-5%	-5%	-5%	-5%	-5%	-5%
Std. Dev	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
COGS											
Mean	-70.4%	-70.4%	-70.3%	-70.1%	-69.9%	-69.7%	-69.6%	-69.5%	-69.5%	-69.4%	-69.9%
Std. Dev	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Sales Expenses											
Mean	-20%	-19%	-19%	-18%	-18%	-17%	-17%	-17%	-17%	-16%	-18%
Std. Dev	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
G&A											
Mean	-2%	-2%	-2%	-2%	-2%	-2%	-2%	-2%	-2%	-2%	-2%
Std. Dev	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	1%
Other expenses/revenues											
Mean	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Std. Dev	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0%
D&A											
Mean	-2%	-2%	-2%	-2%	-2%	-2%	-2%	-2%	-2%	-2%	-2%
Std. Dev	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	1%
Capex											
Mean	-4%	-4%	-4%	-3%	-3%	-3%	-3%	-3%	-3%	-3%	-4%
Std. Dev	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Tax Rate											
Mean	-21%	-21%	-21%	-21%	-21%	-21%	-21%	-21%	-21%	-21%	-21%
Std. Dev	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%



Mean	Upside Threashold	Downside Threashold
R$104.76	R$112.01	R$89.95
Downside	**Hold**	**Upside**
15.0%	62.0%	23.0%

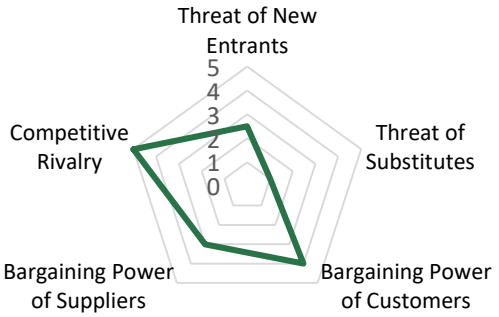
10.000 iterations

Source: Team 18

Appendix X: Porter Analysis

Force	Rating
Competitive Rivalry	5
Bargaining Power of Customers	4
Bargaining Power of Suppliers	3
Threat of Substitutes	1
Threat of New Entrants	2.5

Source: Team 18



Competitive Rivalry (High)

As depicted in our report, competitive dynamics in this segment can be tough. With a highly fragmented market (top five players only have 29% of market share), Brazil is famous for the massive number of drugstores throughout the country – one for every 2,401 inhabitants. Although small and medium players compose the bulk of the market, sector dynamics, such as associated chains or the aggressive expansion of players like Pague Menos, turn the dispute for this highly attractive market into a tight one. Big groups are mainly concentrated in large cities, creating direct battles for market share. Even though associated and independent players are scattered throughout the entire country, they can also have a direct impact on the competitive landscape of big players. 19% of Febrafar's (Federação Brasileira das Redes Associativistas e Independents de Farmácia) stores are in cities with over 400 thousand inhabitants, thus evidencing how these small and medium players should be taken into consideration when analyzing the competitive landscape of the market. Product differentiation is low, so drugstores don't stand out through the products available. To sum up, it's a market with many players, number of stores and tight margins, that make competition intense and players battling for new POS.

We believe stores strategic locations, lower prices and aggressive opening policy are the best way to gain market share, but fast growth may also result in a higher leverage level for more prominent players and a downfall in operational efficiency.

Bargaining Power of Suppliers (Moderate)

Scale and bigger purchases can allow top players to get higher discounts from suppliers. However, because Brazil's retail pharmaceutical industry is highly fragmented, pharmaceutical laboratories can choose from a large range of customers. Therefore, Bargaining Power of Suppliers in this industry can be considered moderate.

Bargaining Power of Customers (High)

Pharmaceutical retailers constitute the main channel in which consumer purchase drugs in Brazil, as most of the drug spending in the country is Out-of-Pocket. Furthermore, pharmaceutical industries don't have their own stores. However, due to lack of product differentiation between players' mix and tough competition, drugstores face a scenario where they have no option but to offer clients discounts and low prices; otherwise they could lose share .

Threat of Substitutes (Low)

Homeopathic medicines and manipulated medication are possible substitute products that could impact the industry. However, due to (i) non-expressive adherence to homeopathy treatments by the general public and (ii) covenants between drugstores (mainly large chains) and handling pharmacies end up mitigating the potential of these products to affect pharmaceutical retailing.

