

Fintech / Internet

PagSeguro

Initiation: Winning Share of Wallet

Analyst

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- **What's new:** We are initiating on PagSeguro with a Buy based on Pagbank's ability to layer on high-growth financial services revenue to the existing payment processing business.
- **Pagbank growth:** Pagbank can leverage off existing micro-merchant relationships (6.3 million), as well as the distribution of *Grupo UOL*, to offer financial services to the unbanked and underbanked in Brazil - perhaps 90m in Brazil. Operating as a mobile wallet, the aim is to become one of the more dominant *Super Apps* in Brazil. In the near-term, focus is on extending out Credit to existing merchants; there are also consumer initiatives and we assess a realistic TAM in this note. Management carved out some limited financials on Pagbank at the Q3 results and for the first time we can start to value this business more accurately: USD4 billion, or USD12/share, worth ~20% of group.
- **Acquirer business robust:** The ongoing shift to digital from cash for a long tail of micro merchants should allow for robust growth in the underlying mPOS business. A key area of focus this year is also expanding exposure to E-Commerce through the recent Wirecard Brasil (Moip) acquisition.
- **Valuation:** PagSeguro continues to trade at a ~30% discount to payment peers both locally and in the US. The stock is also cheaper on multiples than MELI (Buy, TP: USD2,000) although this is largely explained by the better growth profile at MELI.

PagSeguro (Buy)

Ticker: PAGS US
Price Target: USD 64
Potential change: +28%

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Summary and Valuation

Waging the Wallet Wars - Pagbank transforming the narrative

- The launch of Pagbank is set to materially transform the PagSeguro equity narrative, layering on incremental revenue streams such as credit, card issuance and m-wallet payments to the underlying Acquirer business.
- Much of this battle will be fought via the mobile wallet. As we've argued for Mercado Pago, the m-wallet won't be monetised directly but will funnel merchants and consumers into incremental financial services. *Nirvana* remains the Chinese *Super App* (without the political headaches). Pagbank already has 6.7 million active Pagbank users, adding 1.8 million in Q3 alone.
- Operating in the micro merchant space (often 1 or 2 person outfits), the target is the large unbanked (~35m) and underbanked (~60m) population of Brazil.
- Credit remains the single biggest opportunity for Pagbank. As with *Mercado Pago*, Pagbank has an active customer base of merchants through its Acquirer business which it is starting to monetise through working capital loans and card issuance (credit and cash cards). We expect the loan book to ramp quickly from here.
- One third of Pagbank active users are consumers, however. While PAGS doesn't have the same sort of captive consumer base as MercadoLibre (and isn't as well positioned strategically, therefore) its controlling shareholder *Grupo UOL* (45% economic stake, 89% voting) is the 3rd largest website in Brazil (local content, security, hosting) with an audience reach of over 93%, providing strong on-line distribution.
- PagSeguro first disclosed some limited financials on the embryonic Pagbank business at the Q3 2020 results. This disclosure has allowed us to model out Pagbank in full and we separately value this business at ~USD 4bn on Pagbank or USD 12 per share. The market is only just beginning to go through this process and put a separate (and positive) value on Pagbank.
- We continue to see a great structural growth story for the underlying Acquirer business given 1/ Ongoing migration from cash to digital (cash is still 40% today) and 2/ Potential further share gains. In addition, the acquisition of Wirecard Brasil (Moip) will strengthen its on-line presence and allow PAGS to benefit from the rapid shift to online in Brazil. This will be particularly supportive in 2021 if Covid conditions worsen again in Brazil (as some speculate) and lockdowns reappear

PagSeguro (Buy, TP: USD64) - Sum of the Parts

- **We value Pagbank based on recent precedent funding rounds for Brazilian Fintech**
 - We put a 10% premium to these valuations as 1/ Nubank, for example, dates back 18 months now and we suspect multiples have moved up since then and 2/ We think Pagbank has a more natural right to win in the merchant space given its presence as an Acquirer
- **We value the Acquirer business at a 10% discount to our MercadoLibre Fintech multiple**
 - This reflects the greater E-Commerce exposure at MELI (~50/50 in terms of TPV) vs PAGS

PagSeguro Sum of the Parts

USD million	Metric	Forecast	Multiple	100% EV	% of EV
Payments	Acquirer TPV 21e	38,960	0.45	17,532	81%
Pagbank	10% premium to precedent			4,085	19%
Total value				21,617	100%
2021e net debt				-454	
SHOUT, millions				329	
Equity				21,163	
Value per share, USD				64	
Price, USD				50	
Upside				29%	

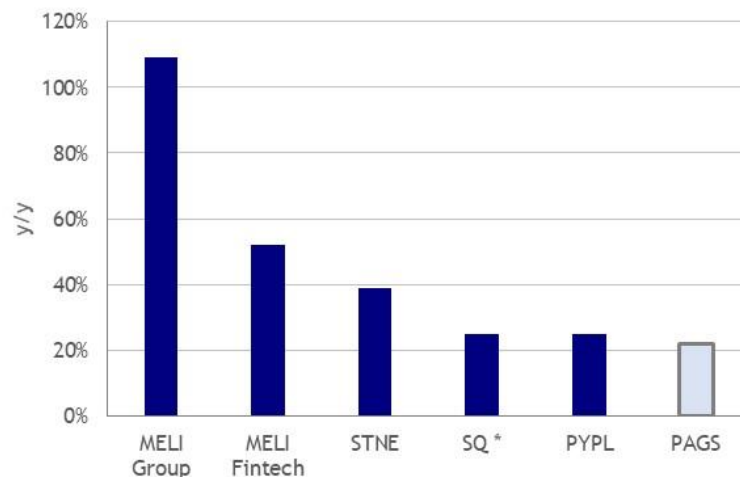
Precedent multiples for Pagbank

Comps	Date	Metric	Forecast	Multiple	100% EV
C6	Dec-20	USD EV/sub	8.0	516	4,132
Nubank	Jul-19	USD EV/sub	8.0	400	3,200
Creditas	Dec-20	2020e EV/revenue	103	32	3,296
Average Precedent					3,714

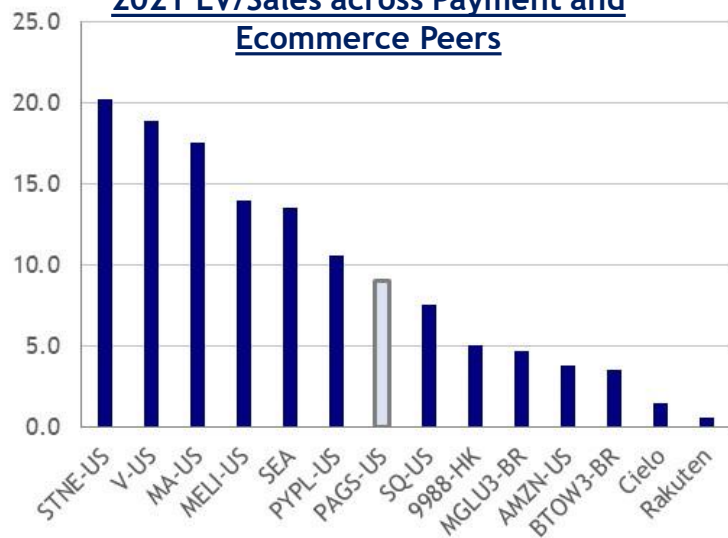
Valuation - discount to local peers

- We benchmark PAGS against Payment and Ecommerce peers
 - Versus local peers on 2021e EV/revenue:
 - PAGS at 9x remains cheaper than both STNE (20x) and MELI on 14x
 - Versus international peers:
 - PAGS trades more in-line with SQ and PYPL
- Growth-adjusting (EV/Sales 2020e vs 20-22e Sales CAGR), PAGS remains at a discount to local peers on <0.5x
 - STNE is on 0.76x and MELI is on 0.63x
- We show latest growth rates
 - PAGS at 22% (Q3) is on a par with SQ and PYPL underlying

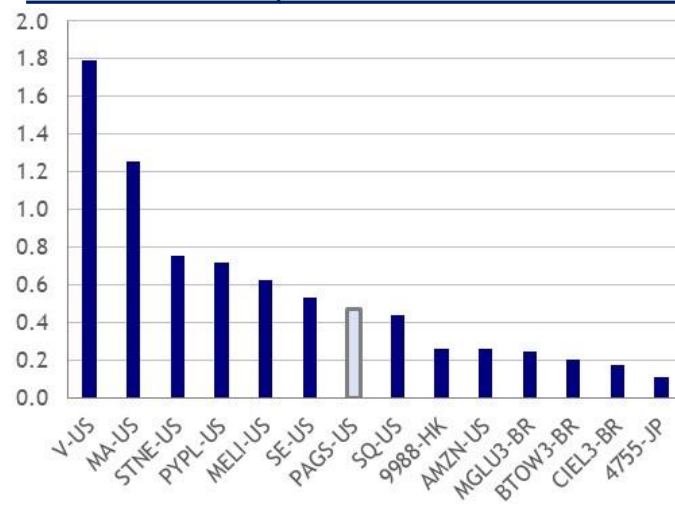
Revenue growth rates versus peers, Q3 2020



2021 EV/Sales across Payment and Ecommerce Peers



Revenue “PEG” (2020 EV/Sales vs 20-22 CAGR)

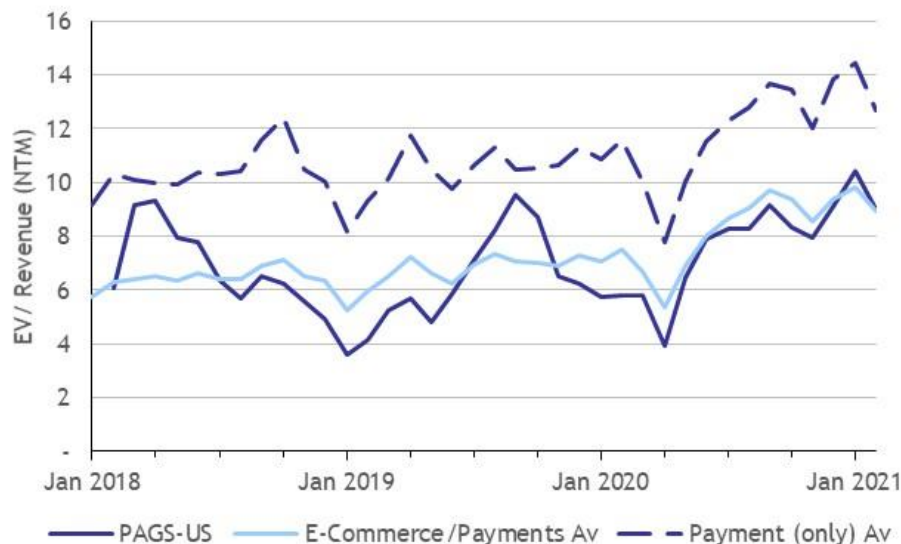


Source: Price data from Factset; New Street Research estimates * Square revenue growth is ex-bitcoin (140% including bitcoin)

Discount on EV/revenue vs payment peers

- We show how PagSeguro's 12m forward EV/revenue multiple has trended over time vs peers
 - PAGS continues to trade at a ~30% discount to payment peers
- Versus consensus:
 - We see upside to consensus revenue coming from Pagbank, which accelerates in the outer years
 - We are less ahead at earnings given the investments needed to roll out Pagbank (and in part as consensus doesn't seem to capture the new accounting of capitalised devices in depreciation)

