

Economy & Energy

By

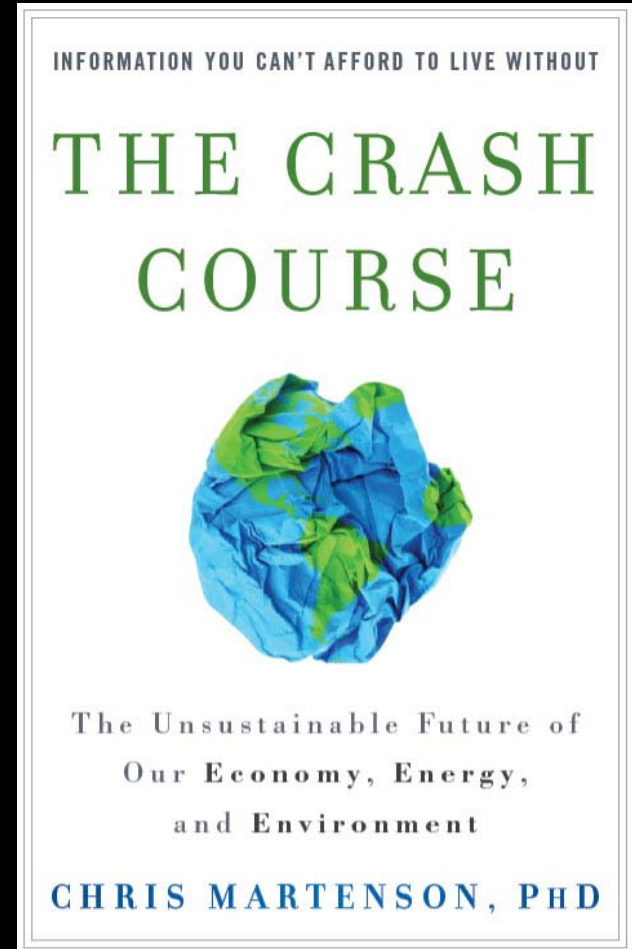
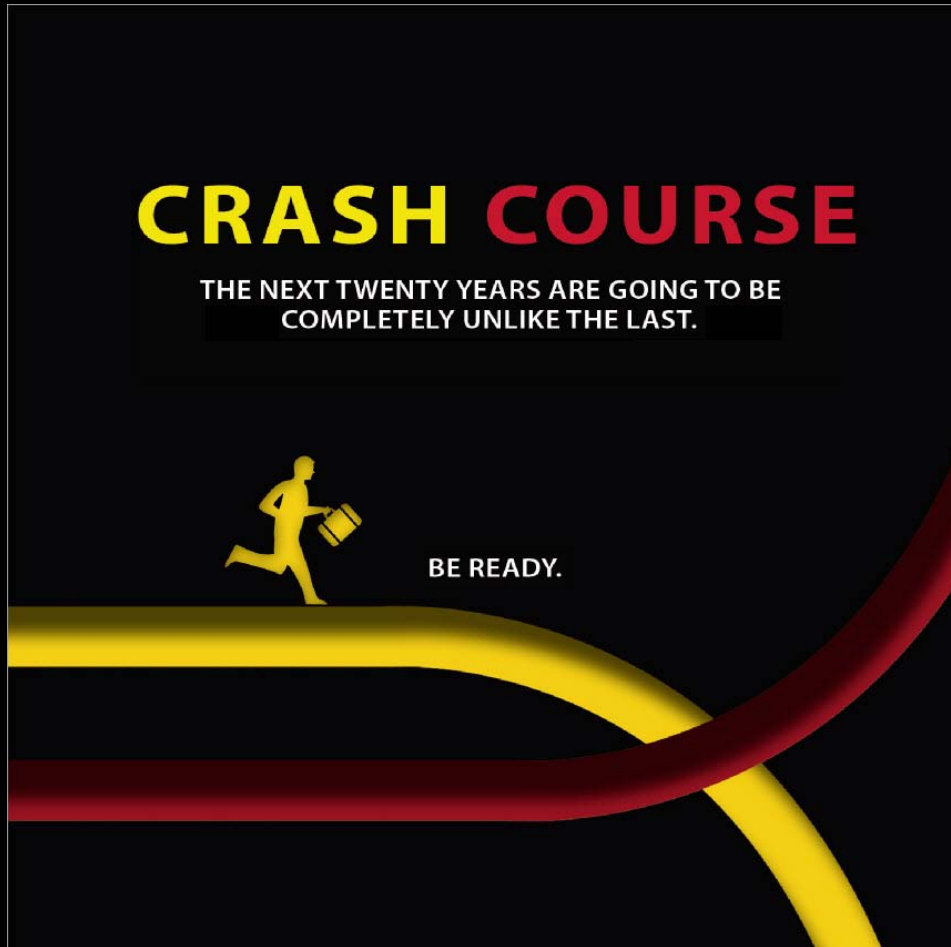
Chris Martenson

