



Embedded Finance in Emerging Markets:

A VEF Perspective

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The Embedded Finance opportunity

Introduction

Since VEF's inception in 2015, we have invested across every major emerging market fintech vertical, inclusive of payments, credit, and savings/investments. New areas of innovation and value creation are constantly emerging, expanding the opportunity for fintech in more areas of the economy. Embedded Finance is one such area, where VEF has made three such investments. In this report, we aim to explain what Embedded Finance is and how it can create value. We also outline key ecosystem participants of Embedded Finance in one of our core markets – Brazil – and showcase some of our current Embedded Finance investments.

What is Embedded Finance?

For the VEF investment team, Embedded Finance represents the possibility that all types of companies can now integrate financial services into their user experiences. Thanks to many factors, including changing consumer habits (mobile-first), software innovation and a buoyant funding environment, non-financial service companies are now investing in and building technology which allows them to offer payment, lending, insurance, and investment products to their customers in a seamless, low-cost and efficient way.





Prior to the emergence of Embedded Finance, financial services were provided almost exclusively by traditional financial institutions (primarily banks) under a heavily regulated framework. The barriers to entry were high due to extensive resource requirements ranging from compliance and regulatory to technical infrastructure and people.

However, because of software innovation (facilitating the provision of software-as-a-service) and deregulation (for example, the mandatory opening of banks' application programming interfaces (APIs) for the purpose of secure data linkage with external providers), the unbundling of financial services is now possible.

These conditions have facilitated the emergence of the Banking as a Service (BaaS) business model. Here, companies unbundle core parts of a traditional banking stack and offer them each (or collectively) as a software service. BaaS providers can be traditional banks (Goldman Sachs) or fintechs (Stripe). They are the core infrastructure layer, and the range of services they provide is also expanding.




Embedded Finance represents the utilisation of such functions by non-financial service companies.

VEF's Fintech investment verticals

Credit 	<ul style="list-style-type: none"> • Consumer • SME • Secured • Unsecured 	Embedded Finance
Payments 	<ul style="list-style-type: none"> • Offline • Online • Mobile • Remittances 	
Personal finance 	<ul style="list-style-type: none"> • Digital banks • Personal finance managers • Mobile wallets 	
Investments 	<ul style="list-style-type: none"> • Wealth management • Roboadvisors • Digital brokers 	
Web 3.0	<ul style="list-style-type: none"> • Protocols + infrastructure • Defi/Cefi • NFTs • Platforms 	
Insurtech	<ul style="list-style-type: none"> • Online comparison and brokerage • Full-stack digital 	

 = VEF investments

Whilst there are many ways to define the ecosystem, we have found it most useful to understand the investment opportunity landscape by classifying participants into three main types of companies:

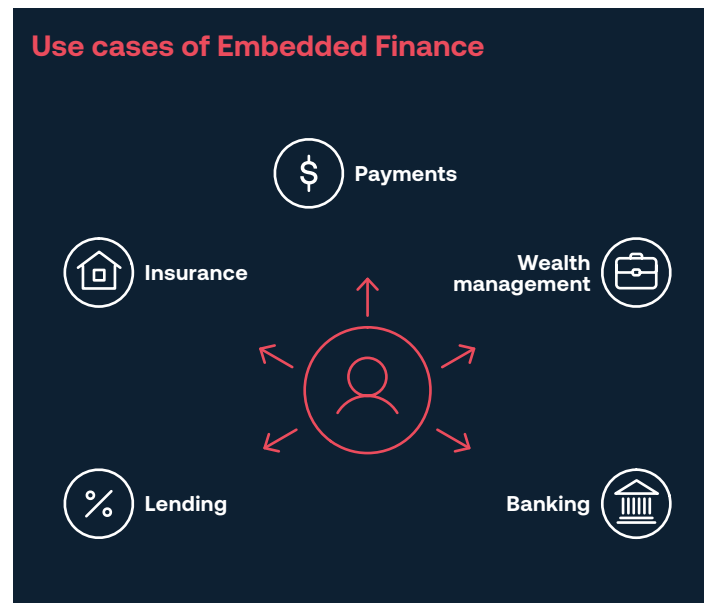
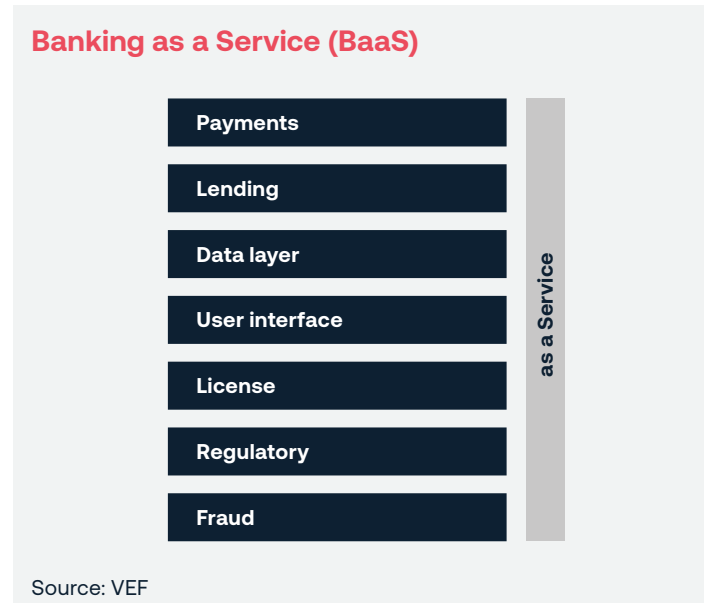
-  **BaaS providers (which are typically Fintechs and/or banks)**
-  **Fintechs enabled by BaaS**
-  **Non-financial companies enabled by BaaS and Fintechs**

Embedded Finance is a potentially large source of value creation in the future because both banks and non-financial service companies can benefit – the outcome does not have to be zero-sum. It will likely significantly expand the adoption of fintech, whilst at the same time enabling non-financial service companies to:

- Improve the customer value proposition (which increases retention and gross profit per new customer);
- Create a virtuous circle between company and customer, further increasing retention; and
- Lower the cost and increase the speed of go-to-market strategies.

