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Global Markets Division

Currency Carry Trade

CHF/BRL trade combined with short maturity Brazilian government bonds

Growth Target: +12.25%

Investment Horizon: 1 Year

Daniel Zettl, Anna Tskhakaya, Johannes Pühringer,
Adelina Trofimova, Maximilian Permann

Vienna, June 23, 2023

Team Overview

Global Markets Division



Daniel Zettl
Head

- Fixed Income research
- Trade structure
- Storyline



- Bachelor of Business and Economics (BSc.) WU



Anna Tskhakaya
Associate

- Macroeconomic analysis



- Bachelor of Business and Economics (BSc.) WU



Johannes Pühringer
Analyst

- Forex research
- Fixed Income research



- Bachelor of Economics (BSc.) WU



Adelina Trofimova
Analyst

- Forex research
- Currency movers



- Bachelor of Business and Economics (BSc.) WU



Maximilian Permann
Analyst

- Macroeconomic analysis



- Bachelor of Business and Economics (BSc.) WU

What is covered in the pitch?

1 Macroeconomic analysis Switzerland

2 Macroeconomic analysis Brazil

3 Currency pair CHF/BRL

4 Currency pair movers

5 Currency Carry Trade

6 Monte Carlo Simulation

7 Key takeaways



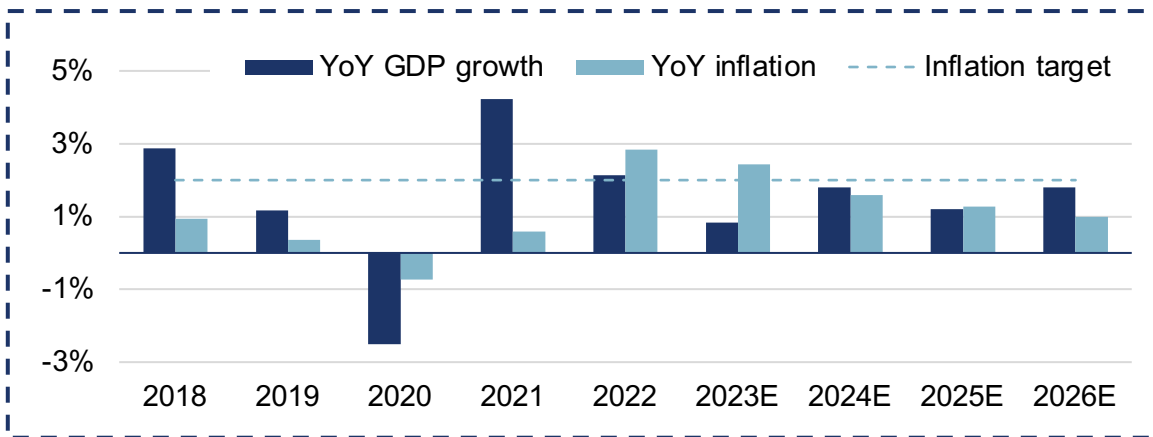
Introduction to affected markets

Unraveling market impact: Switzerland & Brazil

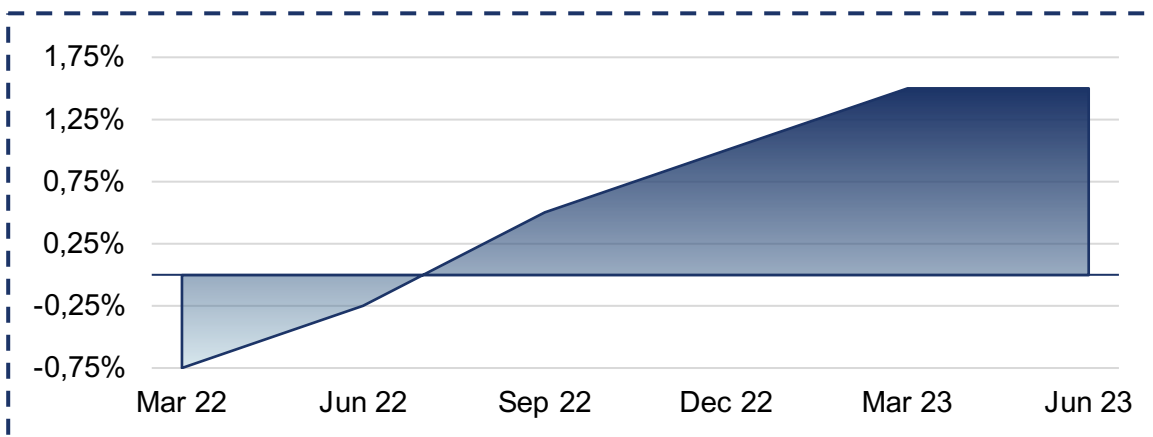


Decoding Switzerland's macroeconomic success

Inflation rate & GDP growth



SNB Policy rate



Economic performance

- Comparatively **good inflation performance**, due to strong Swiss franc, resilient energy supply and pricing controls
- Positive** consecutive **GDP growth**, yet low in 2023
- Manufacturing **PMI 43,2** in May 2023

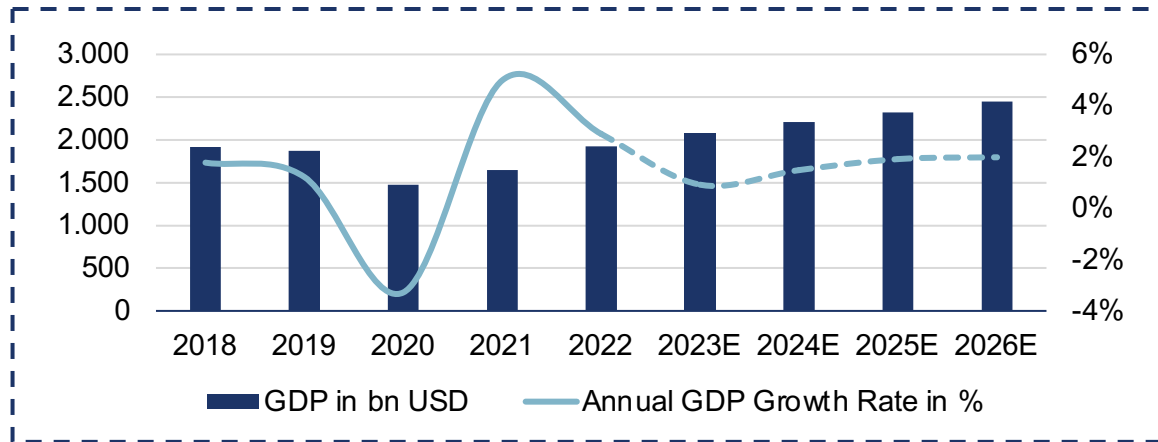
Outlook

- Hints for **further interest hikes** since inflation above target
- Debt to GDP** ratio very **high** in 2021, declined to current 41,4% with expected further decline to 38% until EoY 2023
- Yield curve inverted** with bond spread of -19bp, but PMI outlook expansionary