12m forecast EV/revenue*



NSR vs consensus

BRL billion	2020e	2021e	2022e
NSR revenue	6.8	9.5	12.3
Consensus revenue	6.8	9.2	11.5
NSR vs Cons	-0.1%	3.4%	6.7%
NSR net income (non GAAP)	1.31	2.04	2.70
Consensus net income	1.28	2.01	2.65
NSR vs Cons	2.4%	1.5%	1.9%

Ahead of consensus revenue in the outer years

Source: Factset for comparables; New Street Research estimates

Summary financials

BRL m	2019	2020e	2021e	2022e	20-22e CAGR
Price, USD	50				
SHOUT, millions	329	329	329	329	
Market Cap	89,942	89,942	89,942	89,942	
Net debt	-2,754	-2,323	-2,484	-3,777	
Cumulative dividend	0	0	0	0	
EV	87,188	87,619	87,458	86,165	
<u>EFCF</u>					
EBITDA	-78	18	715	1,371	
less capex	-693	-1,859	-1,669	-1,815	
plus net fin income	1,918	1,854	2,312	2,524	
less tax	-546	-485	-755	-1,051	
Total	602	-473	603	1,030	

Financial metrics

Revs (inc fin income)	5,707	6,796	9,467	12,286	34.5%
Gross profit	2,781	3,798	5,866	8,128	46.3%
% margin	48.7%	55.9%	62.0%	66.2%	
EBITDA (pre fin inc)	-78	18	715	1,371	nm
% margin	-1.4%	0.3%	7.6%	11.2%	
Operating income	-206	-351	35	559	nm
Net income (GAAP)	1,367	1,310	2,042	2,701	43.6%
EPS	4.2	4.0	6.2	8.2	43.6%
DPS	0.0	0.0	0.0	0.0	
Net debt/EBITDA	35.4	-131.3	-3.5	-2.8	

BRL m	2019	2020e	2021e	2022e	20-22e CAGR
EV/Revenue	15.3	12.9	9.2	7.0	
EV/EBITDA	-1,121	4,951	122	63	
EFCF yield	0.7%	-0.5%	0.7%	1.1%	
PE	65.8	68.6	44.0	33.3	
Dividend yield	0.0%	0.0%	0.0%	0.0%	
<u>Returns</u>					
ROIC	26.6%	19.0%	23.0%	26.7%	

Financial/Operational

Acquirer

Acquirer TPV	116	154	213	272	33.0%
Active merchants	5,269	6,969	8,069	9,069	14.1%

Pagbank

Pagbank users	2.0	8.0	11.0	13.0	27.5%
Pagbank TPV	20,470	69,597	137,354	194,113	67.0%

Source: New Street Research estimates

Launch of Pagbank

Pagbank and the banking opportunity

- **As an Acquirer, the Fintech opportunity at Pagbank spins out of its existing merchant relationships**
 - Of the 6.7 million Pagbank (m-wallet) active users registered since launch in May 2019, >4m are (micro) merchants
 - The merchant payment model leads to a natural *on-ramp* for cash into the system
 - The key competitor in this (lower end) segment of the merchant space is *Mercado Pago*
- **Pagbank is also rolling out a Consumer offering**
 - PAGS has 2m active consumer users
 - The company can leverage off its controlling shareholder UOL to help with sales and distribution
 - By contrast Mercado Libre has a very large natural consumer base (buyers on the MercadoLibre marketplace) which it can target for financial services
 - Mercado Pago will be more focused than PAGS in the consumer space for the time being we believe
- **The distinction between merchant (as a 1 or 2 person businesses) and consumer is rather blurred**
 - It's an interesting way for us to help us segment the model but isn't, apparently, the way the business is driven
 - The greater management focus is simply on the unbanked and underbanked: perhaps 90m in Brazil, as well as today's Total Addressable Market (TAM)
- **Services offered today by Pagbank include:**
 - Digital accounts: includes free banking services
 - Credit and cash cards: the majority of issued cards are “cash cards”; only merchants are offered a credit card
 - Lending: this is currently offered only to merchants for Working Capital purposes
- **In the future services are set to be further expanded, although at this stage we don't model anything in explicitly**
 - Investment on the App is available: offering certificates of deposit, and the ability to invest in funds
 - Insurance: Pagbank Health, medical appointments. In Q1, set to launch more products, including Life and Home
 - Marketplace - launched in late Nov 2020
 - >50 retailers, offering promotional prices if purchased through the platform
 - Verticals included clothes, cosmetics, sporting goods
 - Commission based, which thus far has been offered in cash back (which can't be withdrawn from the wallet)
 - The purchase is re-directed to the sellers' website so PAGS doesn't get involved in logistics or fulfilment

Wallet Wars

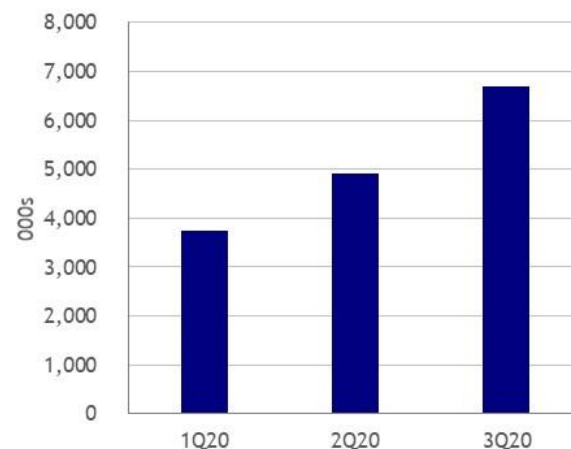
- For the micro merchants and consumers targeted by Pagbank, the battleground will be the mobile wallet
 - We wrote about this extensively in [MercadoLibre initiation: Wallet Wars](#)
 - Wallet downloads are tracked closely, therefore, as a lead indicator of success
- It's competitive: Brazil is the fourth largest market globally; there are over 600 such m-wallets today
- For an Acquirer with existing merchants, PAGS has a natural “touch point” with the user
 - The wallet becomes a natural extension of the business, acting as the merchant’s first bank (depositing sales)
- The consumer model is more of a challenge. PAGS needs to find and onboard customers and get cash into the system
- Features of mobile wallets in Brazil:
 1. Provide free on-line/digital bank account
 2. Enable payments through QR codes (in-store), cell phone top ups, P2P transactions
 3. May offer pre-paid / cash cards (VISA/Mastercard)
 4. May support an existing business model: E-Commerce players, for example, offer cash back when paying through their wallet on their platforms; Pagbank also does this through a partnership with Shell
- Once the customer is engaged, then the wallet will be a key funnel for distributing financials services

Pagbank



Source: PagSeguro earnings release and website

Pagbank users



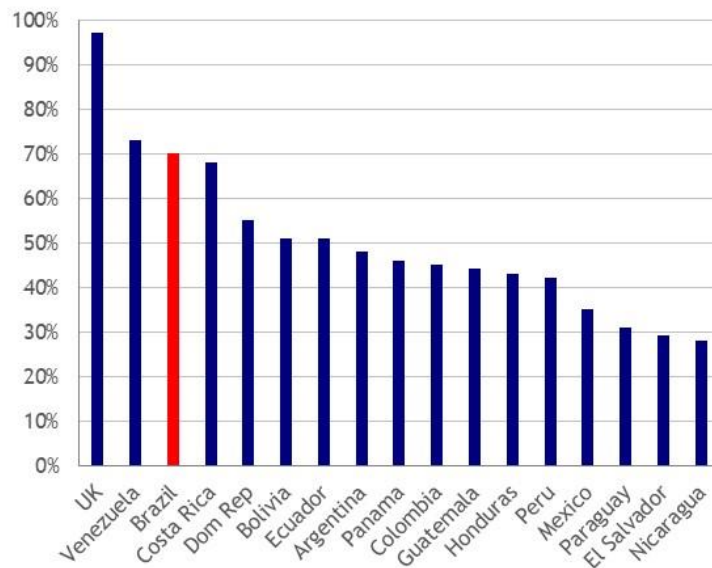
What's the Opportunity for Pagbank?

1/ The Unbanked (and Underbanked) and 2/ An existing TAM of ~USD 85bn

The Unbanked Opportunity in Brazil

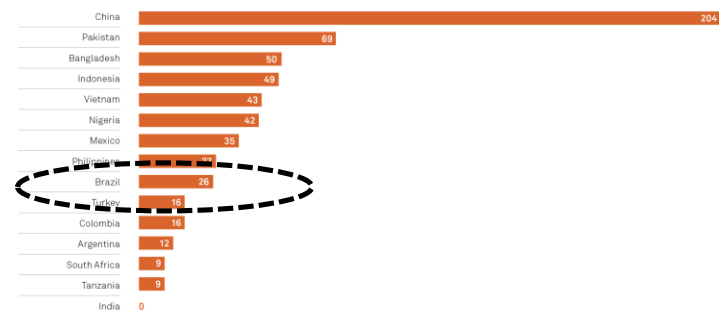
- Latin America historically has a large unbanked and underbanked population - and Brazil is no exception
 - This equates to ~35m “unbanked” in Brazil, whilst another ~60m have only limited savings accounts
- Meanwhile, 4G is becoming ubiquitous
 - In Brazil, 26m people are estimated to have a mobile phone (and can access financial services therefore) but don’t have a bank account
- Wireless is an enabler: > 70% of E-Commerce is originated on a wireless device
 - 75% of registered SIMS are 4G/LTE enabled
- Even though Pagbank has been principally focused on Merchants, many of these are 1 or 2 person businesses which are very often unbanked also
 - The distinction between merchant and consumer is a blurred one

Adult population with a bank account*



Phone ownership vs unbanked

Tactical Reach Index: Unbanked Populations v Mobile Ownership
Number of people with a phone who outnumber those with a bank account



Source: Mastercard analysis based on figures from the World Bank's Global Findex Database, GSMA Intelligence, and Pew Research Center

Source: * Statista

The TAM - “17x the size of Payments”

- The company has helped us try to understand the Total Addressable Market (TAM) for Pagbank
- Management suggests that the Banking, Investments and Insurance opportunity has a TAM of R\$460bn (US\$85bn) which is ~17x the size of today's Payment industry
 - Banking represents the bulk of this TAM at R\$421bn

PagSeguro Market outlook

PAGBANK'S TAM¹ IS 17X LARGER THAN PAYMENTS



(MERCHANTS)

Payments

R\$ 27 bn

MAIN FEATURES

Mobile Point-of-Sale		Cash Management	
Point-of-Sale		ERP System	
Online Payments		Split Payments	
Cross Border		Food Delivery App	
Pix		CRM Loyalty	



(MERCHANTS / CONSUMERS)

Banking

Investments

Insurance

TOTAL

R\$ 421 bn + R\$ 16 bn + R\$ 24 bn = R\$ 461 bn

MAIN FEATURES

Lending	<ul style="list-style-type: none"> Personnel Payroll Overdraft Revolving Working Capital RegistraSeguro (collateralized prepayment) 	Super App	<ul style="list-style-type: none"> Personal Mobility Gas Station Google Play Marketplace Bilhete Único Tik Tok
Card Issuance	<ul style="list-style-type: none"> Prepaid Card Cash Card Credit Card 	Bill Payments	<ul style="list-style-type: none"> Account Balance Credit Card
Deposits	<ul style="list-style-type: none"> Payments Payroll Wire Transfers P2P Pix Boleto 	Other Services	

