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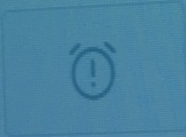
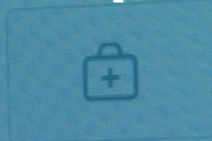
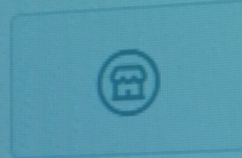






2nd Letter to Investors

The Third Wave of Digital Advertising

January 2023

To our Investors,

After Aster Capital's funds first year operating, we would like to thank the support and trust of our investors. We very much appreciate it.

In our first letter, we detailed our investment philosophy. In this letter, we review our first-year, and also discuss our thesis for Digital Ads growth in Brazil, which is one of the most important themes for our portfolio.

Markets have undergone substantial changes this year. Higher inflation now is a significant risk in most countries, both emerging and developed, and this risk changes potential policy options in response to business cycle downturns. The multi decade policy solution of relying on different combinations of liquidity injections and lower interest rates is not an option if central banks truly are committed to combating inflation.

The U.S. 10Y Treasury yield more than doubled, from 1.51% at the end of 2021 to 3.87% at the end of 2022, while the Brazilian 3-year rate (an important reference for assessing equity investment IRRs) increased from 10.42% to 12.66%. Aster FIC FIA's performance was -14.38% and Ibovespa's +4.69%

Higher interest rates affect company valuations both by impacting shareholder cash flows, as well as increasing the cost of capital to value those future cash flows. During periods of higher interest rates, leveraged businesses find themselves in a more delicate situation than less leveraged ones; businesses whose demand is interest rate dependent, such as purveyors of goods normally purchased with financing, suffer more than businesses with lower average ticket prices; merchants selling discretionary goods suffer more than those selling staples.

We like to view the portfolio as a holding company investing in some of the best businesses in Brazil, and our holding company delivered solid operational performance over the last 12 months:

Weighted Average	3Q22 LTM[1] vs. 3Q21 LTM
Revenue growth	22%
EBITDA growth	24%
Net Income growth	21%
ROIC	18%

But solid operating results did not translate into satisfactory portfolio returns. Below we discuss the two major drivers of equity returns:

1. Earnings Revisions: Over the course of 2022, our cumulative portfolio 2023 EPS[2] forecast was revised lower by only 1%. This metric is calculated as a weighted average by position size and there is a relevant dispersion between companies: from -27% for XP to +30% for MELI..

Although important, this perspective lacks an essential aspect to this analysis: the positions we divested. These divested companies had much larger negative earnings estimate revisions than the revisions for the companies that remained in our portfolio, with an average 2023 EPS revision of -40%.

1. Last twelve months
2. Earnings per share

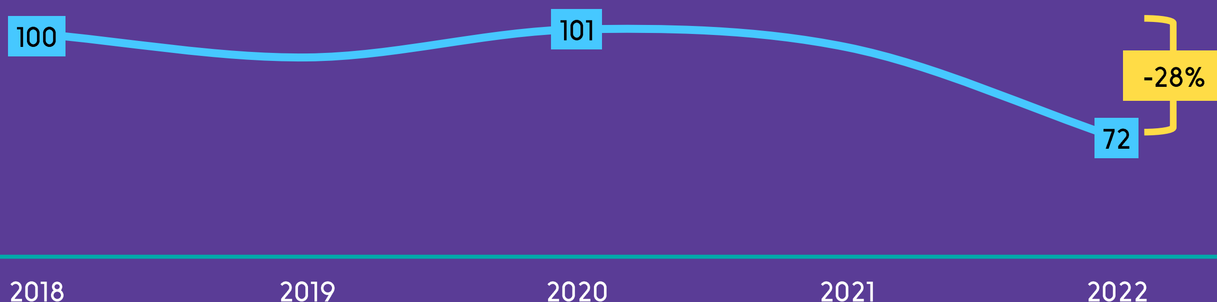
2. Multiple contraction: The largest factor explaining the year's performance therefore was multiple contraction. The portfolio's P/E[3] 1Y FWD contracted 32% over 2022.