ASPO, Oct 8, 2010

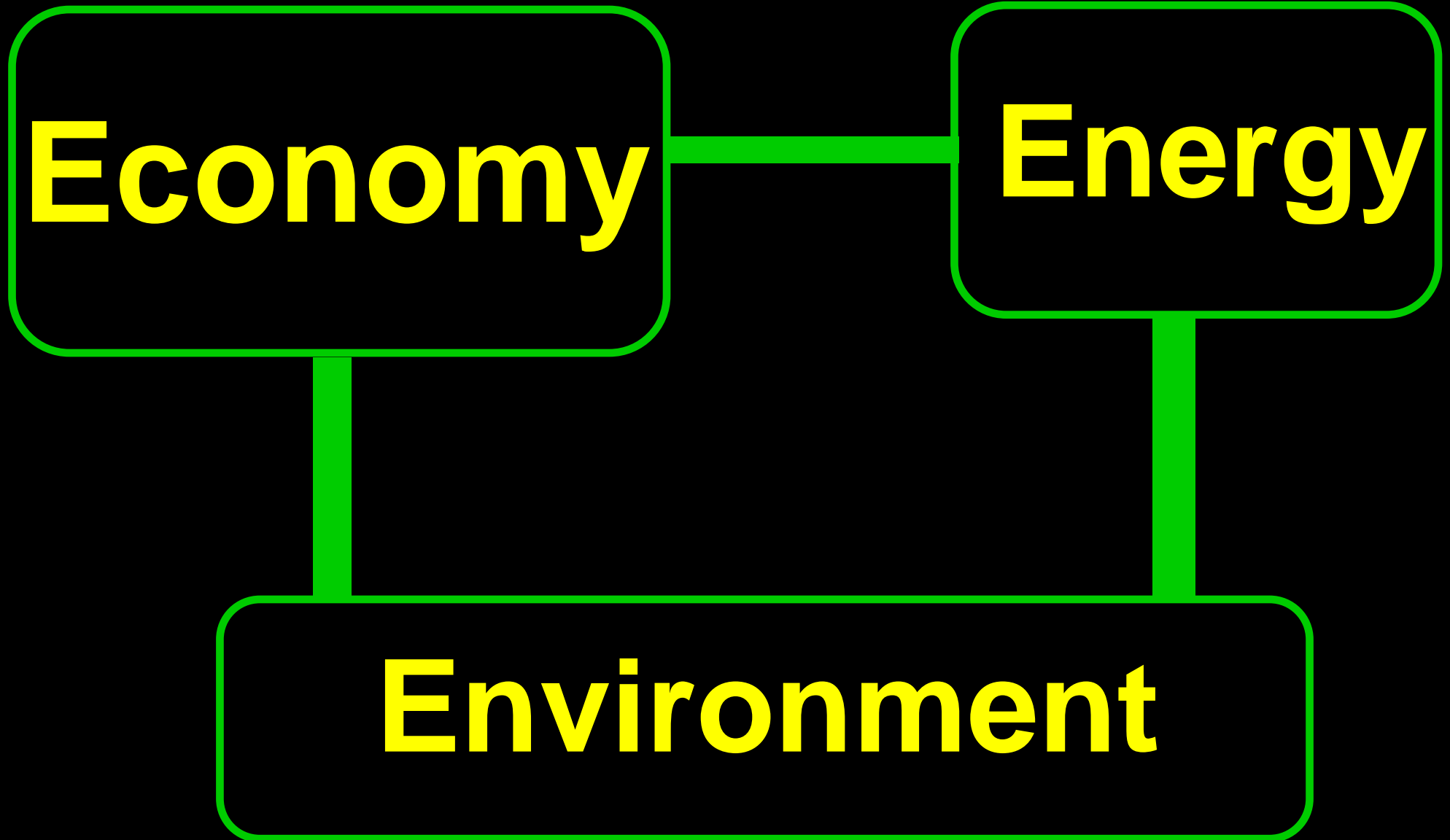
FUTURE



Job #1: Raise Awareness



The Three “E”s

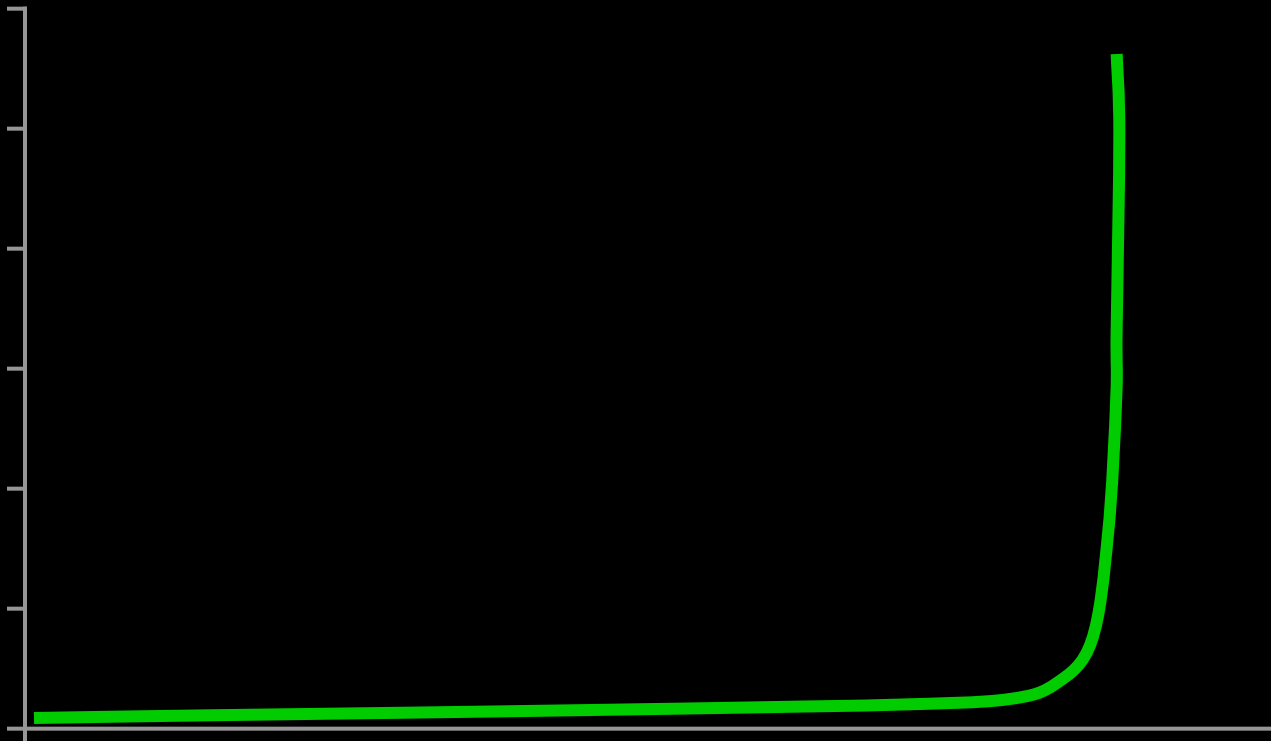


**The Next Twenty Years Are
Going To Be Completely
Unlike The Last Twenty
Years**



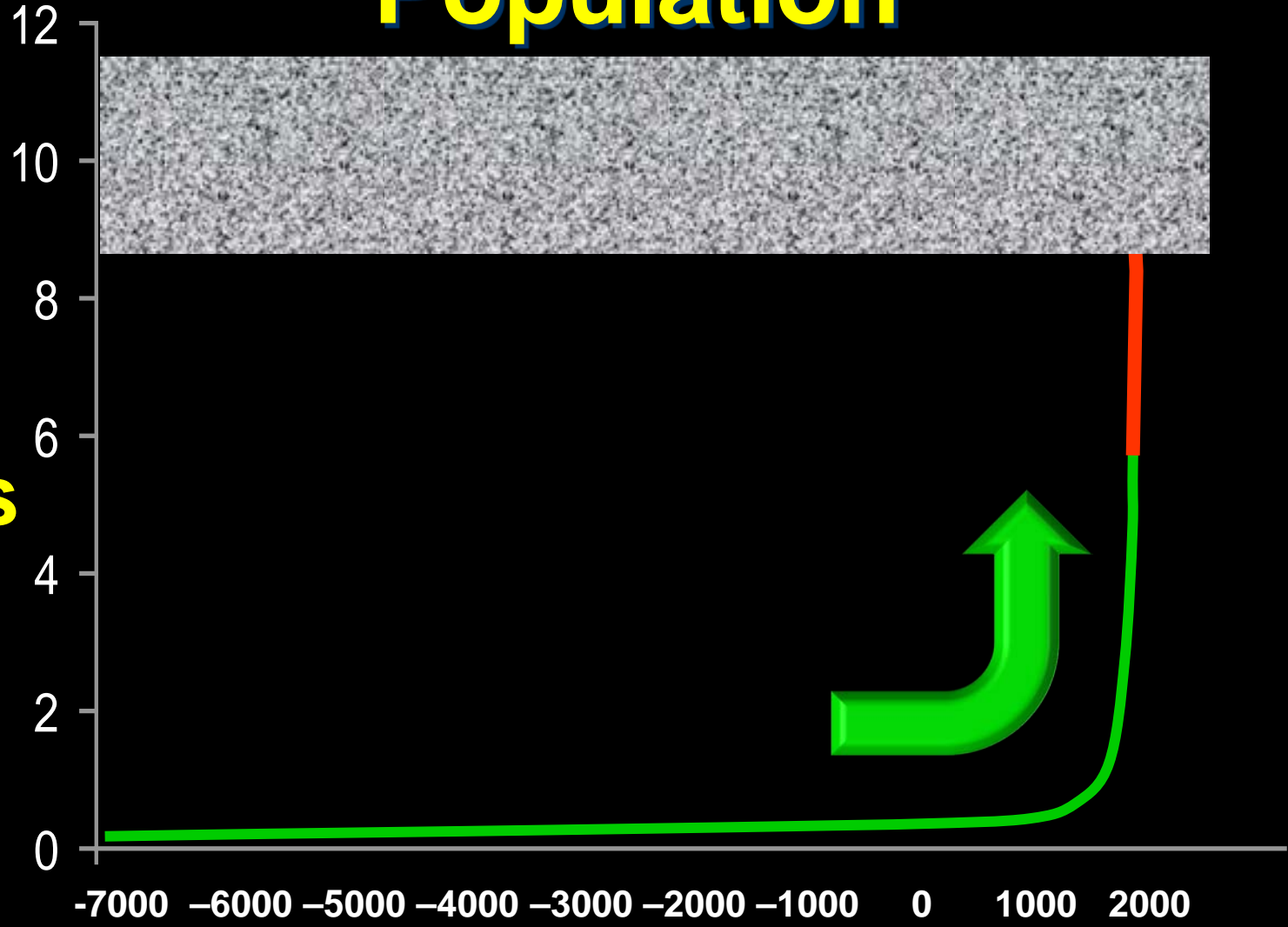