MAIN FEATURES

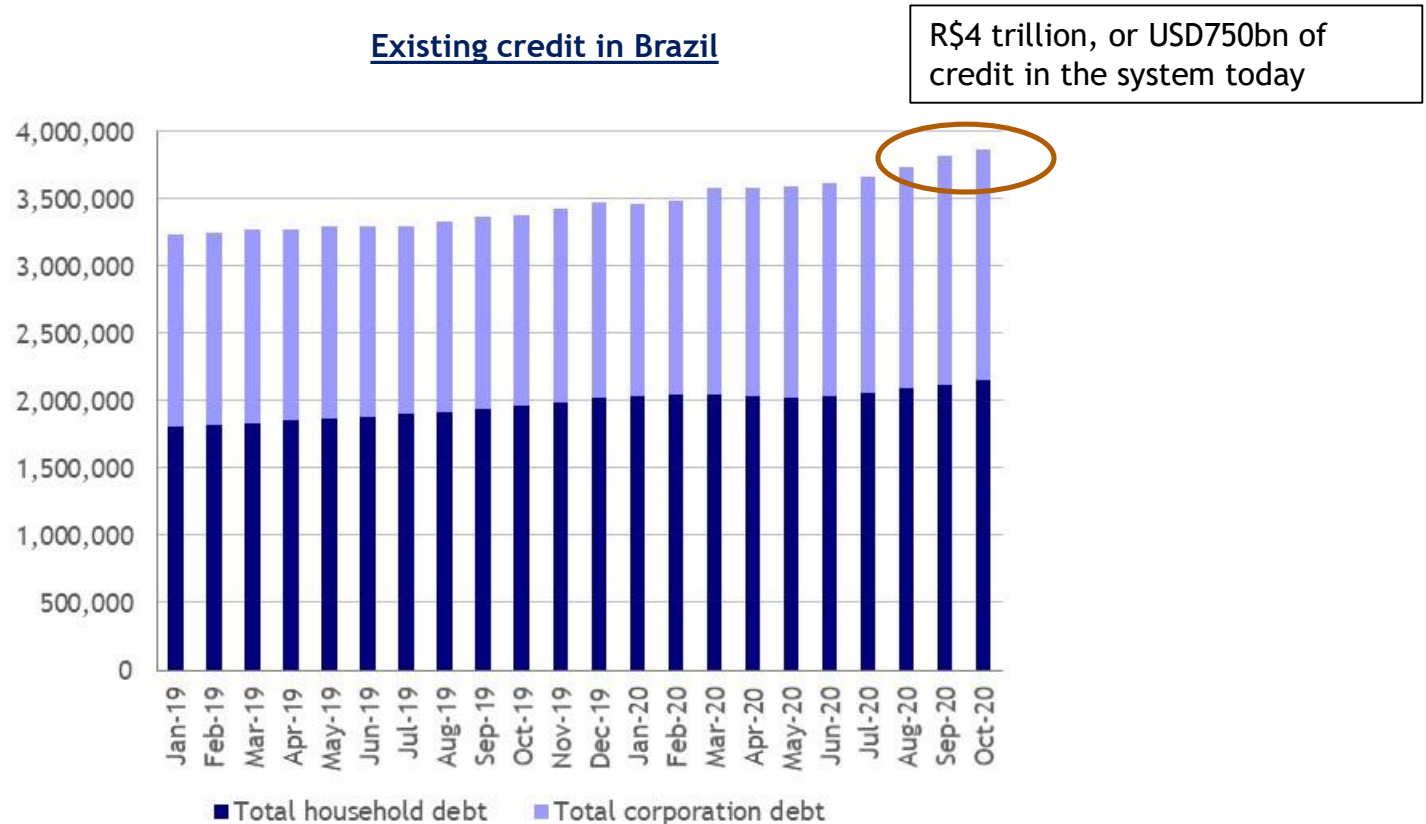
Certificates of Deposits	Health	<ul style="list-style-type: none"> PagBank Health Others
Investment Funds	Life	
Equities	Home	
Financial Education	Equipments	<ul style="list-style-type: none"> Appliances Laptop Mobile Phones

~17x

Source: PagSeguro Q3 2020 earnings release

Deriving the TAM - the Existing credit pool in Brazil

- PAGS' data to derive the R\$420bn of Banking TAM is derived from Brazilian CB data showing ALL Consumer and SMB loans
 - This data set is the basis for PAGS' estimates
- Existing credit in the system in Brazil is equal to almost R\$4 trillion



Source: Brazil Central Bank

Sense check: A little optimistic but still R\$100bn to shoot for

- Based on the total credit outstanding today, PAGS the assumes a coupon (19% on SMB, 48% consumer), default/NPL assumptions and funding/cost of capital to derive the R\$421 billion “revenue pool” or, more accurately, net interest income; or TAM

Breakdown of Credit in Brazil

SMB loans breakdown, R\$ billion

Other	465	27%
Working Capital	427	25%
Dis. receivables	96	6%
Dis. credit card bills	40	2%
Credit cards	12	1%
SMB Non-Earmarked Consumer loans	1,041	61%

BNDES	393	23%
Other Earmarked	179	11%
Rural credit	52	3%
Real estate	30	2%
Total SMB Corporate Credit	655	39%

Total SMB	1,696	100%
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Consumer loans breakdown, R\$ billion

Pay roll	413	19%
Credit cards	257	12%
Vehicles	209	10%
Regular loans	141	7%
Other	114	5%
Overdraft	19	1%
Household Non-Earmarked loans	1,153	54%

Earmarked real estate	690	32%
Earmarked rural credit	219	10%
BNDES	54	3%
Other	7	0%
Total Earmarked loans	970	46%

Total Consumer	2,123	100%
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- In reality, PAGS:

- Will not target Earmarked lending (being part of broader Public Policy, such as BNDES lending)
- Will target “Consumer” over SMB. This is a little counterintuitive as PAGS is “merchant focused” but not the sort of merchant size associated with SMBs and included here

PagSeguro Analysis

Credit book	R\$ billion
Total SMB Corporate Credit	1,696
Average rates (monthly interest)	19%
	1.6%
Default assumption	8%
Cost of capital	6%
Revenue pool (net interest income)	91.5
as % loan book	5%
Total Consumer	2,123
Average rates (monthly interest)	48%
	4.0%
Default assumption	27%
Cost of capital	6%
Revenue pool (net interest income)	315
as % loan book	15%
Account fees/other	58.9
Fintech share	25%
Fintech revenue pool	14.7
Total TAM	421.5

- A slightly more realistic TAM, in our view, is therefore driven by Non-Earmarked Consumer loans with a focus on:

- Pay roll loans - launched in Q1 2021
- Credit cards
- Working Capital
- => **R\$100bn TAM**

New Street Analysis

	R\$ billion
Total Non-Earmarked Consumer	1,153
Average rates (monthly interest)	42%
	3.5%
Default assumption	27%
Cost of capital	6%
Adjusted TAM	104

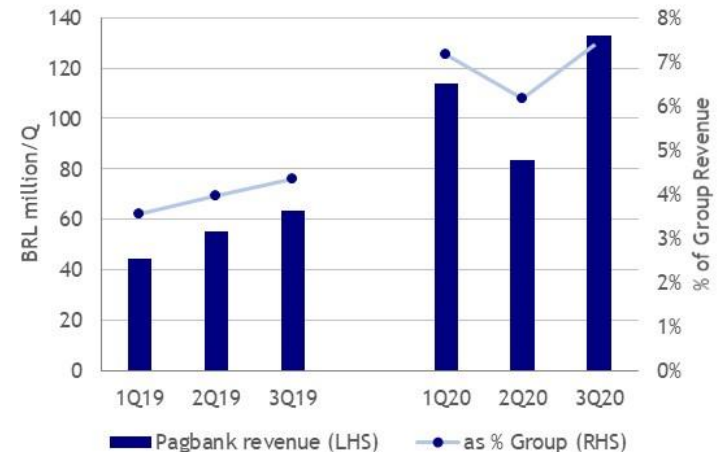
Breaking down the Pagbank business model

Card Issuance, Wallet and Lending

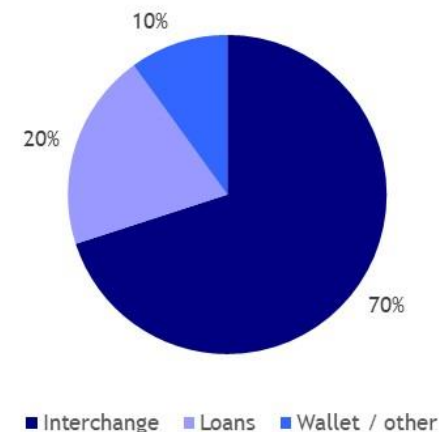
Pagbank's key revenue streams: Card Issuance, Wallet and Lending

- Pagbank revenue is relatively small today (R\$330m first 9 months of 2020) and derived from three main sources:
 1. Card issuance:
 - This is the biggest driver of revenues today
 - As the biggest issuer of cash cards in the country today, <10% of Pagbank issued cards are credit and there is no debit offering today. There are two such cash cards:
 - A pre-paid “credit” card, so called because it can be accepted by merchants taking credit cards (but not offering credit). The customer loads up the card before paying. This is Mastercard branded
 - A cash “debit” card, which links directly to the Pagbank wallet. This is VISA branded
 - In both cases Pagbank charges Interchange to acquirers (which might be itself) on the payments
 2. Wallet payments:
 - Pagbank charges a fee if a customer makes a QR payments using either account money or the PIX network
 - It also charges the operators for wireless top ups
 - P2P transfers and utility bill payments are zero charged
 3. Lending:
 - This is focused on merchants and is largely in the form of working capital loans (~two thirds) with the rest in the form of credit card receivables
 - This is perhaps where the most upside is

Pagbank revenue over time



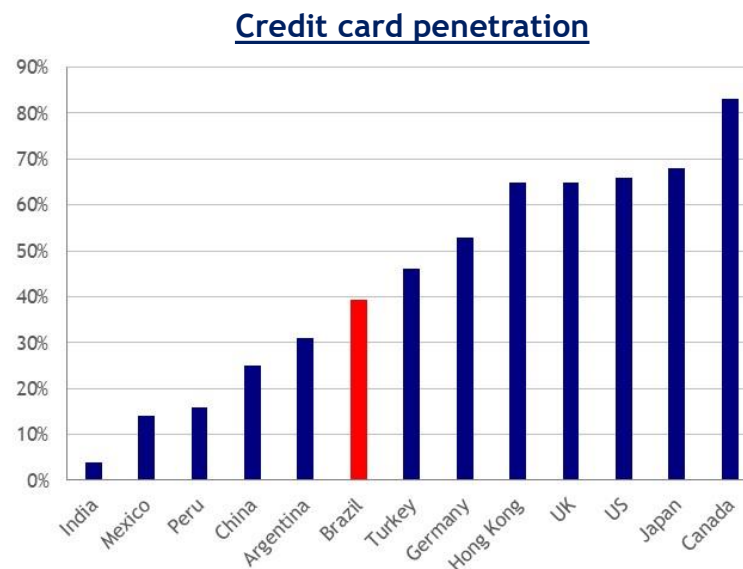
Pagbank revenue split



Source: PagSeguro earnings releases

1/ Credit cards - Targeting strong consumption today

- **Pagbank's credit card issuance is very nascent in Brazil today**
 - We estimate just over 100,000 Pagbank credit cards by the end of 2020 - versus a market of 132 million
- **Market growth has been rapid**
 - Offerings from *neobanks* are proliferating with demand continuing to be supported by Brazil's instalment model for payments (as well as more attractive fees)
- **We think credit card penetration is probably close to 40% (% of POPs owning one or more credit cards)**
 - International peer comparisons suggest there is plenty of upside here
- **Covid led to a slight unwind of this trend in 2020 as the environment sees customers revert TPV exposure to debit**
 - Credit TPV across Brazil dropped to 56% of total (credit + debit + cash cards) in Q3 but this will be a temporary shift and we expect a return to the >60% historic levels from 2021
 - (With a lower MDR this impacted PAGS' Acquirer business)