To assess the magnitude of this contraction, compare it with a basket of Brazilian long-term government bonds[4], which we use as a proxy for the risk-free rate and whose value fell 14% over the same period, meaning multiples contracted 21%[5] in excess of what interest rates would suggest. This is the second consecutive year when the contraction in equity multiples exceeded the decline in the price of the government bonds basket.

But this analysis is at least incomplete, given the multiple expansions in 2019 and 2020, so we redid it incorporating these prior years. Even incorporating the years of significant multiples expansion, there is still evidence that the contraction in multiples exceeds what can be explained by changing macro conditions.

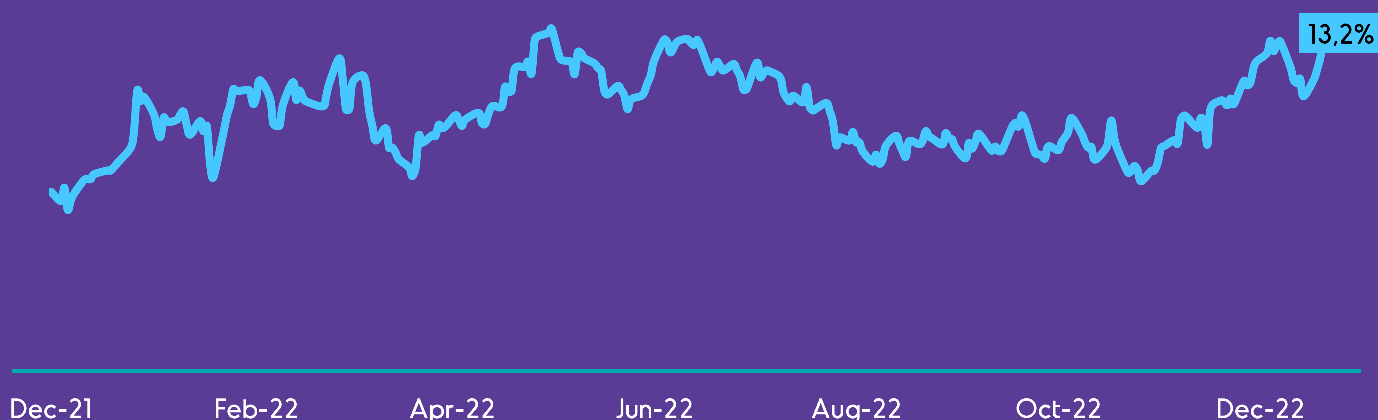
We divided the performance of the average multiple of the portfolio by the performance of longer duration Brazilian government bonds in order to estimate the relative performance of multiples in relation to this basket.. As you can see in the chart below, even relative to 2018, the excess contraction of multiples over the risk-free rate was -28%. In other words, the equity risk premium increased.

Multiples / Bond Basket Performance (100 = 2018FY)



These combined factors indicate an attractive scenario of expected returns for businesses which continuously deliver solid operational performance. Even with a 3-year fixed income rate increase of 224bps over 2022, we still find an attractive spread between our portfolio's expected IRR and the 3-year fixed income rate (risk premium proxy for the portfolio).

Equity Risk Premium (Expected Portfolio IRR – 3-year fixed income rate)



3. Price to earnings ratio, in which earnings is estimated from the current day to twelve months forward
4. Average between 2035 and 2045 maturity government Inflation linked bonds.
5. -21% = (1 - 32%) / (1 - 14%) - 1

A discussion of portfolio changes in 2022 is another important chapter in our portfolio review.

The deterioration in the inflation and interest rate scenario - in Brazil and in the developed markets - led us to review our investment cases more often. The impacts of the changes in the scenario were very different amongst the businesses in the portfolio, and for some of these businesses the probability of operational risks materializing increased substantially. Some of these at risk companies also traded at high short-term multiples, and we exited these positions.

Positions that were in the portfolio by the end of 2021 and we exited during the year accounted for 24pp of the portfolio at the beginning of 2022. These positions include: Amazon, Alpargatas, Hapvida, Petz and VTEX. Of these 5 companies, VTEX was the only one that did not have a negative earnings revision, but, on the other hand, traded at the highest multiples of the group. On average, we revised our 2023 EPS forecast for the remaining 4 companies by -36% during 2022. These companies were valued at high short-term multiples that implied high EPS growth expectations, which we understood were not going to be delivered. These 5 positions represented a -6.3% attribution in 2022, and ended the year at a price, on average, 30% lower than our exit prices.