Threat of New Entrants (Low)

The initial investment of a pharmacy is usually low and regulation with ANVISA to open a new pharmacy, although rigid, is relatively simple. Nevertheless, expertise is required to handle the logistics processes as well as the intensive working capital demand of the industry. Still, the reaction capacity of market competitors is high, as large networks get better conditions with the suppliers, and have better facilities, marketing points, and closer to customers. Finally, the complexity of the regulation imposed by CMED and the different consumption dynamics in the Brazilian pharmaceutical market repel international new entrants, such as CVS, which had problems understanding Brazil's market dynamics and with Onofre's founders. We also believe that the lack of new strategic positions and the competition in the best areas can be a barrier for new players to build from scratch a new drugstore chain.

Appendix Y: Corporate Governance

Executive Committe		
Position	**Name**	**Description**
CEO	Marcílio D'Amico Pousada	Head of RD since July 2013, he has over 26 years of retail experience in major Brazilian and global organizations, including Saraiva Bookstores (2005 - 2013) and Office Net (2000 - 2005), where he was president, as well as Submarino, Sam's Club (Walmart's Group), Mappin and C&A. Graduated in Business Administration from FAAP. Was famous for his work as Saraiva's CEO, when under his management the company increased the number of stores from 28 to 105 and revenues went from R$ 270 million to almost R$ 2 billion.
CFO	Antonio Carlos Coelho	Responsible for the Treasury, Controllership, Tax, Administrative, Maintenance and Security areas in the company. He has more than 35 years of professional experience in RD, where he held various positions in the financial area. Graduated in Accounting from Guarulhos Integrated Colleges, with MBA in Finance from FIA-USP.
Supply Chain, Omnichannel and IT Director	Fernando Kozel Varela	First joined Raia S.A in 2001, then left the company in 2003 while a Manager. He returned in August 2006 as Director Sales and made career in RD's ever since. On 2011 he was appointed Chief Operating Officer Drogasil S.A. and Supply Chain, being now responsible for inventory management, logistics, multichannel (E-commerce) and IT. Graduated in Electrical Engineering from Escola Politécnica (USP), postgraduate in Business Administration from FGV with an MBA from the University of Pittsburgh.
Commercial and Marketing Director	Marcello de Zagottis	Head of Purchasing, Category Management and Marketing, he has over 15 years of retail experience, including 15 years at RD and one year at Borders (USA), and also three years at Consulting at Artur D Little and Accenture. Graduated in Business from FGV with MBA from the University of Michigan.
Human Resources Director	Maria Suzana de Sousa	Head of RD Human Resources since April 2014, has 27 years of professional experience in Human Resources, including 17 years in large retail organizations such as Makro and Walmart / Bompreço. She holds a degree in Psychology from UNICAP-PE, with PMD - Program for Management Development from IESE (University of Navarra).
Retail Operations Director	Renato Cepolina Reduan	He was leader of the Latin American Retail Management Consulting Division (Senior Manager) between 2005 and 2008. In 2009 he became leader of the Retail Division and Consumer Goods (Director / Principal) at Roland Berger Strategy Consultants. Was named in 2013 Retail Operations Director of Raia Drogasil, role that he has been exercising ever since. Graduated in Naval Engineering from Escola Politécnica (USP), with MBA from INSEAD.

Source: Company's IR.

Board of Directors	
Position	**Name**
Chairman	Antonio Carlos Pipponzi
Member	Carlos Pires Oliveira Dias
Member	Cristina Almeida Pipponzi
Member	Plínio V. Musetti
Member	Paulo Sérgio Coutinho Galvão Filho
Member	Renato Pires Oliveira Dias
Independent	Marco Ambrogio Crespi Bonomi
Independent	Marcelo José Ferreira e Silva
Independent	Jairo Eduardo Loureiro

Source: Company's IR.