* Definitional change at the start of 2018

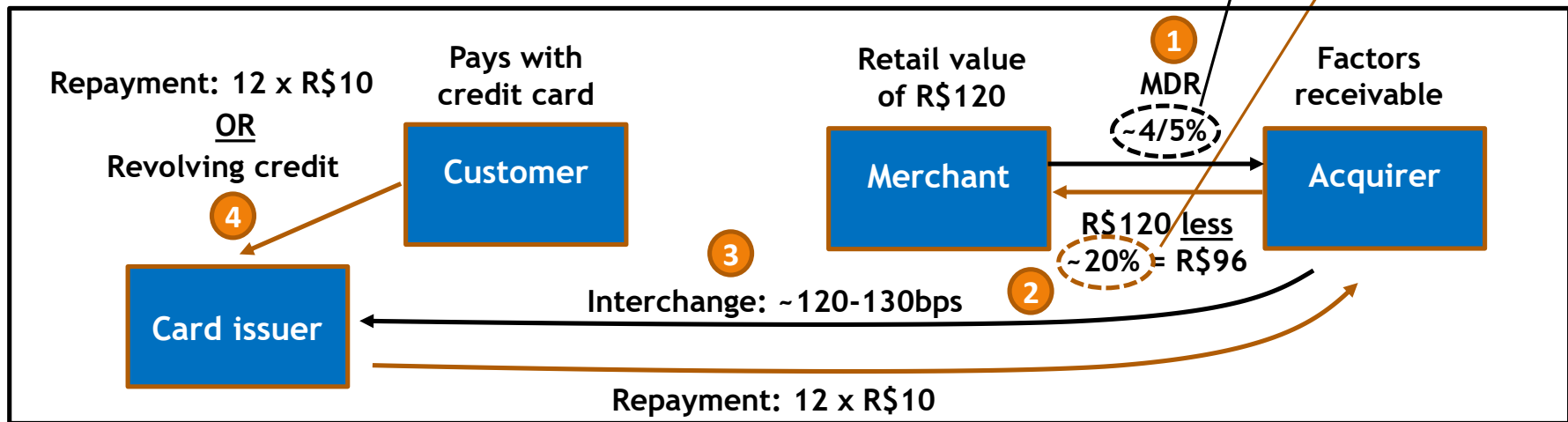
Credit cards: The Instalment model and Revenue upside to the Group

- Credit cards in Brazil operate slightly differently to other countries
 - In addition to purchases being charged to consumers' cards in a single payment, they are very often charged in instalments
- As an Acquirer, PagSeguro already takes a slice of value from the credit card value chain
 - Booking a discount rate (MDR) on credit card payments over Paga
 - Pre-paying receivables at rates of ~20% (12m instalments)
 - This creates credit exposure for Pagseguro to the card issuers
- Issuing their own credit card means Pagbank can add two further revenue streams to the existing model
 - Booking interchange on transactions
 - Revolving credit fees: These can reach up to 300% per annum

MDR and pre-payment fees (example)

Transactions	D0	D+14	D+30
Debt Transactions	1.99%	1.99%	1.99%
Credit Transactions Single Installment	4.99%	3.99%	3.19%
Credit Transactions Multiple Installments	5.59%	4.59%	3.79%
Prepayment Fee	2.99%	2.99%	2.99%
Credit Transactions 02x Installments	9.91%	8.91%	8.11%
Credit Transactions 03x Installments	11.29%	10.29%	9.49%
Credit Transactions 04x Installments	12.64%	11.64%	10.84%
Credit Transactions 05x Installments	13.97%	12.97%	12.17%
Credit Transactions 06x Installments	15.27%	14.27%	13.47%
Credit Transactions 07x Installments	16.55%	15.55%	14.75%
Credit Transactions 08x Installments	17.81%	16.81%	16.01%
Credit Transactions 09x Installments	19.04%	18.04%	17.24%
Credit Transactions 10x Installments	20.24%	19.24%	18.44%
Credit Transactions 11x Installments	21.43%	20.43%	19.63%
Credit Transactions 12x Installments	22.59%	21.59%	20.79%

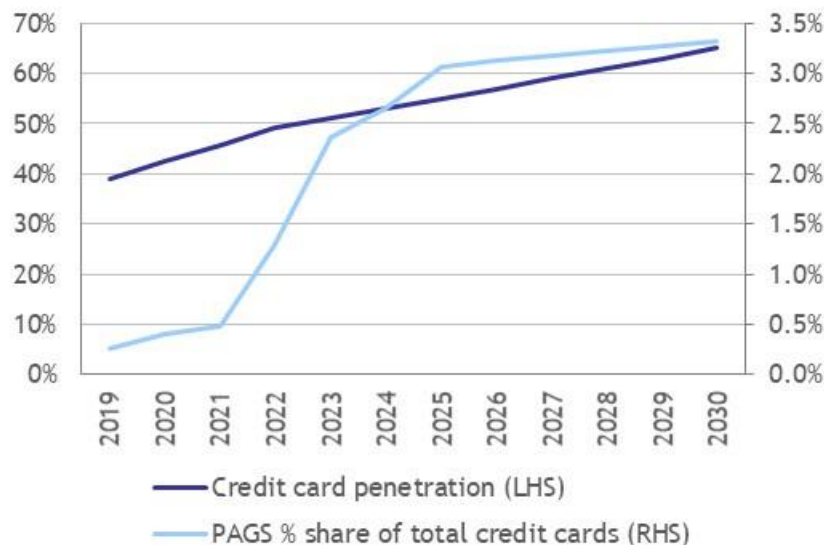
Credit card flows for a good sold at R\$120 retail



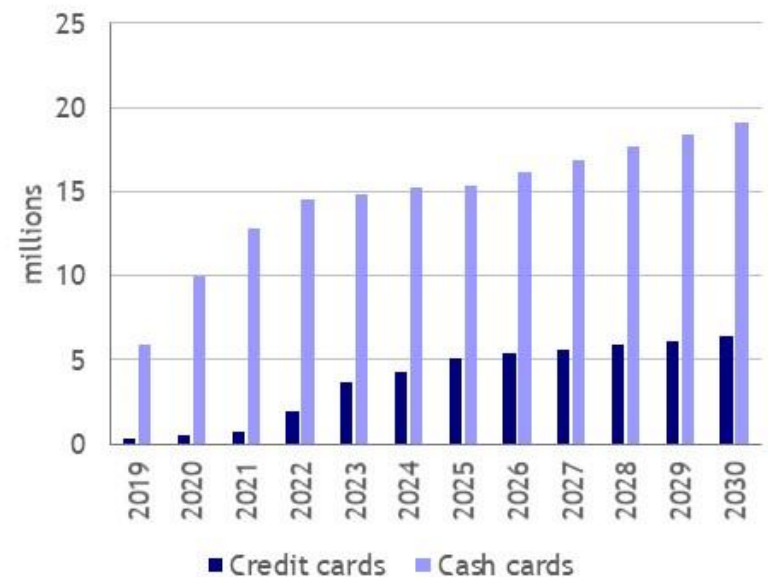
Card Issuance (credit + cash) expectations

- **We show our credit card expectations below**
 - We see credit card penetration rising from 42% to 65% by 2030
 - We see ongoing small share gains for PAGS in the market as PAGS expands its offering from merchants today to consumers in the near future
- **We also see ongoing expansion in cash card issuance which today dominates PAGS card issuance**
 - Pagbank is the biggest issuer of cash cards in Brazil today
 - Interchange booked on cash cards is broadly the same as booked on Credit, so the mix doesn't materially impact interchange revenue expectations
 - Credit cards, however, contribute to the sizing of the loan book and bring additional financial revenues

Credit card penetration



Active card expansion



Card Issuance Fees (and versus other fees)

- Card issuance allows Pagbank to book up to 150 bps from Interchange charged to the Acquirer (this may be slightly lower). We also show
 - The MDR rates typically charged by the Acquirer business to the merchants
 - The rates charged via the Pagbank wallet
 - Rates are between 99 bps (Account/Wallet money) and 189 bps for PIX (though this is on promotion currently)
 - P2P and utility bill payments are zero rated
 - There is a charge typically for cell phone top ups
- QR payments generate the higher gross profit but profit on cards are also higher gross profit than the Acquirer business

Pagbank fees and transaction costs

Basis points	Interchange MDR	Interchange PAGS books (paid by PAGS)	Paid to Network VISA/Master	Other cost (Processing)	Gross Profit	Gross %	Notes
PAGBANK							
<u>QR payments</u>							
Account	99	99	0	0	5	94	95%
PIX	189	189	0	0	5	184	97% On promotion for 3m at zero*. MELI charging 99 bps
<u>Cards</u>							
Pre-paid cash "credit"	~300	150	0	30	5	115	77% Mastercard branded; transfer from Pagbank to card to pay
Cash "debit" card	~300	150	0	30	5	115	77% VISA branded; links direct to Pagbank (effectively a debit card)
Credit card	~300	150	0	30	5	115	77% VISA branded
PAGSEGURO (ACQUIRER)							
<u>mPOS</u>							
Debit	199	199	50	40	5	104	52% 50 bps interchange on debt is capped by regulation
Credit							
- Just in time	499	499	125	40	5	329	66%
- 14 days	399	399	125	40	5	229	57%
- 30 days	319	319	125	40	5	149	47%

Notes

Card issuer pays Networks on per transaction basis, Acquirers pay on a more volume agnostic basis

Cash cards have a slightly lower pay away than debit or credit as they are VISA & Mastercard only. The other main Network in Brazil is ELO which has higher fees than the 2 big global names and which pushes up the average interchange

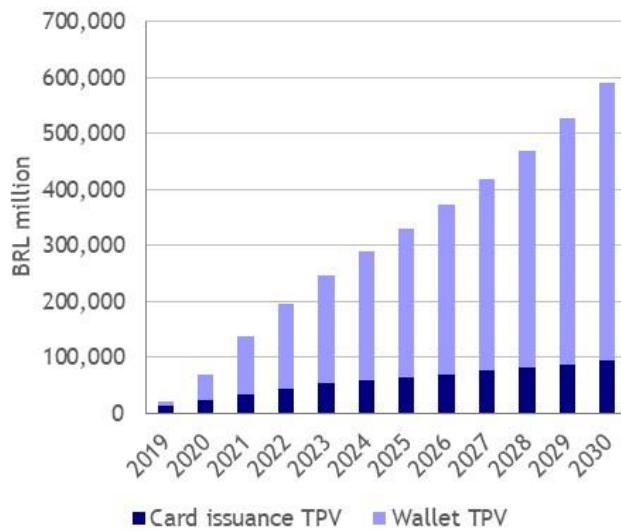
* Promotions often involve MDR charged to merchants for debit or credit for either, 1/ the first 3 months, or 2/ Up to R\$1,500 spend. PAGS has extended to include PIX payments

Source: PagSeguro disclosure

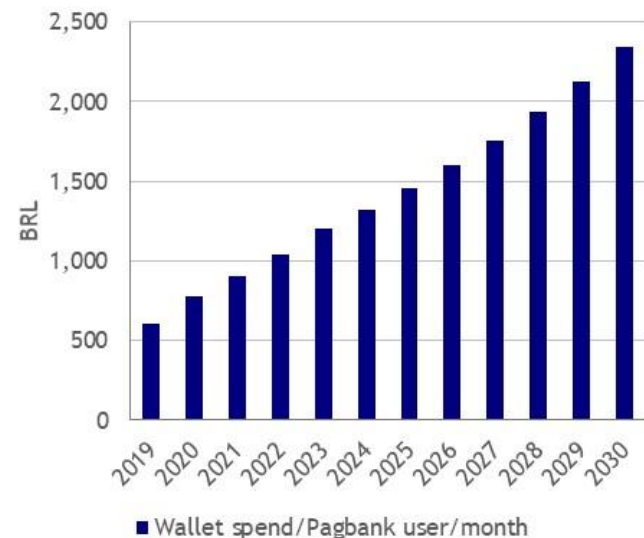
2/ Mobile wallet - direct monetisation limited

- The mobile wallet is set to be the access route for many financial services
- The wallet will also facilitate certain payments such that Pagbank TPV will dwarf Acquirer TPV over time
- However, monetisation will be more limited
 - PAGS will charge for in-store QR payments (though PIX is being promoted for free for short periods at the moment) and some cell phone top up but much of the payments will be zero rated bill payments and P2P
 - MercadoLibre suggest its Pago wallet take-rate is ~1% although it seems to be running lower at Pagbank
 - Wallet looks to be contributing ~10% of total Pagbank revenue and with reported TPV this suggests a take rate of 10-20 bps only
 - We assume a stable wallet take going forward
 - MELI's CFO has also suggested that the wallet is likely to make only a small contribution to profitability (and currently loses money)
- We assume huge growth in wallet TPV but with more limited revenue expansion

Pagbank TPV - split by Wallet and Card issuance



Wallet TPV/user/month



How do Brazilian wallets compare with US' Cash App and Venmo?