It is a nascent but sizeable opportunity in emerging markets, and one that VEF is invested in today and where we see plenty of runway for further investment.

Source: Anthemis/11FS



Embedded Finance in Emerging Markets

Introduction

Whilst the Embedded Finance ecosystem in many emerging markets is less mature than in developed markets, China has been a pioneer of Embedded Finance. ‘Super-apps’ with an overwhelming share of the market, such as those owned by Alibaba/Ant Group and Tencent, were borne out of (social) e-commerce and are self-contained. For example, Ant Group is a bank and a fintech, and is owned by Alibaba, a non-financial company that is enabling Ant’s payments on its platform.

In Southeast Asia, which is following on China’s heels, Embedded Finance has emerged from mobility apps (food delivery and ride hailing). The most prominent example of this is Sea Limited, the USD 65 bln gaming and e-commerce business which has wrapped financial services into its e-commerce platform. These all-in-one, more mature Embedded Finance plays have remarkable financial service monetisation opportunities due to the scale of their user bases. Sea Money, for example, has c. 46 mln monthly paying users.

Closer to our core portfolio company geographies, Mercado Libre and more broadly Brazil prominently showcase the benefits and potential of Embedded Finance at scale.

Brazil Case Study

Brazil is a core market for VEF, having made our first investment in 2016. It accounts for 70+% of our Q4 2021 NAV. With a population of over 200 million people, Brazil is one of the world’s largest economies, and the kind of scale emerging market we like to invest in. It has high smartphone and internet penetration, a growing e-commerce market and strong tech adoption. Brazil’s banking market is highly concentrated, with the top five banks holding over 80% of total loans in the system, while fees and interest rates are some of the highest anywhere in the world. It is an immense revenue pool for fintech to attack. Unlike many emerging markets, the Brazilian banking system is first world in many aspects, and its population is comfortable in the use of a broad array of financial products. It is less a case of financial education and more one of offering better products at a better price and user experience than incumbents.

The Central Bank of Brazil is supportive of the fintech ecosystem as a way of leveling the playing field and improving the financial wellbeing of the average Brazilian – this is not always the case across the emerging world. These conditions have created a flourishing fintech environment, one which we at VEF hope to invest in and benefit from for many years, and one that is rich with Embedded Finance opportunities.

VEF's Embedded Finance investments in Brazil

credits
GRINGO
nibo

BRAZIL

Embedded Finance in public markets: Mercado Libre



Introduction

We have dedicated resources at VEF focused on studying best-in-class publicly listed fintech businesses to deepen our knowledge particularly around new innovations/strategies/use cases but also to allow us to become better private investors.

A company we have admired since the fund's inception is Mercado Libre. It is the largest eCommerce ecosystem in Latin America with a presence in over 18 countries. Today it is a c. USD 60 bln company with projected sales of USD 7 bln in 2022¹. It has been one of the earliest adopters of Embedded Finance at scale, having started out in 1999 as an e-commerce platform. We think readers will find it insightful to learn how this strategy evolved and what its future holds.

1. Koyfin

Mercado Libre's eCommerce ecosystem provides a complete portfolio of services to facilitate online and offline commercial transactions across 6 core segments:

- Mercado Libre Marketplace:** An eCommerce platform where businesses, merchants, and individuals can list merchandise and conduct sales/purchases.
- Mercado Envios Logistics:** A streamlined logistics system that allows sellers to provide seamless delivery through third-party carriers as well as fulfilment and warehousing services.
- Mercado Credito:** Offers robust credit solutions including loans to marketplace merchants. Interest and principal payments are collected from a merchant's existing marketplace sales.
- Mercado Shops:** Offers sellers online store solutions. Sellers pay a subscription fee to set up and manage their online storefront.
- Mercado Libre Publicidad:** Offers advertising solutions that allow businesses to promote themselves by utilizing targeted ads on Mercado Libre's webpages.
- Mercado Pago:** Provides fintech solutions that enable processing, gateway, and mobile payment services. Mercado Pago allows sellers to accept digital payments in-store and online.

Mercado Pago and Embedded Finance

What is most striking about Mercado Libre's Embedded Finance offering today is how long it has taken to build, the patience of management in its roll-out, and how broad and deep its ambitions are.

Mercado Pago was launched in 2003 as an escrow service for the Mercado Libre marketplace. After placing orders, buyers would deposit money to be held by Mercado Pago. Sellers would ship the order upon payment notification and receipt. Buyers would subsequently release funds to the seller via Mercado Pago upon receipt of goods. This allowed buyers and sellers to send and receive payments securely and provided a fraud-protection mechanism.

Mercado Pago's business subsequently experienced two meaningful inflection points:

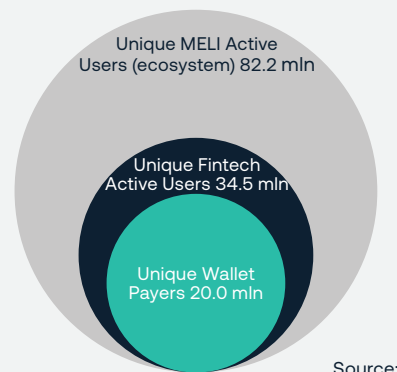
- 2007:** The escrow component began to be substituted by a direct payment product, which made the processing payment more streamlined and shifted the processing cost to the seller instead of the buyer.
- 2014:** It launched interest-free financing, allowing Mercado Libre to gradually expand the scope of sellers and listings required to use Mercado Pago.

