

Building Resilience

Dr. Lucy Jones

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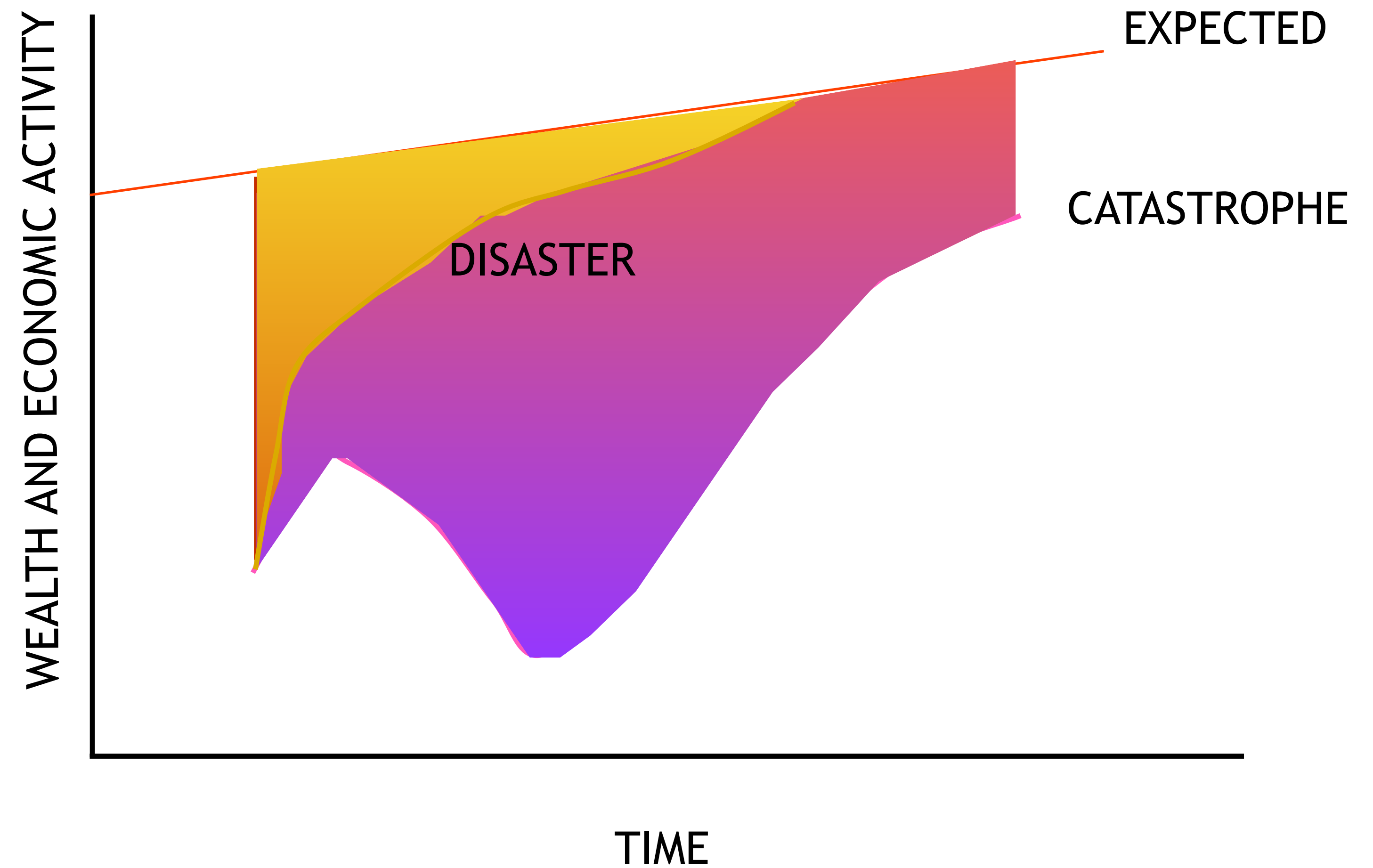
Caltech

