

# The Real Plan

## the basic sequence, 30 years later

### Summary

1. The Hyperinflation diagnostic
2. Currency reform
3. Technical notes
4. The recod

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	countries	period		duration	inflation cumulative
		starts	ends		
1	Hungria	ago/45	jul/46	12	$3,8 \times 10^{27}$
2	China	set/45	mai/49	44	10.434.703.221.306
3	Nicarágua	jun/86	mar/91	58	11.895.866.143
4	Alemanha	ago/22	nov/23	16	10.115.776.266
5	Grécia	nov/43	nov/44	11	2.197.771.119
6	Sérvia	fev/93	jan/94	12	156.312.790
7	União Soviética	dez/21	jan/24	26	12.399.023
8	Ucrânia	abr/91	nov/94	44	1.864.714
9	Peru	jan/89	set/90	21	573.377
10	Bolívia	abr/84	set/85	18	97.282
17	Argentina	mai/89	mar/90	11	15.167
23	Brasil	dez/89	mar/90	4	693

## Hyperinflations

**\* Philip Cagan definition**

**\* Starts with 50% per month**

**\* 24 episodes (up to 2002)**

**\* the worst 10, all time, plus Bra and Arg**

**\* “Too sensational”, i.e. only in wars, revolutions**

	country	starts	ends	duration	cumulative
1	Brazil	April-80	May-95	183,6	20.759.903.275.651
2	Argentina	July-74	October-91	210,0	3.809.187.961.396
3	Nicaragua	May-84	February-92	94,4	288.735.412.719
4	Congo	December-89	December-96	85,2	88.510.051.965
5	Angola	January-91	June-97	78,1	287.726.172
6	Peru	December-86	March-92	63,9	25.392.223
7	Bolivia	August-81	August-86	60,9	5.220.261
8	Chile	October-71	May-77	68,0	127.958
9	Israel	December-78	March-86	88,2	109.187
10	Zambia	August-88	March-94	67,9	11.713
11	Uganda	February-84	December-88	58,8	9.071
12	Suriname	April-92	October-95	42,6	4.559
13	Sudan	February-90	June-94	52,7	2.715
14	Lebanon	August-85	August-88	36,5	2.345
15	Peru	June-82	April-86	46,7	1.953

## Hyperinflations

**\* Stanley Fischer definition**

**\* 15 worst cases, post war**

**\* 100% acc in 12 months**

**\* 45 episodes (up to 2002)**

**\* Bra & Arg Leading**

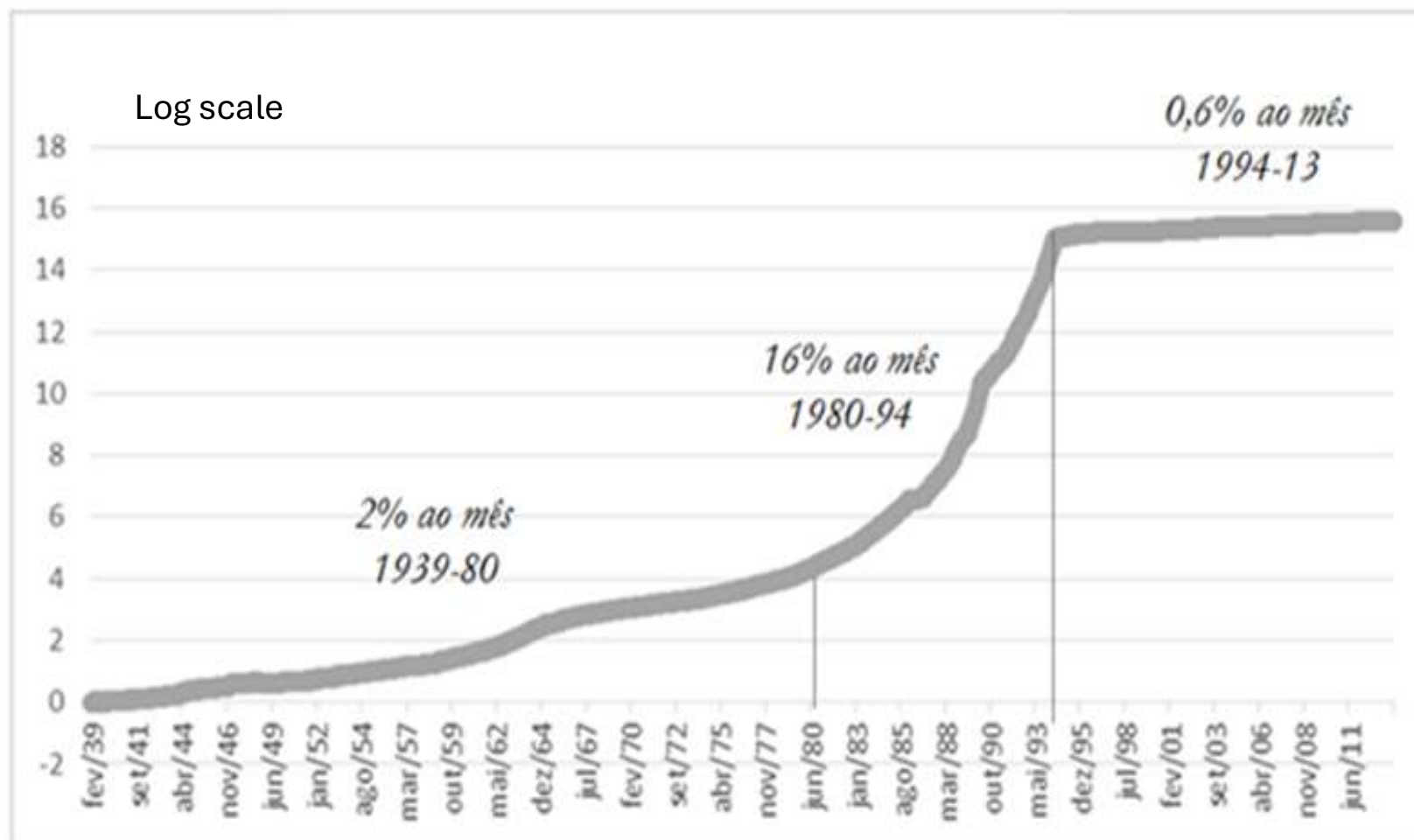
# What does it mean to have the H diagnosis?

