

## Nubank

## Upgrading to Neutral - Profitability to Emerge In 4Q and Delinquencies Contained

We believe Nubank profitability will emerge in 4Q and 2023 and after recent correction (down ~20% vs. Ibov down ~10% last 1 month) we see stock potentially reacting positively, driving a poor risk reward to our previous Underweight. Thus, we upgrade the company to Neutral. Actually, we expect positive short term trends: (i) funding optimization and loans repricing to benefit 4Q22 and 2023 NII trends; (ii) asset quality to remain a risk but unlikely unfolding in 4Q; and (iii) payroll loans helping Nu sustain 2023 loan growth. Another positive to earnings includes Mr. David Velez giving up his shares award, a ~US\$70mn EBT savings per year ([link](#)). On the negative side, interchange cap starts in April and Mexico growth is likely a headwind to EPS. Still, we believe those negatives are mapped. Finally, we are keeping our USD4-4.5 fair value per share range which offers limited upside. Thus despite positive news we set a Neutral rating mostly on valuation. Nubank is now trading at 3.9x 22E P/BV and 37x our above consensus 23E earnings.

- **NII growth to remain solid due to funding improvement - despite loan deceleration.** We don't expect Nubank loan growth to remain as solid in 2023. True, Mexico and potential new payroll product may help, but we expect a big deceleration in credit card and ongoing conservative origination in personal loans in Brazil. We forecast 37% total loan growth next year (vs. 84% in 3Q22), divided in 20% in personal loans, 25% credit cards and some ~US\$1.6bn in new segments (i.e. payroll and other). Still, we see NII growing faster than volumes next year (~60% Y-o-Y) due to repricing and more importantly deposits optimization. We forecast funding cost decreasing from ~90% to ~75% of Selic which could mean some ~US\$300mn tailwind to NII.

## Latin American Financials

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## Equity Ratings and Price Targets

Company	Ticker	Mkt Cap (\$ mn)	Price CCY	Price	Rating		Price Target		
					Cur	Prev	Cur	End Date	Prev End Date
Nubank	NU US	18,565.10	USD	3.97	N	UW	—	—	n/c
Nubank BDR	NUBR33 BZ	18,481.12	BRL	3.45	N	n/c	—	—	n/c

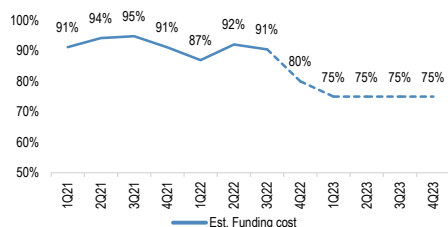
Source: Company data, Bloomberg Finance L.P., J.P. Morgan estimates. n/c = no change. All prices as of 07 Dec 22.

**See page 9 for analyst certification and important disclosures, including non-US analyst disclosures.**

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**Figure 1: We call for good funding improvement in 2023**

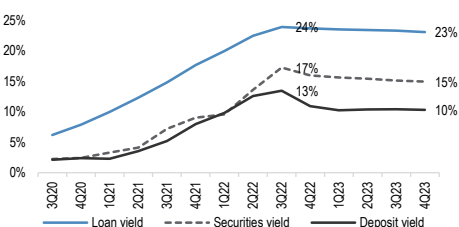
As % of reference rates



Source: Company reports and J.P. Morgan estimates. Funding cost based on "interest and other financial expenses" divided by average deposits, other financial liabilities and financed as % of avg. reference rates in the period.

**Figure 2: While loan yields remain healthy**

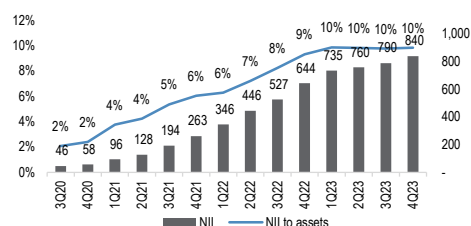
Est. credit, market and funding cost yields



Source: Company reports and J.P. Morgan estimates.

**Figure 3: And margin expansion to fuel NII growth**

USD mn



Source: Company reports and J.P. Morgan estimates. Assuming annualized NII to total assets as a simplification to NIMs.