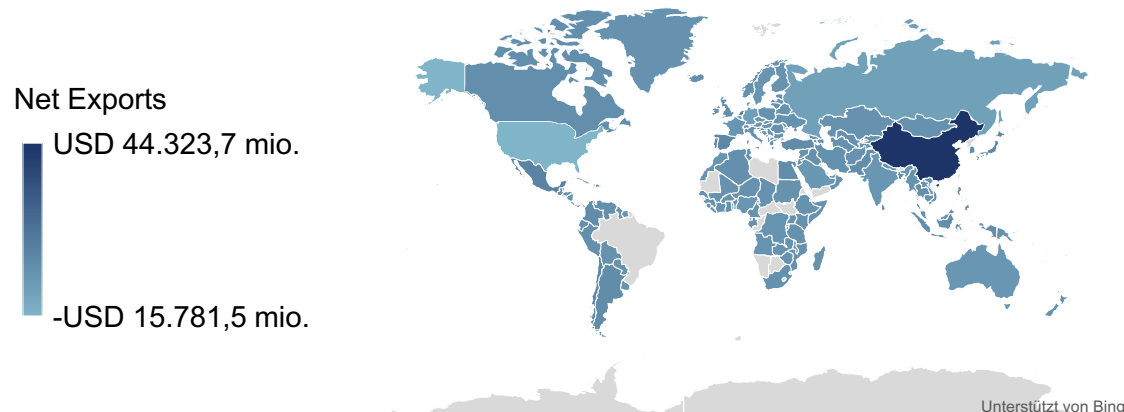
Economic analysis Brazil - 1

Unveiling Brazil's macroeconomic landscape

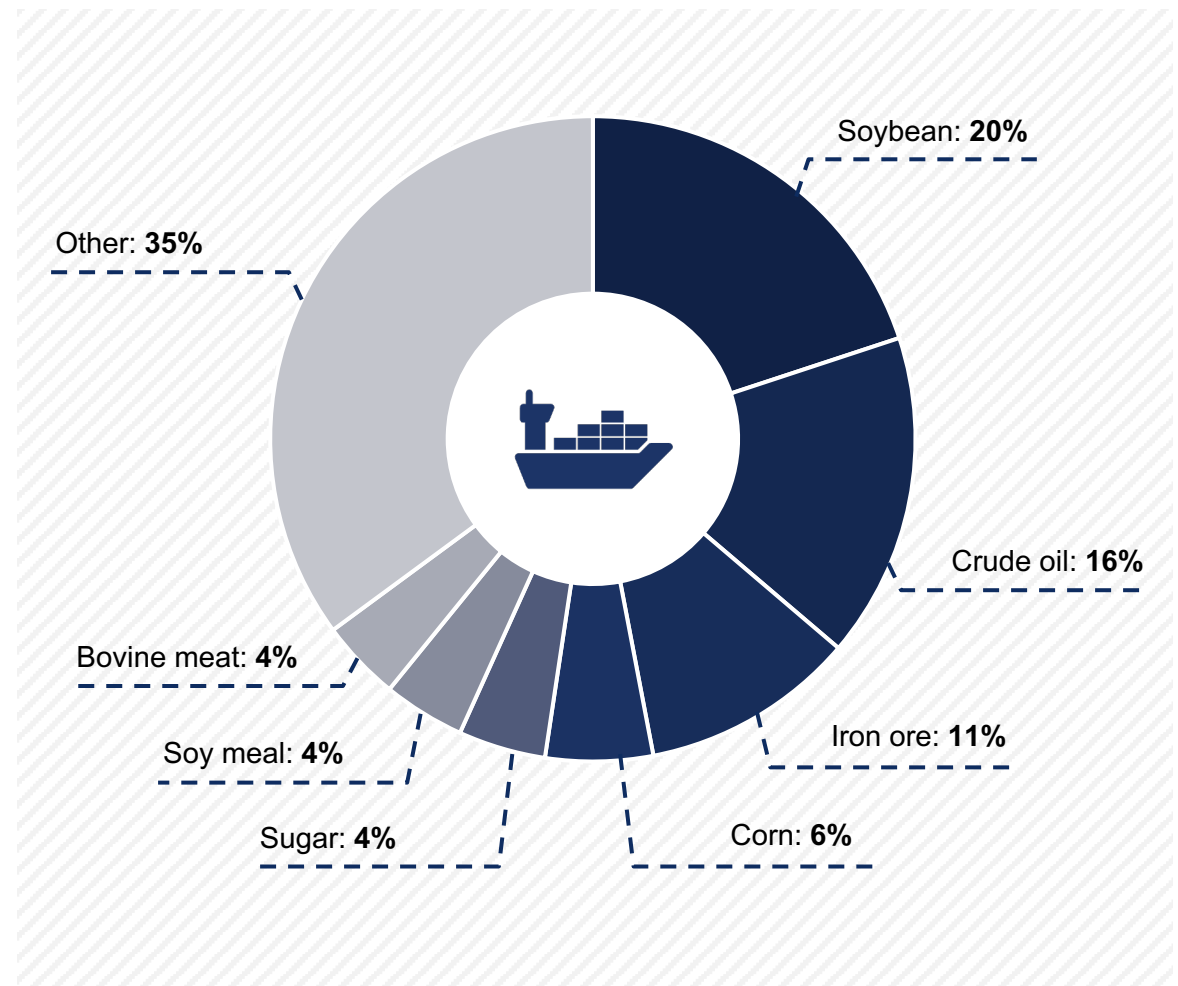
Brazil GDP 2018 - 26



Brazil net exports in USD (2022)



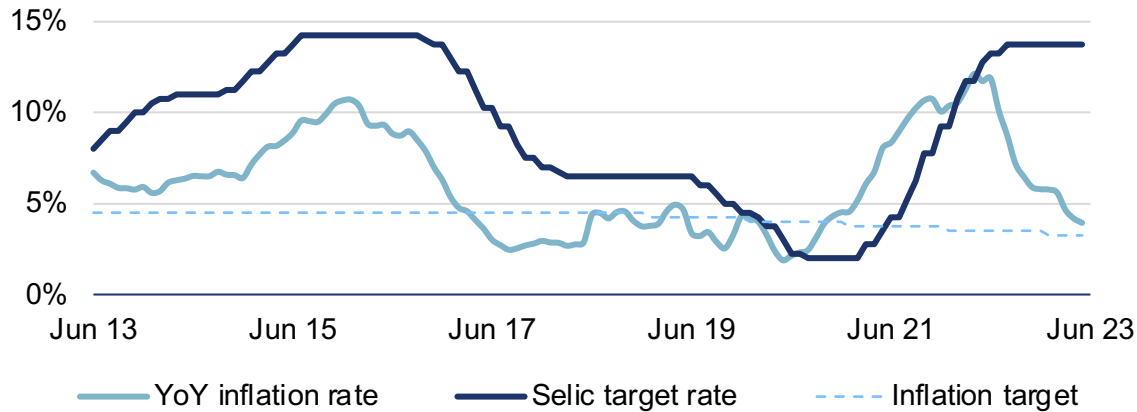
Major Brazilian exports (2022)



