

# MACROECONOMICS



László Szalai

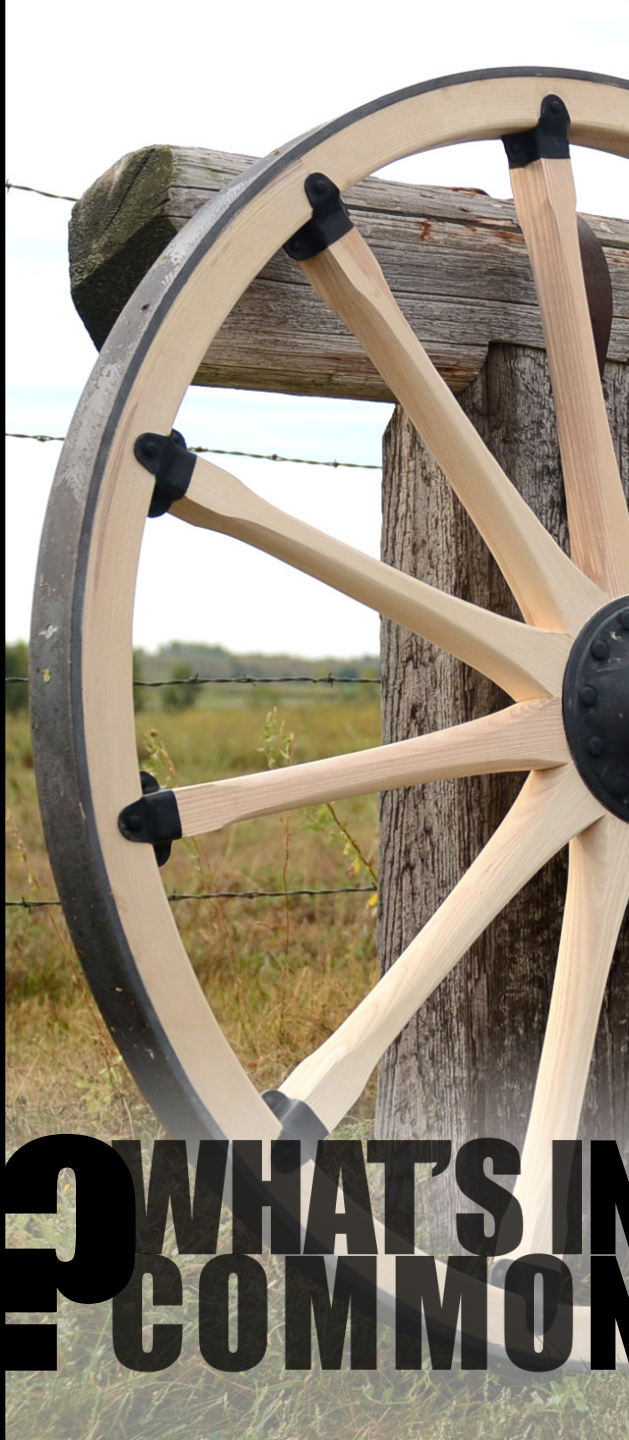


A black and white portrait of Snoop Doggy Dogg. He is wearing a white tank top and a chain necklace. He has a goatee and is holding a lit cigarette in his mouth. He is looking slightly to the right of the camera with a thoughtful expression.

**WHERE DOES  
MONEY\*  
COME FROM?**

**\* THIS TIME ABOUT  
MONEY FOR REAL**





**Q** WHAT'S IN  
**E** COMMON





**WHAT IS  
MONEY?**



# ASK THE INTERNET

money is |



money is **power**

money is **the root**

money is **everything**

money is **important**

money is **bad**

money is **tight**

money is **speech**

money is **real**





**YAP**





**POW  
CAMP**



**ANCIENT  
TIMES**



**SLAVE  
TRADE**





**COMMODITY  
MONEY**



**FIAT  
CURRENCY**



1944

BRETTON  
WOODS

1971





**CASH**



**DEMATERIALIZED**



# DEBIT / CREDIT





20%

RESERVE - DEPOSIT

## FIRSTBANK

<u>ASSETS</u>	<u>LIABILITIES</u>
RESERVES \$200	DEPOSITS \$1.000
LOANS \$800	
<b>M<sup>s</sup> = \$1.800</b>	