Brazilian m-wallets



Pagbank (and Mercado Pago) are typically marketed as on-line banks and offer more services

- A key Pagbank demographic is the “unbanked”. Same for Pago. Typically Venmo and Cash App are linked to existing bank accounts (although this isn’t a prerequisite). Neither Venmo nor Cash App have a banking charter in the US
- Account/cash balances earn a yield in Brazil: 200% of CDI in the case of Pagbank, 100% of CDI for Mercado Pago
- Both Pagbank and Pago offer (and advertise prominently) lending
 - Pagbank is only for merchants today; Pago offers its *Mercado Credito* solution for instalment purchases wherever Mercado Pago is offered as a payment tool

Cash card issuance amongst Brazilian wallets is also prominent in a culture where cards are still desired and where penetration still has some way to run

- Cash cards are the main Pagbank card in issuance today although credit cards are available (to merchants); Pago is due to launch a credit card in Q1 2021
- Debit cards are also offered by Cash App and Venmo although these are add-ons

Square's Cash App and Paypal's Venmo



US wallets are predominantly marketed as P2P payment tools to millennials; Brazil has a strong QR focus

- Venmo in particular has a strong social network element, allowing payments to be visible (if desired) to social groups
- Venmo can also be used to pay for goods on-line wherever Paypal is accepted
- While P2P is popular in Brazil (~30% of wallet usage), in-store QR payments are a key driver (~20% of usage) and where the wallet is largely monetised today
 - These are offered also in the US but it’s not a driver of usage
- Square’s Cash App’s *Boost* functionality sees it partner with retailers to offer time-limited discounts
 - We’re seeing this beginning in Brazil with Pagbank partnering with Shell for example

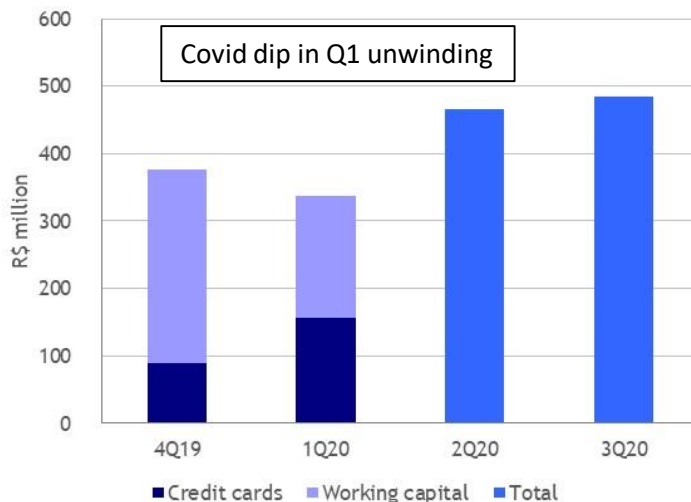
Cash App is pushing into investment but it’s some way off the *Super App* aspiration

- Cash App allows for trading stocks and, perhaps more famously, also the purchase, receipt and sending of bitcoin
 - This is in fact the driver of revenue and the margin is a significant component of gross profitability

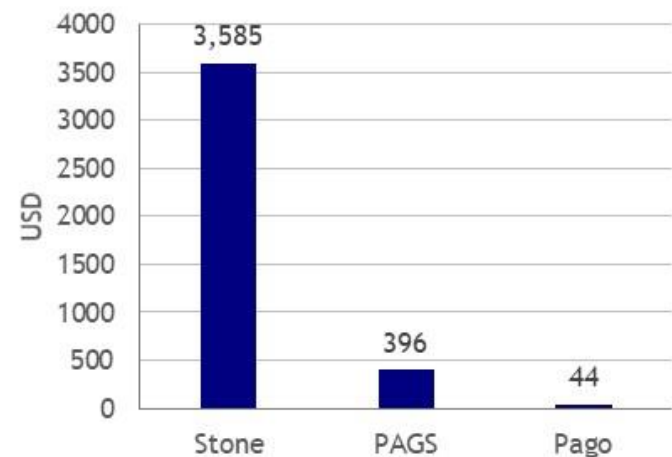
3/ The Loan Book

- **Loans today are being offered to Merchants today in the form of Working Capital**
 - The Acquirer model and factoring merchant receivables provides a natural source of collection on the loan
 - Repayment is added to future factoring fees
 - There are 132,000 such loans outstanding with an average size of R\$2,100 (~USD400) per loan
 - This is lower than the sort of run-rate we see from Stone's merchants but a much higher profile to *Mercado Credito* where consumer exposure (credit for marketplace instalment payments) lowers the average credit size to just USD44
 - Lending rates are in the region of ~3.5% per months
- **The rest of the loan book results from Credit Cards issued to Merchants**
- **Focus we believe will remain with merchants although a consumer offering has just been launched in Q1**
 - Pagbank's has rolled out a payroll loan to workers of the State of Guarulhos
 - Payroll loans are very common in Brazil making up 20% of all household lending

Pagbank loan book today



Loan size per credit today

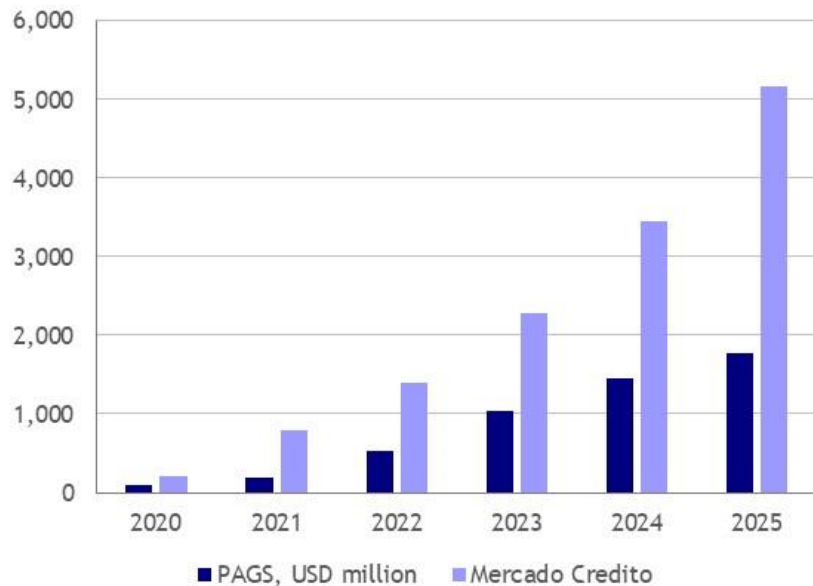


Source: PagSeguro earnings releases; MercadoLibre and Stone earnings releases

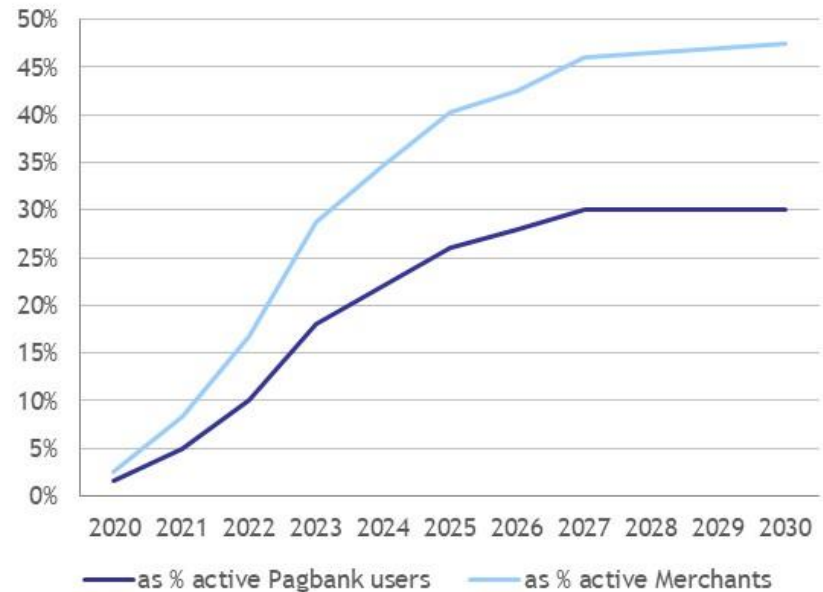
Total loan book expectations for PAGS - and versus *Mercado Credito*

- We show our expectations for PAGS total loan book (working capital, credit cards and all loans)
 - We see this book expanding to close to USD2bn by 2025
 - This compares to over USD 5 billion at MercadoLibre, which benefits from:
 - Being pan regional (although focus is today more on Brazil)
 - Within Brazil being exposed to both merchants and buyers, suggesting it should outpace PAGS' consumer book
- In addition to incremental consumers PAGS effectively targets, this implies that >45% of existing merchants can be extended credit (and 25% of existing Pagbank users)

USD loan book at PAGS vs Credito



Number of credits/loans as % of Merchants and Pagbank users



Funding demands covered

- Funding for Pagbank lending comes from a number of potential sources:
 1. **Pagbank has access to cash generated from the Acquirer business is an ongoing source of cash**
 - Pagbank has a full banking licence (unlike Stone and Mercado Pago, for instance) and can underwrite loans from current Cash and STI of BRL2.5bn (versus a loan book at less than BRL500 million)
 - Funding rates can be seen as <200% of CDI (the yield offered on Pagbank accounts)
 - Lower credit use (and prepayment therefore) during the pandemic has supported this cash position
 2. **Pagbank has a FIDC (*Fundo de Investimento em Direitos Creditórios*, or a Fund for Investment in Credit Rights) which was set up in November 2017 - and which primarily invests in receivables for the Acquirer business. This could also theoretically fund loans at Pagbank (or another one could be established)**
 - At the moment most of the FIDC is funded by PagSeguro (via subscribing to the subordinated quotas of the FIDC)
 - However, there is R\$20m of outside capital which has acquired senior and mezzanine quotas in the FIDC
 - This fund can be further opened up to outside lenders at any time to raise capital (although there is no immediate need and no plans right now)
 - Stone announced on Jan 14 it had issued R\$580m in FIDC, of which R\$493 was via third parties
 - Total demand was close to R\$1bn, according to Stone
 - The senior quotas reached R\$348m at CDI+4%
 - The mezzanine quotas reached R\$145m at CDI+7%
 3. **Pagbank has started to offer certificates of deposits (CDs) - again, possible given it has a full banking licence - which are tied up for 1/ 60 days, 2/ 90 days, or 3/ One year, providing an alternative source of funding**