Mercado Libre has invested heavily to grow both geographically (to Mexico and Argentina) and product-wise: it has increasingly focused on deploying solutions to parts of the population (both merchants and consumers) that are not reached or are underserved by traditional financial services. This also paved the way to expand its offering from payments into lending products, with the launch of Mercado Credito in 2016.²

As of Q4 2021, Mercado Pago processes 100% of the volume on Mercado Libre (c. USD 100 bln annualised). It has 35 mln Fintech users, with 20 mln of these also being wallet users.

Mercado Libre/Pago customer footprint (Q4 '21)

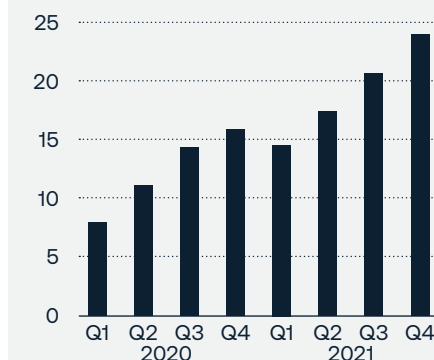
Unique fintech active users are those who have made a wallet payment online, in app or in store; withdrawn part of balance; taken out credit; used card; sold via wallet or POS; user of asset management or insurance. Unique wallet payers include QR code online or in store, P2P transfer within Pago, bill payment/mobile top up.



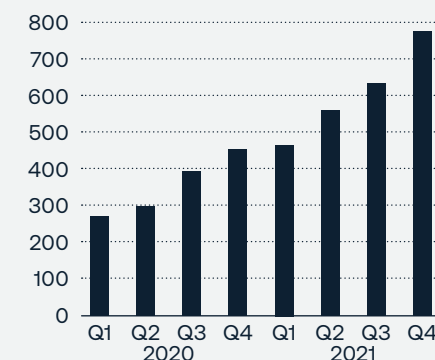
Source: Mercado Libre

2. Mercado Libre/Goldmans Sachs/JPM/Brizo Capital.

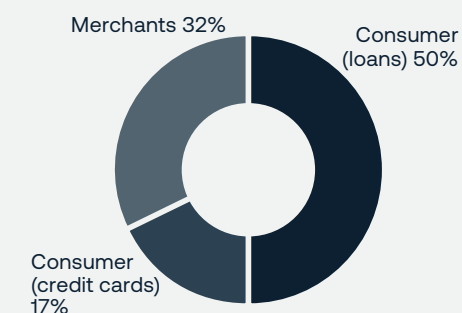
Mercado Libre's group TPV (USD bln)



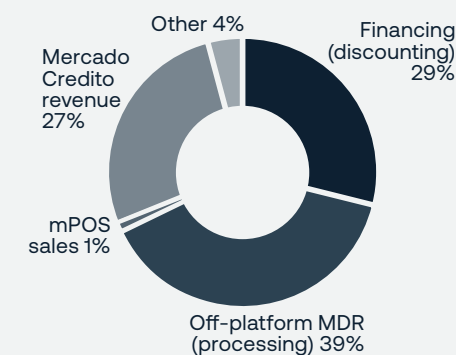
Mercado Pago's net revenue (USD mln)



Mercado Credito loan mix breakdown (% total, Q4 '21)



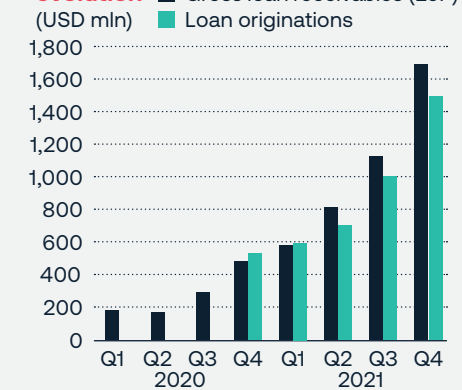
Mercado Libre's Embedded Finance revenue breakdown* (% total Fintech revenue, Q1 '21)



* Discounting of receivables on the marketplace and off (mainly in POS business) are reported net of interest costs. Off-platform payments MDRs are reported gross of interchange. Credit revenues are reported net of funding cost, but excluding provisions for bad debt – this is included in sales & marketing expense.

Sources: Company reports/GS/BTG

Mercado Libre's loan balance evolution (USD mln)



Fintech Products and Monetisation

Fintech makes up 36% of Mercado Libre's total net revenue (Q4 2021), which translates into a 3% take rate on TPV (or 2% excluding the Mercado Credito lending product).

The main revenue streams within Mercado Pago come from financing (which is estimated to account for c. 30%), processing (est. c.40%) and lending (c.35%).³

Specifically on the lending side, Mercado Pago has a gross loan book of USD 1.7 bln (Q4 2021, up from USD 479 mln a year earlier). This accounted for c. 7% of TPV and comprises a mix of merchant and consumer credit – charging high monthly rates using on-balance sheet equity with high contribution margins despite elevated cost of risk.

Like some Southeast Asia super apps, Mercado Pago has become a fully integrated Embedded Finance player – it processes payments and lends from its balance sheet, instead of availing of banking-as-a-service fintechs. However, it does partner with multiple banks and fintechs to layer onto the wallet an increasing amount of services, including investment products, onto the Mercado Libre wallet.

3. Mercado Libre limited disclosure breakdown of Fintech revenues after Q1 2021.

Ingredients of success

Mercado Pago's wallet has been a critical factor in the company's success. It has provided customers with a safe, reliable, mobile-first solution to access and avail of financial service products, developed both in-house and through financial service partnerships.

Its verticalization of financial service provision to acquire customers has been highly successful in Brazil, where Mercado Pago had a large user base to begin with, built on top of Mercado Libre's e-commerce platform. It has allowed many unbanked consumers to leapfrog the banking system and gain access to financial services.