Exponential Growth

A Hockey Stick Chart



Population

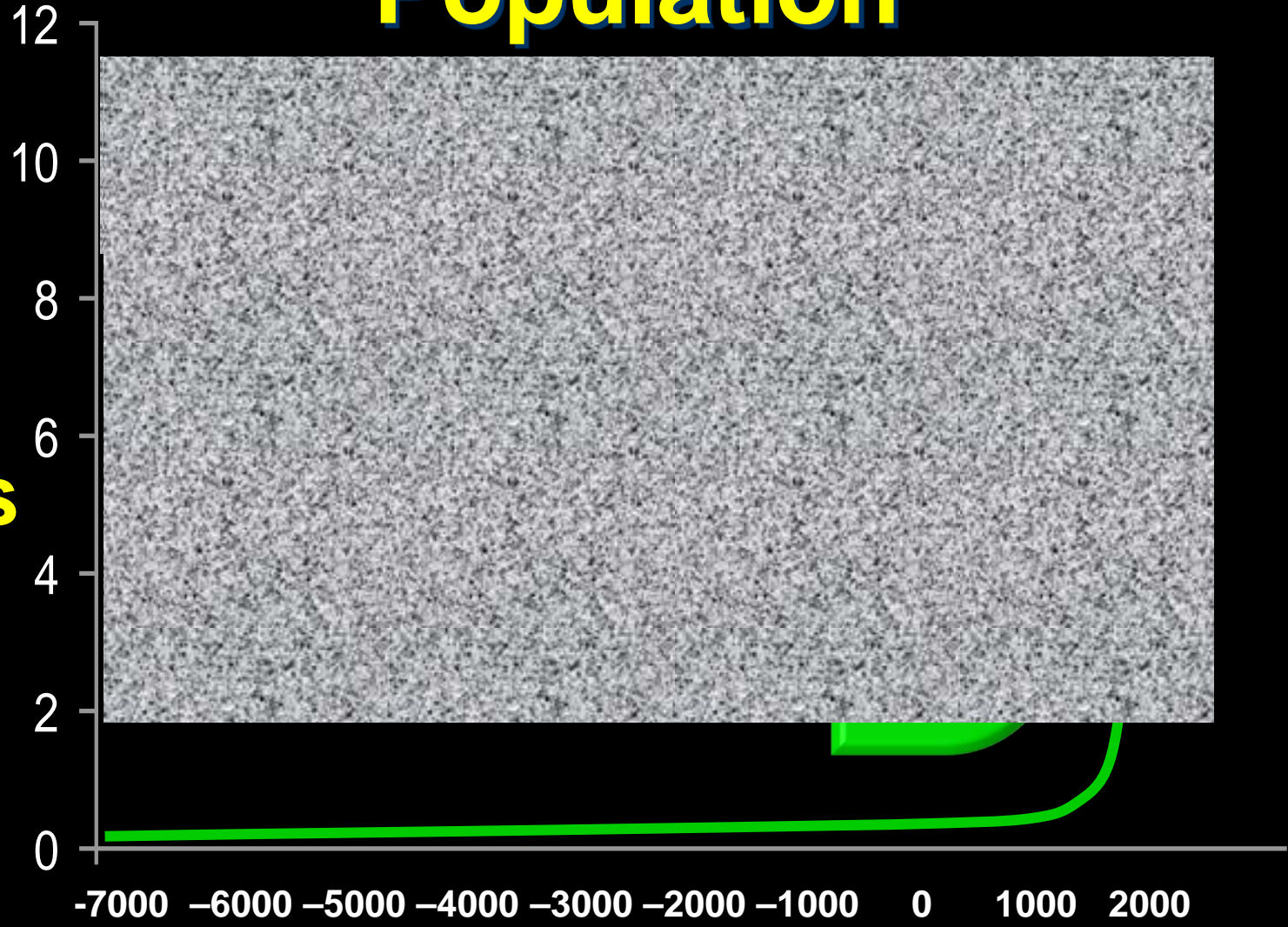
Billions



Years

Population

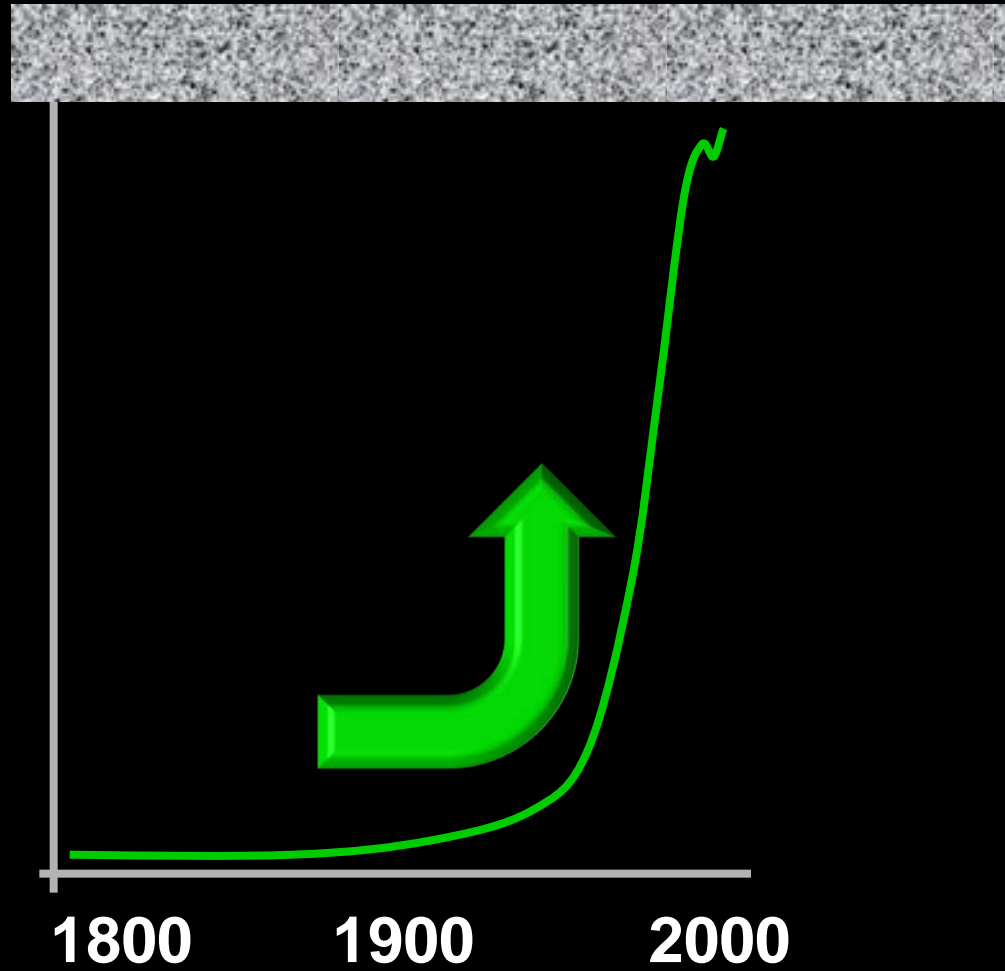
Billions



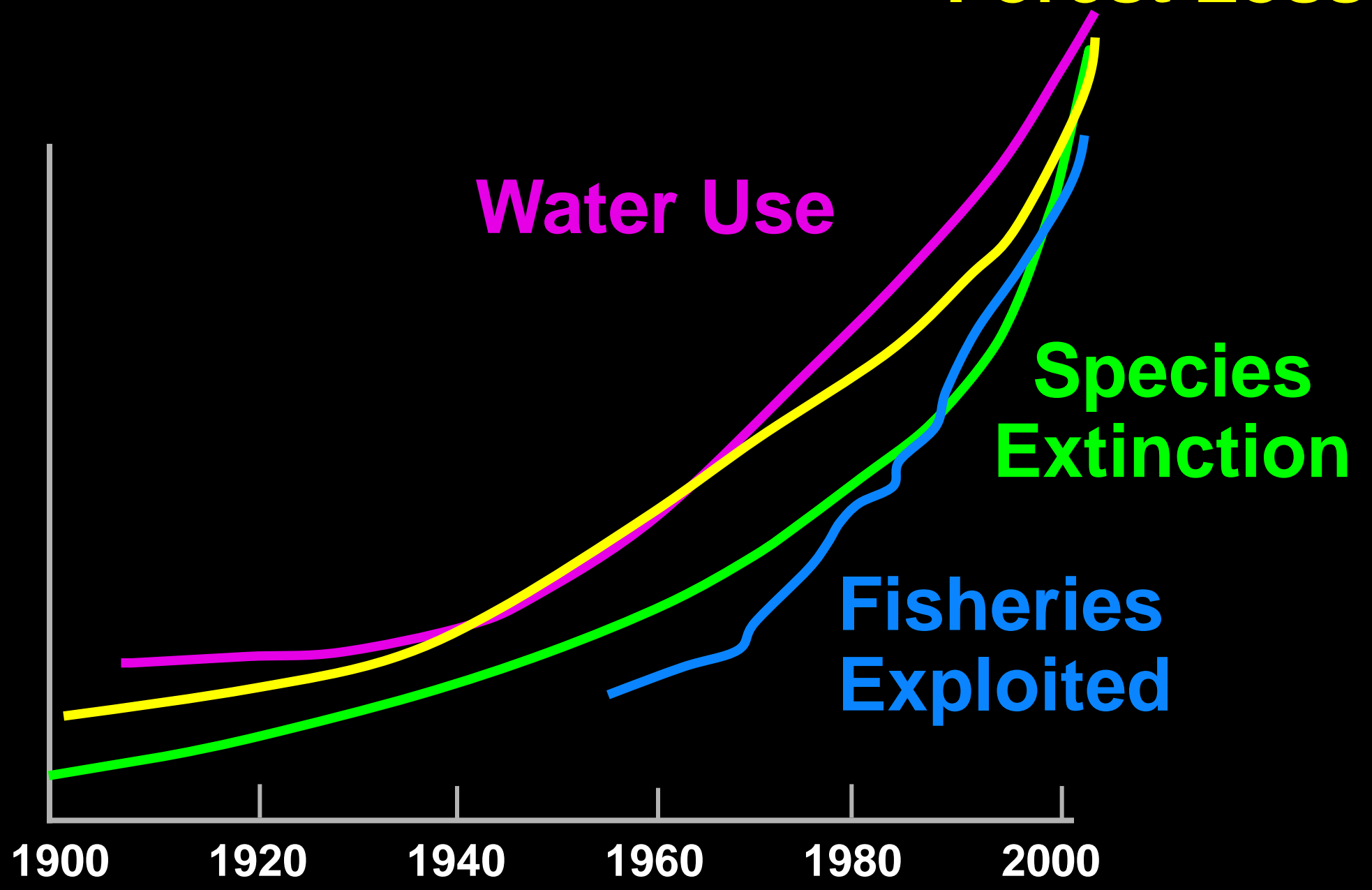
Years

Oil

Production



Forest Loss