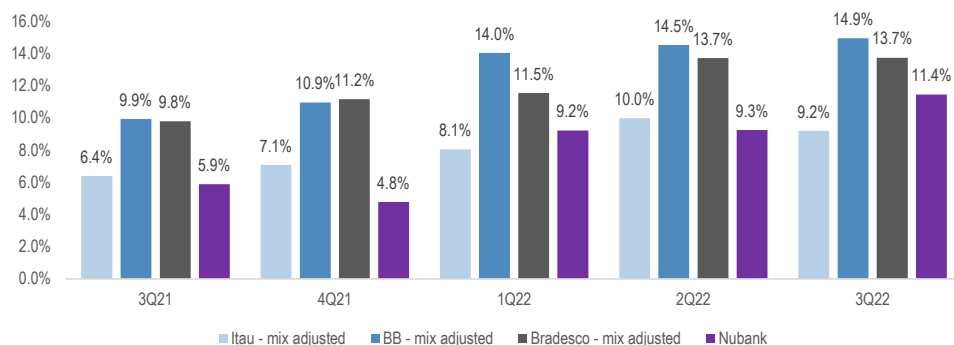
- **Incorporating lower share compensation.** As announced by the company, Mr. David Velez, founder, chairman and CEO will no longer receive his ~US\$423mn contingent share award ([link](#)). Though strikes for those awards are far today (share price at USD18.7 and USD35.3), the accounting recognition of it was a US\$70mn EBT impact from 2022-2026 and some residual value until 2029. We adjust our model to reflect those savings.
- **Mexico and Colombia - recent NuConta approval and good for clients growth, but EPS headwind.** Nubank has been printing good growth in Mexico (3mn clients) and bit more lackluster trends in Colombia (0.4mn clients). We expect this growth pace to accelerate in Mexico as the company just got the approval ([link](#)) to offer digital checking accounts (NuConta). Notably the company was just issuing credit cards, which have lower approval rates due to credit risk (i.e. management usually mention ~25% approval rates). Now the company may offer a product without credit risk which also allows the growth of deposits - key to success in other markets. On a less positive note, those other markets have more limited scale as of today, thus potentially EPS dilutive in the short term, in our view.
- **Prepaid cards volumes to be a small tailwind to financial costs.** There is a lot of discussion about Nubank's average funding cost and money box adoption. We are overall positive on it and we see decreasing funding cost from ~95% to ~75%. We see some peers like PAGs running with retail funding cost closer to ~60%. Notably, we believe Nubank may also marginally benefit from its monthly

prepaid TPV running around ~US\$2.5bn a month (flow, not balance) which implies about ~US\$85mn a day or ~1% of total deposits already at zero remuneration.

- **Nubank asset quality has been better than expected in a very challenging environment.** It is not new news that we are seeing a worsening credit cycle in Brazil. Consumer loans NPLs, notably credit card and personal loans, are running at historical high levels. While credit card volumes are growing at 36% Y-o-Y pace we see revolving up 77% in October. Households leverage is at historical high (28.7% debt service) and Brazil reached the record number of 1 billion accounts in the system, meaning about 5x relationships per social security number in the country. In this challenging outlook Nubank is suffering. However, it has been performing in line to better than the market, which we believe is impressive given the company's higher exposure to lower income clients and to this segment.

**Figure 4: Mix adjusted New NPL Formation for individuals - BBDC and BBAS worse than Nubank**

Mix adjusted - New NPL Formation divided by individuals or retail loan book excluding payroll and mortgage (eop)



Source: J.P. Morgan estimates. Considering active portfolio sales to estimate the new NPL formation. We recognize this analysis has limitations given different accountings, disclosures, renegotiated trends, transactor balances exposure, among others.