Covid-19 accelerated the adoption of its wallet, as TPV accelerated due to the shift from cash to digital. Although monetisation is relatively low today, customer acquisition costs are also low. This is a key competitive advantage of Mercado Pago over traditional banks.

Beyond the core Embedded Finance verticals outlined above, Mercado Pago is using the trust it has built up with its fintech user base to offer additional financial services such as asset management products (money market funds) in Argentina, Brazil, and Mexico under the name Mercado Fondo. This creates a new source of revenue in terms of float income, provides the customer with a higher yield on their deposits and improves the platform's unit economics.

Embedded Finance in Brazil

Regulatory support should increase Embedded Finance adoption in Brazil

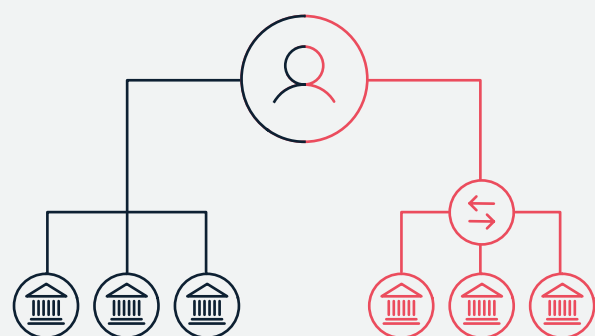
We envisage accelerated adoption of financial service provision by non-financial service companies due, in part, to two ongoing regulatory-supported ecosystem developments:

(1) Open banking

Open Banking was launched in February 2021, with three phases launched during the year. Its aim is to foster competition in the financial services industry by leveraging the sharing of data among financial entities. Shared credit information should facilitate the emergence of new products and even new business models for the benefit of consumers. This could be most beneficial for the underserved population, as better suitability of financial products leads to increased financial inclusion.

Open banking

The sharing of data, products and services by financial institutions and other licensed institutions through the opening and integration of platforms and infrastructures of information systems – in a safe, agile and convenient manner.



Data sharing in banking industry today

Currently, a financial institution has some difficulties accessing the customer's financial data kept by another financial institution in a secure fashion.

The benefits

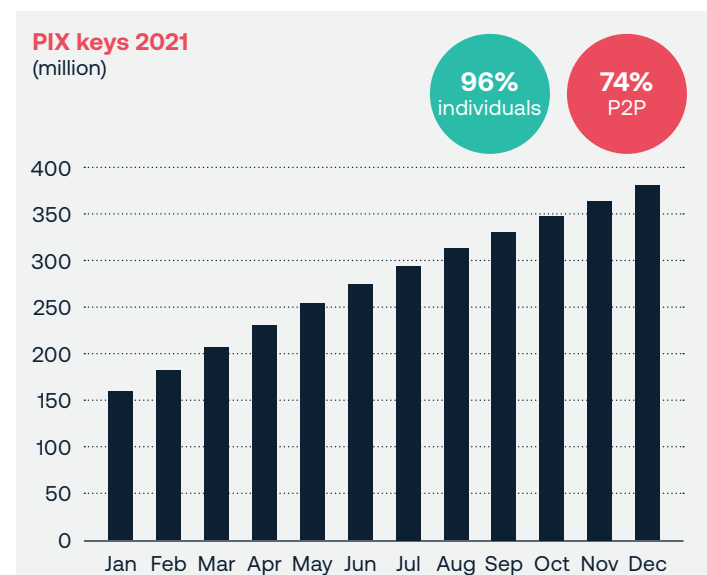
- Promoting more competition: the financial institutions are able to offer to the other institutions' customers better products and services, at lower costs and/or more favoured conditions.
- From the comfort and convenience of a single app, it would be possible for a financial customer to proceed financial transactions without accessing her/his bank's app or website.

Source: Central Bank of Brazil

(2) PIX

Brazil launched a real-time payment system called PIX in November 2020. It has been highly successful – banks are increasingly competing for users to boost cash-in, and consumers and companies have adopted the concept very quickly, especially for peer-to-peer (P2P) transfers. Since its launch, PIX has been used at least once by 71% of Brazilians and, by December 2021, 382 mln PIX keys were registered (364 mln to individuals, >100 mln users – individuals can enroll with a maximum of five PIX keys in each account). The run rate in monthly transactions stands at a high 1.2 bln worth BRL 623 bln.

This highly successful start is in part due to the exorbitant fees Brazilian banks have been charging (BRL 10–11 per interbank transfer when these are done electronically, and as much as BRL 20 when done physically).



Source: BACEN

Adoption is likely to accelerate further, with new product innovations due for release:

“PIX Offline”, which will allow people to make/receive payments when they don't have internet access. To make this possible, users will need to transfer their account balances to a physical card.

“PIX Débito Automático”, through which users will be able to pre-program recurring bills to be paid automatically on a given date.

“PIX Parcelado”, a combination of a credit offering and scheduled payments that will allow users to pay via PIX in instalments.

Source: BTG

Based on our experience with UPI in India, as adoption grows, and innovation around its payment mechanisms expand, PIX will likely serve as a key on-boarding tool for consumers to use Embedded Finance products and services.

The combined ingredients of strong regulatory support for a more inclusive financial system, greater access to customer data, and a user-friendly on-ramp could see dramatic adoption of Embedded Finance throughout the economy.

The private Embedded Finance ecosystem in Brazil

At VEF, we have engaged with, and in some cases, invested in many companies taking advantage of these developments. We provide a snapshot below of some of these private companies, categorized by three main verticals of the Embedded Finance ecosystem.

We are excited by both the creation of new value and profit pools and the disruption of existing profit pools as this ecosystem deepens.