# The Brazilian experience

The oldest inflation index still active is the SP Cost of Living Index done by FIPE-USP

Mar/1939 = 1

Dez. 2013 = 3.899.556.304.251.250



# Currency reforms in Brazil

## 2. Currency reforms

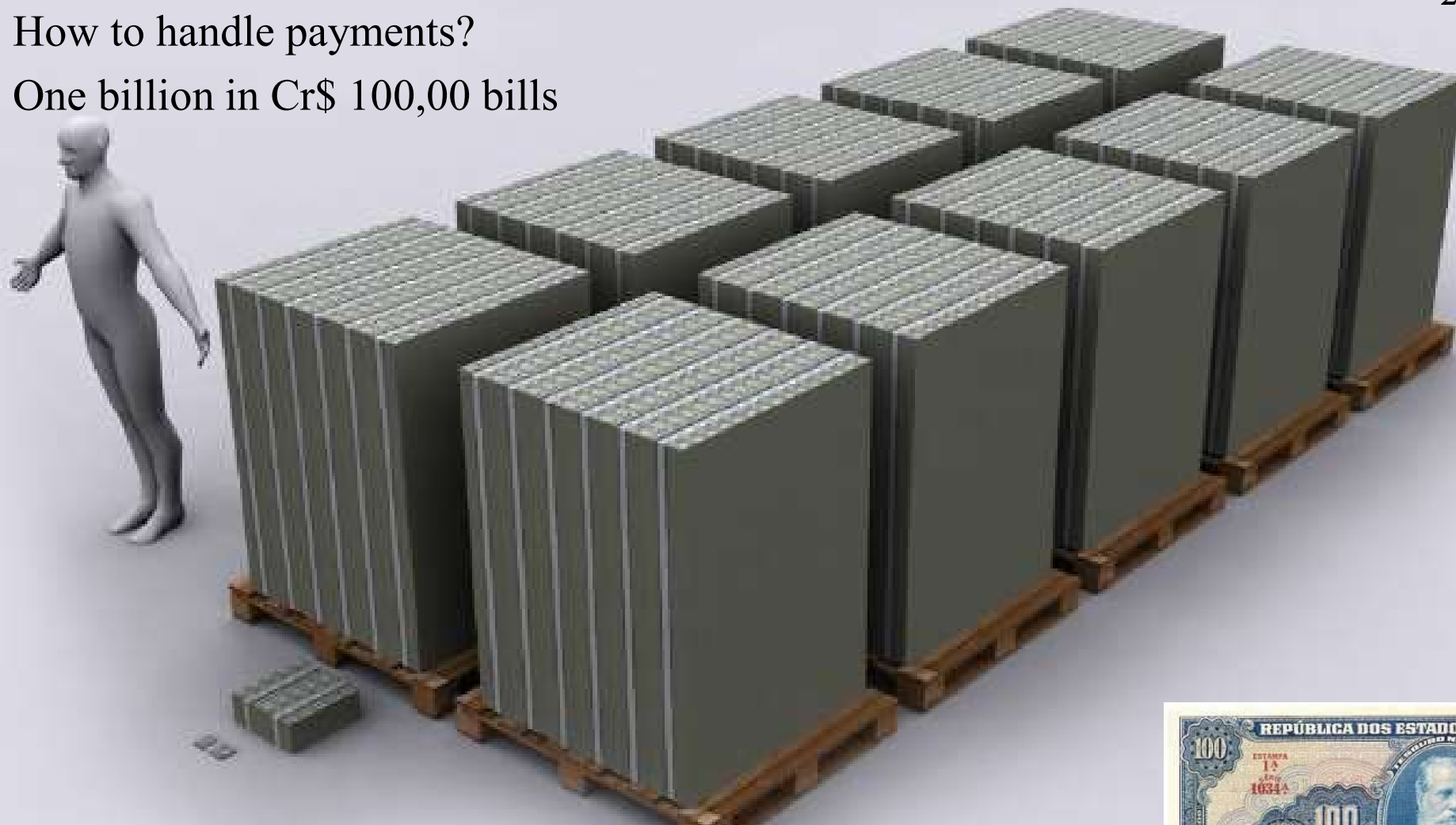
Standard		starts	ends	Duration (months)	Inflation (%)			parity at reform	reform type
					acc	monthly avr	annual avr		
1	Cruzeiro	nov/42	jan/67	292	31.191	2,0	26,6	"1/1000"	type A
2	Cruzeiro Novo	fev/67	mai/70	40	90	1,6	21,2	"1/1000"	type A
3	Cruzeiro	jun/70	fev/86	190	206.288	4,1	61,9	"1/1"	type A
4	Cruzado	mar/86	dez/88	35	5.699	12,3	302,3	"1/1000"	type B
5	Cruzado Novo	jan/89	jul/92	15	5.937	31,4	2.558,8	"1/1000"	type B
6	Cruzeiro	mar/90	jul/93	41	118.590	18,8	694,0	"1/1"	Gurley type
7	Cruzeiro Real	ago/93	jun/94	11	2.396	34,0	3.244,1	"1/1000"	type A
8	Real	mar-94	dez/23	353	690	0,6	7,3	"1/2750"	type B