## SECONDBANK

<u>ASSETS</u>	<u>LIABILITIES</u>
RESERVES \$160	DEPOSITS \$800
LOANS \$640	
<b>M<sup>s</sup> = \$2.440</b>	

## THIRDBANK

<u>ASSETS</u>	<u>LIABILITIES</u>
RESERVES \$128	DEPOSITS \$640
LOANS \$512	
<b>M<sup>s</sup> = \$2.952</b>	



**LASTBANK**



**$M^S = \$5.000$**   
**WITH \$1.000 OF RESERVES**

**MULTIPLICATION**





10%

INTEREST RATE

## FIRSTBANK

RESERVES

\$200

LOANS

\$800

INTEREST

\$80

**BALANCE \$1.880**

## SECONDBANK

RESERVES

\$160

LOANS

\$640

INTEREST

\$64

**BALANCE \$864**

## THIRDBANK

RESERVES

\$128

LOANS

\$512

INTEREST

\$51,2

**BALANCE \$691,2**



# SUM OF ASSETS

**\$6.000**  
WITH \$5.000 OF DEPOSITS

**\$1.000**  
NEEDED IN NEW LOANS

**MONEY = DEBT**





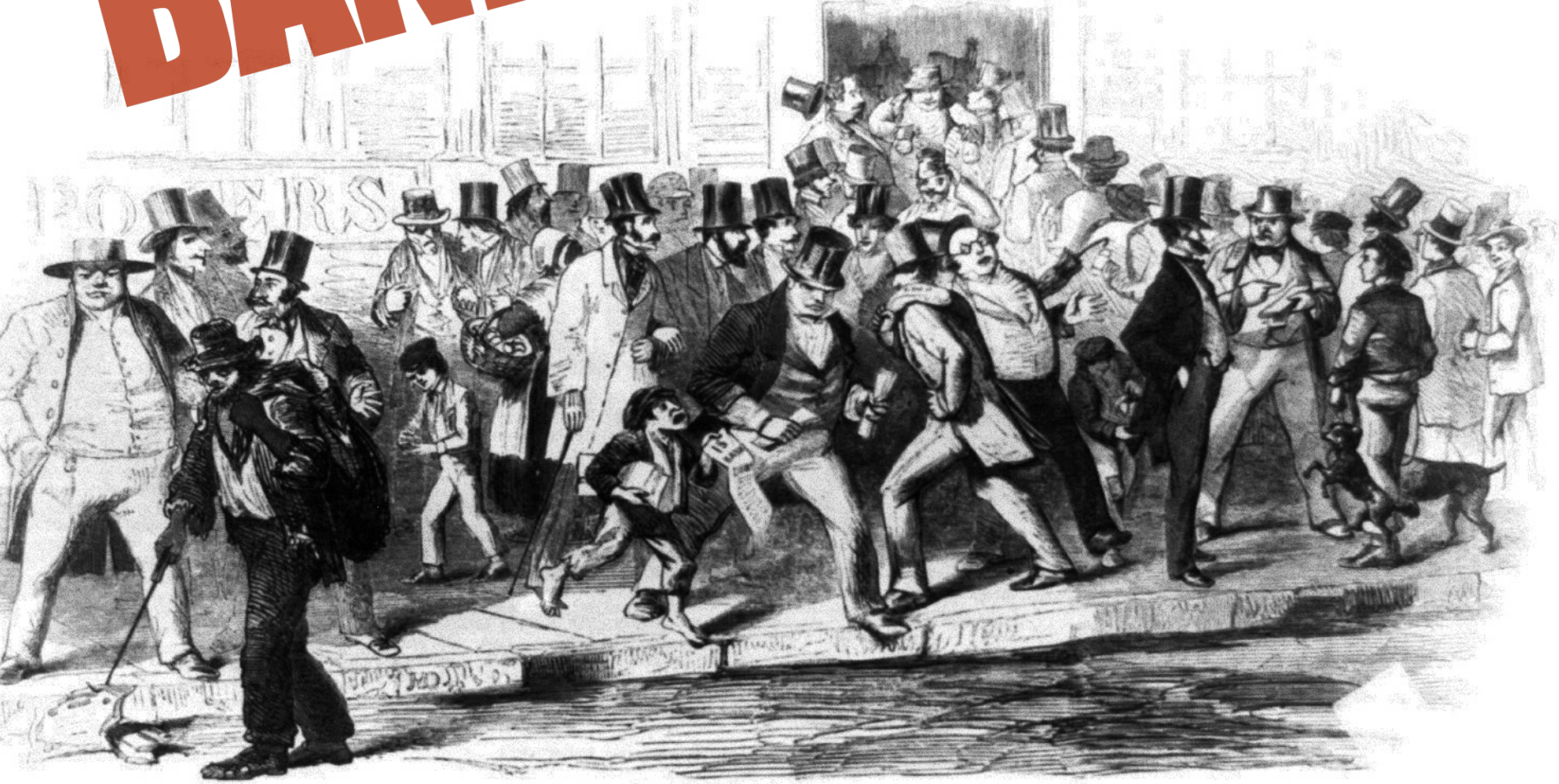
CAN WE **GROW** FOREVER?