The section that follows showcases Embedded Finance within VEF's portfolio. We highlight a long-standing portfolio company investment Nibo, and separately a more recent investment VEF has made in the Embedded Finance category – **Gringo** within Brazil.

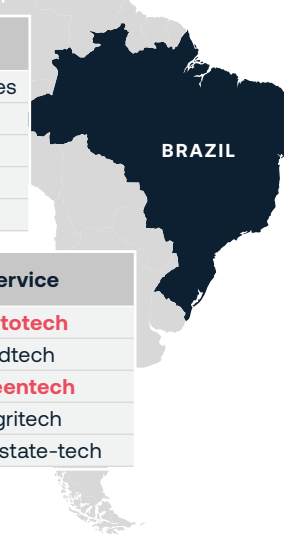
Following this, we review how another VEF portfolio company, **BlackBuck**, is building an Embedded Finance platform for the trucking industry in India.

The private Embedded Finance ecosystem in Brazil and VEF's experience to date

BaaS providers	Service
Dock/Conducto	Card issuance/processing
ID Wall	Verification
Fit Bank	White label bank accounts
Hash	B2B payment infrastructure

Fintechs enabled by BaaS	Service
Cell Coin	Payments for utilities
Vert capital	FIDIC facilitation
Creditas	Lending
Nibo	Accounting
Magnetis	Roboadvisor

NFCs enabled by BaaS and Fintechs	Service
Gringo	Autotech
Trybe	Edtech
Solfácil	Greentech
Verde	Agritech
CondoConta	Real Estate-tech



Embedded Finance within VEF's Portfolio

We have been on an evolutionary journey learning about and investing in Embedded Finance in our core markets of Brazil, India, and Mexico. We saw it first-hand through some of our portfolio companies, and we have met with dozens of new fintechs who are bringing financial services to many different sectors, including education (student lending), solar energy (panel financing) and health (payments). We have also made some specific Embedded Finance investments, namely Solfácil and Gringo in Brazil, and BlackBuck in India. In the VEF portfolio, Creditas brought us into Embedded Finance organically, as it has used its technology platform to evolve from a financing provider against secured assets (home/car/salary) to facilitating transactions around these same assets. It allows customers to buy, sell and upgrade their assets creating a flywheel effect that can be a powerful driver of value creation for the following reasons:

- Proprietary channels reduce CAC when consumers seek to complete a transaction with an asset (e.g. buying a car, insuring a house).
- Customers are retained that otherwise would churn as they transact with an asset that is being used as collateral in a Creditas' lending product (e.g. Creditas' auto equity customers prepaying their loans when they upgrade their car in a dealer), and
- Additional margin is captured as it participates in an asset transaction (e.g. selling an iPhone to a payroll customer and generating a fee in addition to the corresponding financing product).

Creditas is a great example of how the lines are blurring, particularly in Brazil, between the three categories within Embedded Finance: in September 2021, Creditas announced a partnership with Nubank whereby Creditas is embedding its technology (both lending and services) into Nubank's platform to offer Nubank's customers the opportunity to borrow against and transact around their core secured assets. This development sees two fintechs, each availing of different products, services and licences to combine and offer the customer a great user experience at attractive economics for both provider and borrower at scale.



Embedded Finance in Brazil: Nibo



Introduction

Nibo is a technology platform focused on both SMBs (Small & Medium Businesses) and their accountants across Brazil. VEF invested in the business in 2017, leading its Series A. We currently own c. 20% of the business.

Nibo offers a software platform that streamlines SMBs' accounts processes – ranging from e-accounting to e-taxes and e-payroll. It helps accountants to keep track of their tasks and submit documents to their clients, while managing processes and clients' requests. Today, two thirds of revenues come from accountants directly (their distribution partners to SMBs) and one third comes from SMBs using the platform independent of accountants. Ultimately Nibo aspires to build a one-stop-shop for Brazilian SMBs.

Core pain points

Brazil has one of the most regulated and enforced tax systems in the world. The primary pain point relates to the significant time and resources required to manually process taxes, invoices and payroll (amongst the highest globally).

Specifically, the Brazilian government mandates SMBs to file monthly returns across state, federal and municipality governments. The government assesses these filings and payment flows for discrepancies, all with the intention to reduce tax evasion and informality. Fines are issued for violations.

The average SMB typically employs an accountant that helps navigate this complexity. However, it is estimated that 80% of the c. 10 mln SMBs who appoint c. 80k accountants do not use a finance management solution, but instead rely on paper documentation. The process to document, analyse and file taxes is mostly manual and this creates a complex relationship between SMBs and accountants.

Nibo's Embedded Finance solution

Nibo integrates with 60+ accounting suites and its software improves productivity of accountants and increases the quality of their work. Specifically, its software allows accountants to keep track of documents and tasks that streamline workflows in a transparent way all in the cloud (both mobile and web). This can lead to margin improvement for accountants, and an opportunity to cross-sell additional value added services, making them less dependent on commoditised accounting services.

This value-add makes Nibo a critical and trusted tool for accountants, and positions Nibo to offer additional products and services to SMBs. This is especially the case when you consider that:

- (1) It has access to rich and unparalleled company data
- (2) It has the support of a trusted advisor
- (3) Its software already offers a platform for satisfactory buying experience

Today, Nibo's Embedded Finance offering is centred around financial management tools. SMBs connect their bank accounts using Nibo to reconcile bank transactions which helps manage Accounts Payable (AP)/Accounts Receivable (AR), allowing the platform to collect money from SMBs. SMBs can also automate the issuance of Boletos (a popular Brazilian cash-based payment method), pay via PIX and with credit cards. B2B payments monetisation today accounts for c. 15% of total revenues at Nibo today.

Nibo is broadening its engagement by offering a digital bank account to SMBs, bringing them closer to their accountants. This gives Nibo full visibility across payment flows, which facilitates greater automation of cash flows in and out, stronger and more accurate digital reconciliation, and the potential to fully automate AP.