URBAN DISASTER RESILIENCE

A SOCIETY
THAT
FUNCTIONS
AFTER THE
DISASTER

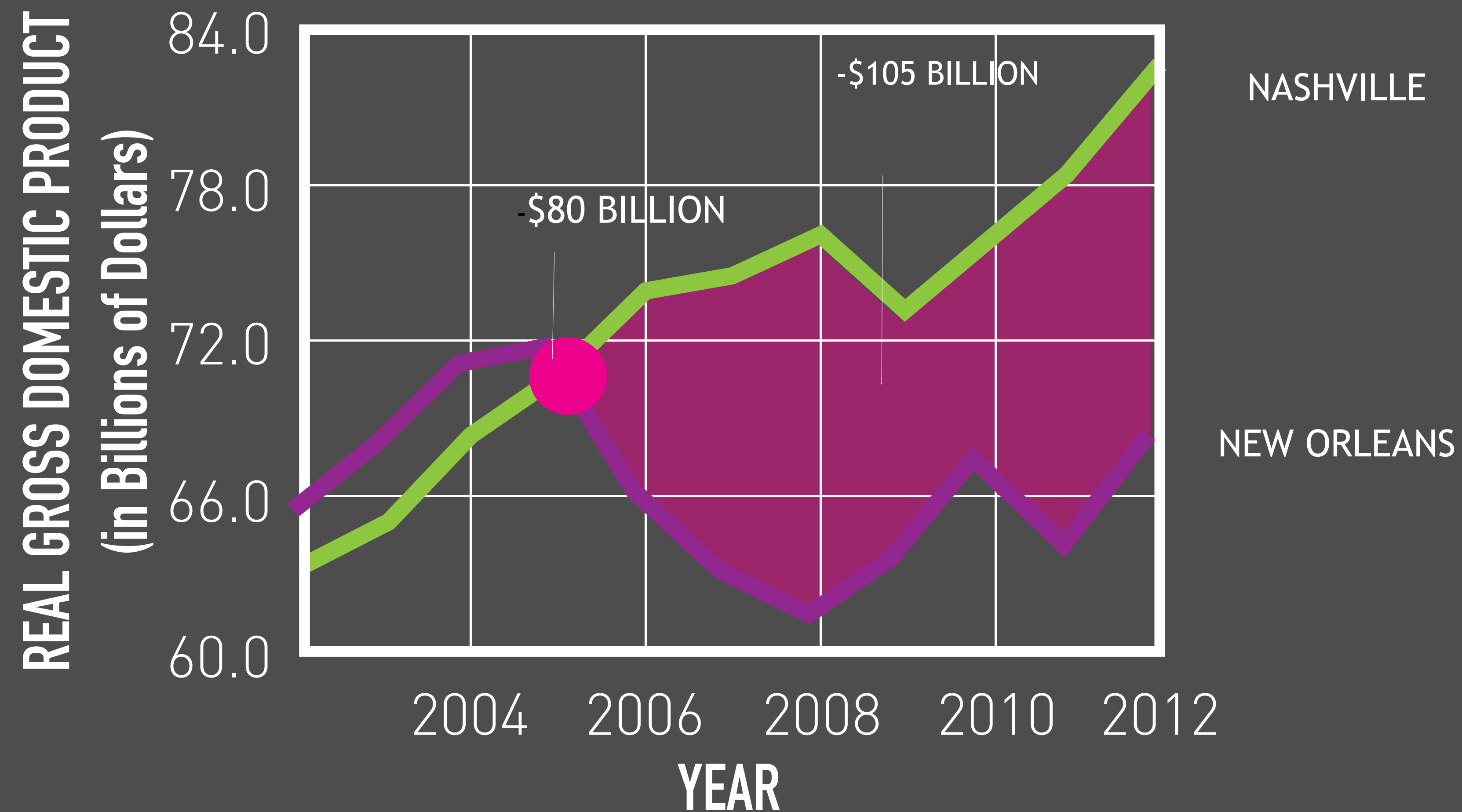