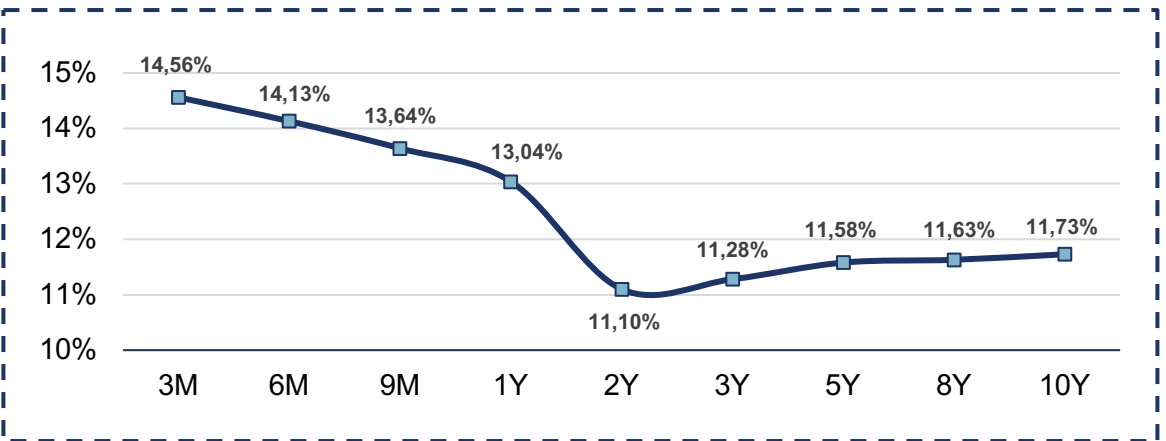
Economic analysis Brazil - 2

Unveiling Brazil's macroeconomic landscape




Brazil Selic interest rate and inflation



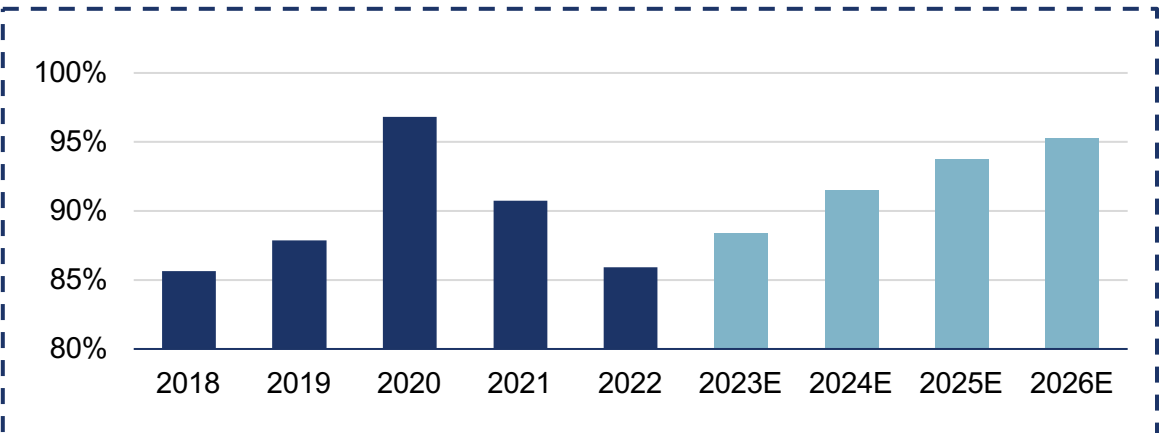
Brazil yield curve



Political environment

-  **Stable political conditions** benefit investors
-  President Lula attacks BCB for not cutting interest rates
-  Fiscal **proposal** seeks to **balance the budget**, restrain spending