**Cr\$ 2.750.000.000.000.000.000.000 (1942) = R\$ 1**

## 2. Currency reforms

How to handle payments?

One billion in Cr\$ 100,00 bills



**Cr\$ 2.750.000.000.000.000.000.000 (1942) = R\$ 1**



## 2. Currency reforms

### Solution 1

Bills with far too many zeros

Even with 100 trillion notes (of 1942 cruzeiros), it would take more than 100 thousand such notes to buy a Big Mac in 1994



Cr\$ 2.750.000.000.000.000.000.000 (1942) = R\$ 1





## *2. Currency reforms*

### **Solution 2**

**A new bill every 2/3 months**

**When close to issue 1 Million note, make a monetary reform a “cut 3 zeros”, a new money**

**Never issue a one Million note**



**A nightmare to replace the whole family in one shot, perhaps not with digital money. Casa da Moeda made too many 100s. R\$1 retired 2003. (2002 enters R\$2. 2012 enters R\$ 20. 2020 enters R\$ 200)**





## **Singular features of the Real Plan (1) – The Unit of account**

- We wanted to “reverse engineer” the way inflation destroyed money, in sequence, by function
- But it was not that difficult to find good money substitutes as store of value and the payments system was very agile, inflation a good incentive to the “velocity of circulation”
- **Big challenge was the Unit of Account function**, dispersed into a huge variety of systems and differing reference indices and adjustment frequencies. Like several “networks” of businesses and contracts related to certain indices and adjustment frequencies, in sync.
- The first task in currency reconstruction was to develop the unit of account: first the ECU then the Euro ...

## Singular features of the Real Plan (2) – proxy dollarization

- We did not want deindexation: impossible to force people into money illusion. Possible to develop more prefixed indexation (nominalization at contracts less than 1 y).
- We wanted to recreate the *coordination effect that dollar indexation brings*; one affects all prices with the exchange rate. It was more like “hiperindexation”;
- We created a proxy to dollarization with an official unit of account (URV).
- It was like transforming an indexation scheme into a money of account, an “imaginary currency”.

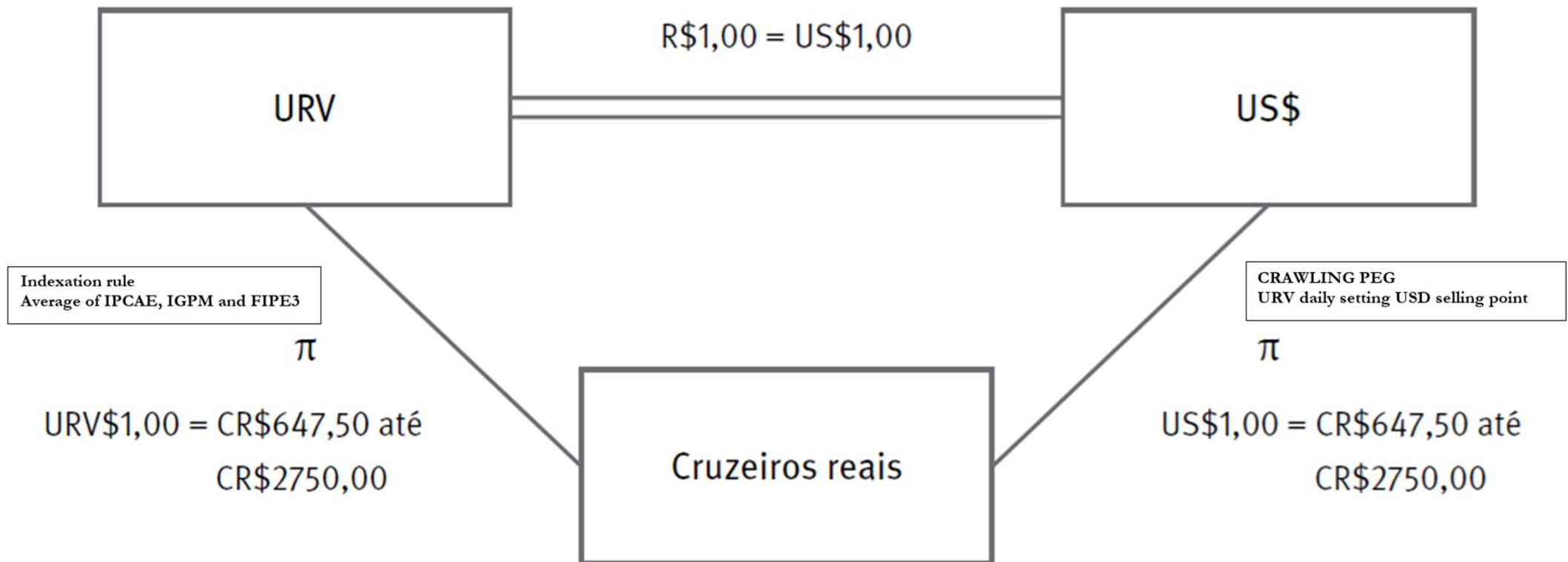
## **Singular features of the Real Plan (3) – the final act**