- **Adjusting provisions modeling - incorporating stage 3.** We used to model Nubank based on allowance-to-loans, which we believed was a good proxy to reflect expected loss model. In summary, we used to consider a certain % of allowances for loans based on each segment (i.e. ~10-12% for cards and 15% for personal loans). However, this methodology wasn't incorporating calibrations to credit model - thus higher allowances. Given NPLs have little value to compare vs. peers we decided to adjust our model to incorporate stage 3 loans and stage 3 coverage. We believe this may be a better proxy to asset quality trends.
- **All in all - upgrading to Neutral.** We forecast US\$510mn net income in 2023 (~10% ROE) which is almost 70% above Bloomberg consensus (US\$304mn - 17 estimates). However, we are also ~30-20% below consensus in 2024-2025. In our numbers we see Nubank trading at 3.9x 22E book and 37x 23E P/E, which still implies more growth and higher returns in coming years. In summary, while we are getting more positive, our USD4-4.5 fair value per share range still offers limited upside at current share levels.

Adj. EPS Estimate Changes

\$		FY22E			FY23E		
Company	BBG Ticker	Prev	Cur	Δ	Prev	Cur	Δ
Nubank	NU US	0.00	(0.00)	(0.00)	0.08	0.11	0.03
Nubank BDR	NUBR33 BZ	0.00	(0.00)	(0.01)	0.03	0.02	(0.01)

Source: Bloomberg Finance L.P., J.P. Morgan estimates.

## Investment Thesis, Valuation and Risks

### Nubank *(Neutral)*

#### Investment Thesis

Nubank is Latin America's most successful Neobank with ~70mn clients as of 3Q22, of which 57mn were active. Impressively, Nubank is among the top 3 players by number of active clients with credit exposure above US\$40. The company started as a branchless payments app focused on credit cards but has quickly evolved to a complete ecosystem with digital accounts, investments, insurance, and more recently marketplace. The absence of maintenance fees and good user experience (90 NPS as of Dec 2021) is driving strong engagement (80% MAU of which about 50% is DAU). In summary, the word-of-mouth effect is leading to fast growth at low customer acquisition cost (US\$5 per user).

Our Neutral recommendation is mostly driven by a valuation that already incorporates meaningful success in most ventures, when execution risks exist (i.e., competition, regulation, credit cycles, etc.). Despite the recent correction, we continue to see valuation as unattractive in a higher rates environment and higher CoE. Additionally, we view tangible addressable markets given Nubank's asset-light structure as potentially not as large when compared to incumbents, considering the lack of some offerings and free of charge services, lower exposure to higher income clients, and distribution of third-party products. On a positive tone, we see 2023 as an important year for profitability to emerge helped by funding cost improvement, operating leverage and cost of risk to remain high, but growing at slower pace. All in all, great company, but limited upside, in our view.

#### Valuation

We rate Nubank Neutral. Our residual income fair value implies US\$4-4.5 per share, which implies fair multiples around 3.5x to 4.0x 23E P/BV.

We derive our fair value from a three-stage residual income model assuming 30% LT ROE and 12% CoE in USD. In the first stage (2024-33), we forecast Nubank delivering operating leverage and becoming more profitable and growing earnings quickly, especially post 2025. Average ROE in the period is forecasted at ~21%, and we have a ~17% earnings CAGR in those 10 years. In the second stage, we forecast earnings growing at ~7% CAGR as ROE gravitates around ~29%. In the third stage, we forecast 30% LT ROE. Our model is in US\$ and carries FX risks due to the bulk of Nubank's operations being in Brazil in BRL.

#### Risks to Rating and Price Target

As a Neutral-rated stock, risks are both to the upside and downside.

Upside risk include: (i) higher ARPU than forecast; (ii) more successful global expansion beyond Brazil, Colombia, and Mexico; (iii) more meaningful new products (i.e. payroll) or new initiatives like investments, marketplace among others; and (iv) more efficient operation of branchless distribution.

Risks to the downside include: i) lower client monetization than forecast; ii) unsuccessful LatAm expansion; iii) growing client churn; iv) macroeconomic and currency risk, especially in Brazil; v) tech sell-off globally driving lower valuation multiples; vi) credit cycle in Brazil driven by the already high debt services levels, at ~30% of disposable income close to all-time high; and vii) regulatory changes (i.e., capital, taxation, labor, among others).