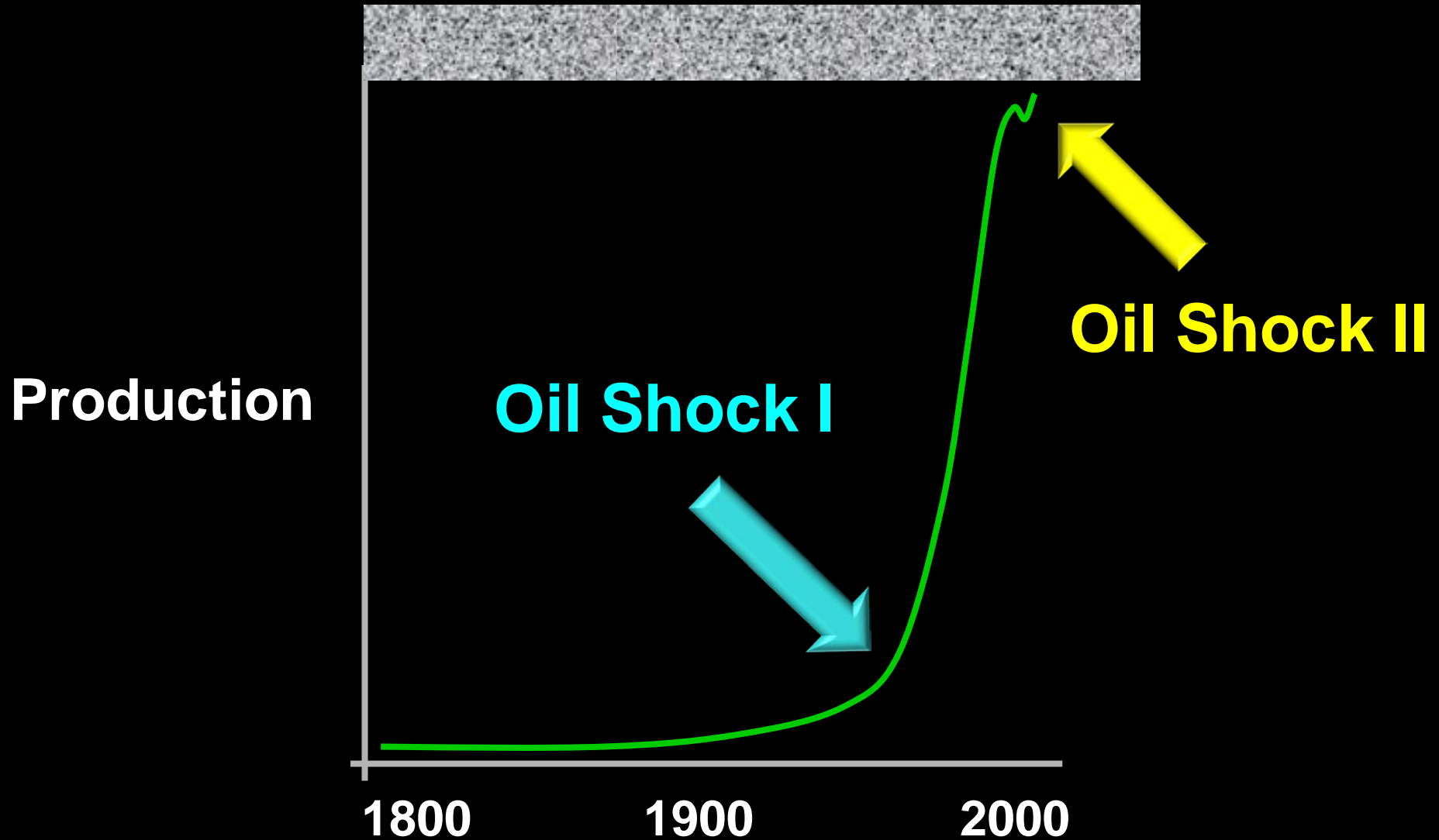


Water Use

Species Extinction

Fisheries Exploited

Oil Consumption



How Economists See the World

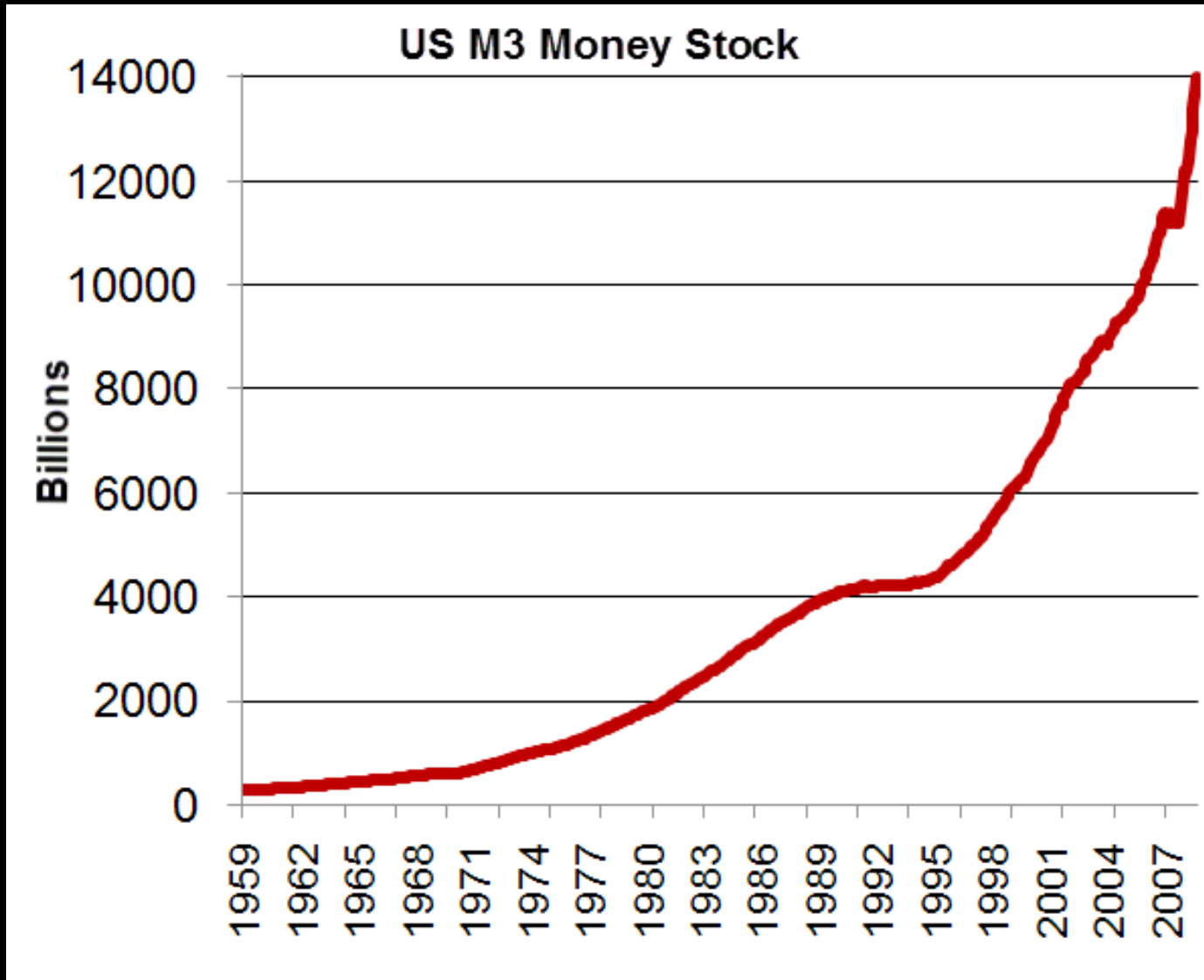
$$(\dot{x} + a)^n = \sum_{k=0}^n \binom{n}{k} x^k a^{n-k} \rightarrow \text{GROWTH}$$