On the flipside, we added 26pp in companies that not only met our quality criteria, but also traded at lower multiples. Itaú and Hypera concentrated more than half of this addition, and brought strong operating momentum, solid balance sheets and higher margin of safety.

We focus on high quality businesses, and we continue to hold companies that trade at high short-term multiples like Weg, RD and MELI because we understand that the growth of these businesses will more than offset their higher short-term multiples.

"You can't overtake 15 cars under the sun, but when it's raining, it's possible"
Ayrton Senna

In the past few months, the specter of greater fiscal risk in Brazil from government fiscal policy has emerged. This increased risk increases the probability of higher inflation and corresponding central bank actions of sustaining higher interest rates for a longer than previously expected period. But not all companies will be affected equally should these tougher conditions come to pass.

Our portfolio is comprised of companies that dominate their respective industries and, in Brazil, during more challenging periods, it is a fairly frequent phenomenon for these dominant companies to "overtake many cars" in rainy weather (i.e. increase their competitive advantage). While the same rain falls on everyone, dominant companies are relatively less impacted, which gives them the opportunity to open new fronts of value creation for their shareholders.

Here are some examples of companies that we expect to use their advantageous competitive position to overtake their competitors in this rainy period.

Itaú Unibanco

Itaú has a robust track-record of capital allocation, profitable growth and capacity to capitalize on challenging moments to create shareholder value. Some examples are the acquisitions of BBA in 2002 and Unibanco during the GFC in 2008.

We are in a difficult moment in the credit cycle in Brazil, with rising delinquencies in the system. Itaú is not only massively outperforming its peers in the short-term, but also embracing a long-term digital transformation, putting the client in the center of its decision making process, adapting incentives, hierarchical structure and processes.

As a result, we expect Itaú's operational superiority to widen not only in relation to the other incumbents, but also vs most of the fintechs.

Totvs

In its main ERP segment, Totvs added BRL 900 mn of Annual Recurring Revenue (ARR) in the past 12 months, which far exceeds the BRL 710 mn of total annual revenue for their main competitor in the segment. In addition, Totvs enters 2023 with net cash of around BRL 1bn, which may fund acquisitions of smaller tech companies now struggling with the new tighter capital availability paradigm.

Localiza&Co

Localiza has experienced several years of growth restrictions due to lack of supply from carmakers, tougher competition with Movida and prolonged completion of the Unidas acquisition. Now, Localiza started 2023 in a much stronger competitive position. It has a fleet that is 2.6x larger than Movida's, is less leveraged (2.4x vs. 3.5x Net Debt/EBITDA) with a lower cost of debt, and delivers 2x better ROIC spread than said competitor. Coupled with its proven ability to allocate capital, in Localiza we see a valuable combination of quality, growth and attractive valuation.

Banco BTG Pactual

Banco BTG Pactual is in its best competitive position since its founding in 2009. The company has quickly developed its fast growing investment business, and diversified its revenue streams while maintaining its investment banking franchise leadership. BTG has a mature and proven partnership that created an irreplicable talent recruiting and retention machine.

While most of the Brazilian incumbents are suffering with the delinquency cycle, BTG is not, freeing the company to continue to gain ground vs its competitors in this rainy period through reinvestment of its more than BRL 10 bn of expected earnings in 2023.

Rede D'or

Rede D'or (RDOR) is the largest hospital chain in Brazil, with 69 hospitals and 11.000 total beds, which is 3x the size of its largest competitor. We expect RDOR to add an additional 6.000 beds through 2025, which equals the combined total bed count of the 2nd and 3rd largest players.

By 2025, this expansion will create a business with Ebitda that equals the revenues of the largest competitor, which is burdened with net leverage of 5x Ebitda that limits its investment capacity.