## Investment Thesis, Valuation and Risks

### Nubank BDR (*Neutral*)

#### Investment Thesis

Nubank is Latin America's most successful Neobank with ~70mn clients as of 3Q22, of which 57mn were active. Impressively, Nubank is the fourth player in Brazil by number of active clients with credit exposure. The company started as a branchless payments app focused on credit cards but has quickly evolved to a complete ecosystem with digital accounts, investments, insurance, and more recently marketplace. The absence of maintenance fees and good user experience (90 NPS as of Dec 2021) is driving strong engagement (73% MAU of which 48% is DAU). In summary, the word-of-mouth effect is leading to fast growth at low customer acquisition cost (US\$5 per user).

Our Neutral recommendation is mostly driven by a valuation that already incorporates meaningful success in most ventures, when execution risks exist (i.e., competition, regulation, credit cycles, etc.). Despite the recent correction, we continue to see valuation as unattractive in a higher rates environment and higher CoE. Additionally, we view tangible addressable markets given Nubank's asset-light structure as potentially not as large when compared to incumbents, considering the lack of some offerings and free of charge services, lower exposure to higher income clients, and distribution of third-party products. On a positive tone, we see 2023 as an important year for profitability to emerge helped by funding cost improvement, operating leverage and cost of risk to remain high, but growing at slower pace. All in all, great company, but limited upside, in our view.

#### Valuation

We rate Nubank Neutral. Our fair value estimates imply a range of R\$4 to R\$4.5 for Nubank's BDR.

Our valuation is based on a three-stage residual income model assuming 30% LT ROE and 12% CoE in USD. In the first stage (2024-33), we forecast Nubank delivering operating leverage and becoming more profitable and growing earnings quickly, especially post 2025. Average ROE in the period is forecasted at ~21%, and we have a ~17% earnings CAGR in those 10 years. In the second stage, we forecast earnings growing at ~7% CAGR as ROE gravitates around ~29%. In the third stage, we forecast 30% LT ROE. Our model is in US\$ and carries FX risks due to the bulk of Nubank's operations being in Brazil in BRL.

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## Nubank: Summary of Financials