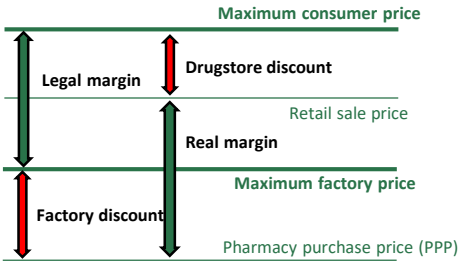
Appendix Z: Price Cap

Brazil's Price Cap: Brazil's Pharma Market is highly regulated: all commercialized products and establishments must be registered and have proper authorization by Anvisa, while CMED, the Chamber of Medicine Regulation, establishes the most meaningful legal boundaries. First, the maximum price at the factory level (PF), which is the most the industry or distributor can charge, is defined. The maximum retail price (PMC) results from PF multiplied by a factor, which takes into consideration several parameters, such as the ICMS aliquot and medicine listing according to its market competitiveness (segments of fierce competition tend to be readjusted primarily on inflation). The resulting markup usually ranges from ~33% to ~38%. A few of the parameters taken into consideration to determine the price cap are: (i) the productivity of the pharmaceutical industry, (ii) the correlation between pharmaceutical readjustments and those of other economy, (iii) the competitiveness of the sector, and (iv) the IPCA. Despite well defined PF and PMC prices, actual retail prices tend to diverge due to discounts. Although PMC and PF are both established by CMED, usually the industry and the retailer sell their products with discounts.

Price Cap formula:

$$\text{Price Cap} = \text{LTM IPCA} - X + Y + Z$$

LTM IPCA (february)
X = Productivity fator
Y = Relative Price Adjustment Factor Between Sectors
Z = Relative Price Adjustment Intrasector Factor



Source: Team 18, Pague Menos.

Appendix AA: IFRS 16 Impacts

Income Statement [BRL K]	2T19	2T19
	IAS17	IFRS 16
Gross Revenue	**4,440,683**	**4,440,683**
Deductions	(215,189)	(215,189)
Net Revenue	**4,225,494**	**4,225,494**
COGS	(2,936,209)	(2,936,209)
	-69.5%	-69.5%
Gross Profit	**1,289,285**	**1,289,285**
% Net Revenue	30.5%	30.5%
SG&A	(925,598)	(774,409)
Sales Expenses[1]	(823,210)	(672,510)
G&A	(102,388)	(101,899)
Other expenses/revenues	0.0	0
EBITDA	**363,687**	**514,876**
% Net Revenue	8.6%	12.2%
D&A[2]	(124,442)	(265,709)
EBIT	**239,245**	**249,167**
% Net Revenue	5.7%	5.9%
Financial Result	(32,776.0)	(59,666.0)
Interest Expenses[3]	(48,678)	(75,569)
Financial revenues	15,903	15,903
EBT	**206,469**	**189,501**
% Net Revenue	4.9%	4.5%
Income tax and social contribution	(45,983)	(40,099)
Tax rate	-22.3%	-21.2%
Net Income	**160,486**	**149,402**
% Net Revenue	3.8%	3.5%

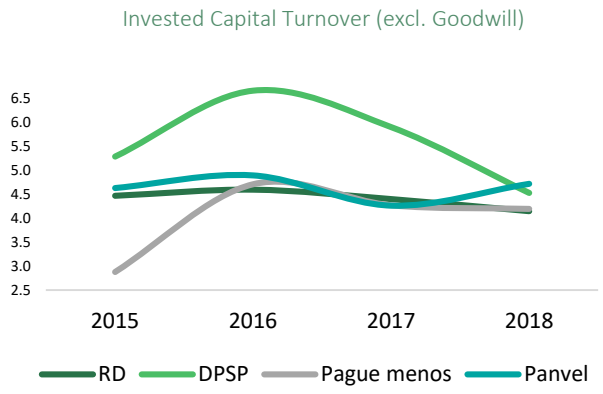
Balance Sheet		
	IAS17	IFRS16
Assets	**7,540,378**	**11,098,714**
Current Assets	**4,593,108**	**4,593,003**
Cash and Cash Equivalents	145,387	145,387
Accounts Receivable	1,092,726	1,092,726
Inventories	3,016,387	3,016,387
Other current assets	338,608	338,503
Non-current Assets	**2,947,270**	**6,505,711**
PP&E	1,659,838	5,218,832
Intangible	1,204,452	1,204,452
Other non current assets	82,980	82,427
Liabilities and shareholders' equity	**7,540,376**	**11,098,714**
Current Liabilities	**2,900,406**	**3,397,143**
Suppliers	1,959,370	1,959,370
Financial leases	-	523,835
Loans and Financing	274,744	274,744
Salaries and Social Charges Payable	298,981	298,981
Other current liabilities	367,311	340,213
Non-current Liabilities	**1,026,658**	**4,110,346**
Financial leases	-	3,095,336
Loans and financing	704,966	704,966
Income taxes and Social Charges	240,169	228,714
Other non current liabilities	81,523	81,330
Shareholders' equity	**3,613,312**	**3,591,225**
Common Equity	2,500,000	2,500,000
Capital Reserves	122,833	122,833
Income Reserves	830,713	830,713
Others	159,766	137,679

Main changes

- Reduce in sales expenses due to rente expenses that are now non operational.
- Incremental D&A expenses from the new right of use assets.
- +360 b.p.s impact on EBITDA margin.
- Raise in Interest Expenses from the financial leases liabilities.
- Net income suffered little change, because most RD's contracts are probably at the middle of time period.
- 3.5 bn increase in PP&E due to the right of use asset from the rented buildings and in liabilities due to financial leases.