Mercado Libre (MELI) and Raia Drogasil (RD)

MELI and RD have built platforms with strong, increasing competitive advantages, and we expect them to continue to widen this performance gap during this period of challenging times. In addition, they both benefit from the advent of digital advertising in Brazil, which we discuss below.

The Third Wave of Digital Advertising

Over the last 5 years, digital advertising has given rise to a group of companies that comprise 3 of the top 5 market capitalizations in the world - Google, META and Amazon. However, value generation from digital advertising has been concentrated in the United States, while other regions were left watching.

However, the advent of Retail Media Networks (RMNs) – or the third wave of evolution in digital advertising, which followed search (1st wave) and social media advertising (2nd wave) – appears set to finally bring this opportunity to Brazil, being an essential pillar of the investment opportunity we see in our Mercado Libre (MELI) and Raia Drogasil (RD) positions.

In MELI's case, we estimate that within four years, digital ads revenue could reach 4% of GMV, and would add an expected operating profit (Ebit) of USD 1.7bn just from digital ads. Should this scenario materialize, digital ads will become MELI's main source of profit, and we think the value of this segment alone would equal the company's current market capitalization.

RD's digital ads strategy differs from MELI's, but is equally as relevant. RD's business already generates a Return on Invested Capital (ROIC) in excess of 20%, which is obtained through high turnover. RD's net margin has been around 3% over the past few years, so small changes in margin are quite impactful on capital returns. We estimate that the successful execution of its digital ads strategy could add 100-150bps of net margin, or a profit increase of 30%-50% over the next 4 years, which is in addition to the already robust profit growth of almost 20% per year coming from the company's classic brick-and-mortar expansion strategy.

Given the potential impact from RMNs is very relevant to positions that account for 11% of the portfolio, we are providing a more in-depth discussion on this topic.

The summary of our in-depth discussion of the digital advertising ecosystem is that, over many years of evolution, audience targeting capabilities have vastly improved, resulting in exceptionally profitable businesses for those companies that can deliver the combination of high returns on ad spend and broad customer reach. But this evolution in audience targeting has created privacy concerns and resulted in regulatory changes, which, combined with the increasing complexity of the industry, have threatened precisely this valuable gain in accuracy that the ecosystem has achieved.

Advertiser willingness to pay premiums for accurate audience targeting has not changed, and regulations largely are limiting the use of 3rd party data for advertising. Combined, these factors are greatly increasing the value of scalable operations with a high density of accurate 1st party data, which is giving rise to the advent of RMNs.

When advertising on Amazon, for example, the advertiser is not depending on a complex and controversial network of audience digital behavior monitoring, but on data that belongs to Amazon, such as demographics, purchase history, interest history, etc. This way, not only can the advertiser determine characteristics of its target audience, but will also know precisely what are the effective impacts of the campaign, i.e. highly accurate return on ad spend metrics.

Amazon's success in advertising does not mean every ecommerce company can build a robust advertising platform, but we think that MELI and RD, specifically, are already doing it, and this conclusion is an essential piece of our investment in both companies.

The next few pages provide the deep-dive that supports this conclusion.

The first steps of the digital advertising market

At the inception of the digital advertising market, an advertiser (or an agency that represented it) worked directly with large publishers, negotiating space, usually in banner format. These negotiations were done on a one-by-one basis, because there was no standard format for the size of the banners, inventory pricing, or metrics and measurements of advertising effectiveness.

Many publishers had unsold spaces (media inventory) and sold this inventory at a discount to aggregators known as Ad Networks. Over time, Ad Networks began developing relationships with advertisers and agencies, acting as intermediaries for the publishers. In addition to their role as intermediary, the Ad Networks created many of the features that are still used today, such as organizing the media inventory available on each publisher, standardization of formats, and the beginnings of audience categorization.

In 2000, Google launched Google AdWords (today Google Ads), an Ad Network that combines the results of searches carried out on Google (at that time Google was already the world leader in Internet search engines) with the navigation cookie, a small information file that sites save in browsers, uniquely identifying each device that connects to that site. The capability to associate keywords to search results marked the start of a new phase in digital advertising.

The Ecosystem's evolution

Technological evolutions and new media platforms have increased the complexity of the ecosystem over time. Cookies, in turn, have gained even more importance, becoming an essential component in audience building and user identification.