- Everyone loved to convert contracts into URV units – it was like moving into dollarization, or to daily indexation. Much better than other indexation formulas.
- Gresham' Law also works for monies of account – people adopt the better system and drop the inferior formulas.
- Choice of unit of account (plus readjustment frequency) a lot like choice of payments technology.
- Once URVs have been fully adopted, or have become the dominant indexation technology, we extinguished cruzeiros reais and **made URV the national money** (issuing as a legal tender means of payment), changing the name to R – real.

## Singular features of the Real Plan (4) - Heterodox Shocks

- Heterodox theories plans involved **coercion**; the Real Plan would do everything **voluntary**, according to incentives.
- Violence was implicit in monetary reforms mostly based on price/wage/assets freezes.
- It was intuitive for politicians that they could simply forbid citizens to raise their prices, or make inflation illegal and call the police to arrest supermarket managers in the spot.  
Stabilization plans, for many politicians was a police business.
- By the same reasoning, the law could forcibly deindex all contracts, bringing up an unqualified nominalism, equivalent to force the population into money illusion. The prohibition of indexation, or of inflation protection schemes, to a population living under high inflation for several decades, was simply insanity.

**BRL working of URV: a stable value unit of account to be used in contracts and all other nominal stipulations & indexation clauses – “proxy dollarization”. There were too many “money of accounts” (indices used in indexation clauses)**  
**It will be stable so long as the old currency exists.**





What happens when cruzeiros reais cease to exist and URVs have their name changed to reais, and issued as legal tender?

This is the moment when the new currency floats.



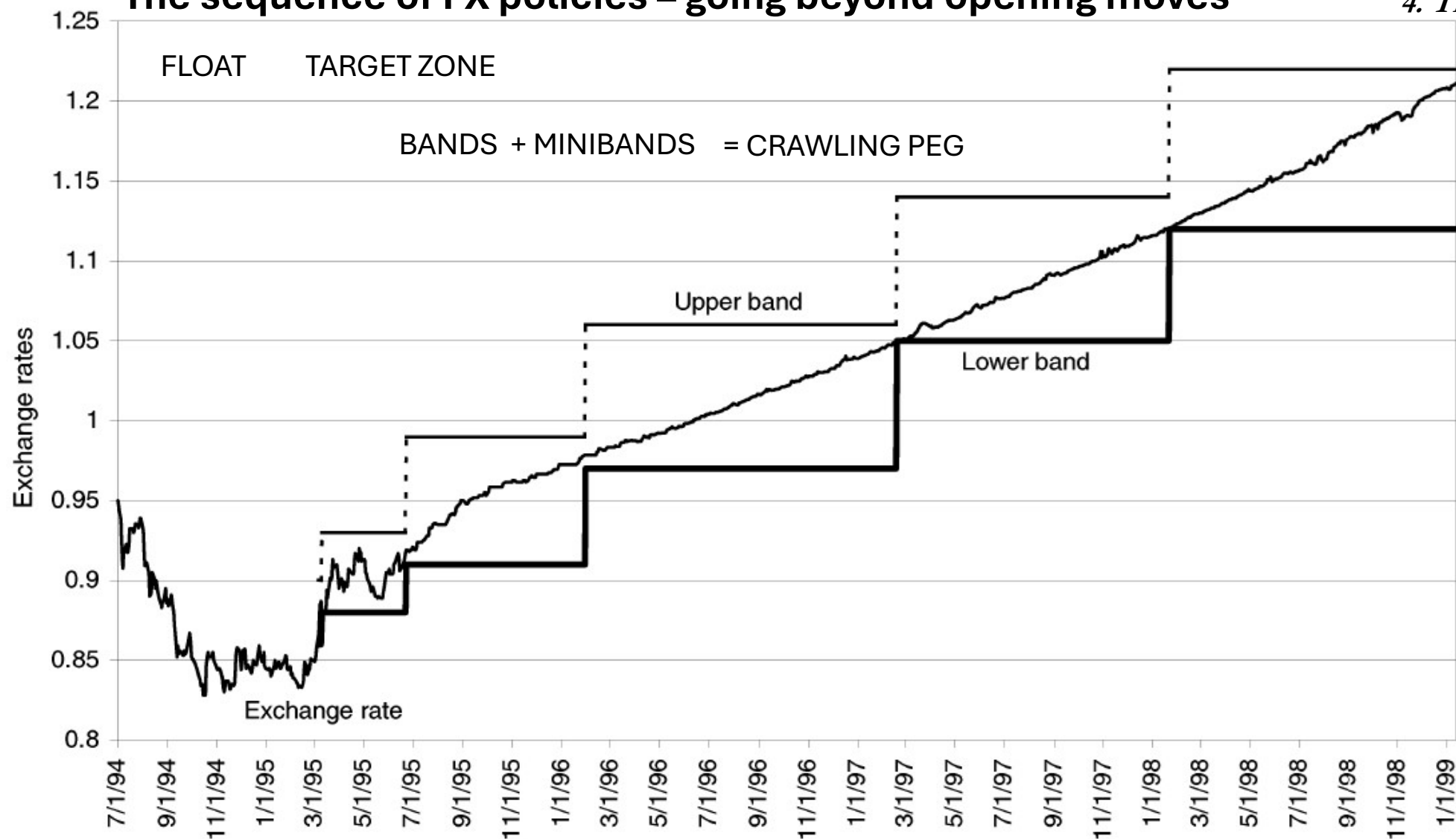
Would proxy dollarization work as dollarization?