Income Statement - Annual	FY20A	FY21A	FY22E	FY23E	FY24E	Income Statement - Quarterly	1Q22A	2Q22A	3Q22A	4Q22E	
Net interest income	168	679	1,963	3,125	3,685	Net interest income	346A	446A	527A	644	
Non interest income	227	534	1,058	1,242	1,520	Non interest income	223A	257A	275A	303	
Net revenues	395	1,214	3,021	4,367	5,205	Net revenues	570A	702A	803A	947	
Provisions	(169)	(481)	(1,370)	(1,637)	(1,821)	Provisions	(276)A	(338)A	(375)A	(380)	
Non interest expense	(419)	(903)	(1,662)	(2,093)	(2,483)	Non interest expense	(362)A	(388)A	(422)A	(490)	
Employee costs	(266)	(629)	(1,039)	(1,321)	(1,558)	Employee costs	(245)A	(230)A	(262)A	(303)	
Adj. PBT	(193)	(170)	(11)	637	901	Adj. PBT	(68)A	(25)A	5A	76	
Income taxes	22	5	5	(127)	(225)	Income taxes	23A	(5)A	3A	(15)	
Minority interest	-	-	-	-	-	Minority interest	-	-	-	-	
Adj. Net profit	(70)	(165)	(6)	510	675	Adj. Net profit	(45)A	(30)A	8A	61	
Reported EPS	(0.02)	(0.04)	(0.00)	0.11	0.14	Reported EPS	(0.01)A	(0.01)A	0.00A	0.01	
Adj. EPS	(0.02)	(0.04)	(0.00)	0.11	0.14	Adj. EPS	(0.01)A	(0.01)A	0.00A	0.01	
DPS	0.00	0.00	0.00	0.00	0.04	DPS	0.00A	0.00A	0.00A	0.00	
Diluted shares outstanding	4,609	4,609	4,676	4,676	4,676	Diluted shares outstanding	4,660A	4,676A	4,676A	4,676	
Balance Sheet	FY20A	FY21A	FY22E	FY23E	FY24E	Balance Sheet	1Q22A	2Q22A	3Q22A	4Q22E	
Cash and cash equivalents	2,344	2,706	3,923	3,531	4,061	Cash and cash equivalents	2,969A	3,701A	3,693A	3,923	
Net loans	3,084	5,975	9,664	13,284	17,074	Net loans	7,902A	8,528A	8,973A	9,664	
PP&E	23	488	732	1,099	1,648	PP&E	548A	576A	586A	732	
LT investments	-	-	-	-	-	LT investments	-	-	-	-	
Other assets	7,787	16,665	24,662	30,723	38,369	Other assets	20,741A	20,912A	21,728A	24,662	
Total assets	10,154	19,859	29,318	35,353	44,078	Total assets	24,258A	25,189A	26,007A	29,318	
Total deposits	5,585	9,667	15,468	19,335	24,168	Total deposits	12,597A	13,293A	14,040A	15,468	
Borrowings	518	165	247	339	433	Borrowings	168A	496A	487A	247	
Total liabilities	9,716	15,416	24,503	30,028	38,246	Total liabilities	19,467A	20,451A	21,254A	24,503	
Shareholder equity	438	4,441	4,814	5,324	5,830	Shareholder equity	4,789A	4,738A	4,753A	4,814	
Total Liabilities and Shareholder Equity	10,154	19,859	29,318	35,353	44,078	Total Liabilities and Shareholder Equity	24,258A	25,189A	26,007A	29,318	
Book Value Per Share	0.10	0.96	1.03	1.14	1.25	Book Value Per Share	1.03A	1.01A	1.02A	1.03	
Tangible Book Value Per Share	-	-	-	-	-	Tangible Book Value Per Share	-	-	-	-	
Balance Sheet Gearing	FY20A	FY21A	FY22E	FY23E	FY24E	Asset Quality/Capital	FY20A	FY21A	FY22E	FY23E	FY24E
Loans/Deposits	55.2%	61.8%	62.5%	68.7%	70.6%	Loan loss reserves/Loans	(7.1%)	(8.8%)	(11.7%)	(11.4%)	(10.8%)
Investment/Assets	-	-	-	-	-	NPLs/Loans	4.1%	3.9%	5.1%	5.7%	5.5%
Loan/Assets	37.8%	32.9%	35.6%	40.1%	43.0%	Loan loss reserves/NPLs	176.1%	211.8%	206.5%	201.6%	202.4%
Customer deposits/Liabilities	57.5%	62.7%	63.1%	64.4%	63.2%	NPL y/y growth	(9.1%)	106.1%	147.5%	31.2%	21.6%
LT debt/Liabilities	5.3%	2.7%	1.0%	1.1%	1.1%	Tier 1 ratio	26.1%	21.8%	11.6%	16.8%	11.0%
Ratio Analysis (%)	FY20A	FY21A	FY22E	FY23E	FY24E	Ratio Analysis (%)	FY20A	FY21A	FY22E	FY23E	FY24E
Net interest margin	2.1%	5.5%	9.2%	10.6%	10.2%	Return on equity (ROE)	(13.4%)	(6.8%)	(0.1%)	10.1%	12.1%
Non interest income/Net revenue	57.5%	44.0%	35.0%	28.4%	29.2%	Return on assets (ROA)	(0.8%)	(1.1%)	(0.0%)	1.6%	1.7%
Non interest income/Avg. Assets	2.7%	3.6%	4.3%	3.8%	3.8%	Return on tangible equity (ROTE)	-	-	-	-	-
Efficiency ratio	106.0%	74.4%	55.0%	47.9%	47.7%	Tax rate	(11.2%)	(2.8%)	(45.0%)	20.0%	25.0%
Leverage ratio	1.1%	3.1%	2.8%	3.7%	4.3%	Net loans y/y growth	8.4%	93.8%	61.7%	37.5%	28.5%
Revenue/Assets	4.7%	8.1%	12.3%	13.5%	13.1%	Assets y/y growth	50.2%	95.6%	47.6%	20.6%	24.7%
RORWA	-	-	-	-	-	RWA y/y growth	196.7%	477.6%	173.4%	20.6%	118.2%
Avg. RWA	248	1,258	4,004	6,467	11,249	Deposits y/y growth	107.4%	73.1%	60.0%	25.0%	25.0%
Avg. IEA	7,852	12,885	20,581	27,210	32,719	Net interest income y/y growth	(26.4%)	304.8%	189.0%	59.2%	17.9%
Gross Loans	3,320	6,555	10,945	14,992	19,140	IE assets/Assets	92.8%	85.9%	83.7%	84.1%	82.4%
P/BV (x)	41.8	4.1	3.9	3.5	3.2	LLP/Loans	(5.3%)	(9.7%)	(15.7%)	(12.6%)	(10.7%)
Adj. P/E (x)	NM	NM	NM	36.4	27.5	Equity/Assets	6.2%	16.3%	18.8%	15.7%	14.0%
Dividend yield	0.0%	0.0%	0.0%	0.0%	0.9%	Cost/Assets	5.0%	6.0%	6.8%	6.5%	6.3%
Dividend payout	0.0%	0.0%	0.0%	0.0%	25.0%	Assets/Equity	16.1	6.2	5.3	6.4	7.1