**What is
Money?**



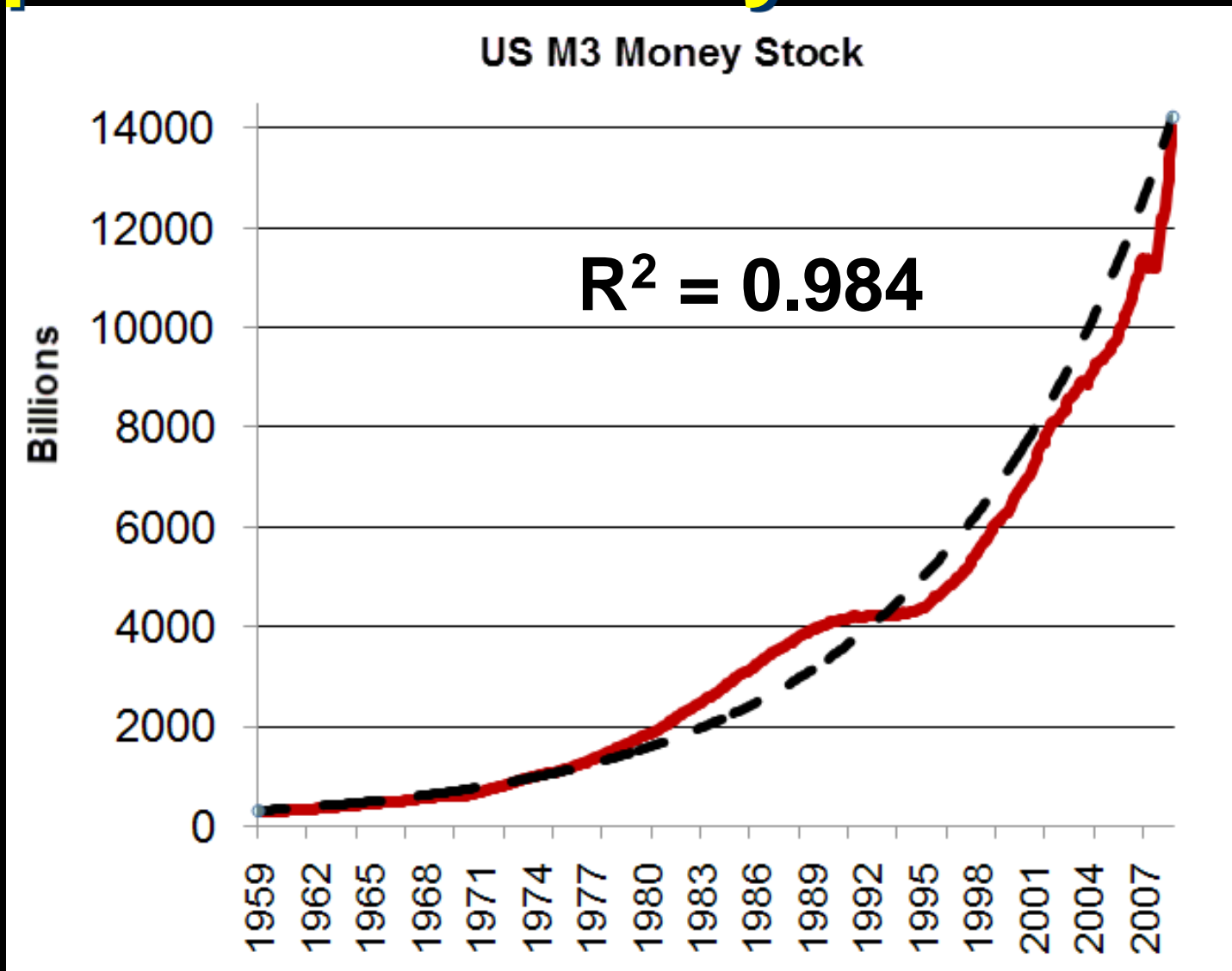
**All Money
is Loaned
into
Existence**

Money



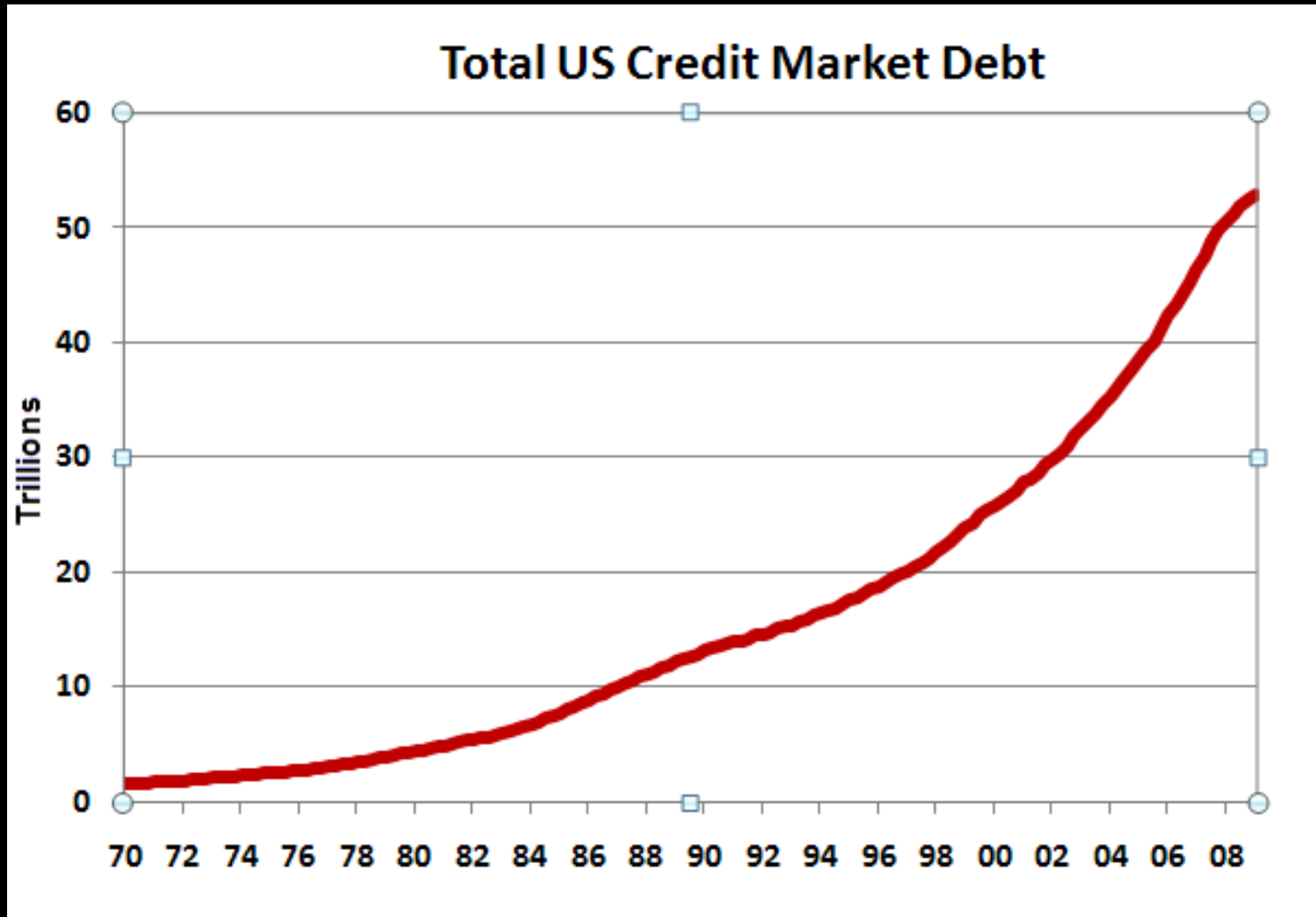
Source: Federal Reserve, St. Louis "FRED" system