## Singular features of the Real Plan (5) floating

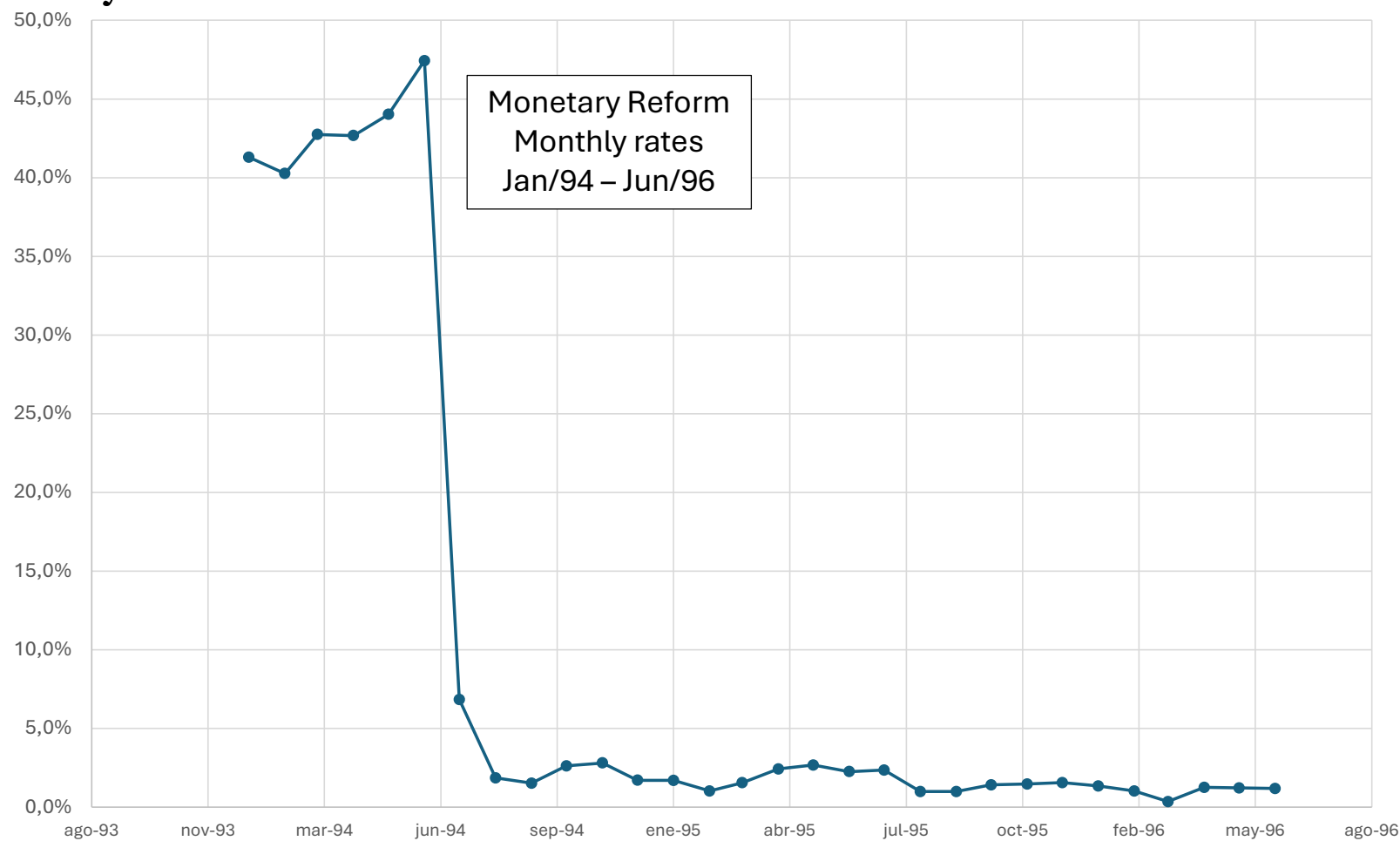
- The expectation was the X rate to be fixed forever (Currency Board?): instead, the new currency floated, and it was much better than fixing, not only because it appreciated, but also because it was reversible.
- Great uncertainty about mkt reaction on D-Day. Had to be carefully rehearsed.
- Things that did NOT help: (i) limit to issue R\$; (ii) backing(earmarking reserves) to the new issues (iii) monetary programing approved in Congress.
- Things that worked: (i) sustain expectation of reforms & fundamentals (ii) new governance of money, BCB independence (“whatever it takes”) (iii) very high interest rate; (iv) surprise; (v) elimination of inflation inertia with the demise of CR\$ (?); (vi) chance to elect the President; (vii) previous work in abolishing exchange controls