Brazil debt to GDP ratio





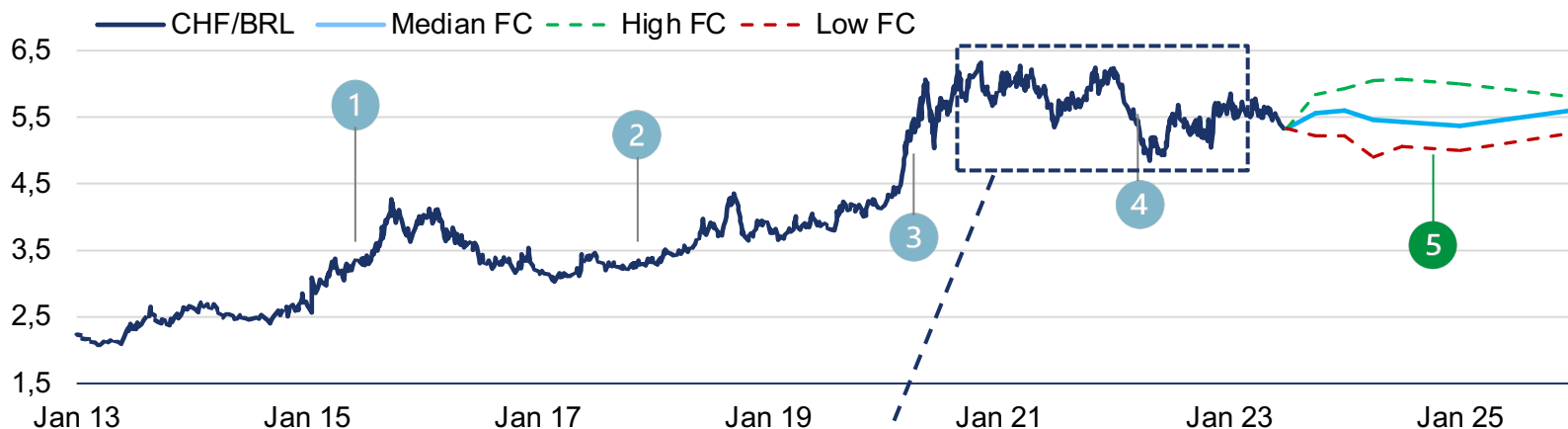
Analysis of the currency pair

CHF/BRL: Unveiling the market dynamics

CHF/BRL Currency pair

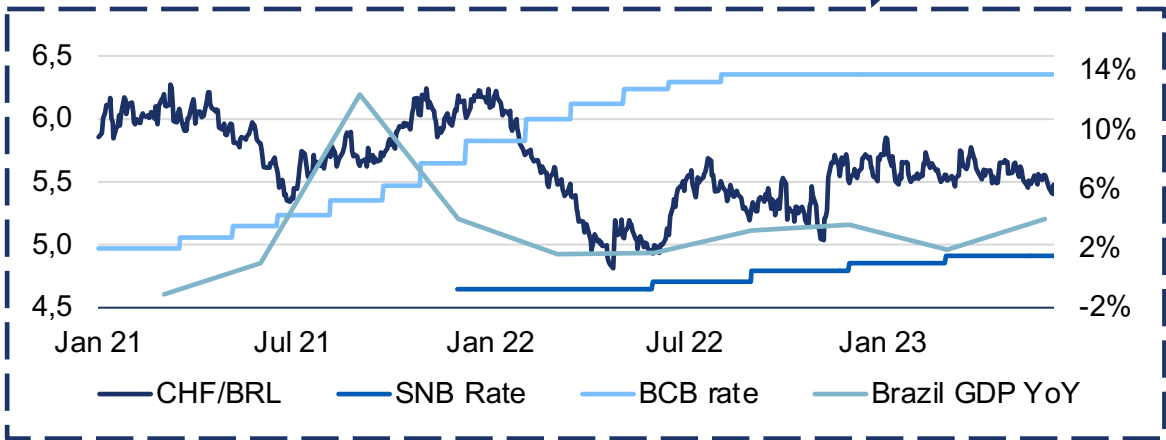
Navigating opportunities and trends in FX

Historical chart CHF/BRL

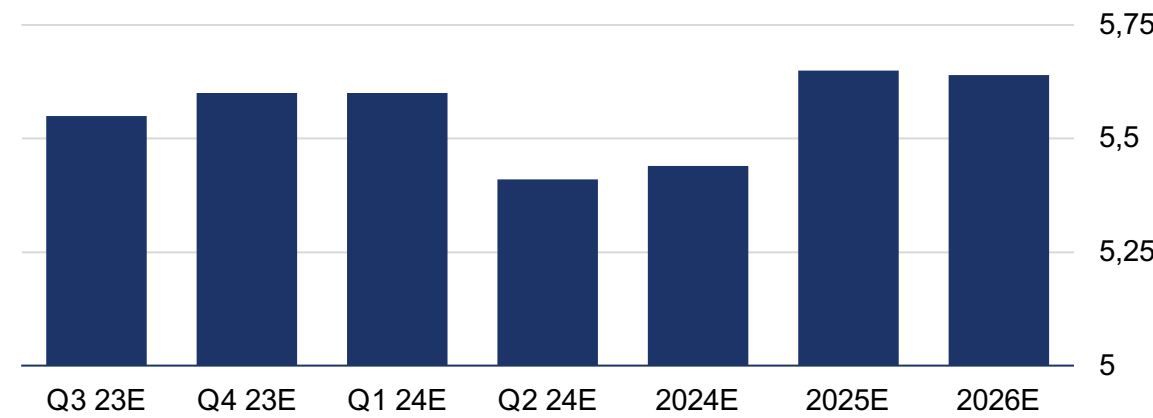


- 1 Heavy recession let BRL slip
- 2 Political uncertainties
- 3 Covid & inflation + weak outlook
- 4 BCB rate hikes
- 5 Outlook

Closer look



CHF/BRL forecast (median)



Currency pair movers

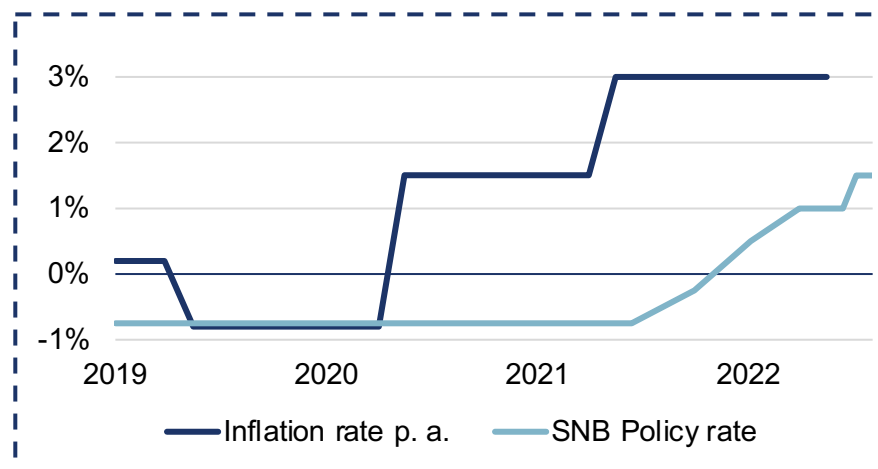
Rate rivals: unravelling monetary policy effects

Brazilian interest environment

- Sharp CPI decrease vs. resilient core inflation
- Unanchored inflation expectations
- New fiscal policy enhances inflation forecasts

 Possible 75-100 bps cut by Q4 2023

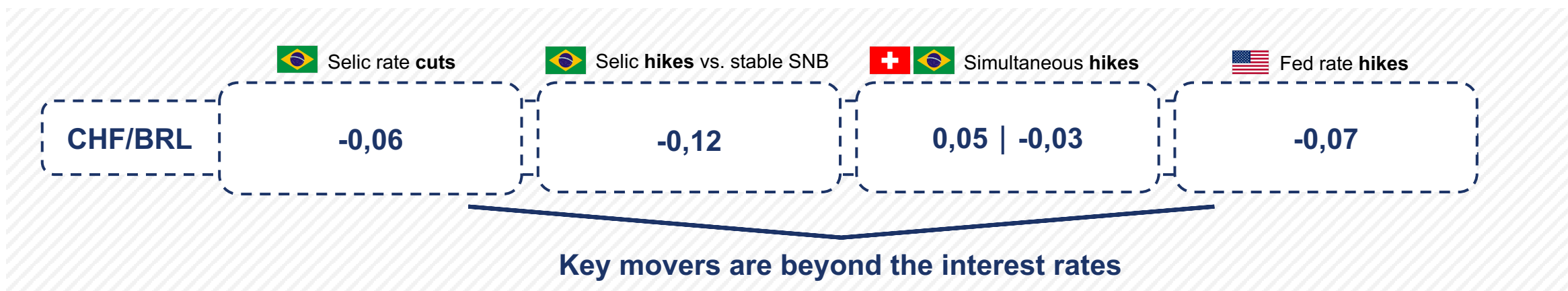
Swiss interest rate environment



Target inflation < 2 % p.a.