Source: Company reports and J.P. Morgan estimates.  
Note: \$ in millions (except per-share data). Fiscal year ends Dec

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Reported EPS	(0.00)	(0.01)	(0.00)	0.02	0.02	Reported EPS	(0.00)A	(0.00)A	0.00A	0.00	
Adj. EPS	(0.00)	(0.01)	(0.00)	0.02	0.02	Adj. EPS	(0.00)A	(0.00)A	0.00A	0.00	
DPS	0.00	0.00	0.00	0.00	0.01	DPS	0.00A	0.00A	0.00A	0.00	
Diluted shares outstanding	27,652	27,652	28,058	28,058	28,058	Diluted shares outstanding	27,962A	28,058A	28,058A	28,058	
Balance Sheet	FY20A	FY21A	FY22E	FY23E	FY24E	Balance Sheet	1Q22A	2Q22A	3Q22A	4Q22E	
Cash and cash equivalents	2,344	2,706	3,923	3,531	4,061	Cash and cash equivalents	2,969A	3,701A	3,693A	3,923	
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Book Value Per Share	0.02	0.16	0.17	0.19	0.21	Book Value Per Share	0.17A	0.17A	0.17A	0.17	
Tangible Book Value Per Share	-	-	-	-	-	Tangible Book Value Per Share	-	-	-	-	
Balance Sheet Gearing	FY20A	FY21A	FY22E	FY23E	FY24E	Asset Quality/Capital	FY20A	FY21A	FY22E	FY23E	FY24E
Loans/Deposits	55.2%	61.8%	62.5%	68.7%	70.6%	Loan loss reserves/Loans	(7.1%)	(8.8%)	(11.7%)	(11.4%)	(10.8%)
Investment/Assets	-	-	-	-	-	NPLs/Loans	3.8%	4.0%	5.9%	5.6%	5.3%
Loan/Assets	37.8%	32.9%	35.6%	40.1%	43.0%	Loan loss reserves/NPLs	176.1%	211.8%	206.5%	201.6%	202.4%
Customer deposits/Liabilities	57.5%	62.7%	63.1%	64.4%	63.2%	NPL y/y growth	(9.1%)	106.1%	147.5%	31.2%	21.6%
LT debt/Liabilities	5.3%	2.7%	1.0%	1.1%	1.1%	Tier 1 ratio	26.1%	21.8%	11.6%	16.8%	11.0%
Ratio Analysis (%)	FY20A	FY21A	FY22E	FY23E	FY24E	Ratio Analysis (%)	FY20A	FY21A	FY22E	FY23E	FY24E
Net interest margin	2.1%	5.5%	9.2%	10.6%	10.2%	Return on equity (ROE)	(13.4%)	(6.8%)	(0.1%)	10.1%	12.1%
Non interest income/Net revenue	57.5%	44.0%	35.0%	28.4%	29.2%	Return on assets (ROA)	(0.8%)	(1.1%)	(0.0%)	1.6%	1.7%
Non interest income/Avg. Assets	2.7%	3.6%	4.3%	3.8%	3.8%	Return on tangible equity (ROTE)	-	-	-	-	-
Efficiency ratio	106.0%	74.4%	55.0%	47.9%	47.7%	Tax rate	(11.2%)	(2.8%)	(45.0%)	20.0%	25.0%
Leverage ratio	1.1%	3.1%	2.8%	3.7%	4.3%	Net loans y/y growth	8.4%	93.8%	61.7%	37.5%	28.5%
Revenue/Assets	4.7%	8.1%	12.3%	13.5%	13.1%	Assets y/y growth	50.2%	95.6%	47.6%	20.6%	24.7%
RORWA	-	-	-	-	-	RWA y/y growth	196.7%	477.6%	173.4%	20.6%	118.2%
Avg. RWA	248	1,258	4,004	6,467	11,249	Deposits y/y growth	107.4%	73.1%	60.0%	25.0%	25.0%
Avg. IEA	7,852	12,885	20,581	27,210	32,719	Net interest income y/y growth	(26.4%)	304.8%	189.0%	59.2%	17.9%
Gross Loans	3,320	6,555	10,945	14,992	19,140	IE assets/Assets	92.8%	85.9%	83.7%	84.1%	82.4%
P/BV (x)	41.6	4.1	3.8	3.5	3.2	LLP/Loans	(5.3%)	(9.7%)	(15.7%)	(12.6%)	(10.7%)
Adj. P/E (x)	NM	NM	NM	36.2	27.4	Equity/Assets	6.2%	16.3%	18.8%	15.7%	14.0%
Dividend yield	0.0%	0.0%	0.0%	0.0%	0.9%	Cost/Assets	5.0%	6.0%	6.8%	6.5%	6.3%
Dividend payout	0.0%	0.0%	0.0%	0.0%	25.0%	Assets/Equity	16.1	6.2	5.3	6.4	7.1