Economic Impacts



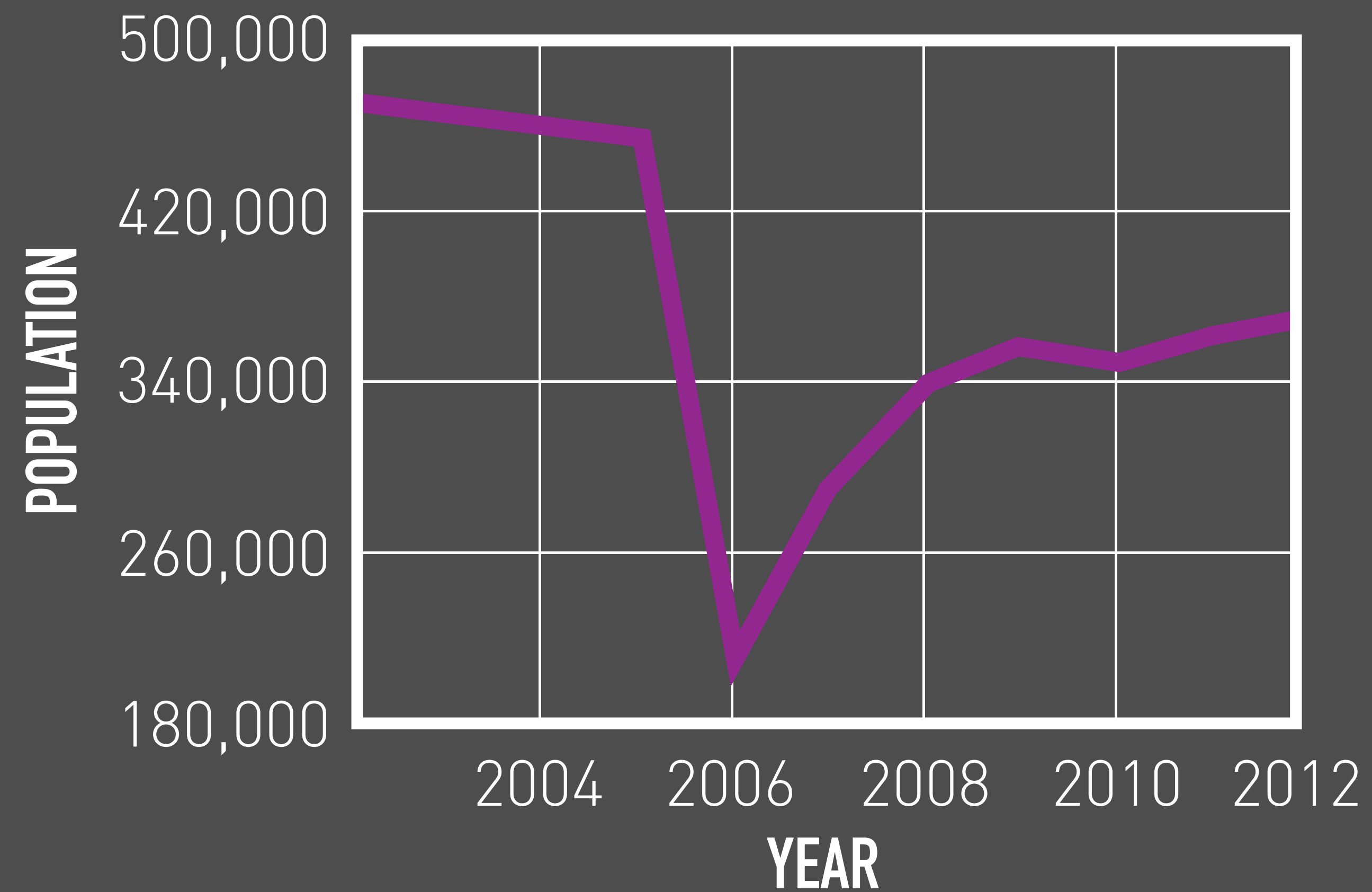
Economic Impacts

NEW ORLEANS VS NASHVILLE ECONOMIC GROWTH