 Expected 25 bps hike in Q2 2023

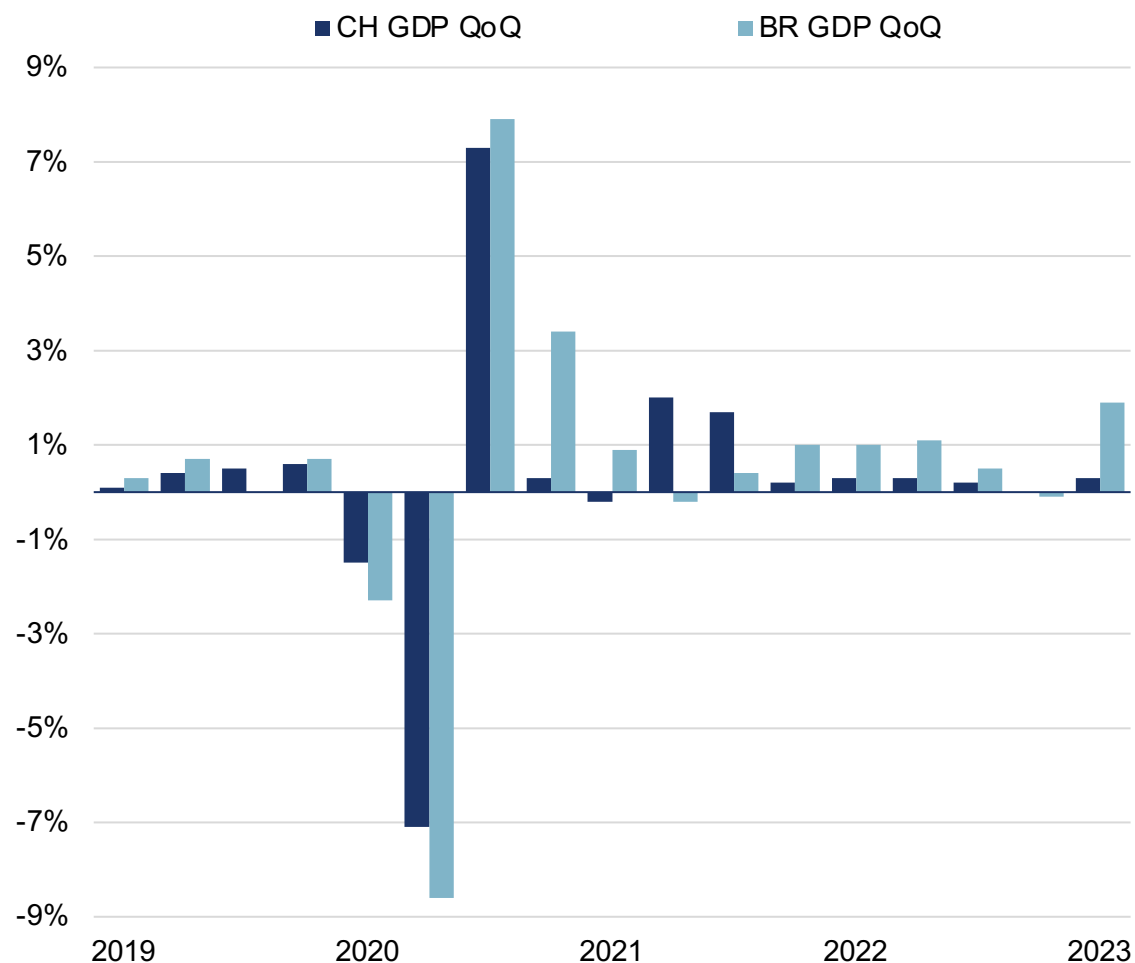
Historical correlations (4 years - periodically)



Currency pair movers

Economic indicators hinting the performance outlook of the pair

Switzerland and Brazil GDP growth

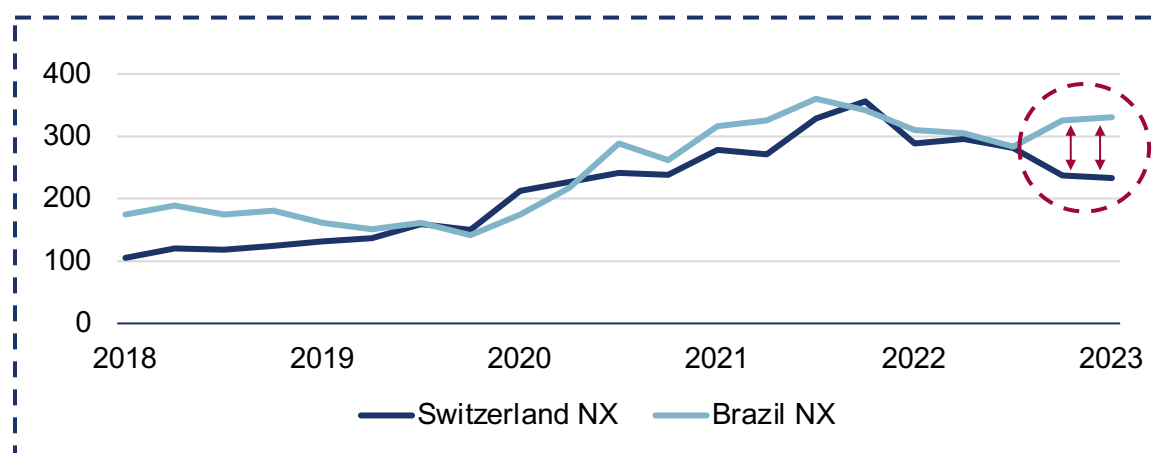


Key drivers

- Higher **GDP growth** rate of **Brazil**
- Big **positive** Brazil/Switzerland **net exports gap**
- “Soft currency” – empowers with weakening USD
- “Safe haven currency” – beware the crises

Offsetting the rate impact

Trade balances (in bn. USD)