## The sequence of FX policies – going beyond opening moves

4. *The record*



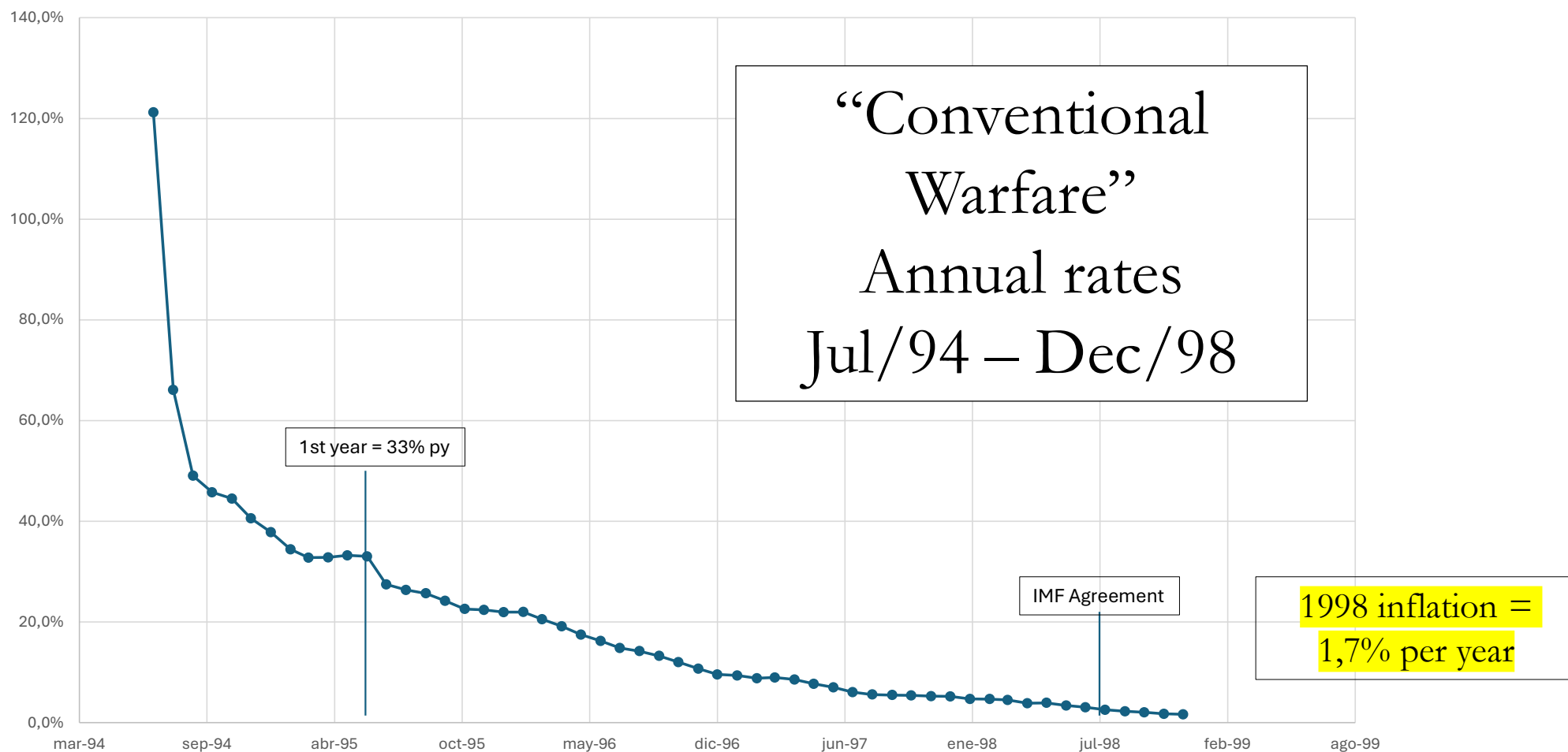
## MONTHLY INFLATION – What happened to inflation? First two years