Source: Company reports and J.P. Morgan estimates.  
Note: \$ in millions (except per-share data). Fiscal year ends Dec

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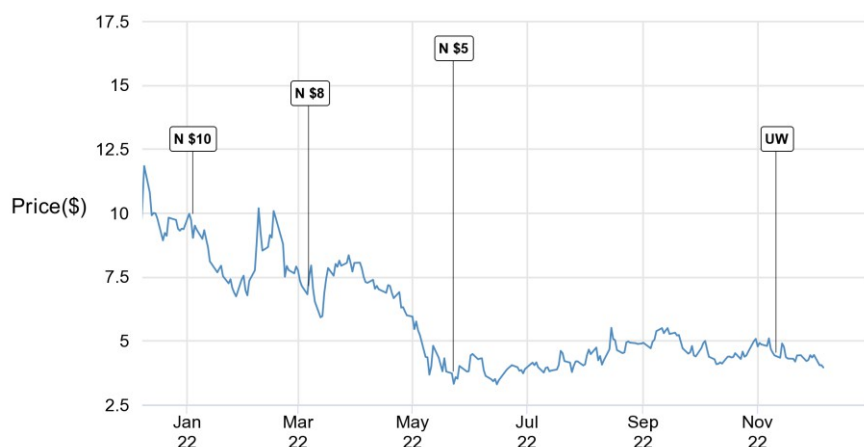
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Nubank (NU, NU US) Price Chart



Date	Rating	Price (\$)	Price Target (\$)
04-Jan-22	N	9.98	10
07-Mar-22	N	7.16	8
23-May-22	N	3.81	5
11-Nov-22	UW	4.55	--

Source: Bloomberg Finance L.P. and J.P. Morgan; price data adjusted for stock splits and dividends.  
Initiated coverage Jan 04, 2022. All share prices are as of market close on the previous business day.

# Nubank BDR (NUBR33.SA, NUBR33 BZ) Price Chart



Date	Rating	Price (R\$)	Price Target (R\$)
04-Jan-22	N	9.30	9
07-Mar-22	N	6.09	7
23-May-22	N	3.11	--

Source: Bloomberg Finance L.P. and J.P. Morgan; price data adjusted for stock splits and dividends.  
Initiated coverage Jan 04, 2022. All share prices are as of market close on the previous business day.

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