Below we detail the most important players in the evolution of the ecosystem:

Ad Exchanges

These are digital marketplaces for the direct purchase and sale of media between advertisers and publishers. Ad Exchanges are an evolution of the Ad Networks model, since with Ad Exchanges there is no dependence on an intermediary aggregating media inventory and determining, according to its own rules, the balance between supply and demand.

Ad Exchanges enabled DMPs, SSPs and DSPs, which in turn enabled ad targeting based on user behavior.

Data Management Platforms (DMPs)

DMPs are data aggregators that can cross-reference browsing cookies from different websites and mobile devices and create a unique identifier of people, thus enabling advertisers to target more precise audiences with their ads.

For example, the combination of Ad Exchanges and DMPs makes it possible for an advertiser to target a campaign at only women between the ages of 35 and 45 years old, who have visited fashion websites in the last 30 days, intend to buy shoes, have never accessed the advertiser's website, and live in the São Paulo region.

With the rise of DMPs, ad campaigns transitioned from location (publishers) specific, to focusing on the target audience, regardless of where that audience is reached. This audience targeting was made possible using third party data (obtained through 3rd party cookies) to create unique audience identifiers.

Demand Side Platforms (DSPs)

Demand aggregator software concentrates audience data, even connecting to external data sources. DSPs connect to Ad Networks and Ad Exchanges and offer advertisers a single source to access a high volume of qualified traffic.

Supply Side Platforms (SSPs)

SSPs are the software that organizes the different types of media inventory of content producers so publishers can sell their inventory (different formats, mobile vs desktop, etc).

The Ecosystem's challenges

There are structural changes afoot that are challenging the advances in ad audience targeting, including:

1. The growing concern with privacy and use of user data;
    a. Weakening audience signals due to company actions (Apple iOS, 3rd party cookie deprecation)
    b. Government regulatory changes;
2. New media formats and audience fragmentation;
3. Advertiser quest for greater transparency in the digital advertising ecosystem.

1. The growing concern with privacy

The increasing use of personal user data for audience building and improved ad targeting has generated increasing user discomfort, which has attracted regulatory attention as well as actions of certain technology companies to combat personal data use.

a. Company actions contributing to signal loss

The success of smartphones enabled the growth of app usage and with it, the explosion of social networks. Facebook (META), the dominant social media platform, and Google, the monopoly search engine, built their own Ad Exchanges (FBX and Google AdX), and created the two largest closed digital advertising ecosystems, which became known as the "walled gardens".

This meant that an advertiser interested in buying a certain target audience that (1) has been identified using Google's search data or (2) was doing a search on Google, should mandatorily work with Google AdX, and those interested in reaching META's social networks audience should use FBX.

But in response to growing user concern for data privacy, key enablers of digital advertising are taking actions that are causing signal loss.

The "loss of signal" is the gradual and inevitable loss of the infrastructure and tracking capabilities that DSPs inherited from the model created by Ad Networks and Ad Exchanges, including mobile ad identifiers (IDs), third-party cookies and mobile device data. What affects signal quality is the collection of all the information advertisers receive from user interaction with their campaign, and the deterioration in quality makes it difficult to analyze the results of ongoing campaigns and, especially, to plan future campaigns.

This trend started in 2014, when Firefox and Safari browsers launched cookie-blocking features with the intention of strengthening the privacy of their users. In 2017, Safari launched Intelligent Tracking Prevention. However, as part of its version 14.5 of its smartphone operating system, in 2021 Apple introduced new user control over sharing data with third parties, directly affecting companies like META and the future of 3rd party data use. While now delayed until late 2024, Google has promised the removal of 3rd party cookies from its Chrome browser, and it is these changes from Apple and Google that create existential threats for audience targeting.

This uncertainty, in fact, takes us back to the previous decade, when there was still this difficulty of precise targeting and attribution. The peculiarity of the current moment is that the 3rd party cookie, used as a pillar for building unique identifiers, and for capturing user data, is being discontinued by the entire industry. As such, DSPs lose many of the functionalities built up until now, as the rules of the game have changed.

b. Regulatory changes

Government regulatory changes are also creating new obstacles for audience targeting. In 2018, the European Union approved the General Data Protection Regulation (GDPR) regulatory framework that initiates greater control over the use of personal data on the internet and consequently in digital advertising.