Nibo's rich data set for Embedded Finance offerings

	nibo	Commercial banks	Credit fintech	Finance management startups	Accounting startups
Registration information	✓	✓	✓	✓	✓
Credit bureau	✓	✓	✓	✓	✓
Account transaction data	✓	✓	✓	✓	✓
Structured financial information	✓	✗	✗	✓	✗
Accounting information	✓	✗	✗	✗	✓
Tax information	✓	✗	✗	✗	✓
Payroll information	✓	✗	✗	✗	✓

Expanding its Embedded Finance offering

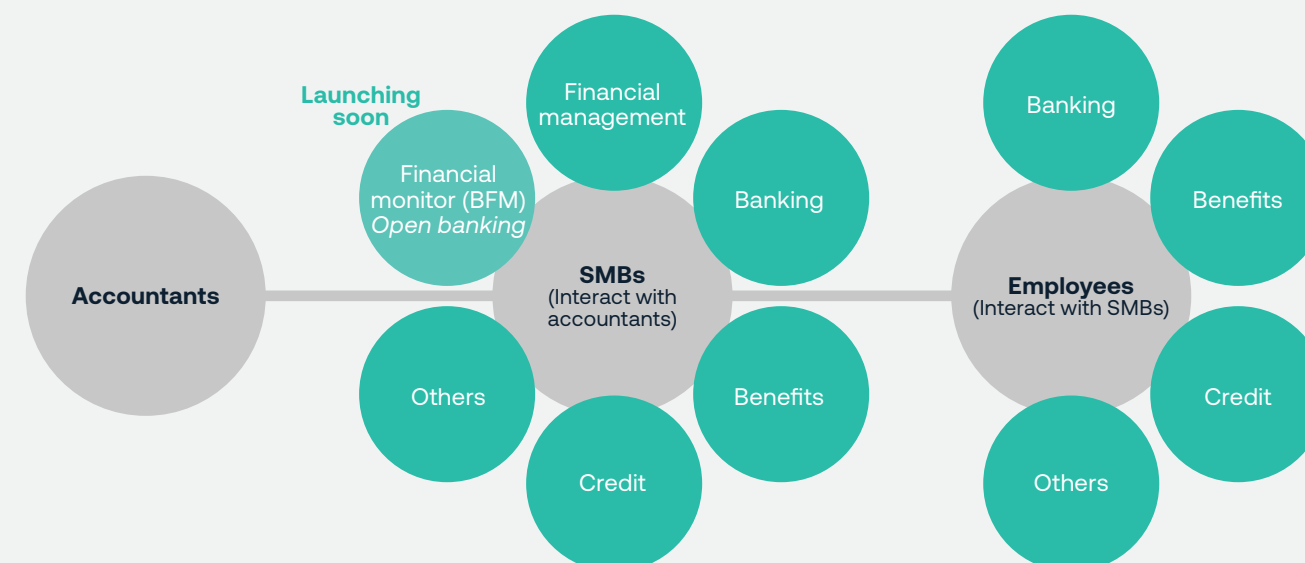
Its Embedded Finance solution makes accountants lives much easier, and it provides a monetisation and engagement tool for Nibo. It is building a robust data set that strongly positions it to take advantage of Open Banking in Brazil and begin offering more sophisticated financial service products to its SMBs and employees.

This will first take the form of a credit offering, selectively to SMBs and directly serving employees of SMBs with banking and credit services. Given Nibo's depth of

data, the company plans to originate loans for its SMB customers partnering with banks for funding. It will also be in a position to offer insurance and investment products to this ecosystem, all via scalable APIs that connect its software to the relevant service providers.

The potential growth of its platform is significant, and we are excited about the prospect of Nibo increasing its importance and value to SMBs, similar to the success enjoyed by larger list peers like Fortnox in Sweden and Xero in Australia.

Build a comprehensive ecosystem with everything SMBs need



Embedded Finance in Brazil: Gringo



Introduction

In February 2022, VEF invested USD 12.2 mln in Gringo, Brazil's leading 'super-app' for driver, serving over 5 mln drivers. VEF led Gringo's USD 34 mln Series B round with co-investment from Piton Capital, ICU and participation from existing investors Kaszek, GFC and OneVC.

Based in São Paulo, Gringo's mission is to become the drivers' best friend, helping them manage their documents and vehicles. Its operation began with the free monitoring of driver's licenses and vehicle debts. It has scaled to 5 mln drivers on the platform in less than two years and is growing rapidly – doubling this number over the last four months. It is the most downloaded app in the Auto category in Brazil, evidence of a highly engaged user base.

Gringo has three co-founders: Rodrigo Colmonero (CEO), Caique Carvalho (CPO) and Juliano Dutra (CTO). We were impressed with their collective experience set and were really drawn to their passion for helping drivers, the culture they have built in the company and their traction in embedding useful fintech solutions into the journey.

Core driver pain points

Drivers in Brazil deal with time-wasting bureaucracy in managing their vehicles. Gringo aims to be the driver's best friend in reducing pain points and friction. Some examples of these pain points are:

- Managing a vehicle's annual taxes, paying for them (c. 4% of vehicle value annually) and managing electronic receipts (as proof of payment). There are heavy penalties and interest charges for late payments.
- Keeping a driver's license on hand, up-to-date and renewing it.
- Receiving paper fines, sometimes after due date and having to pay them at a local office.
- Many of these tasks require physically visiting different departments and this varies from state to state.

Gringo's exponential growth and high levels of user engagement proves the extent of this problem in Brazil.

Gringo's Embedded Finance solution

Gringo has created a unique ecosystem around driver pain points and is utilising the provision of financial services to increase customer value/retention/transactions.