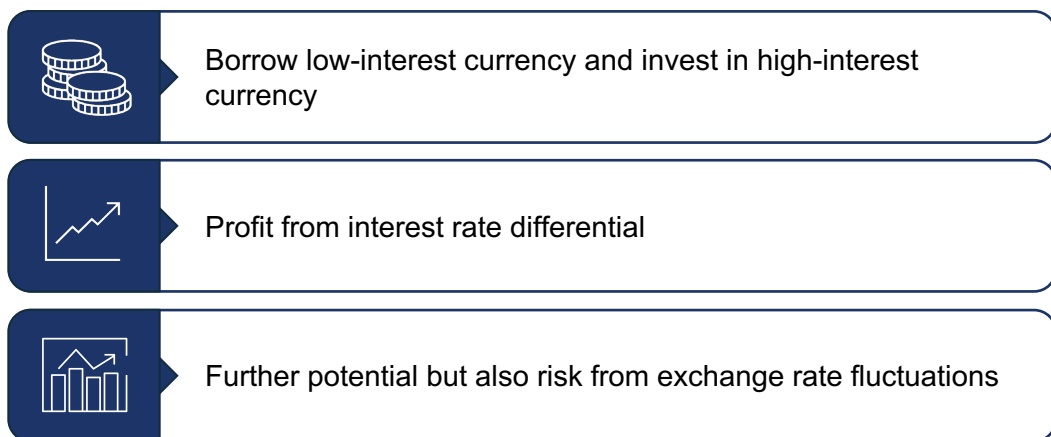
Currency Carry Trade

Achieving returns through interest rate differential

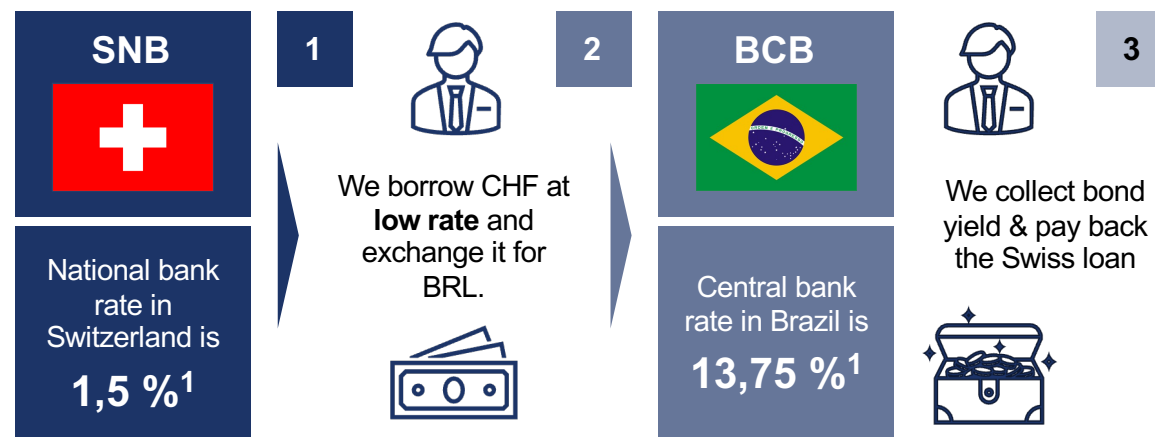
The Carry Trade

Unleashing profit potential by using the Currency Carry Trade

The Trade Idea



The Carry Trade



Trade structure



Trade timeframe: 1 Year

Trade upside/downside

Exploring upsides and downsides for success

Monte Carlo Simulation

Probabilistic method using **random sampling** to **simulate** various **outcomes** and assess risk