Also approved in 2018, but not enforced until August 2020, Brazil enacted the *"Lei Geral de Proteção de Dados" (LGPD)*, which mirrors the EU's GDPR.

2. New players and audience fragmentation

For Google and META, competition is increasing with the emergence of new media formats, such as connected TVs (CTVs) and RMNs, as well with the arrival of a new social network, TikTok, that is stealing users' attention and is expected to match Instagram's engagement level as early as 2024[6].

The entire digital advertising ecosystem has come to suffer from the uncertainty of whether attribution - the relationship between the investment in the campaign and its result - is indeed correct, precisely because of the continuous increase of different signals (connected TVs, video games, new social networks, etc.).

3. The quest for transparency

The natural reaction of advertising agencies and advertisers is to look for media with greater transparency, better quality of audience data, relevant media inventory, the ability to integrate with the existing technology stack, and, most importantly, less exposure to the restrictions imposed by privacy laws that continue to come into effect around the world.

Amazon and Retail Media Networks

Amazon understood early on the potential to convert its high user traffic and robust customer data into a powerful digital advertising platform. Since 2001, the company has been talking about the potential of digital advertising, and in 2017 Amazon took their first steps toward becoming the roughly $40 bn ad platform they are today.

Amazon's advertising platform is the leading example of the success of RMNs, which is the fastest growing advertising segment in the United States[7]. In the last 12 months, Amazon generated USD 36 bn in worldwide revenue from advertising alone. This is Amazon's highest-margin revenue source, and we estimate it generates Ebit of USD 27 bn, which is almost 20% higher than AWS' operating profit. Even though this is already a major revenue stream for the company, Amazon has just 12% market-share in the US digital advertising market[8].

The global digital advertising market is expected to reach over USD $570 bn in 2022. The US digital advertising market alone represents more than USD $240 bn, of which RMNs represent USD $40 bn, having tripled in size since 2019 [8].

RMNs have little standardization, and it is a segment that can still include advertising that runs on other websites, applications, or social networks. That is, through a DSP of a marketplace, it becomes possible to use the marketplace's 1st party data to run an ad on a different media inventory, targeting only an audience that has already bought a certain product on the marketplace.

That said, around 80% of the ad spend on RMNs are concentrated in the ecommerce channel itself. And, of this channel, more than three quarters of the ads are linked to the search results format and the rest are display ads (banner ads)[9]. This shows the strength of the connection between product search and advertising, and the importance of advanced search functionality in ecommerce and marketplaces for the success of RMNs.

6. eMarketer, April 2022
7. eMarketer, March 2022
8. eMarketer, October 2021
9. eMarketer, March 2022

In this case, using the marketplace DSP with marketplace 1P audience data, an advertiser can buy targeted ads in a search results format. Most advertisers are highly experienced with this ad format due to their years of experience advertising on Google search.

Large retailers and marketplaces, with broad customer reach and deep 1P customer data, have a huge opportunity ahead of them to capture advertising dollars by standing up RMNs. If this potential is well exploited through their DSPs, they could follow a development like that of Google and META and leverage their unique 1P data to create their own "walled gardens".

Seizing the growth of Retail Media Networks in Latin America

Traditionally, marketing budgets fund advertising campaigns, but the performance nature of advertising on RMNs (bottom funnel focused), meaning advertising meant to spur the call to action to purchase goods and services, has allowed RMNs to attract funding from company trade marketing spend, which effectively increases the addressable market for these platforms.

The goals of promotions in the sales channel include product visibility, proximity to the purchase decision, and advantageous positioning relative to the competition. RMNs are a good channel to meet these goals without the challenges discussed above (loss of signal, transparency, and privacy), which explains the rapid growth in ad spending allocated to RMNs in recent years.