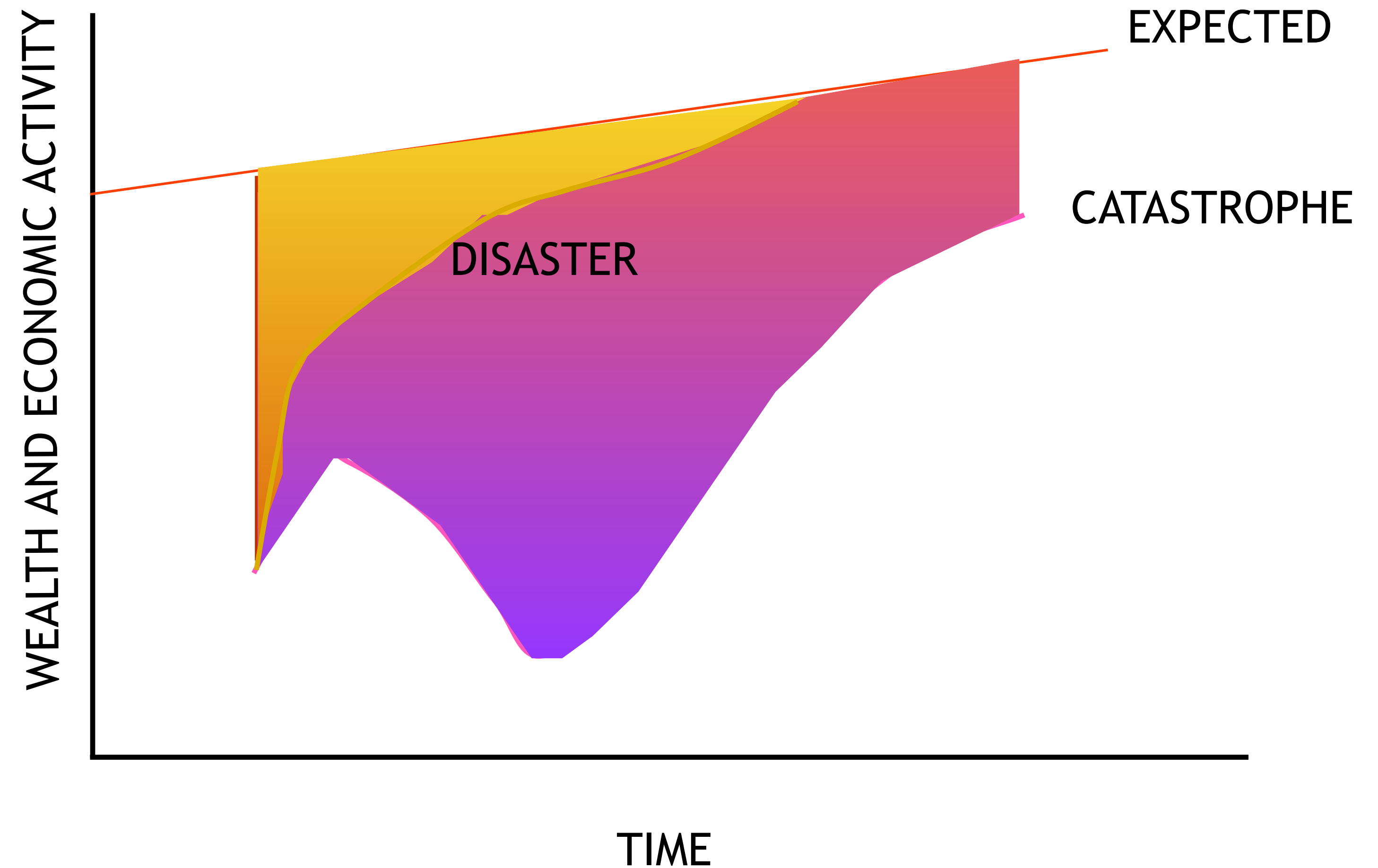
Social Impacts

NEW ORLEANS POPULATION



Getting on the disaster curve?