50% pm=12,850% py

## What happened to inflation? ANNUAL INFLATION - July 1994 onwards (12 acc)

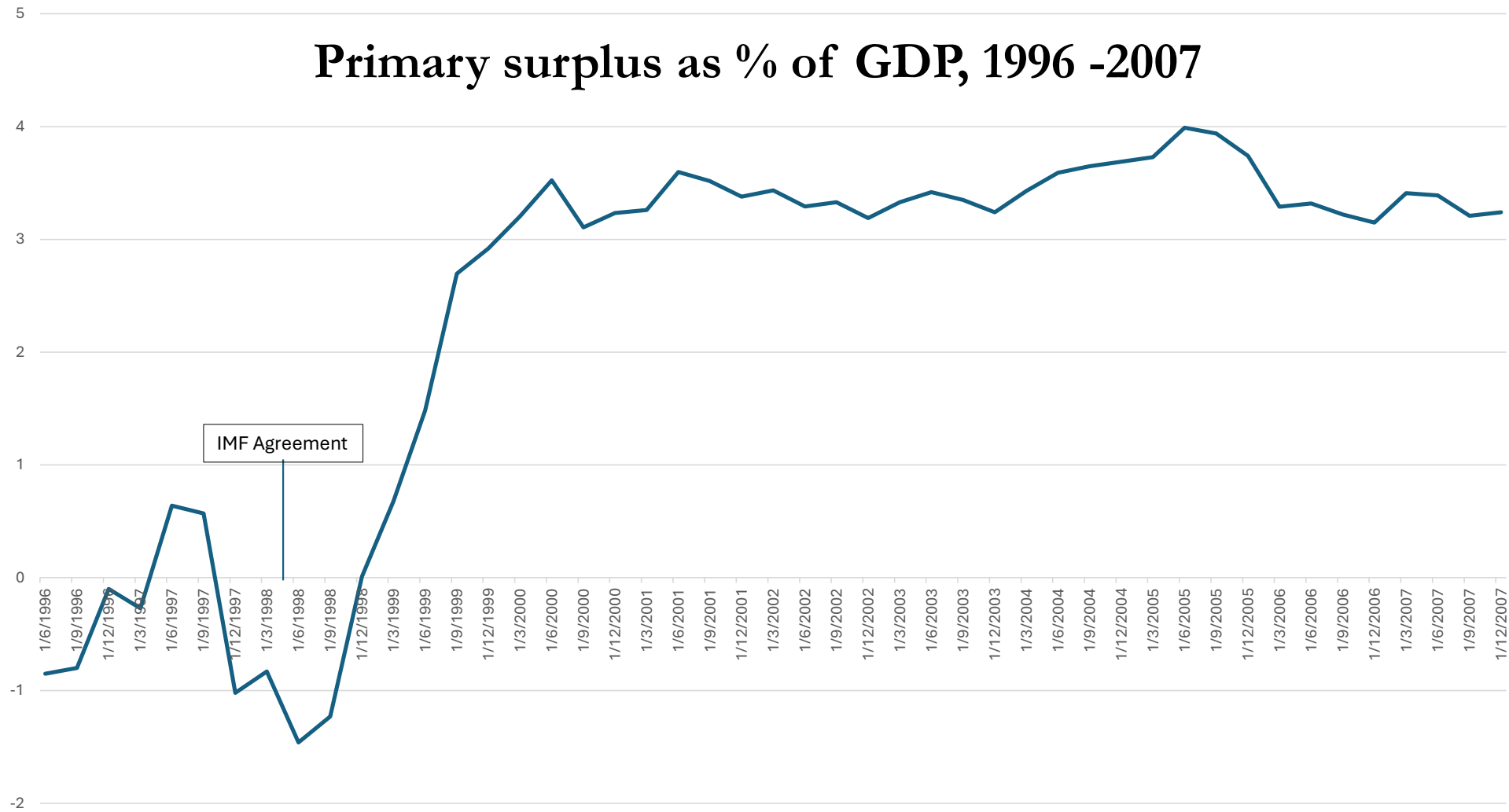
4. *The record*



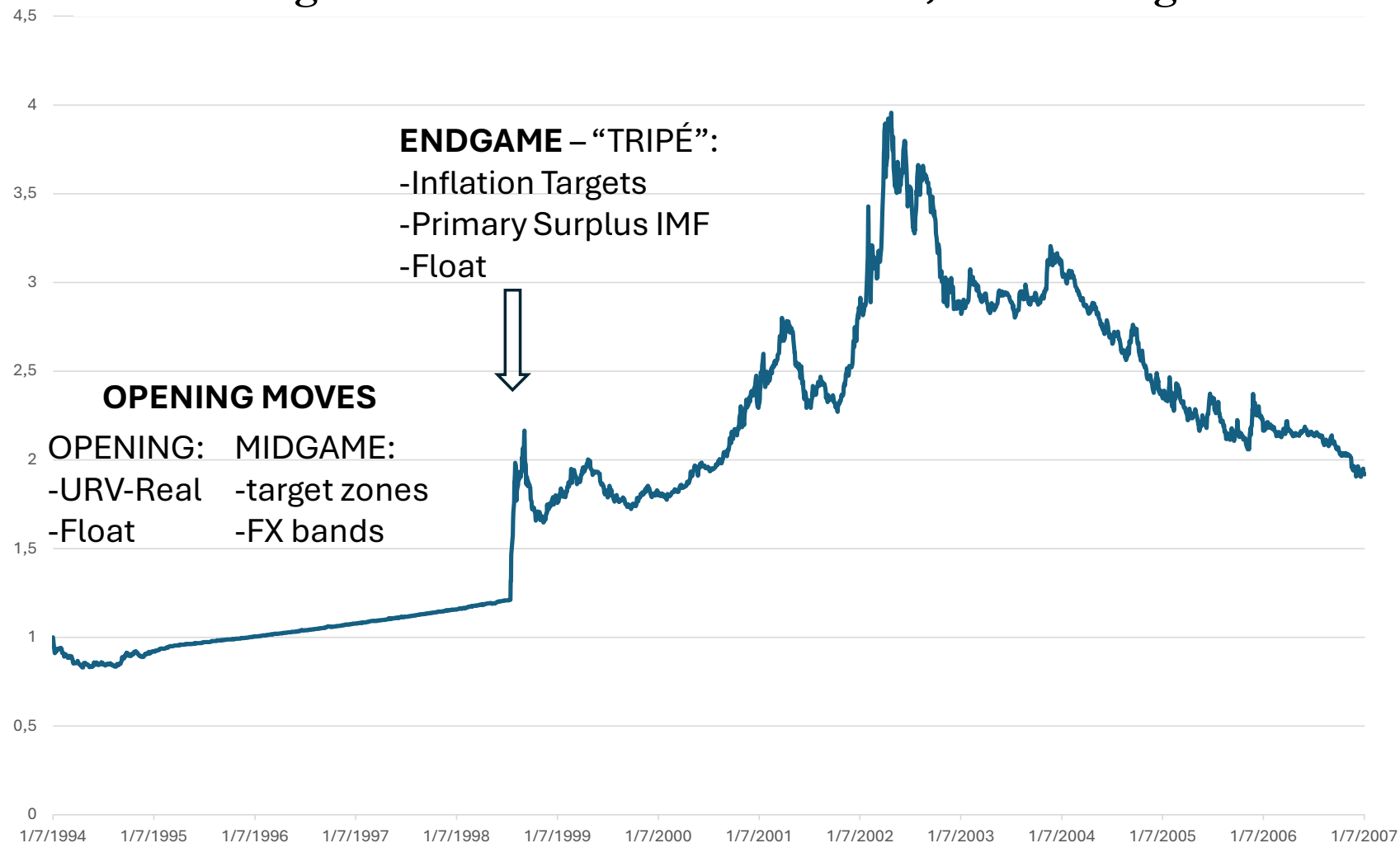


## Cavalry finally arrived – preparations and promises worked

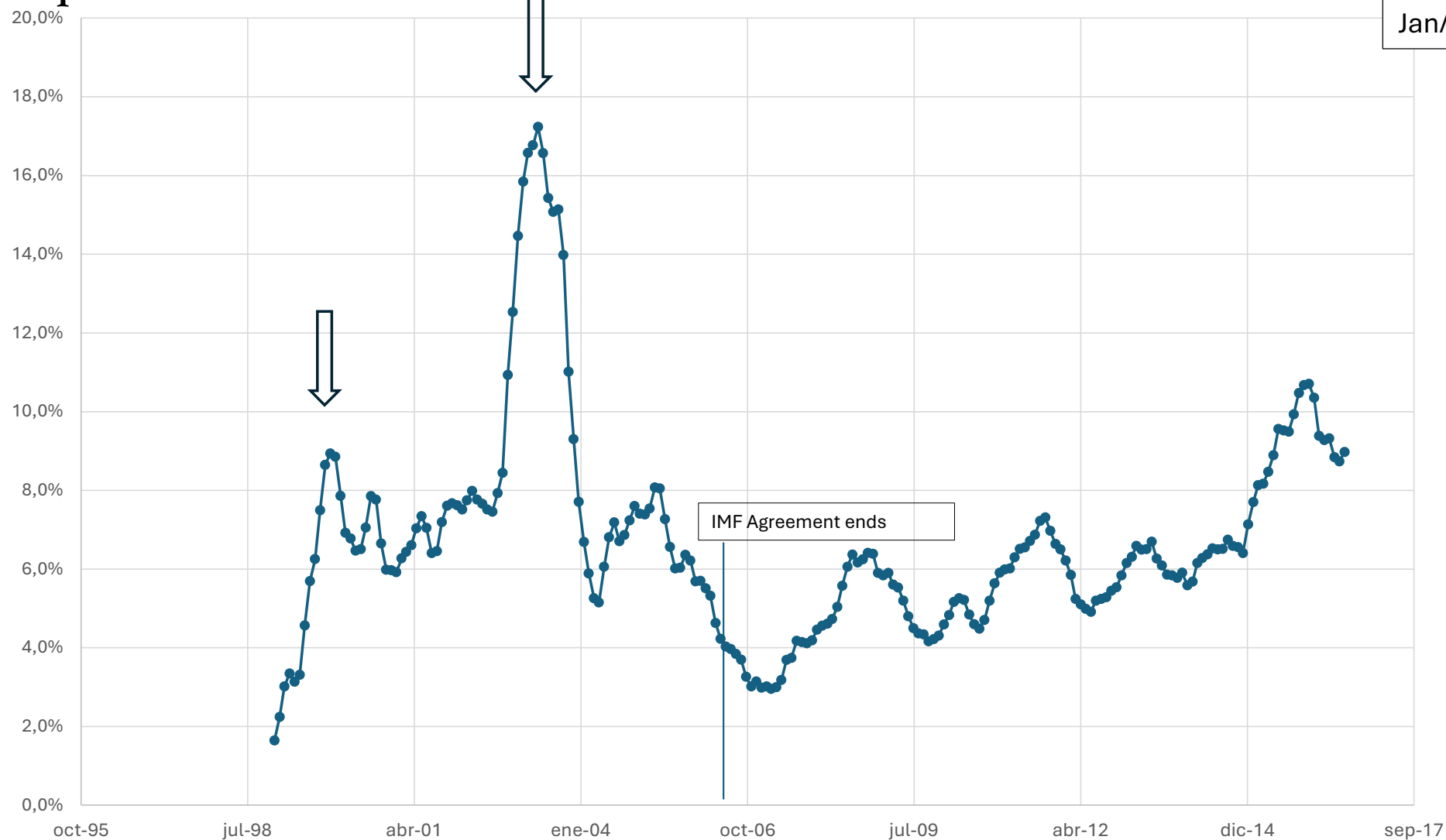
4. *The record*



## The closing moves – back to a float in 1999, with a bang



# INFLATION after 1999: two “mild” peaks, in moments of fast depreciation



Inflation Targets  
Annual rates  
Jan/99 – Aug/16

## **Singular features of the Real Plan (5) floating in 1999**

- The real depreciated by 78,7% at the peak, comparing R\$1,2114 to the Dollar at Jan 13th with R\$ 2,1647 on Mar 3rd. Compared with market averages for the 180 days after the float, the depreciation was to the tune of 50%.
- What would be the inflationary repercussions of this?
- How come that inflation repercussions of such a giant devaluation were so mild? Nothing could better demonstrate the “regime change”, or the work on fundamentals, than that