Exponential Money



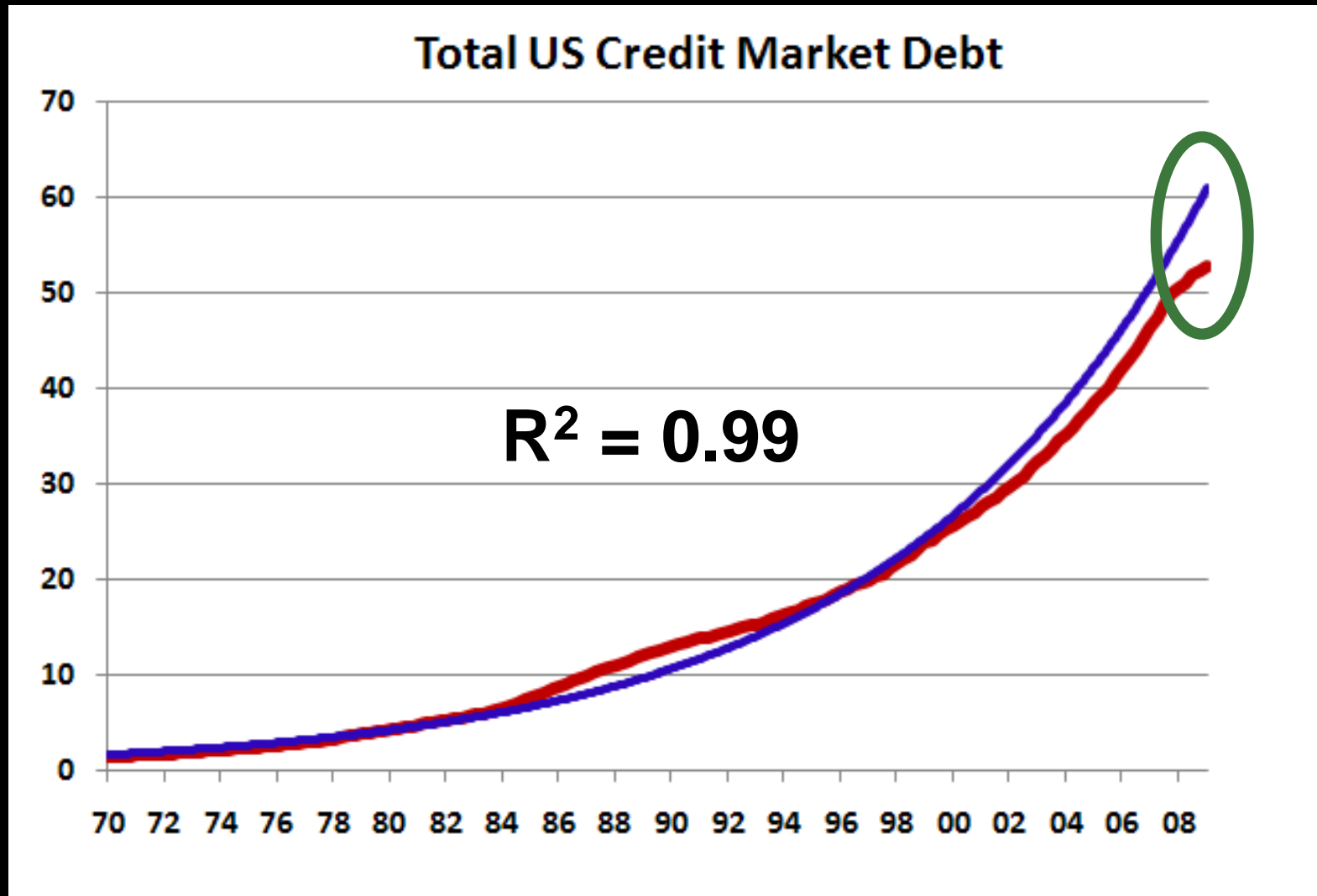
Source: Federal Reserve, St. Louis "FRED" system