Its core product today allows drivers to monitor items related to their driver's license and vehicle for free, making sure that they are always fully compliant. Gringo also allows drivers to digitally renew documents and pay taxes and fines. As some of these can be large lump sum payments, Gringo offers the equivalent of a Buy-Now-Pay-Later (BNPL) solution, leveraging payment rails already existing in Brazil.



The technology and approach behind its Embedded Finance success

The core Embedded Finance function within Gringo's app is payment facilitation of multiple forms. These range from PIX to credit cards and Boletos (a popular Brazilian cash-based payment method). Gringo works with a global payments processor to effect these transactions, allowing customers to choose different payment terms and durations. Local financial institutions and card issuers can offer credit to Gringo's customers through this payment processor, with Gringo earning a take rate on each transaction. We have been impressed with the technology stack the company has built and the seamless customer experience offered. It is also highly scalable.

Expanding its Embedded Finance offering

Gringo has ambitions to expand the range of Embedded Finance it offers into insurance, vehicle financing, and the buying and selling of vehicles. Gringo can provide a better experience for all of these product purchases because of the deep data that they have on the driver and vehicle:

Insurance: 30% of the cars on its platform have insurance, and Gringo has 80% of the information that insurance providers ask consumers for to price insurance.

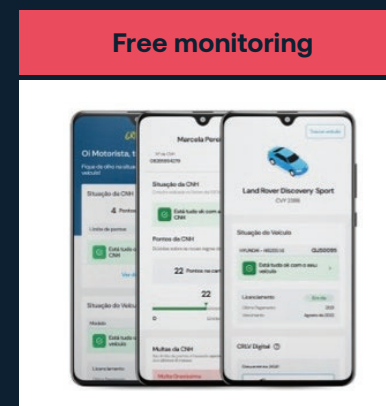
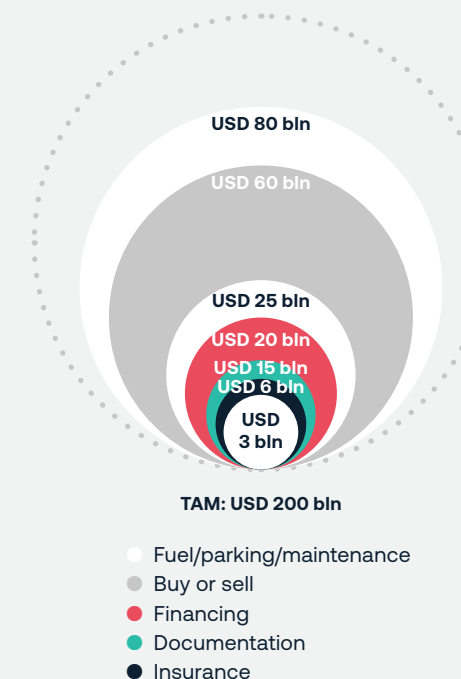
Financing: 25% of the cars on its platform are today financed. Gringo already has all the information needed to offer a seamless financing user experience for drivers wishing to access financial products and services.

The results so far have been impressive: over the course of 2021 insurance product sales helped contribute to a 20x GMV increase and a 25x revenue increase compared to 2020.

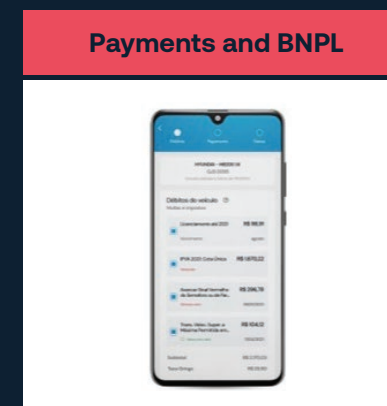
Expanding into these new verticals of Embedded Finance would increase Gringo's TAM to c. USD 200 bln, and dramatically improve its unit economics. Gringo is our first direct Embedded Finance investment in Brazil, and we are excited to see the team continue their success in embedding financial services.

We have also made a direct Embedded Finance investment in India – **BlackBuck** (see overleaf).

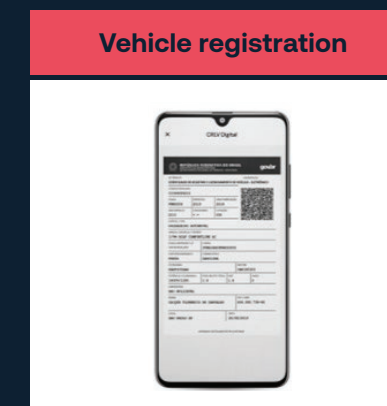
Car ownership in Brazil



Gringo lets drivers monitor their documents and driver license for free.



Gringo offers payment solutions for drivers to pay their fines, taxes, and renew their documents.



The vehicle registration is stored on Gringo's application.

Embedded Finance in India: BlackBuck



Core logistics pain points

India's economy relies on a very fragmented and disorganised trucking industry for the transportation of goods across the country. There are 1.5 mln truckers (fleet owners) who own 3.5 mln trucks. 80% of truck supply is owned and operated by small owners (owning on an average 2-3 trucks). They are typically truck drivers who have over time invested in their own fleet and now employ their own truck drivers.



There are two core pain points for truckers and drivers:

- (1) Managing and paying for expenses of the trucks** including electronic toll payments, fuel, and other consumables (e.g., tyres and lubricants). The trucking industry is estimated to spend c. USD 100 bln annually on these expenses related to operating a truck. At reasonable take rates this represents a significant revenue opportunity.
- (2) Securing suitable and well-paying jobs for the trucks.** It's estimated that trucks can be idle for 25-30% of the time because of inefficient demand/supply matching. Today the trucking industry GMV for transporting goods stands at USD 150 bln in India. A very fragmented industry of unorganised, offline brokers sits between the demand (shippers) and supply (truckers). These brokers charge c. 10-15%, representing another USD 15 bln revenue opportunity to disrupt, by organising and bringing online transactions between shippers and truckers that would otherwise occur offline.