Calculate **Volatility** and **Mean return** value of CHF/BRL



Create **random** data **sample** based on Volatility and Mean



Apply random sample to the carry trade theme and **plot outcomes**

Results based on MC Simulation

500 Simulations

CB rates as proxy

Quarterly performance

Evaluation on rolling quarters

AVG

Return p.a.
4,79%

MAX

MAX Return p.a.
128,08%

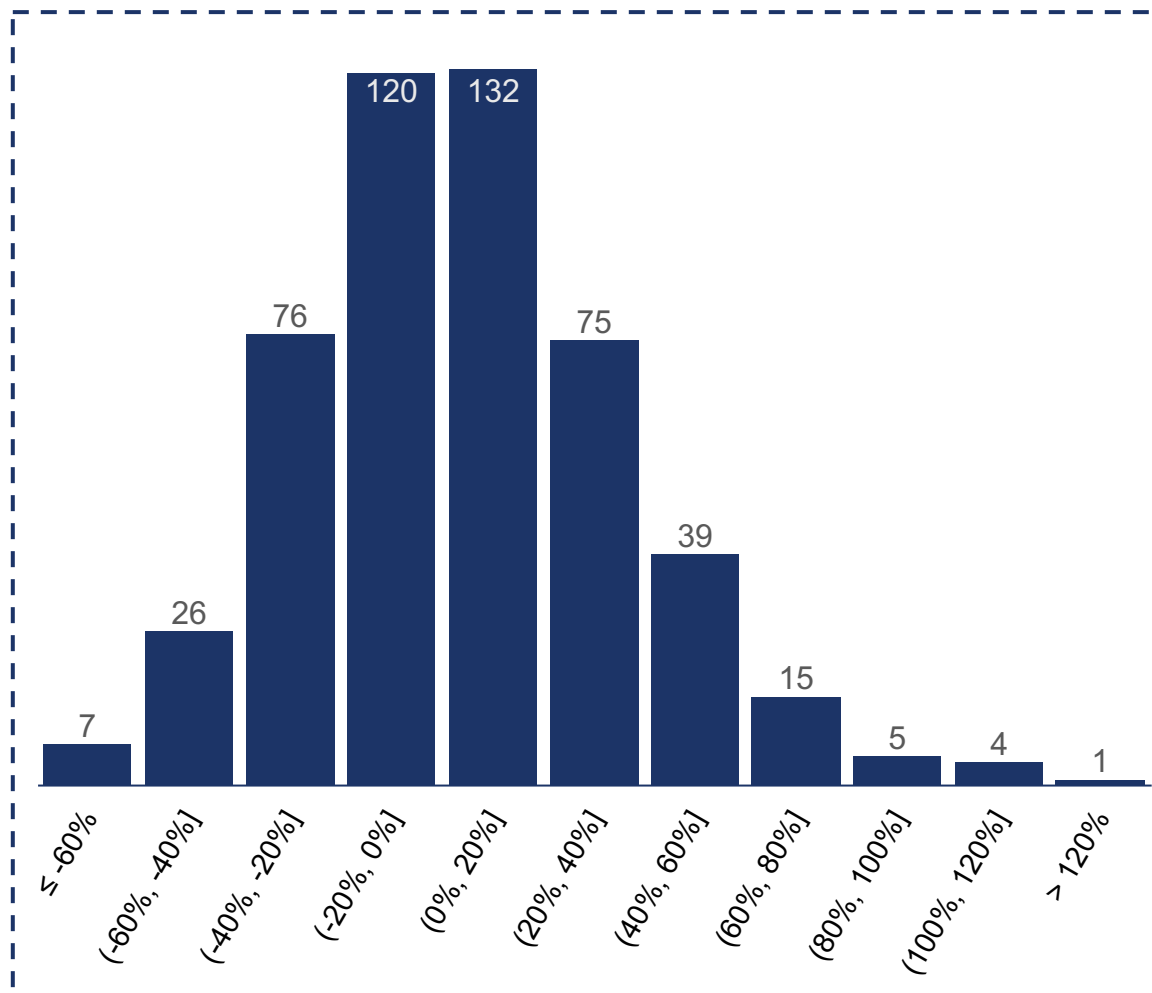
MIN

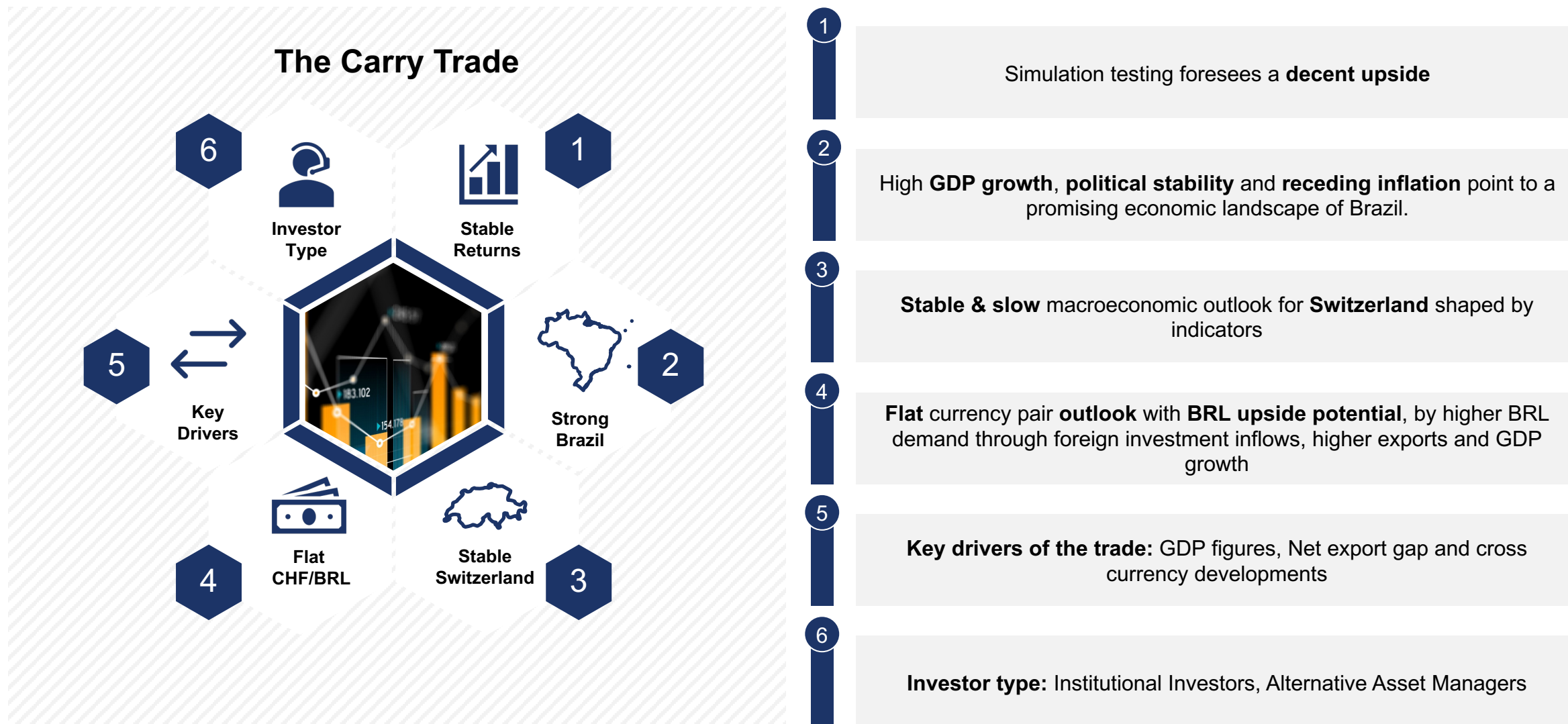
MIN Return p.a.
-65,04%

RRR

Risk / Return
1,97

Return Histogram





Appendix

Sources

Source Name	Link	Date of Retrieval	Used for
Banco Central do Brasil	Brazilian Central Bank Statistics	06/11/2023	Currency Pair
Bloomberg [1]	Lula Delivers Plan to Rein In Debt Amid Revenue Uncertainty - Bloomberg	06/20/2023	Brazil Budget
Bloomberg [2]	Brazil's Economy Is Even Better Than It Looks - Bloomberg	06/20/2023	Brazil Political Environment
Bloomberg Finance L.P.	Bloomberg Terminal	-	Slides: 5, 6, 9, 10, 11, 13
Statista [1]	Brazil GDP 2028 Statista	06/13/2023	Brazil GDP
Statista [2]	Brazil - Gross domestic product (GDP) per capita 2028 Statista	06/13/2023	Brazil GDP/Capita
Statista [3]	Brazil - Gross domestic product (GDP) growth rate 2028 Statista	06/13/2023	Brazil YoY GDP Growth Rate
Statista [4]	Most exported products Brazil 2021 Statista	06/13/2023	Brazil Exports
Statista [5]	Brazil - National debt in relation to gross domestic product (GDP) 2028 Statista	06/13/2023	Brazil National Debt

Sources

Source Name	Link	Date of Retrieval	Used for
Statista [6]	Swiss GDP Growth	06/16/2023	Switzerland annual YoY GDP Growth
Statista [7]	Swiss Inflation Rate	06/16/2023	Switzerland annual YoY Inflation
Trading Economics [1]	Switzerland monthly YoY Inflation Trading Economics	06/16/2023	Switzerland Inflation Rate
Trading Economics [2]	Forecast Switzerland	06/16/2023	Switzerland forecasts for Debt to GDP ratio and PMI
Yahoo Finance	CHF/BRL Data	06/20/2023	Monte Carlo Simulation

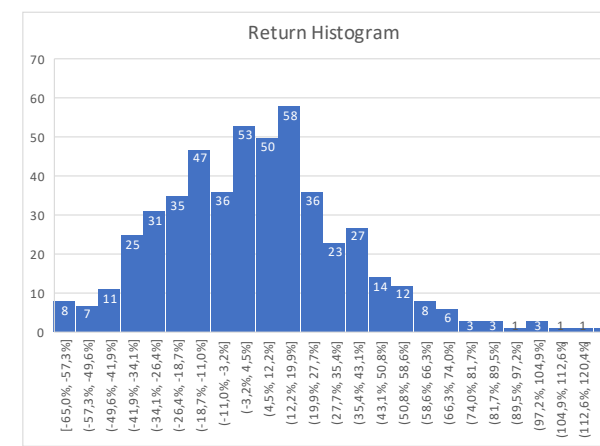
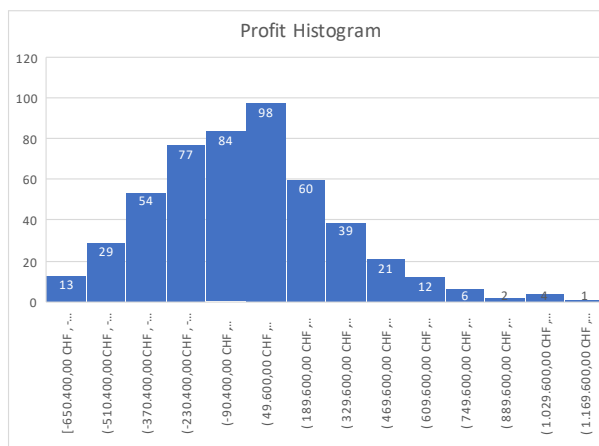
Appendix - III