# WHAT IS A **BANK RUN?**

**RESERVES** << **DEPOSITS**





**RESERVES AS OF**

**THE TOTAL SUPPLY**

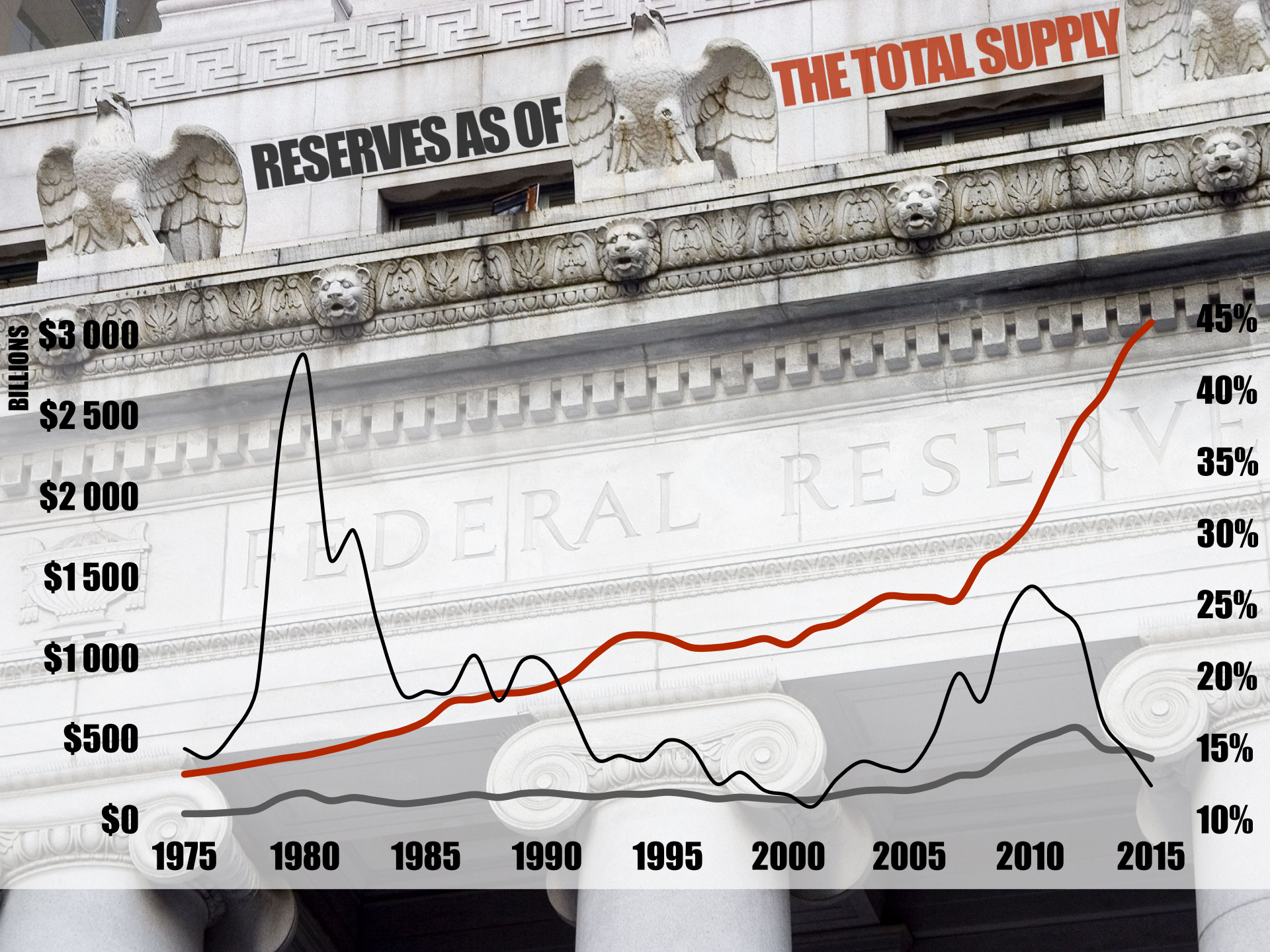
**BILLIONS**

**\$3 000**  
**\$2 500**  
**\$2 000**  
**\$1 500**  
**\$1 000**  
**\$500**  
**\$0**

**45%**  
**40%**  
**35%**  
**30%**  
**25%**  
**20%**  
**15%**  
**10%**

**1975**   **1980**   **1985**   **1990**   **1995**   **2000**   **2005**   **2010**   **2015**

FEDERAL RESERVE



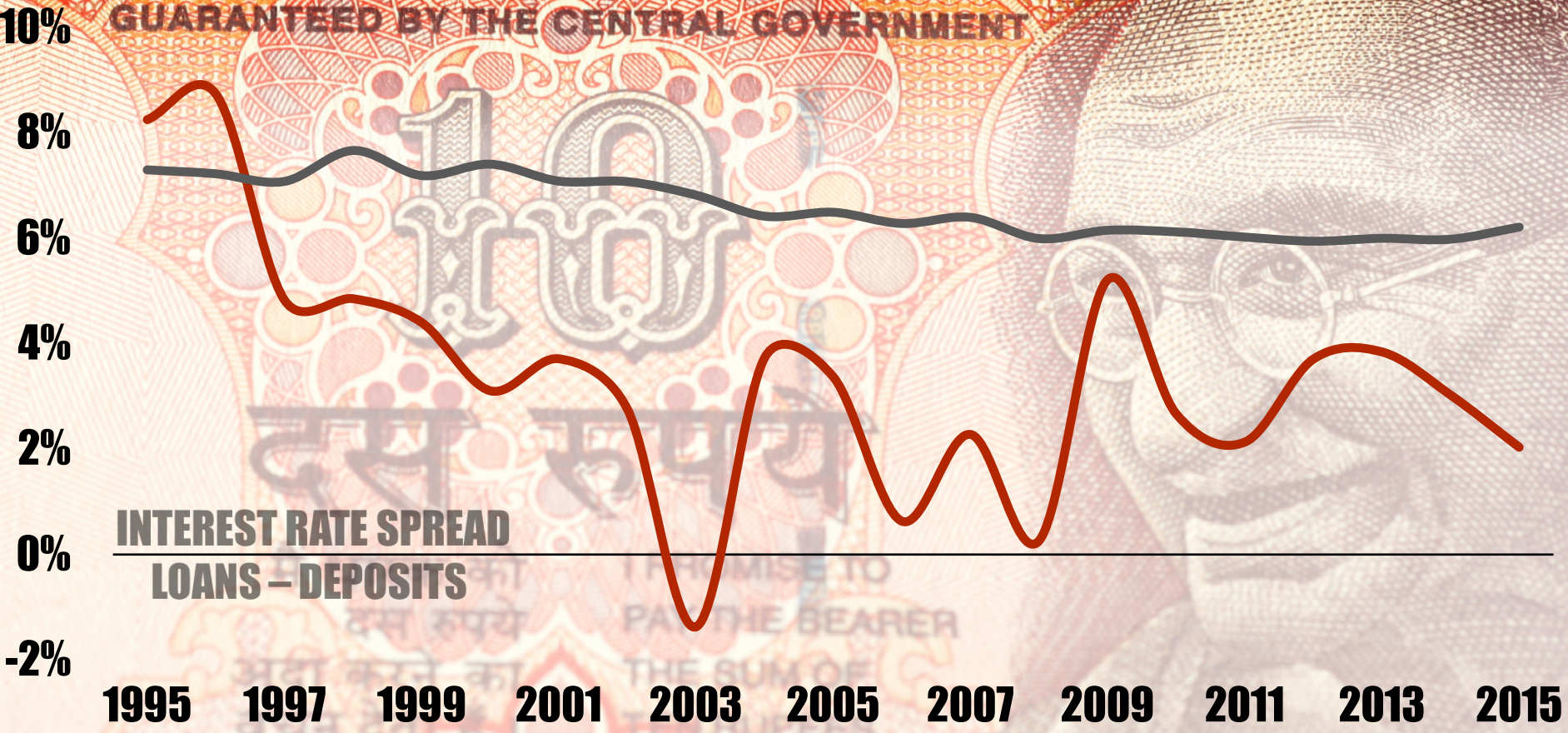


# भारतीय रिज़र्व बैंक RESERVE BANK OF INDIA

340 IN

केन्द्रीय सरकार द्वारा प्रत्याभूत

GUARANTEED BY THE CENTRAL GOVERNMENT

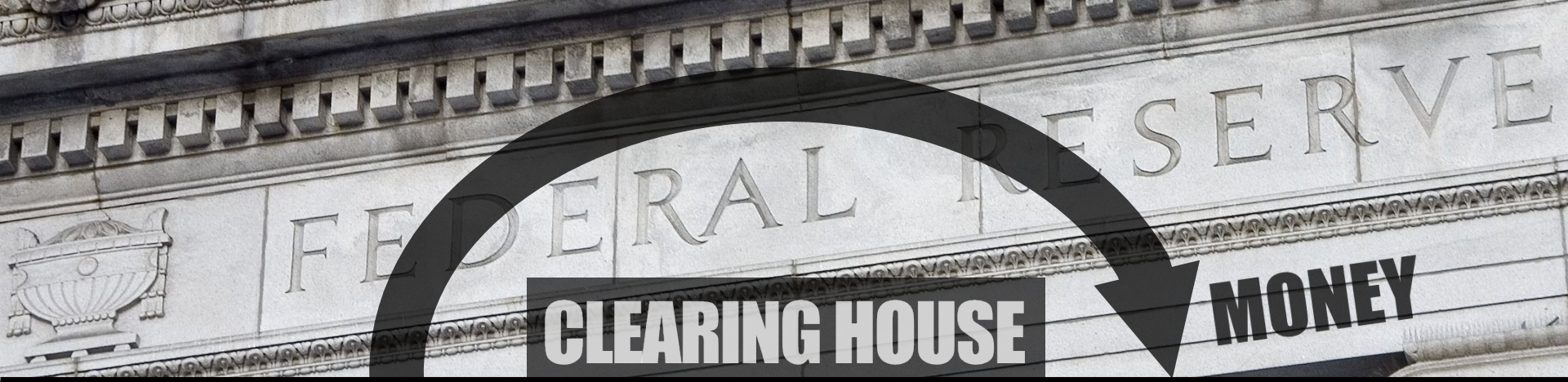