Source: Team 18, Companies's IR

Appendix AB: ROIC Dupont Analysis



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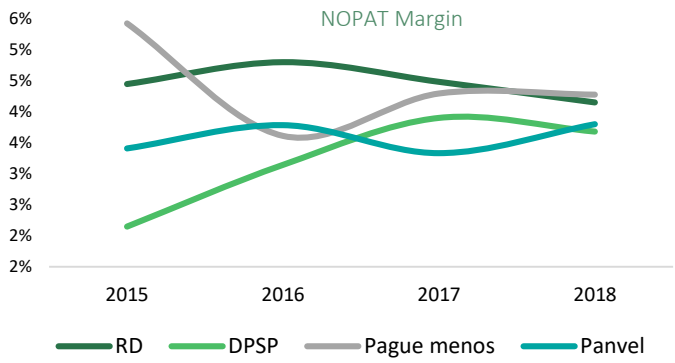

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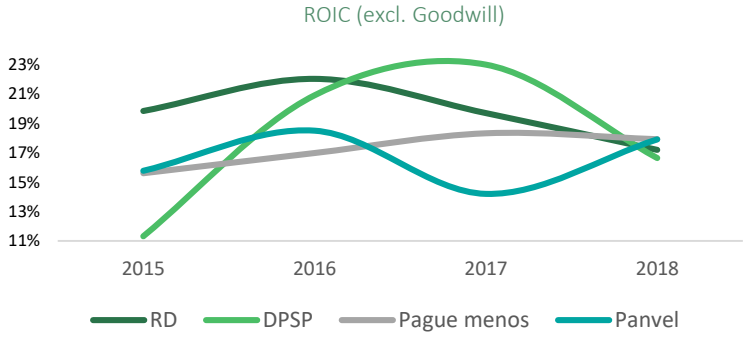

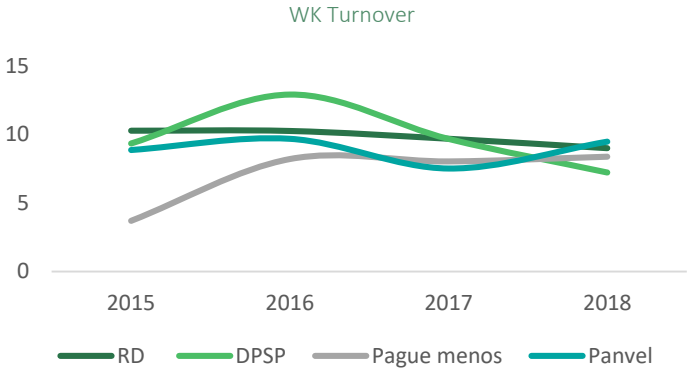

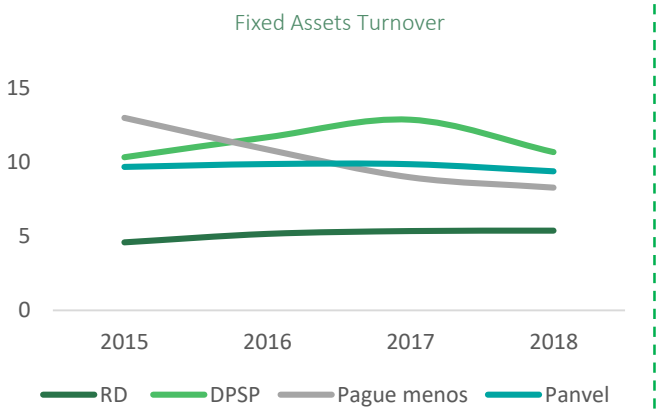

Appendix AC : Three years IRR

Source: Companies' IR, Eikon Reuters, S&P, Diário Oficial .

Single stock IRR					
	2019	2020	2021	2022	**IRR**
Cash flows	-100.98	0.6	1.1	112.6	**4.2%**

Earnings CAGR (19-22)
33.07%

P/E 2023
27.4

2019 Earnings
559,926

Source: Team 18.