Pagbank revenue and cost expectations

- PagSeguro only just disclosed some limited financials for Pagbank at the Q3s
 - The market is in the foothills in terms of modelling Pagbank
- The main sense check we have for Pagbank revenue is guidance from management that it should reach 30% of group revenue by the end of 2024 (7.5% currently). There is no other formal guidance
 - We assume Pagbank reaches 25% of revenue by FY 2025
- We see the extension of credit as the biggest driver of growth going forward
 - We don't model out investment, insurance and marketplace revenues at this stage

Pagbank model

BRL million	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Revenue															
Interchange				197	344	505	649	772	859	930	1,006	1,088	1,174	1,263	1,355
Loans				61	175	378	1,036	2,075	2,961	3,655	4,121	4,471	4,696	4,796	4,896
Wallet / other				7	47	104	150	195	230	266	302	343	389	440	498
Total				265	565	986	1,835	3,041	4,049	4,851	5,429	5,902	6,259	6,499	6,749
as % Group revenue				5%	8%	10%	15%	20%	23%	25%	26%	26%	26%	25%	24%
Pagbank costs															
Network fees				40	69	102	131	158	176	191	208	225	242	260	279
Provision for NPLS				28	40	86	237	474	677	835	942	1,022	1,073	1,096	1,119
Funding cost				18	25	54	148	296	423	522	589	639	671	685	699
Total				85	134	242	516	928	1,276	1,549	1,738	1,885	1,986	2,042	2,098
Other expenses					298	394	642	760	607	582	651	708	751	780	810
as % revs					53%	40%	35%	25%	15%	12%	12%	12%	12%	12%	12%
PBT				-188	-157	9	544	1,254	1,715	1,939	2,102	2,201	2,235	2,268	
Effective tax					34%	34%	34%	34%	34%	34%	34%	34%	34%	34%	34%
Tax				0	0	3	185	426	583	659	715	748	760	771	
Net income				-188	-157	6	359	827	1,132	1,280	1,387	1,452	1,475	1,497	
Net margin				-33%	-16%	0%	12%	20%	23%	24%	24%	23%	23%	22%	
as % Group net income				-14%	-8%	0%	11%	22%	27%	28%	29%	30%	29%	28%	

Core business provides plenty of growth opportunities

The Acquirer model in Brazil

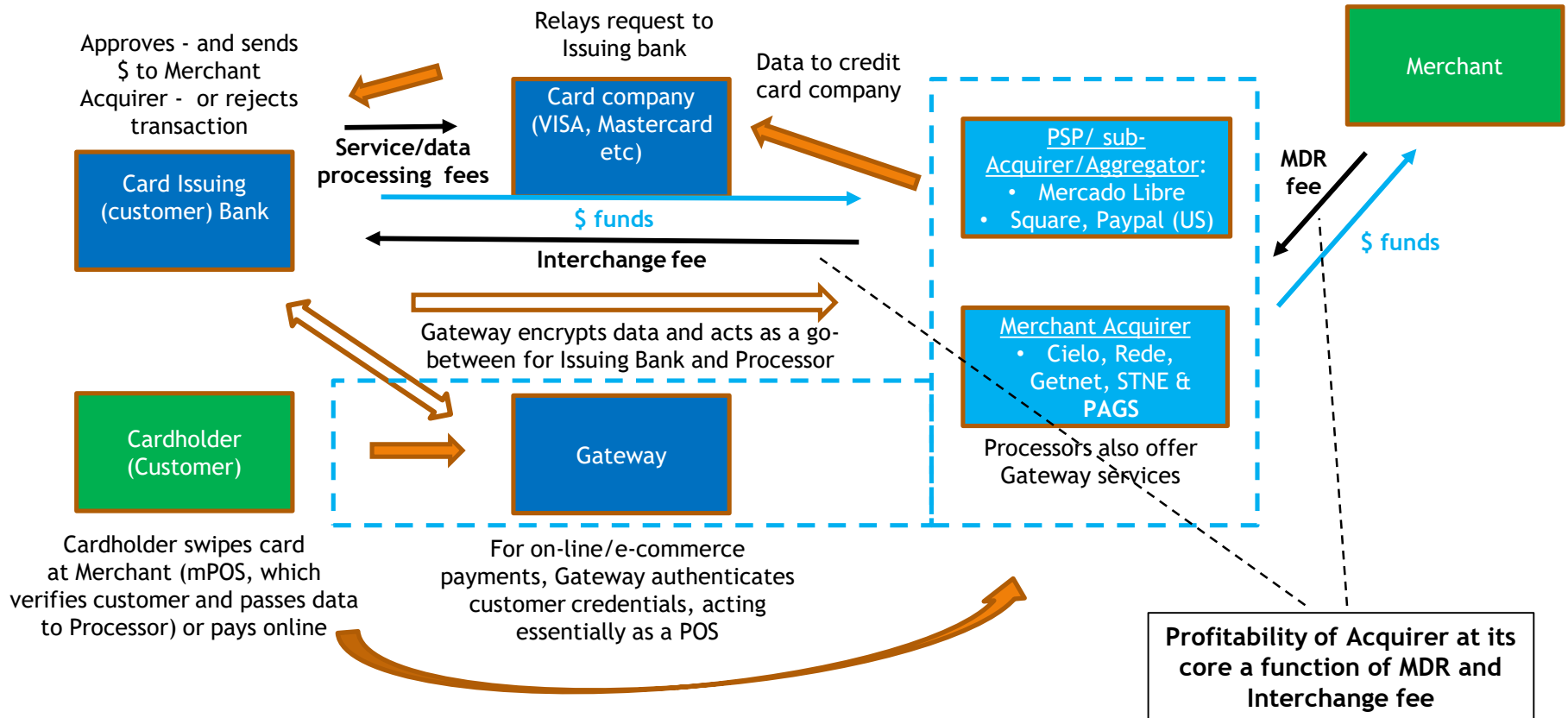
- **PagSeguro's core business is as a Payment Processor, mediating between Merchant, Credit Card Network and Issuing Bank, and facilitating the transfer of funds in a transaction**
 - Traditionally this role would be fulfilled by a "Merchant Acquirer" (in turn a service traditionally provided by the banks), providing a Merchant Account and clearing and settling functions
 - The main Acquirers in Brazil - PAGS' competitors - include Cielo, Rede and Getnet owned by the traditional banks, and Stone
- **The business model is an arbitrage**
 - PAGS charges an MDR (Merchant Discount Rate) to the Merchant for the service
 - At the same time, it then has to meet certain costs including the Interchange fee paid to the Card issuing bank and any Network fees (paid to VISA/Mastercard)
- **PAGS has built its business in off-line payment processing (mPOS)**
 - It focus is on smaller or micro merchants competing most in this segment with Mercado Pago
 - PAGS sells a variety of devices (with flexible payment plans) ranging from the very simple, the *Minizinha Chip 2* to the *Moderninha SMART*, with the more advanced devices including better connectivity, touch screens and integrated software (such as inventory management)
 - Devices are typically subsidised
- **The acquisition of MOIP (Wirecard Brasil) in November 2020 increased the contribution of on-line payment processing**
 - This will take on-line to a low double digit contribution to revenue
- **Outside of this basic model, Acquirers in Brazil such as PAGS also monetise through pre-paying receivables and earning a rate for this service:**
 - Retail payments are very often made in instalments when paid for with credit card. The Acquirer will pre-pay the receivable on behalf of the Merchant, as a form of working capital support
 - This is a very lucrative for business for the Acquirers, representing close to one third of group revenue pre-Covid (with MSR and transaction activities representing most of the other two thirds)

Low-end and High-end POS devices



The Payment Cycle

- We summarise the Payment Cycle for a traditional (VISA, Mastercard) credit card payment below

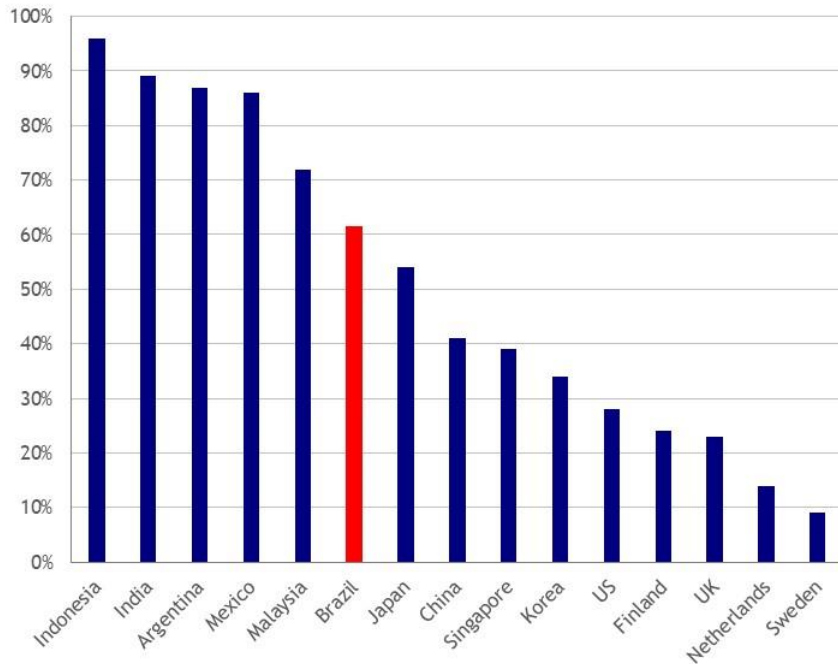


Payments - long-term growth opportunity from ongoing switch from cash

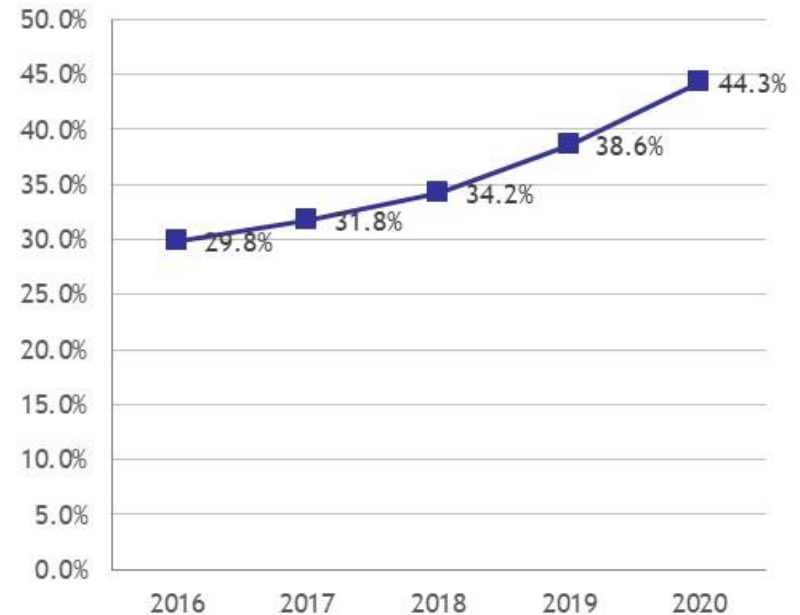
- Payments growth should continue given the relatively low % of payments transacted digitally today
 - We show this versus peers today
- This shift from cash to electronic payments is happening quickly in Brazil