Monte Carlo Simulation Excel

Monte Carlo Sim 1

BORROW-CHF:	1.000.000,00 CHF	CHF/BRL	5,4106	Mean:	2,3988%	QTR
OWE (90 days):	1.003.750,00 CHF	BRL-Rate	13,75%	Volatility:	8,0524%	QTR
CONVERT TO BRL:	5.410.560,00 BRL	CHF-Rate	1,50%			

TRIAL:	XRATE-CHG:	XRATE-FUT:	INVEST-BRL:	CONVERT-CHF:	PROFIT:	RETURN:	PROFIT:	RETURN:	RR
1	-3,0167%	5,2473	5.596.548,00 BRL	1.066.550,00 CHF	62.800,00 CHF	6,3%	AVG:	47.868,80 CHF	4,787%
2	-32,3474%	3,6604	5.596.548,00 BRL	1.528.950,00 CHF	525.200,00 CHF	52,5%	MAX:	1.280.800,00 CHF	128,080%
3	6,4446%	5,7592	5.596.548,00 BRL	971.750,00 CHF	-32.000,00 CHF	-3,2%	MIN:	650.400,00 CHF	-65,040%
4	-25,9548%	4,0063	5.596.548,00 BRL	1.396.950,00 CHF	393.200,00 CHF	39,3%	MEDIAN:	36.200,00 CHF	3,620%
5	1,2356%	5,4774	5.596.548,00 BRL	1.021.750,00 CHF	18.000,00 CHF	1,8%	GAIN:	270	
6	-15,3643%	4,5793	5.596.548,00 BRL	1.222.150,00 CHF	218.400,00 CHF	21,8%	LOSS:	230	
7	26,6763%	6,8539	5.596.548,00 BRL	816.550,00 CHF	-187.200,00 CHF	-18,7%			
8	37,0850%	7,4171	5.596.548,00 BRL	754.550,00 CHF	-249.200,00 CHF	-24,9%			
9	-27,9558%	3,8980	5.596.548,00 BRL	1.435.750,00 CHF	432.000,00 CHF	43,2%			
10	24,8416%	6,7546	5.596.548,00 BRL	828.550,00 CHF	-175.200,00 CHF	-17,5%			
11	65,1960%	8,9380	5.596.548,00 BRL	626.150,00 CHF	-377.600,00 CHF	-37,8%			
12	-5,9787%	5,0871	5.596.548,00 BRL	1.100.150,00 CHF	96.400,00 CHF	9,6%			
13	-26,0818%	3,9994	5.596.548,00 BRL	1.399.350,00 CHF	395.600,00 CHF	39,6%			
14	190,4324%	15,7140	5.596.548,00 BRL	356.150,00 CHF	-647.600,00 CHF	-64,8%			
15	-4,8019%	5,1508	5.596.548,00 BRL	1.086.550,00 CHF	82.800,00 CHF	8,3%			
16	104,3614%	11,0571	5.596.548,00 BRL	506.150,00 CHF	-497.600,00 CHF	-49,8%			
17	3,5877%	5,6047	5.596.548,00 BRL	998.550,00 CHF	-5.200,00 CHF	-0,5%			
18	-6,2174%	5,0742	5.596.548,00 BRL	1.102.950,00 CHF	99.200,00 CHF	9,9%			
19	33,0643%	7,1995	5.596.548,00 BRL	777.350,00 CHF	-226.400,00 CHF	-22,6%			
20	47,9898%	8,0071	5.596.548,00 BRL	698.950,00 CHF	-304.800,00 CHF	-30,5%			
21	-19,6508%	4,3473	5.596.548,00 BRL	1.287.350,00 CHF	283.600,00 CHF	28,4%			
22	-15,6404%	4,5643	5.596.548,00 BRL	1.226.150,00 CHF	222.400,00 CHF	22,2%			
23	-13,2345%	4,6945	5.596.548,00 BRL	1.192.150,00 CHF	188.400,00 CHF	18,8%			
24	40,9710%	7,6273	5.596.548,00 BRL	733.750,00 CHF	-270.000,00 CHF	-27,0%			
25	52,9801%	8,2771	5.596.548,00 BRL	676.150,00 CHF	-327.600,00 CHF	-32,8%			
26	3,8790%	5,6204	5.596.548,00 BRL	995.750,00 CHF	-8.000,00 CHF	-0,8%			
27	65,6192%	8,9609	5.596.548,00 BRL	624.550,00 CHF	-379.200,00 CHF	-37,9%			
28	-18,5884%	4,4048	5.596.548,00 BRL	1.270.550,00 CHF	266.800,00 CHF	26,7%			
29	18,4919%	6,4111	5.596.548,00 BRL	872.950,00 CHF	-130.800,00 CHF	-13,1%			
30	-13,2636%	4,6929	5.596.548,00 BRL	1.192.550,00 CHF	188.800,00 CHF	18,9%			
31	-39,3595%	3,2810	5.596.548,00 BRL	1.705.750,00 CHF	702.000,00 CHF	70,2%			
32	66,1513%	8,9897	5.596.548,00 BRL	622.550,00 CHF	-381.200,00 CHF	-38,1%			
33	-18,5628%	4,4062	5.596.548,00 BRL	1.270.150,00 CHF	266.400,00 CHF	26,6%			
34	-27,5724%	3,9187	5.596.548,00 BRL	1.428.150,00 CHF	424.400,00 CHF	42,4%			
35	-45,6093%	2,9428	5.596.548,00 BRL	1.901.750,00 CHF	898.000,00 CHF	89,8%			



Overall, 500 random samples generated

Appendix - IV

Currency pair historical correlations

	BCB Rate	SNB Rate	FED Rate
CHFBRL (20.07.2019-05.08.2020)	-0.058		
CHFBRL (10.03.2021-20.03.2022)	-0.121		
CHFBRL (21.03.2022-20.03.2023)	-0.025	0.050	
CHFBRL (20.02.2022-10.05.2023)			-0.078

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