- Reduce original damage



Before: Mitigation Saves



National Institute of
BUILDING SCIENCES

National Benefit-Cost Ratio Per Peril

**BCR numbers in this study have been rounded*

Overall Hazard Benefit-Cost Ratio

Beyond Code
Requirements

4:1



Riverine Flood

5:1



Hurricane Surge

7:1



Wind

5:1



Earthquake

4:1



Wildland-Urban Interface Fire

4:1

Benefits go beyond the property owner

Benefit: \$4.3 billion

35% – Property: \$1,500

32% – Direct business interruption: \$1,400

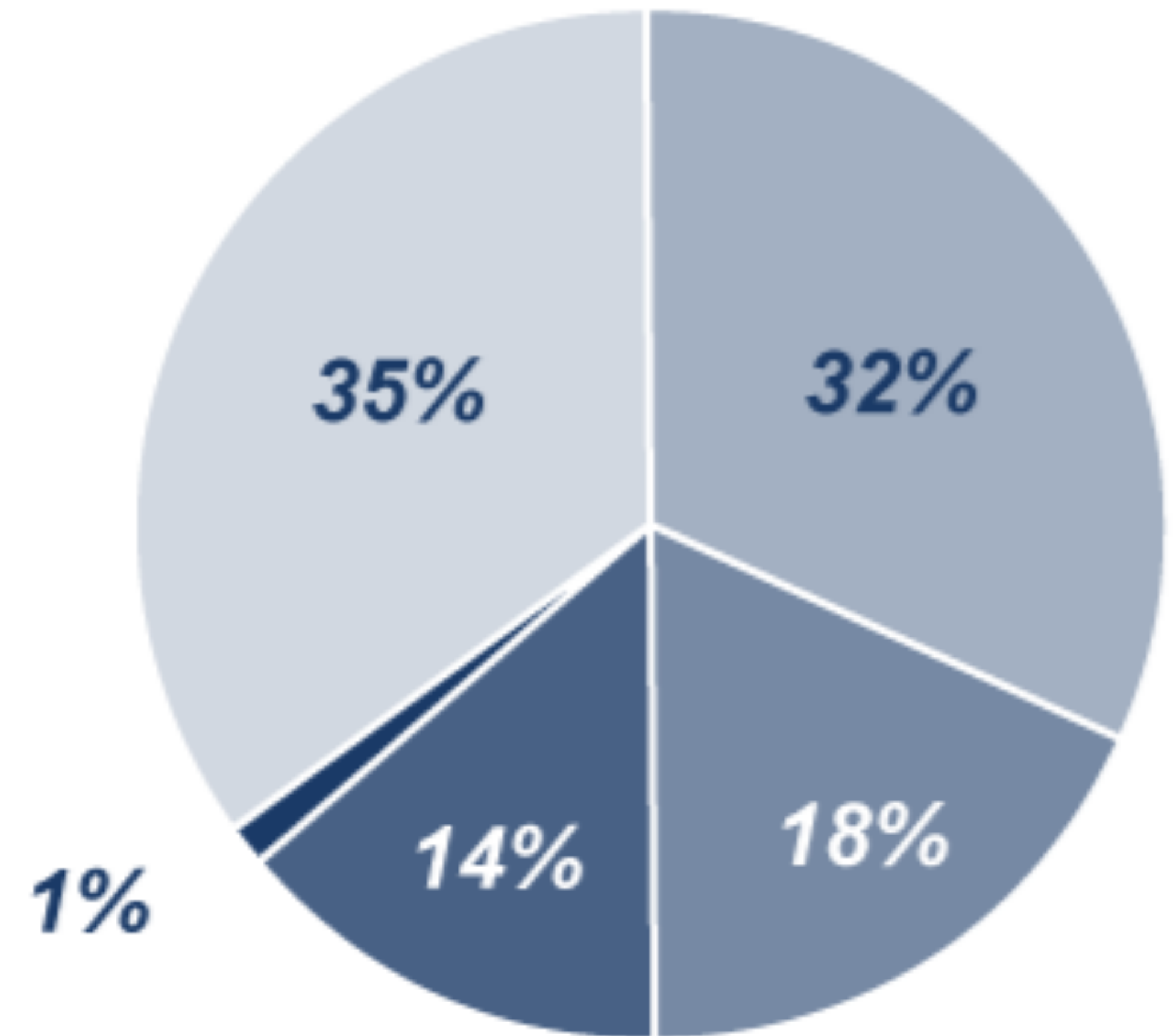