83% of mPOS merchants signed up with the entry level mPOS device, the *Minizinha*, didn't previously accept card payments (March 2020)

Cash usage as % total payments



Payments adoption (Electronic payment vs Total consumption expenditure) in Brazil

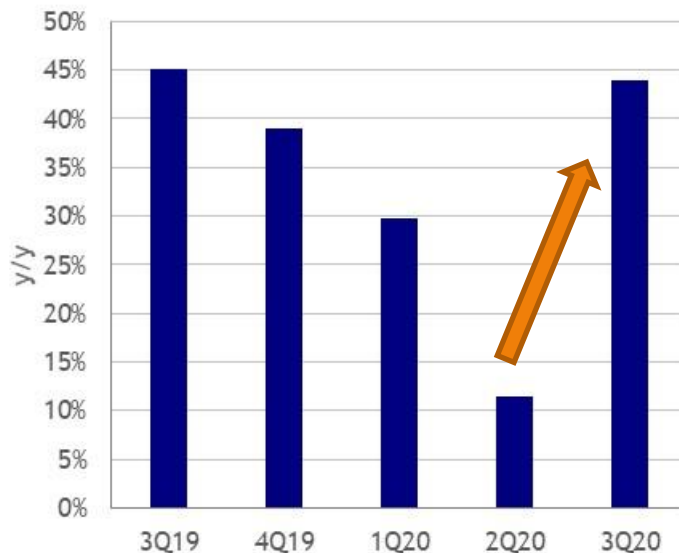


Source: McKinsey and PagSeguro disclosures

Covid I - TPV dipped in Q2, usage swung to Debit (from Credit)

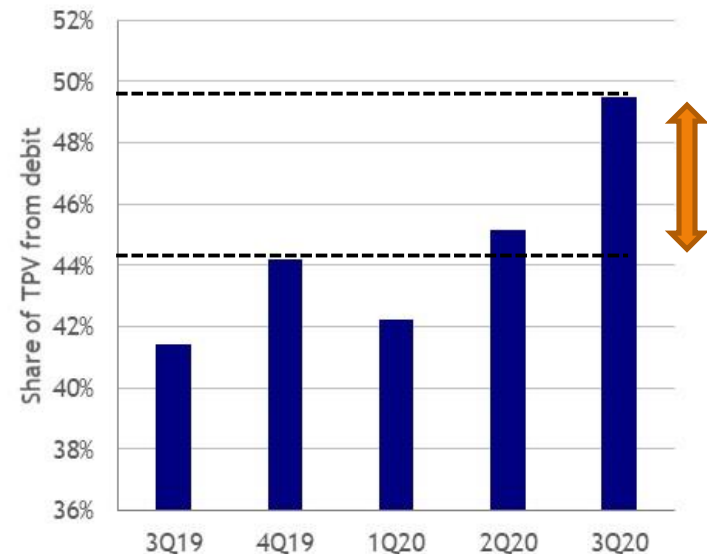
- As a still predominantly off-line business, Covid and the resultant lockdowns had a negative impact on foot fall
 - This was partly offset by payment continuing to switch from cash to “contactless”
- However, there was also a negative impact from a switch from credit to debit as customers pulled back on borrowing to fund purchases. This has two impacts:
 1. Lower transaction fees as credit card MDR's (319 to 499 bps) are lower than debit card MDRs (199bp) - see slide 21 for comparisons on pricing
 2. Less instalment payments and therefore a reduced opportunity to factor receivables

PagSeguro Acquirer TPV * y/y



Recovery from Q2 Covid weakness

PagSeguro share of TPV from debit

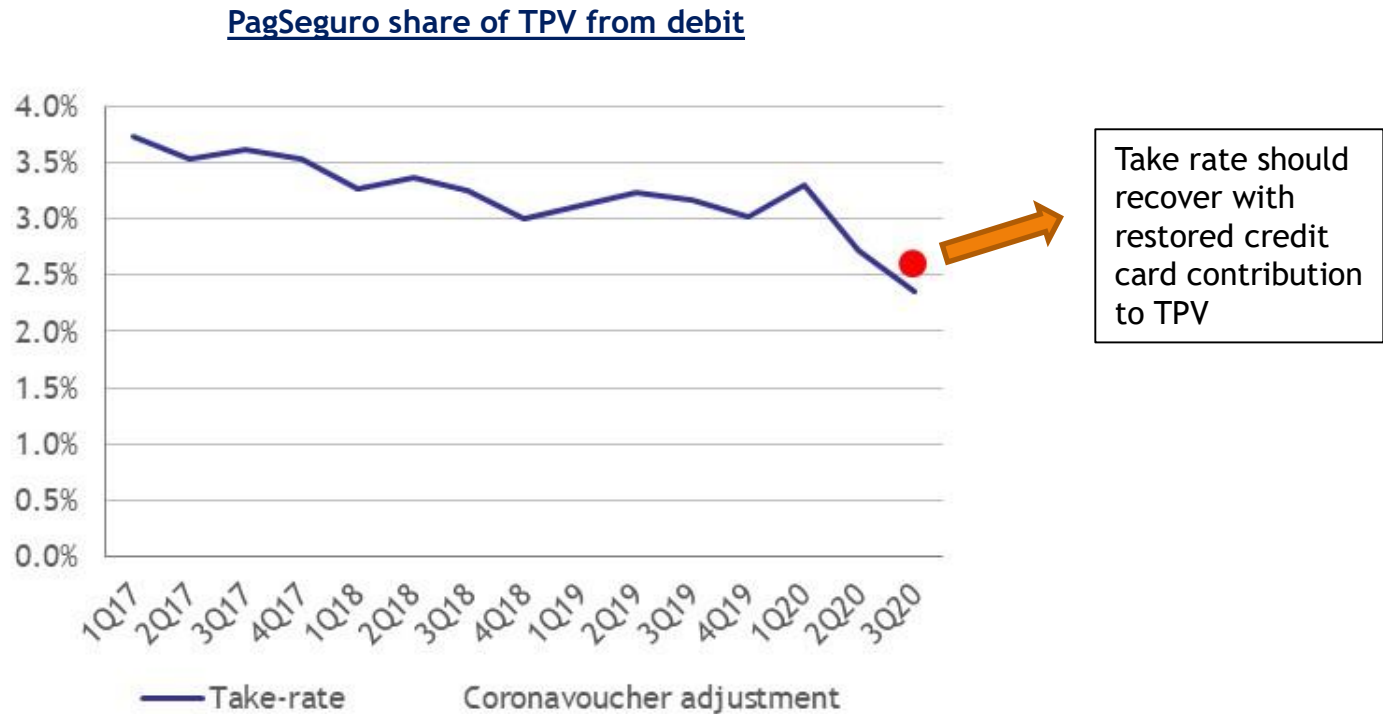


...Though debit exposure remains 5-6pp higher than in recent times

Source: PagSeguro disclosures * Q3 is adjusted for Coronavoucher scheme

Covid II - Take rate hit by lower Credit and Factoring revenue

- The switch to debit impacted the take-rate, as we show below
 - This captures both the lower debit card MDR as well as the lower factoring revenue
- As credit recover this should unwind as customers return to instalment payments again

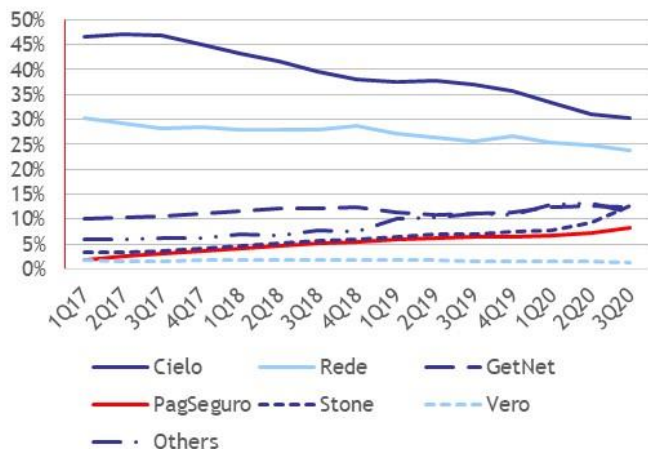


Source: PagSeguro disclosures

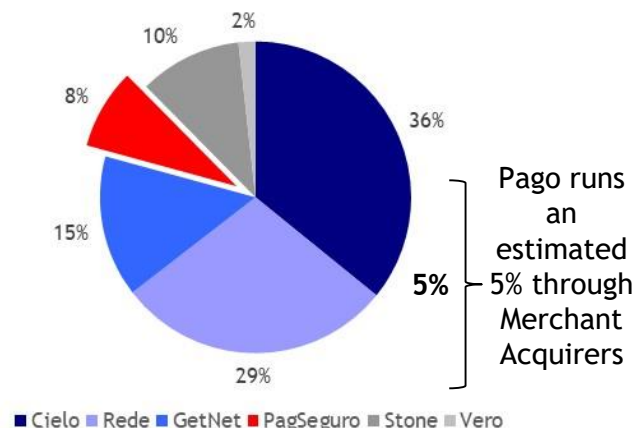
Competition in the Acquirer space

- We show the split of TPV market share by Acquirer in Brazil below (combining mPOS and on-line)
- The incumbent acquirers in Brazil are owned by the banks:
 - Cielo (Bradesco and Banco do Brasil), Rede (Itau) and Getnet (Santander). Focus has traditionally been on larger merchants
- Stone is looking up - and down
 - Stone occupies the “middle ground” of merchant market. While it has been mainly focused on SMEs and gaining share from Cielo and Rede (looking to leverage off the recent Linx acquisition) it started to push its micro-merchant solution, TON, toward the start of the pandemic (with 65,000 active merchants, on top of the 531,200 active base)
- **Pago is PAGO's most direct competitor**
 - Pago competes primarily in the micro-merchant space against PAGO. This is an estimated 11m merchants (of 33m total)
 - With 6.3m active merchants at PAGO, we estimate share of ~60% and x2 as many merchants as *Pago*
 - *Pago* looks to have added subs more quickly over the course of 2020