Debt



Source: Federal Reserve, Z.1 report

Exponential Debt



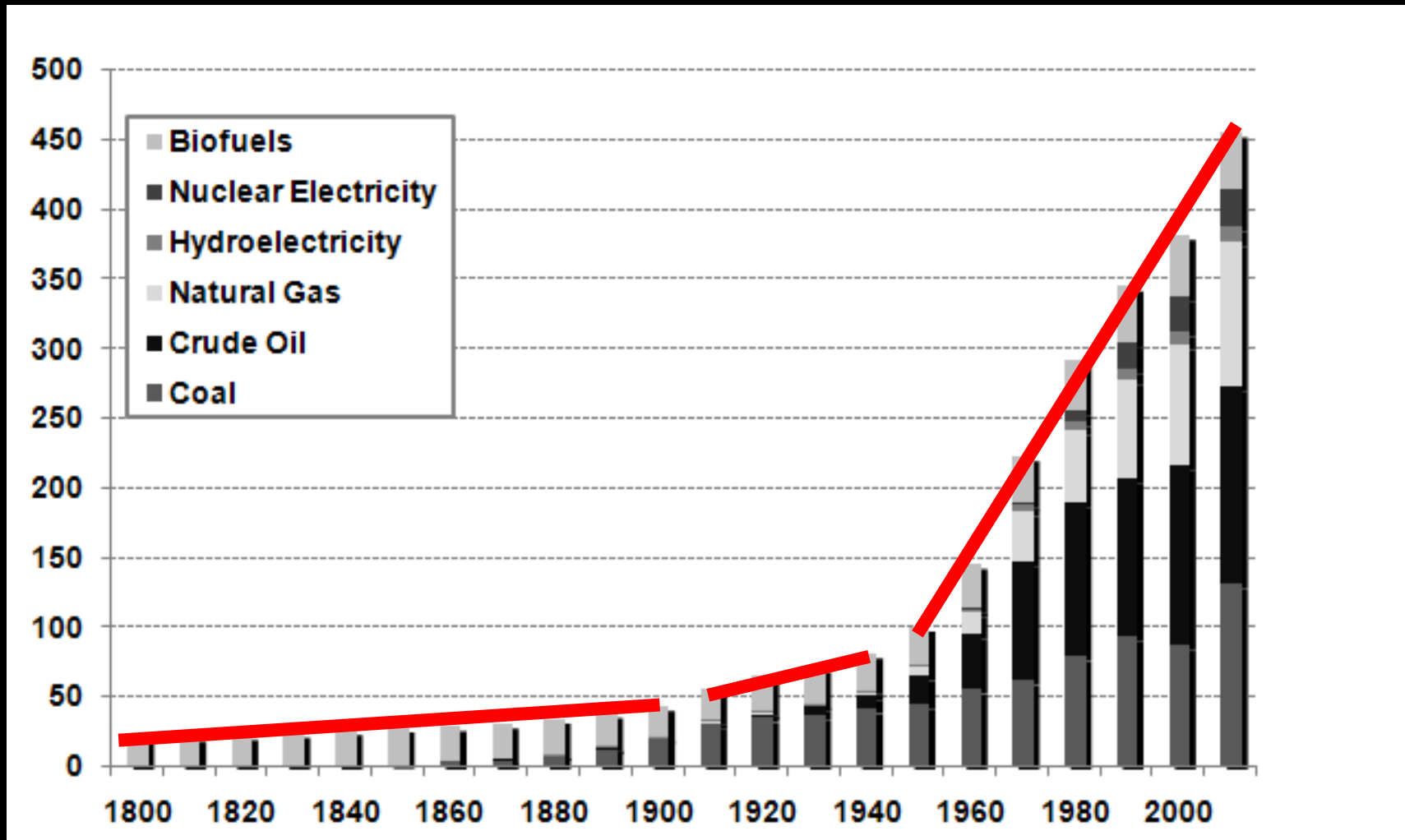
Source: Federal Reserve, Z.1 report

Credit Market Doublings

Credit Market Doublings

Start	End	# Quarters
Jul-70	Jul-77	28

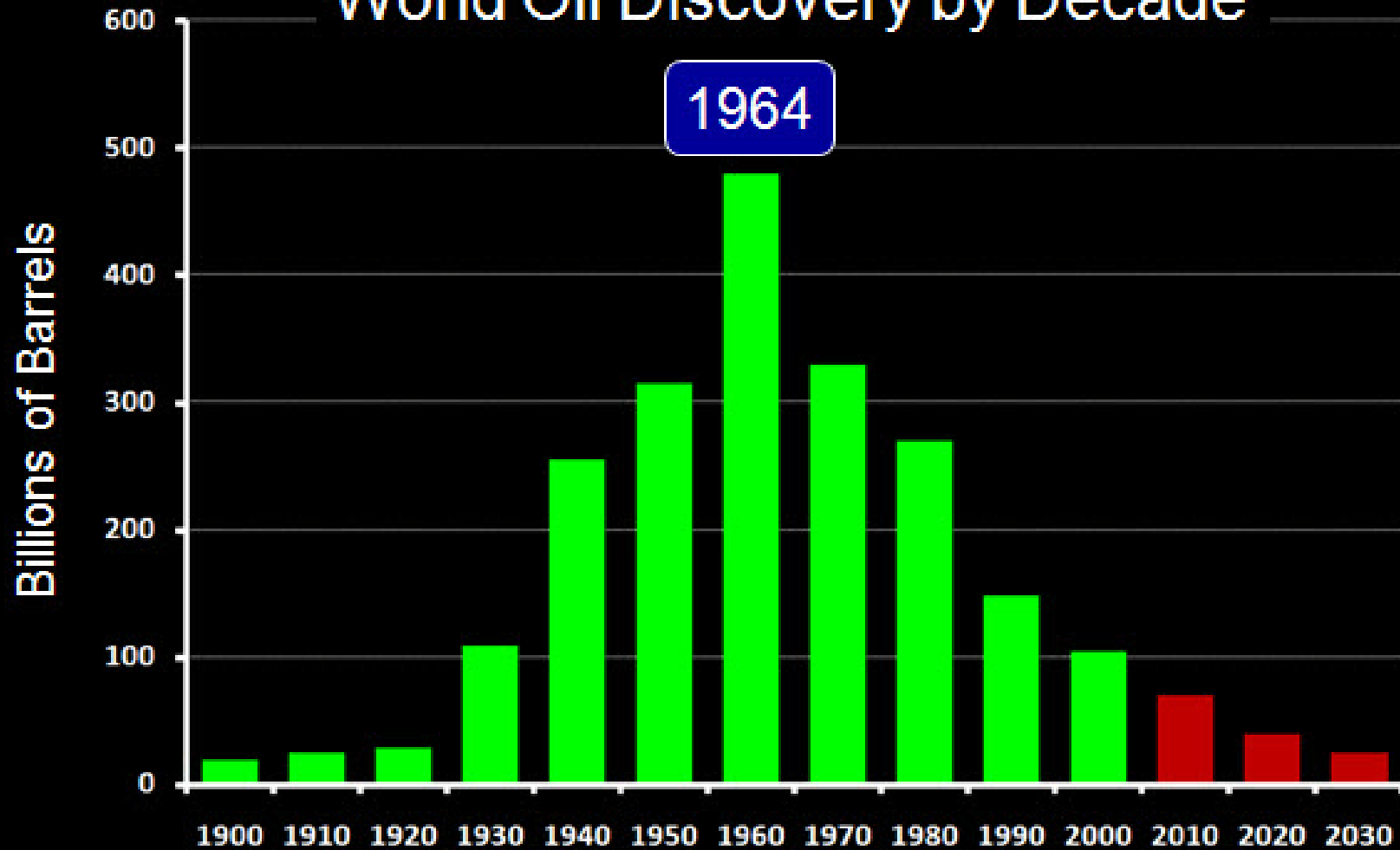
Exponential Energy



Source: "Energy Transitions", 2010, Vaclav Smil

A Discovery Peak

World Oil Discovery by Decade



The Fundamental Conflict

“Must Grow”

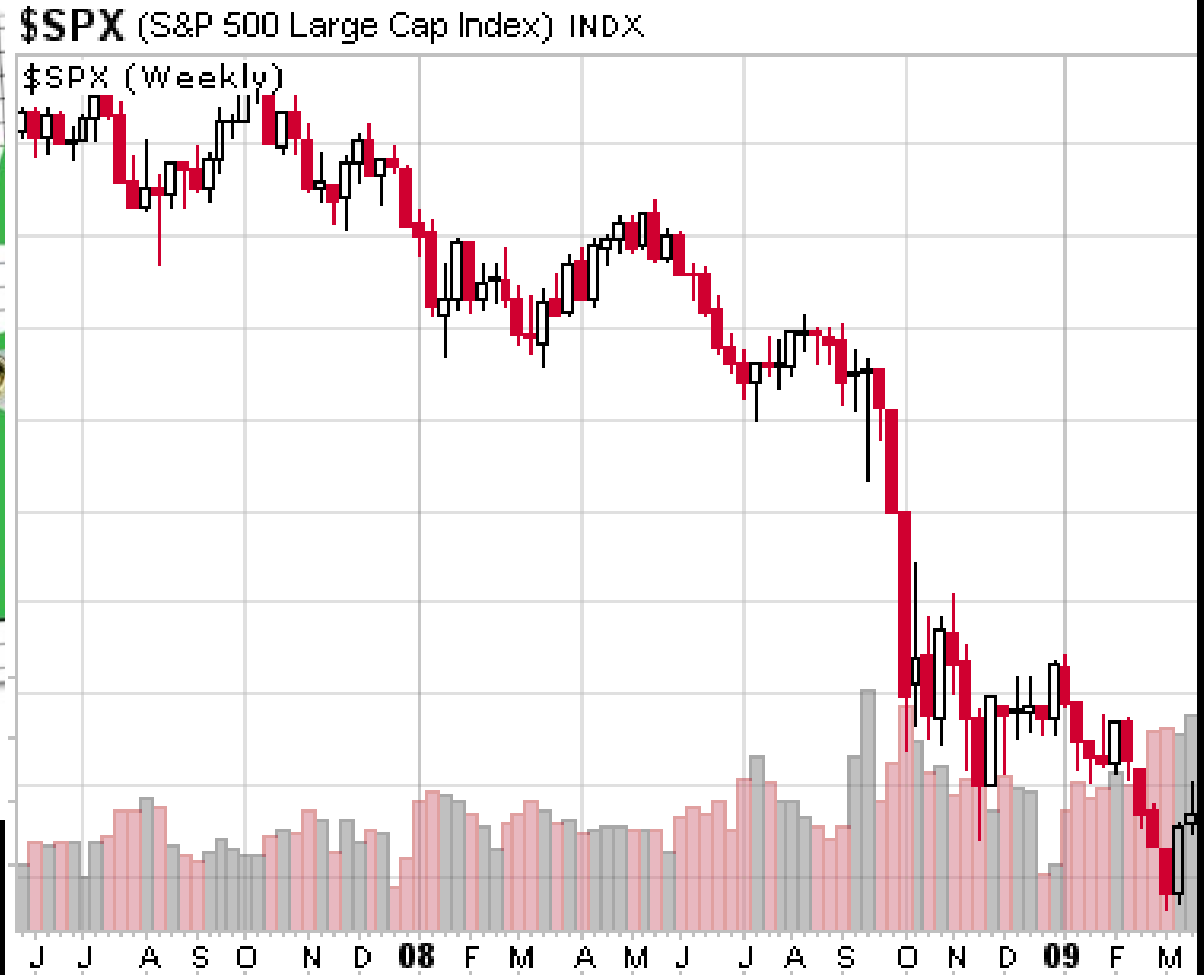
“Can’t Grow”