The highly fragmented nature of the trucking sector provides a huge opportunity to disrupt.

Introduction

BlackBuck is the largest online trucking platform in India, currently servicing c. 22% of all truckers in the country. It has a vertically integrated approach to building a trucking marketplace by digitising fleet operations for truckers (providing predominantly payments solutions around tolls and fuel) and operating a marketplace matching trucks with relevant loads. The platform has close to 700k truckers and over 1.2 mln trucks on its platform, with over 15 mln monthly transactions.

VEF announced its USD 10 mln investment into BlackBuck in July 2021, as part of a broader participation in an equity financing round totalling USD 67 mln, led by Tribe Capital and IFC Emerging Asia Fund. We were impressed by the calibre of BlackBuck's co-founding team, and the strong profile of top managers reporting into them, giving the business a deep bench.



BlackBuck's Embedded Finance solution

Following government efforts to digitise toll payments with electronic tags, special road lanes were dedicated to all drivers that had a tag installed for automatic toll payment. BlackBuck issues and installs toll tags onto trucks. These tags can only be topped up within the BlackBuck app which also makes it easy for a fleet owner to track expenses.

BlackBuck is an embedded payments company, whereby it forms the issuer side of a closed-loop payment network with National Payments Corporation India (NPCI) acting as the clearing house and banks as the acquirers. It charges a take rate per transaction, and on top of this charges subscription fees for additional value-added services. It also issues virtual fuel payment and loyalty cards for its drivers.

Toll tags are topped up within the app through India's Unified Payments Interface (UPI). This can be done through bank accounts/wallets/cards, etc. We have previously written about the Indian Payment ecosystem and our investment in Juspay on our website¹, where we outlined how the government has been the primary agent of change in modernising India's payments infrastructure, with strong growth

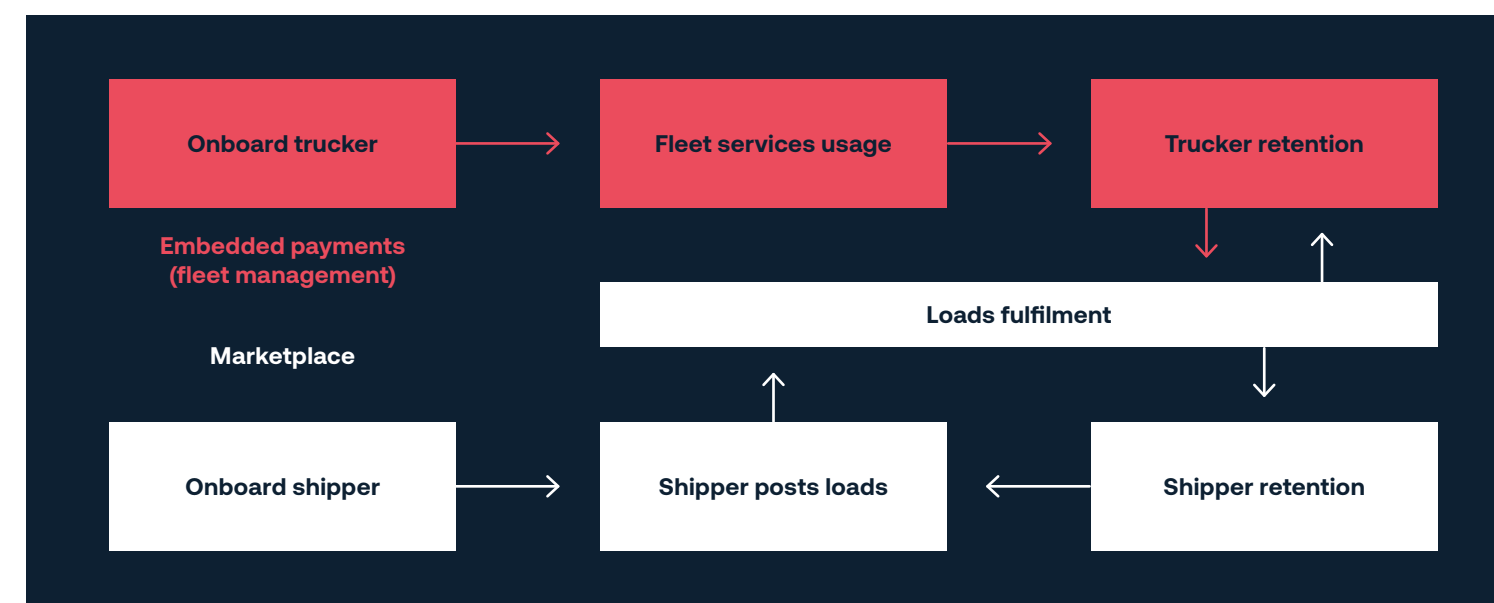
in digital payments, growing at 60% CAGR over the last five years, led by UPI, where the total value of UPI transactions in FY21 was at c. USD 560 bln (up from USD 510 bln in 2020), far outpacing in both volume and value terms credit and debit card transactions.

Many large emerging markets have similar plans to roll out real-time payments infrastructure in the coming years and we think this will increase the investment universe of Embedded Finance businesses who will be able to scale faster and greater than they would otherwise.

Embedded payments are a gateway to creating a marketplace

Having profitably acquired truckers onto the platform through its payment offering (Fleet Services), BlackBuck launched a digital freight network to connect these truckers (supply) with shippers (demand). Although it is early days, the marketplace should dramatically increase trucker lifetime value (LTV) at scale.

We couldn't be more excited about the ways in which BlackBuck can further disrupt the Indian shipping landscape through Embedded Finance.



1. https://vef.vc/app/uploads/vef_india_juspay_final.pdf

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