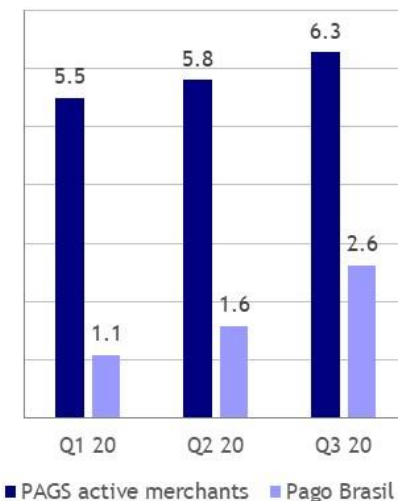
Acquirer market share



TPV by Acquirer, Q3 2020



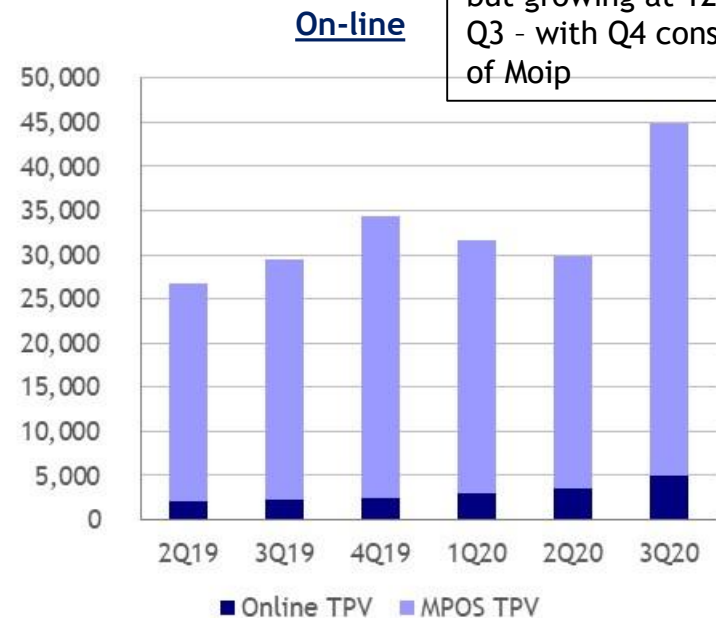
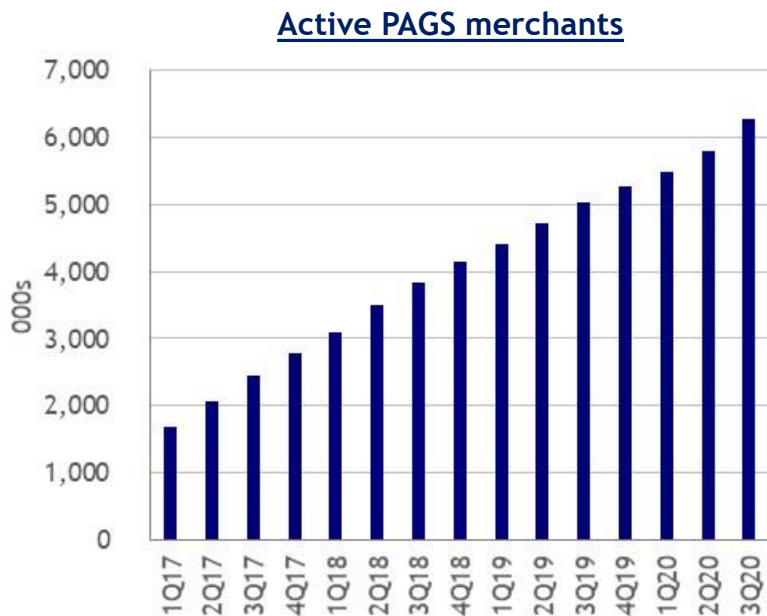
PAGO merchants vs *Pago* mPOS*, million



Source: PagSeguro and MercadoLibre disclosures * Estimate for Brazil based on Group mPOS disclosure at MercadoLibre split by TPV

Wirecard Brasil (Moip) acquisition layers on E-Commerce opportunity

- ~90% of revenue has come from PAGES' mPOS business historically
 - As such TPV has been and will continue to be reliant on continuing to add active merchants
 - PAGES has managed to steadily grow active merchants over the last three years, adding ~300,000 per quarter (of which ~90% are POS).
 - PAGES has the highest share of the POS market in Brazil, with *Pago* coming in with an estimated ~3 million in Brazil
 - There are reported to be 33 million merchants in Brazil (POPs of >200 million)
- PAGES is keen to pursue its on-line strategy more aggressively
 - Existing on-line has been growing TPV at >100% y/y (Q3 20) and well ahead of off-line therefore
 - Wirecard Brasil (Moip) is small but supportive, adding R\$5bn of annual TPV and R\$120m of annual revenue and >0.4m subs
 - Moip is an end to end processor for both marketplaces and direct sellers



Source: PagSeguro disclosures

Acquirer market model and PAGES TPV assumptions

TPV, BRL billion	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Cielo	585	626	627	683	640	683	726	798	878	957	1,043	1,136	1,238	1,348	1,468
Rede	387	392	437	488	503	538	587	628	689	749	814	885	961	1,044	1,134
Getnet	108	142	187	208	254	301	369	413	459	505	555	611	672	739	813
STNE	28	49	83	129	203	278	383	458	542	632	695	765	841	925	1,018
PAGS	14	38	76	116	154	213	272	334	390	442	495	548	605	668	738
Other	79	104	139	224	278	303	303	324	325	326	370	426	490	563	644
Market TPV	1,202	1,350	1,549	1,847	2,032	2,316	2,640	2,957	3,283	3,611	3,972	4,369	4,806	5,287	5,815
% change	28%	12%	15%	19%	10%	14%	14%	12%	11%	10%	10%	10%	10%	10%	10%
Personal consumption exp	4,028	4,247	4,526	4,791	4,633	4,772	5,034	5,311	5,603	5,912	6,237	6,580	6,942	7,323	7,726
Growth		5.4%	6.6%	5.9%	-3.3%	3.0%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	5.5%
TPV as %	29.8%	31.8%	34.2%	38.6%	43.9%	48.5%	52.4%	55.7%	58.6%	61.1%	63.7%	66.4%	69.2%	72.2%	75.3%
Market share															
Cielo	48.7%	46.4%	40.4%	37.0%	31.5%	29.5%	27.5%	27.0%	26.8%	26.5%	26.3%	26.0%	25.8%	25.5%	25.3%
Rede	32.2%	29.0%	28.2%	26.4%	24.7%	23.2%	22.2%	21.2%	21.0%	20.7%	20.5%	20.2%	20.0%	19.7%	19.5%
Getnet	9.0%	10.5%	12.1%	11.2%	12.5%	13.0%	14.0%	14.0%	14.0%	14.0%	14.0%	14.0%	14.0%	14.0%	14.0%
STNE	2.3%	3.6%	5.4%	7.0%	10.0%	12.0%	14.5%	15.5%	16.5%	17.5%	17.5%	17.5%	17.5%	17.5%	17.5%
PAGS	1.2%	2.8%	4.9%	6.3%	7.6%	9.2%	10.3%	11.3%	11.9%	12.2%	12.5%	12.5%	12.6%	12.6%	12.7%
Other	6.6%	7.7%	9.0%	12.1%	13.7%	13.1%	11.5%	11.0%	9.9%	9.0%	9.3%	9.7%	10.2%	10.6%	11.1%
Market TPV	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
BRL billion															
PAGS Acquirer TPV	14.1	37.9	75.7	115.8	153.9	213.1	272.2	334.5	390.2	442.1	495.1	547.6	604.7	668.0	738.3
% growth	0%	169%	100%	53%	33%	38%	28%	23%	17%	13%	12%	11%	10%	10%	11%
- of which debit	4.8	13.1	32.3	49.8	71.4	92.8	112.2	133.5	155.0	175.1	195.7	216.4	238.9	263.8	291.4
- of which credit	9.3	24.8	43.4	66.0	82.6	120.3	160.0	201.0	235.3	267.0	299.3	331.2	365.8	404.2	446.9
Credit as % PAGS TPV	66%	65%	57%	57%	54%	56%	59%	60%	60%	60%	60%	60%	60%	61%	61%
Total merchants, 000s	1,411	2,791	4,135	5,269	6,969	8,069	9,069	9,819	10,319	10,819	11,069	11,269	11,469	11,669	11,869
Adds, 000s	0	1,380	1,344	1,134	1,700	1,100	1,000	750	500	500	250	200	200	200	200
TPV/merchant, BRL	0	18,039	21,860	24,628	25,157	28,343	31,770	35,419	38,755	41,829	45,238	49,029	53,188	57,742	62,732
Brazil merchants, 000s	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000	33,000
Share of merchants	4%	8%	13%	16%	21%	24%	27%	30%	31%	33%	34%	34%	35%	35%	36%
mPOS															
mPOS TPV	14.1	33.9	69.7	106.8	135.2	175.0	220.7	267.5	309.9	349.7	388.8	425.4	464.2	506.4	552.5
mPOS merchants, 000s	1,411	2,496	3,807	4,859	6,109	7,159	8,059	8,709	9,109	9,509	9,659	9,759	9,859	9,959	10,059
On-line															
Online (Wirecard, moip) TPV	0.0	4.0	6.0	9.0	18.8	38.2	51.5	67.0	80.3	92.4	106.3	122.2	140.5	161.6	185.8
% change	0%	0%	50%	50%	109%	103%	35%	30%	20%	15%	15%	15%	15%	15%	15%
Online merchants	0	295	328	410	860	910	1,010	1,110	1,210	1,310	1,410	1,510	1,610	1,710	1,810
Online as % total PAGS TPV	0%	11%	8%	8%	12%	18%	19%	20%	21%	21%	21%	22%	23%	24%	25%

Key inputs for PAGS Acquirer model

BRL million	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
<u>Take-rate MDRs, bps</u>															
Debit	199	199	199	199	199	199	194	189	184	180	175	171	167	163	158
Credit	320	320	320	320	310	310	302	295	287	280	273	266	260	253	247
<u>MDR revenue (Take x TPV)</u>															
Debit	96	261	643	991	1,420	1,848	2,177	2,525	2,858	3,149	3,432	3,700	3,982	4,287	4,618
Credit	298	794	1,389	2,112	2,559	3,728	4,837	5,924	6,760	7,480	8,176	8,820	9,498	10,233	11,030
Total	393	1,054	2,032	3,103	3,980	5,576	7,014	8,449	9,618	10,629	11,608	12,520	13,480	14,520	15,648
<u>Factoring revenue</u>															
TPV from credit	9.3	24.8	43.4	66.0	82.6	120.3	160.0	201.0	235.3	267.0	299.3	331.2	365.8	404.2	446.9
- of which % multi-installments	60%	60%	60%	60%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
Multi-installment TPV	5.6	14.9	26.0	39.6	41.3	60.1	80.0	100.5	117.6	133.5	149.7	165.6	182.9	202.1	223.4
Revenue	392	819	1,415	2,031	2,117	2,783	3,304	3,648	3,680	3,843	3,934	3,939	3,894	4,302	4,756
Implied rate	7.0%	5.5%	5.4%	5.1%	5.1%	4.6%	4.1%	3.6%	3.1%	2.9%	2.6%	2.4%	2.1%	2.1%	2.1%
<u>Costs</u>															
<u>Interchange fees, bps</u>															
Debit	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Credit	130	130	130	130	130	130	130	130	130	130	130	130	130	130	130
Network fees	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
<u>Interchange + Network fees</u>															
Debit	43	118	291	448	642	836	1,010	1,201	1,395	1,576	1,762	1,948	2,150	2,374	2,623
Credit	158	422	738	1,122	1,404	2,044	2,721	3,418	4,000	4,539	5,089	5,630	6,219	6,872	7,597
Total	201	540	1,029	1,570	2,046	2,880	3,731	4,619	5,394	6,115	6,850	7,578	8,369	9,246	10,220
<u>Device sales</u>															
Net device adds		1380	1344	1134	1700	1100	1000	750	500	500	250	200	200	200	200
Activation rate		0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
Gross device adds		1,971	1,920	1,620	2,429	1,571	1,429	1,071	714	714	357	286	286	286	286
Expensed / device (logistics/storage)					150	150	150	150	150	150	150	150	150	150	150
Costs (device logistics & storage)					364	236	214	161	107	107	54	43	43	43	43
Other (inc intercompany taxes)					390	468	515	566	623	685	754	829	912	1,003	1,104
Other transaction costs		74	84	132	754	704	729	727	730	792	807	872	955	1,046	1,146
Implied cost per gross add			150	438	450	450	450	450	450	450	450	450	450	450	450
Capex of device sales				355	1,093	707	643	482	321	321	161	129	129	129	129

Disclosures

12 month historical recommendation changes are available on request

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