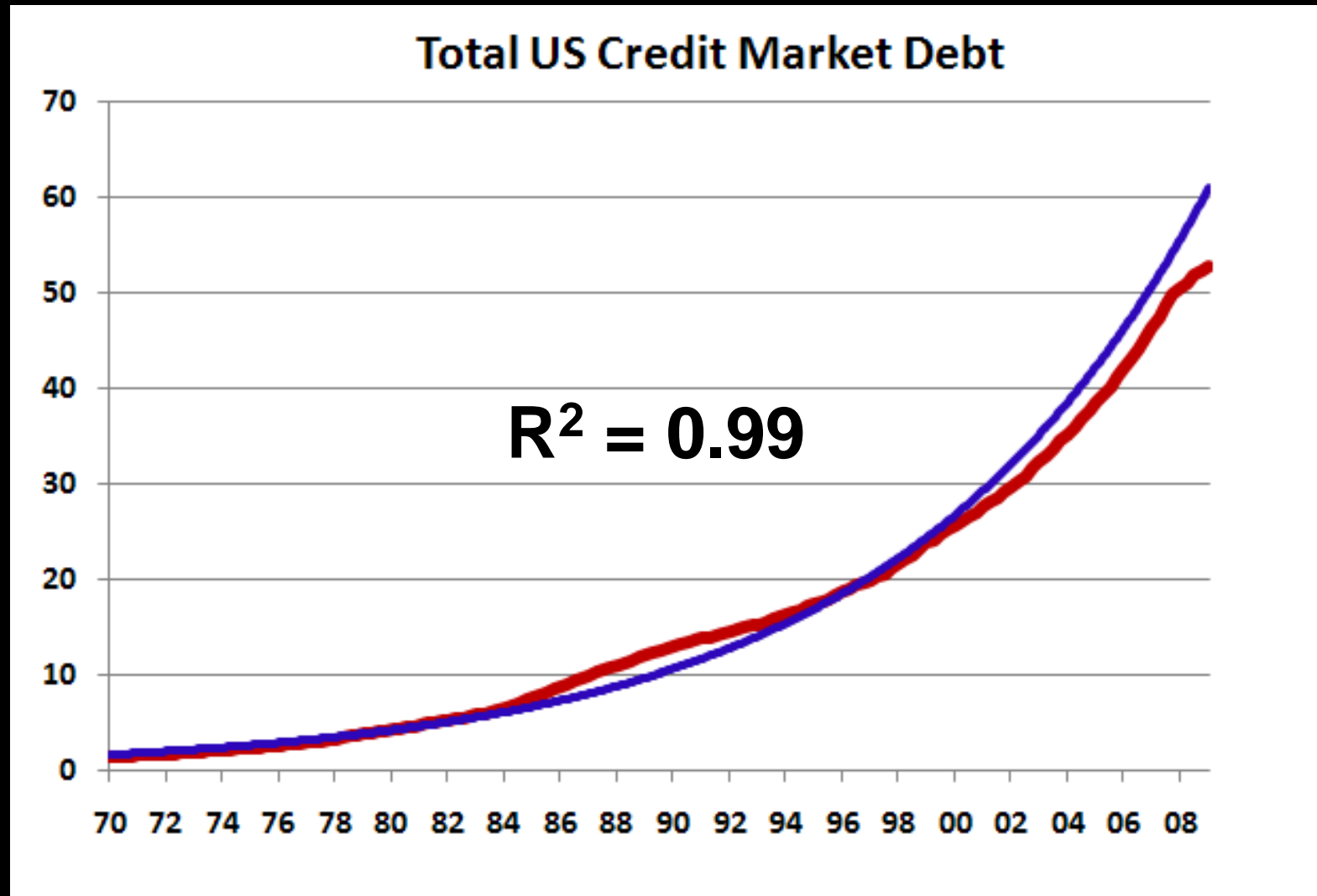
Our Money System is Poorly Designed



What Are The Implications?



Implicit Assumption?



Source: Federal Reserve, Z.1 report

Growth

OR

Prosperity

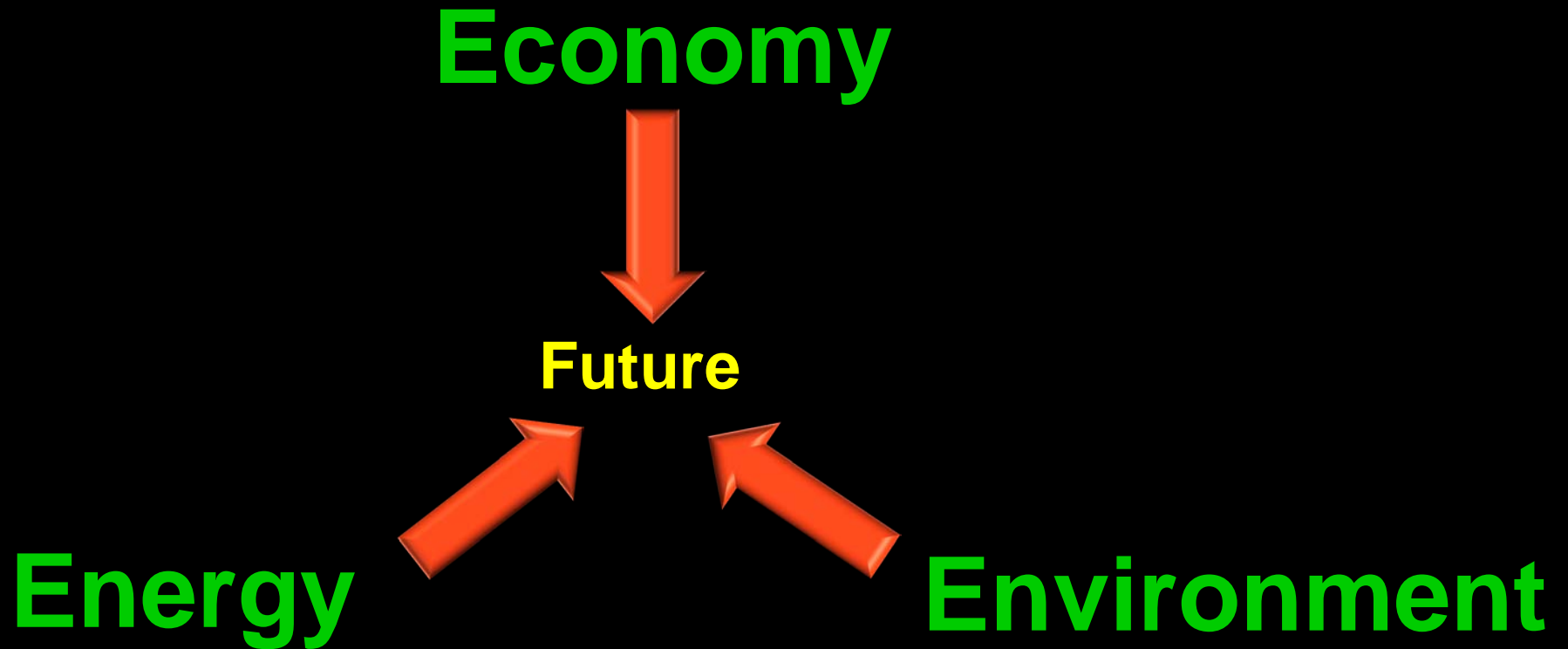
The Fundamental Conflict

“Must Grow”

“Can’t Grow”



Convergence...



**Prepare to be
surprised.**

Thank You

*For more information,
see **The Crash Course** at
<http://www.ChrisMartenson.com>*