# BASE RATE







**CLEARING HOUSE**

**MONEY**



**BUYER'S BANK**



**SELLER'S BANK**



**BUYER**

**GOODS**

**SELLER**





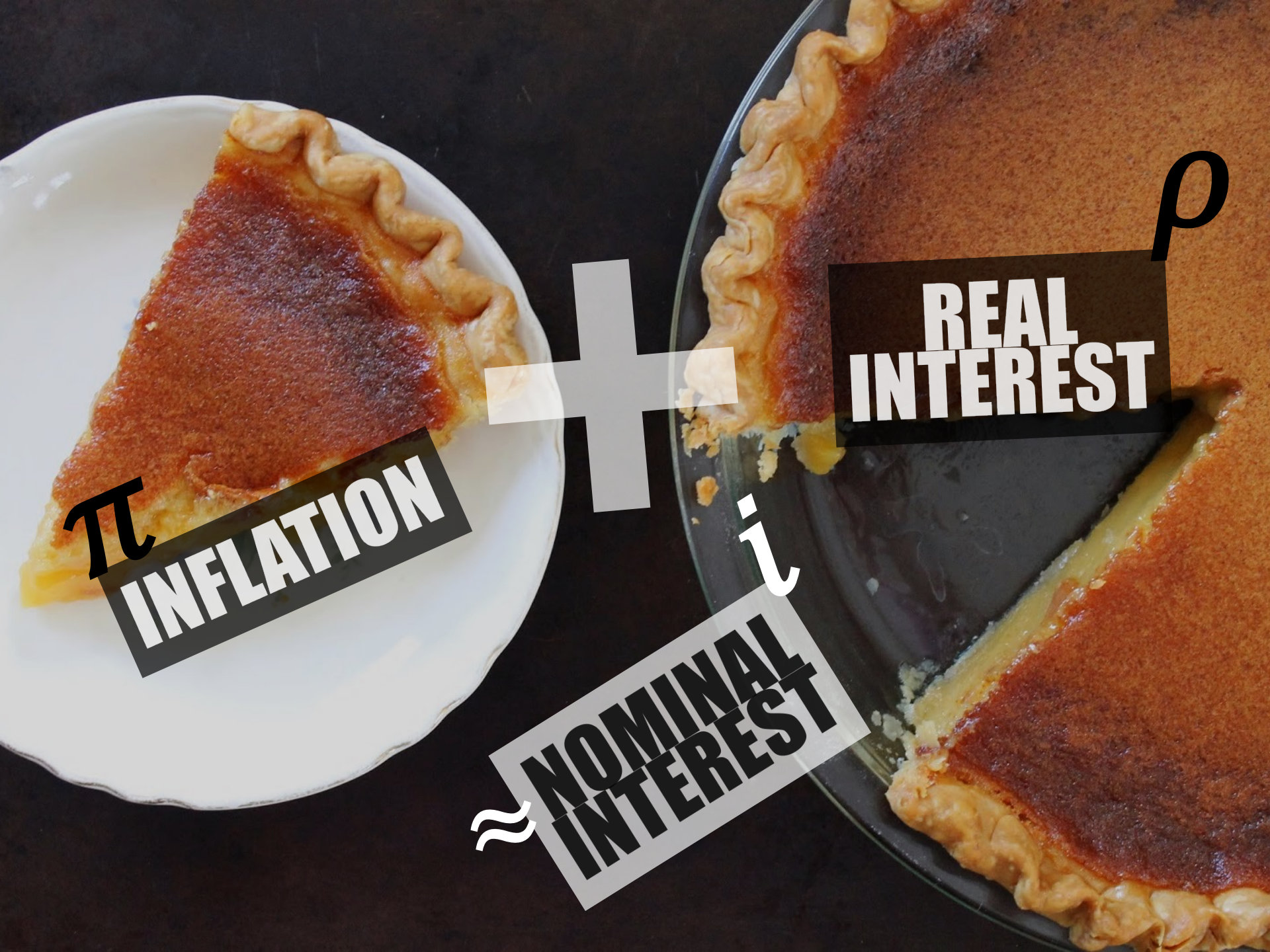
**SEIGNIORAGE**



# INFLATION IS A TAX







$\pi$

**INFLATION**

+

**REAL  
INTEREST**

$\rho$

$\approx$  **NOMINAL  
INTEREST**

$i$









$$\frac{M^S}{P} = L(\rho + \pi^e; Y)$$





# NEOCLASSIC DICHOTOMY



An aerial photograph of a massive, dense crowd of people at a festival or celebration. The crowd is composed of many people wearing colorful clothing. A large Venezuelan flag is visible in the lower-left quadrant, flying from a tall pole. The overall scene is vibrant and chaotic, representing a large-scale social gathering.