According to MELI[10], 70% of product searches in Brazil are already initiated on ecommerce platforms, and at MELI, 80% of these searches are related to non-branded products, i.e., the consumer searches for products using generic terms such as "sneakers," "sandals," "television". Generic searches are particularly attractive for advertisers, because consumers are actively expressing product interest absent the presence of brand loyalty.

A decade ago, ecommerce sites and marketplaces focused on providing user experiences that emphasized quickly finding products, moving them into shopping carts and minimizing shopping cart checkout friction, such as cumbersome payment functionality. But with the migration of the beginning of the buyer journey from search engines to marketplaces, the emphasis has shifted to increasing the customer's number of page visits, search filters, and navigation time, which all help to create more media inventory, i.e.. the more time spent browsing and/or viewing pages, the more opportunities to show new ads.

Given this context, in Latin America, there is a well-defined path for companies with first party data and broad audience reach to build an enabling environment for the development of an RMN strategy. This path can be broadly summarized in five steps:

1. Manual construction of a media inventory. Typically, through banners within retailers' ecommerce sites. This strategy helps the company understand the investment appetite of the industry, and experiment with the search, catalog management, and measurement tools needed to generate the data that advertisers will need;

2. Development of an Ad Network to manage the media inventory created in step one. In this phase, the company begins to work with digital advertising technologies that will enable the scale and connection gains with advertisers' ad agencies;

10. *"Masters of Marketing Retail Media by Mercado Ads, episode 2"* Podcast.

3. Deliver to advertisers the ability to create digital campaigns per product, including basic functionality such as pausing, tracking click-through amounts, and most importantly, building audience clusters based on the retailer's proprietary data. It is in this step that the competitive advantage of the RMN channel begins to appear and differentiate itself from other digital media channels;

4. Add self-service capabilities, i.e., without the need for manual adjustments being done by the retailer's team, while delivering to agencies and advertisers programmatic media functionalities and real-time bidding;;

5. Create the ability to integrate with other advertising platforms, Ad Networks and ad agency technology solutions, and "clean room" tools, which are focused on running targeted advertising campaigns, applying frequency capping, measuring campaign performance, and performing media attribution in a controlled data privacy environment.

The power of the generalist - MELI

As in Europe and the United States, advertisers and advertising agencies in Brazil are facing the same challenges already mentioned: transparency in the management of their campaigns, loss of signal in the complex digital media ecosystem, and user privacy legislation (which has specific regional implications).

Although the Retail Media segment is still "crawling" in Brazil, we estimate that in 2022, MELI grossed around BRL 1 bn of advertising revenue in Brazil alone. We estimate this level of advertising revenue implies a market share of around 3% in digital advertising in the country.

MELI's speed in building the different Mercado Ads offerings and features for its sellers, large advertisers and digital advertising agencies is impressive.

We can see the steps taken by Amazon to build its $40 bn advertising business already being executed in a solid manner in Mercado Ads products. This execution is visible in the trade marketing solution that delivers impact and visibility for the advertiser's brand, the Audience Display Native functionality that allows the construction of intelligent audiences throughout the user's buying journey within Mercado Livre, and Audience Deals, which deserves a separate highlight.

Audience Deals is Mercado Ads' programmatic media solution that enables advertisers to create campaigns outside the MELI ecosystem, with audiences qualified by their behavior within the MELI marketplace. In other words, through MELI's DSP it becomes possible to buy an ad space in an independent news portal targeting only users who have already bought a certain product on MELI's marketplace. This functionality expands MELI's reach beyond its marketplace traffic alone.

Not every large ecommerce operation will successfully copy Amazon and develop a very relevant, profitable Ads business. Many large operations will fail to gain relevance because the journey is complex, but we see MELI's technology capabilities already differentiating its Ads business relative to competitors.

The depth of the specialist – RD

The power that Mercado Livre has gained with sellers and buyers through investments in technology, logistics, financial solutions, and advertising has made it the largest generalist ecommerce platform in Latin America. Still, we believe that in Brazil, the strategy of specialist or vertical marketplaces can grow together with the generalists, especially in sectors with specific products or regulations, such as health and CF&T (Cosmetics, Fragrances and Toiletries).