18% – Deaths, injuries & PTSD: \$800

14% – Indirect business interruption: \$600

1% – USAR: \$30

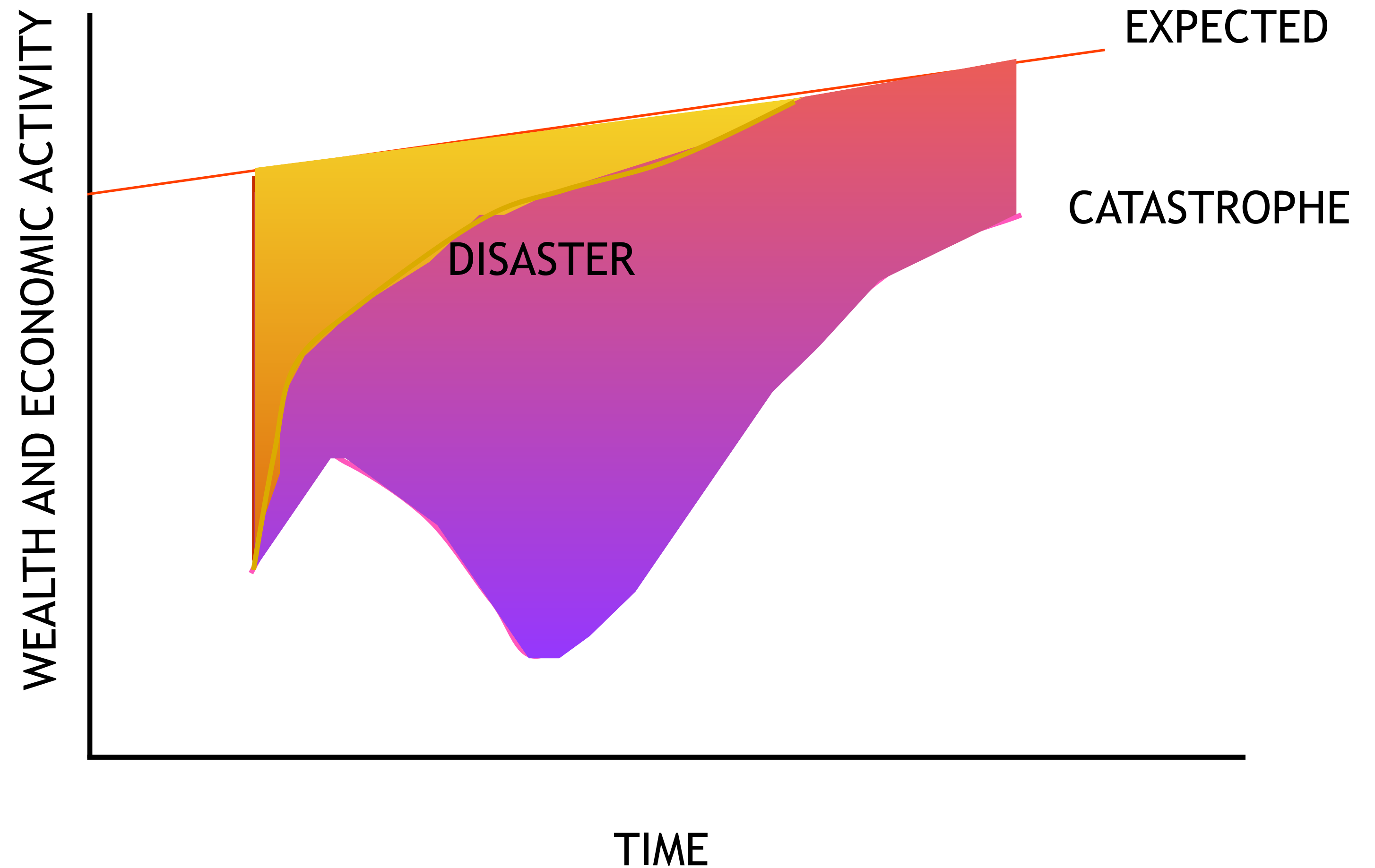
millions 2016 USD

Cost: \$1.2 billion

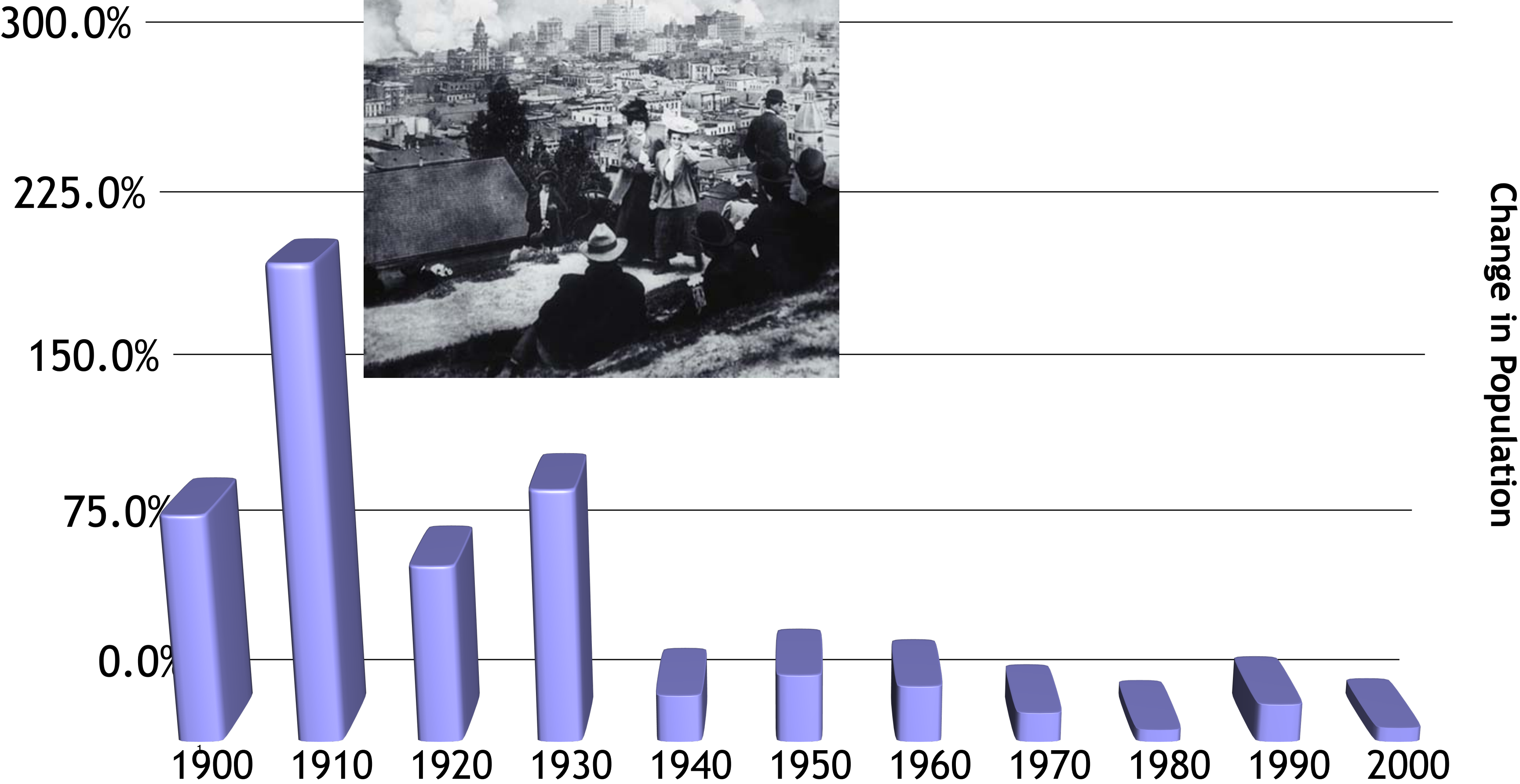


What speeds up recovery?