# **SOCIAL COSTS OF INFLATION**

**MENU COSTS**

**SHOELEATHER COST**

**INEFFICIENT ALLOCATION**

**UNPREDICTABILITY**

**UNINTENDED TAXES**

**INCONVENIENCE**

**\*HIDDEN WAGE CUTS**



100 000 000 000 000 RESERVE BANK OF ZIMBABWE

*I promise to pay  
the bearer on demand*

ONE HUNDRED  
TRILLION  
DOLLARS

AA07777821

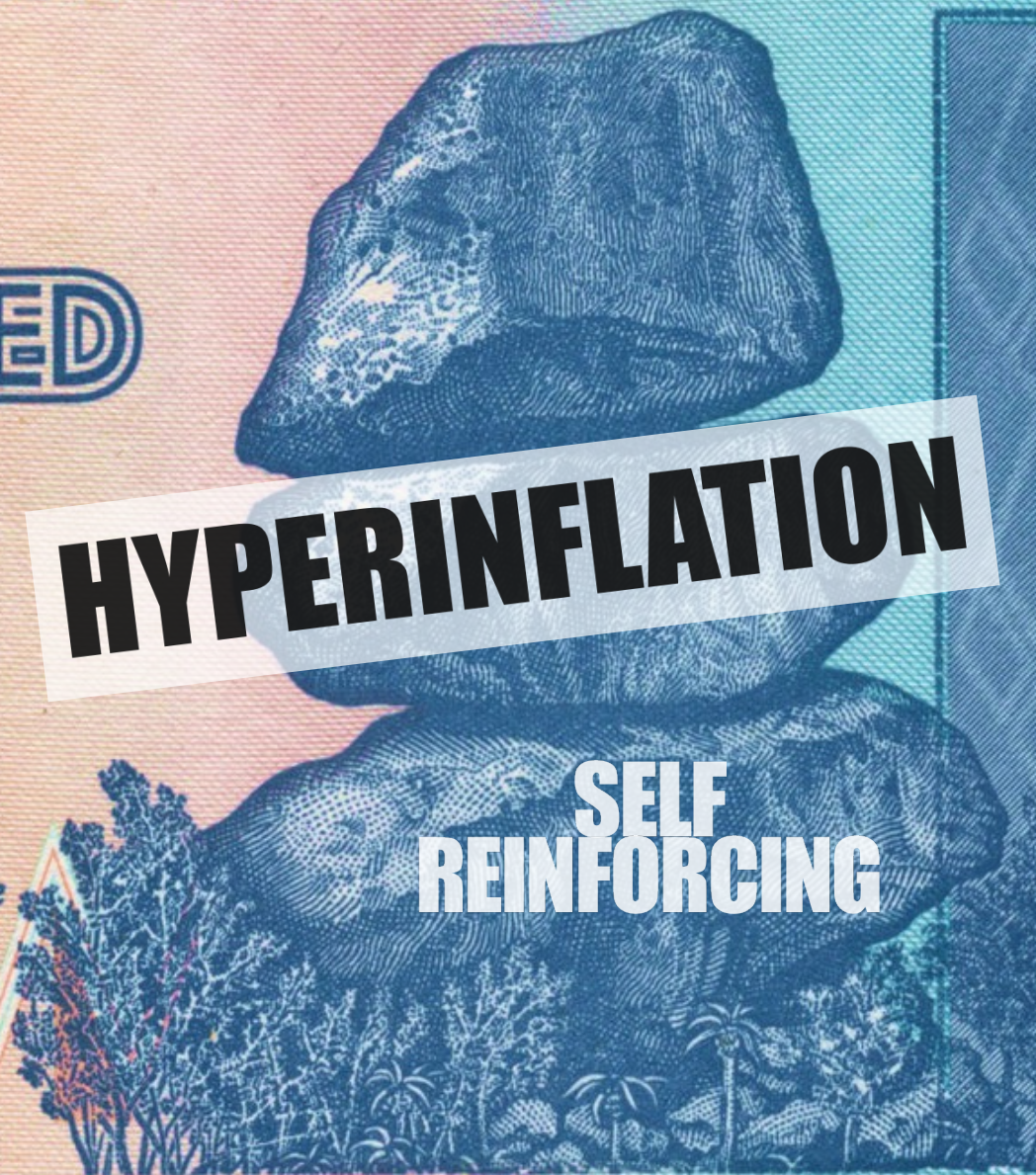
*for the Reserve Bank of Zimbabwe*

  
Dr. G. Gono  
Governor

100 000 000 000 000 HARARE 2008

**HYPERINFLATION**

**SELF  
REINFORCING**







**SEIGNIORAGE**

**INDEPENDENCY  
INFLATION TARGET**

**CREDIBILITY  
OF THE CENTRAL BANK**



# MACROECONOMICS



**PRESENTED BY  
BASED ON**

**DATA SOURCES  
AVAILABLE AT  
CONTACT**

**LÁSZLÓ SZALAI, DEPARTMENT OF ECONOMICS  
N. GREGORY MANKIW – MACROECONOMICS  
CHAPTER 4: THE MONETARY SYSTEM  
CHAPTER 5: INFLATION**

**THE WORLD BANK & THE FEDERAL RESERVE  
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