In 2022, the amount invested in digital advertising alone for the Pharma and CF&T sectors should reach approximately BRL 1.1 bn[11]. As in the other sectors, this advertising spend is heavily concentrated with Google and META services. However, in addition to advertising restrictions on certain products in Brazil for these sectors, Google limits advertising for some products or substances, such as creatine, which is present in several fitness line products.

Raia Drogasil (RD) has already proven its excellence as a retailer. Not only is it the undisputed leader in its market, but it is also the fastest growing, and best digital executor. RD took the lead in accelerating its "RD Digital" ecommerce operations, and today the company's ecommerce alone would be the 5th largest drugstore chain in Brazil and we anticipate it becoming the 4th largest sometime in 2023. This channel is being boosted by RD's marketplace strategy, as we estimate that around 90% of the products available on the site are already from third parties.

With the launch of RD Ads in 2017 and the acquisition of eLoopz in 2022, the company substantiates four essential pillars of an RMN strategy:

1. **Assortment.** RD has expanded its assortment both in depth and breadth of products and services. This allows customers to spend more time on RD's websites, apps and pharmacies searching for products and thus be more likely to be exposed to different marketing campaigns on the website or the digital screens in its pharmacies;

2. **Search.** It is the core functionality within ecommerce for media and the beginning of the journey for most website and app visitors. Search becomes the best way to capture purchase intent, directing the right product from such an extensive catalog, besides being the foundation of RMN's basic functionalities;

3. **Traffic**. Advertisers have limited resources and prioritize advertising on platforms that can deliver reach (large audiences). RD has more than 40 million hits per month on its websites and apps, 8 million daily customers in pharmacies, 19 million registered users on websites and apps, and 46 million active customers all over Brazil with high recency and frequency rates;

4. ***1st Party Data.*** The basis of the success of the Retail Media channel is the retailer's ability to work with its first party data for delivering targeted advertisements, as well as the management of the consent to use this data to preserve the customer's trust of the retailer.

11. IAB Brasil Digital-AdSpend, 2022, 1H and Aster estimates.

The main advantage of RD is the fact that 97% of transactions made in its pharmacies are identified. By combining this in-pharmacy data with sales data from its websites and apps, the company can measure the real effect of each of the marketing campaigns it presents to its customers, thus being able to categorize audiences and even create promotions in real time at the point of sale either in the pharmacy, or on the website or app. This ability to enable campaigns both online and instore, and measure their effectiveness is unique to RD.

These pillars allow RD to use its own assets, websites, apps and pharmacies to create a complete digital media strategy for advertisers and advertising agencies focused on the Health and CF&T vertical as well as being a programmatic media hub outside RD, connecting to other media inventories.

A new phase for MELI and RD

Due to these fundamentals, we are very positive about our positions in MELI and RD. There is not much controversy about the superiority of these two companies over their competitors, nor about their ability to continue to grow their businesses with attractive returns. However, we do not think the potentially transformational impact Digital Advertising can have on their operating results is sufficiently appreciated at this point.

In the last 3 years, RD had strong revenue and profit growth, even with expense pressure in addition to store expansion, namely from building pillars for the future - mainly its ecommerce operations, which are very well integrated with the company's physical stores. This development of ecommerce has made it possible for RD to develop an RMN strategy that also is integrated with the physical outlets. The understanding of this path of RD is far from consensus and underlies much of our expected IRR of 25% in the company (using exit multiples lower than its historical pre-covid average).

MELI went through a significant change in its profitability after 2016, as it was a business with an EBITDA margin around 30% but started to have not only a negative net margin, but even a negative EBITDA Margin for a few years. It was a period in which valuation references became less tangible, and we had to understand and buy into MELI building a much larger, profitable business in the future.

We are now in a new chapter. We expect MELI to approach USD 1 bn of net profit as early as 2023, and deliver annual profit growth from 2022-2025 of 42%, leading us to an IRR close to 30%, with exit multiples below its historical average through 2016. We expect digital Advertising to account for more than half of this expected profit growth in the coming years.

In closing, we reinforce our willingness to build a close and transparent long-term relationship with our investors. For us, it is essential that our partners understand us well. We thank them and value their trust.

Aster Capital Team

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