- Reduce original damage
- Quick influx of money
- Inclusive planning



Growth of Los Angeles



M8.7
Lisbon
earthquake

All Saints
Day, 1755





Pombaline Baixa

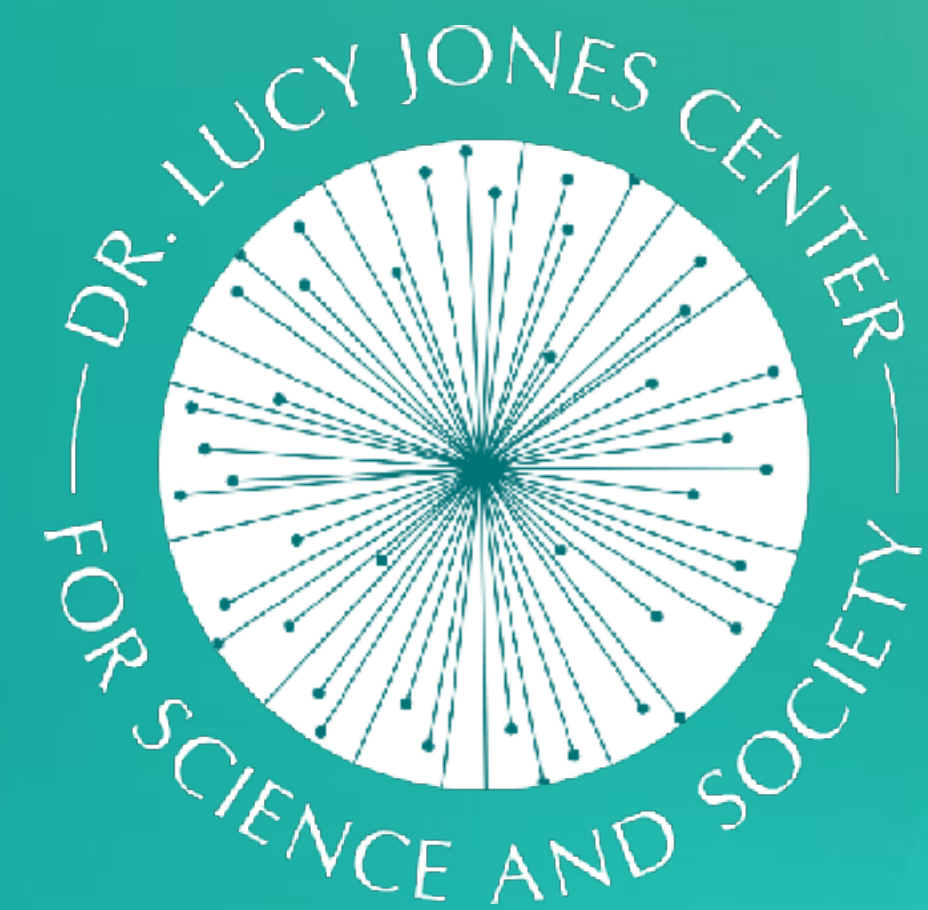
Marquis de
Pombal

The disaster is really
about recovery



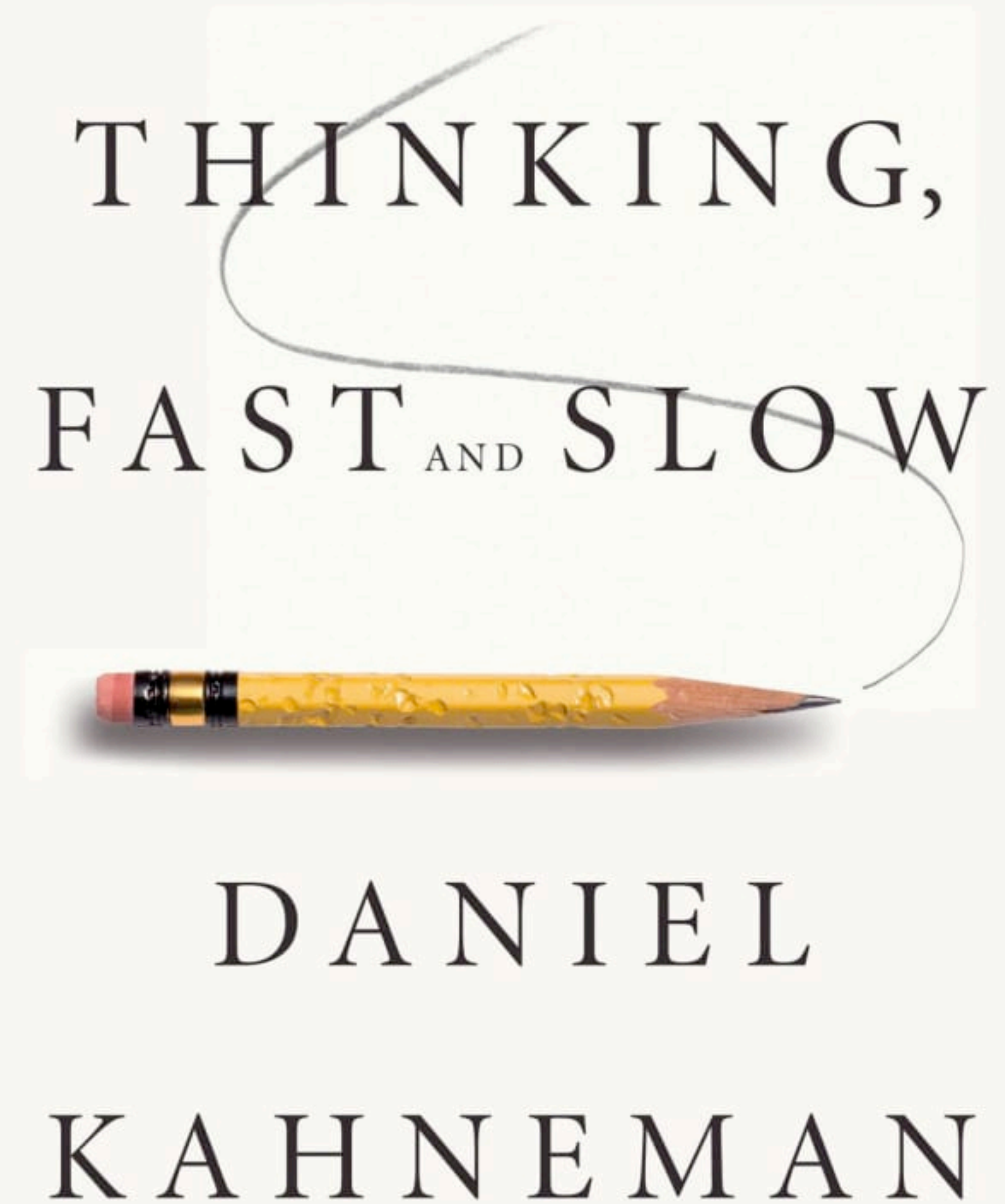
CONTACT

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Fast and slow thinking



Pattern making in response to risk



- Our intelligence evolved to make us safer in a primitive world
- Creating patterns to theorize about the risks



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Finding Patterns

A lack of control increases the tendency to illusory pattern perception.

Dis-aster
=
Ill-starred

Whitson and
Galinsky (2008)

Till Credner

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Disasters as God's punishment

- Psalm 18 “The earth rocked and shook; the bases of the mountains trembled and reeled because of God's anger.”

Attributed to John Landis
Wikimedia

