




**STATE OF HAWAII**  
**DEPARTMENT OF EDUCATION**  
**KA 'OIHANA HO'ONA'AUAO**  
P.O. BOX 2360  
HONOLULU, HAWAII 96804

OFFICE OF THE DEPUTY SUPERINTENDENT

March 7, 2024

TO: The Honorable Bill Arakaki,  
Chairperson, Student Achievement Committee

FROM: Tammi Oyadomari-Chun   
Deputy Superintendent

SUBJECT: Presentation on "Economic impacts of pandemic learning loss for school-age children: Hawaii in US and international perspective"

**EXECUTIVE SUMMARY**

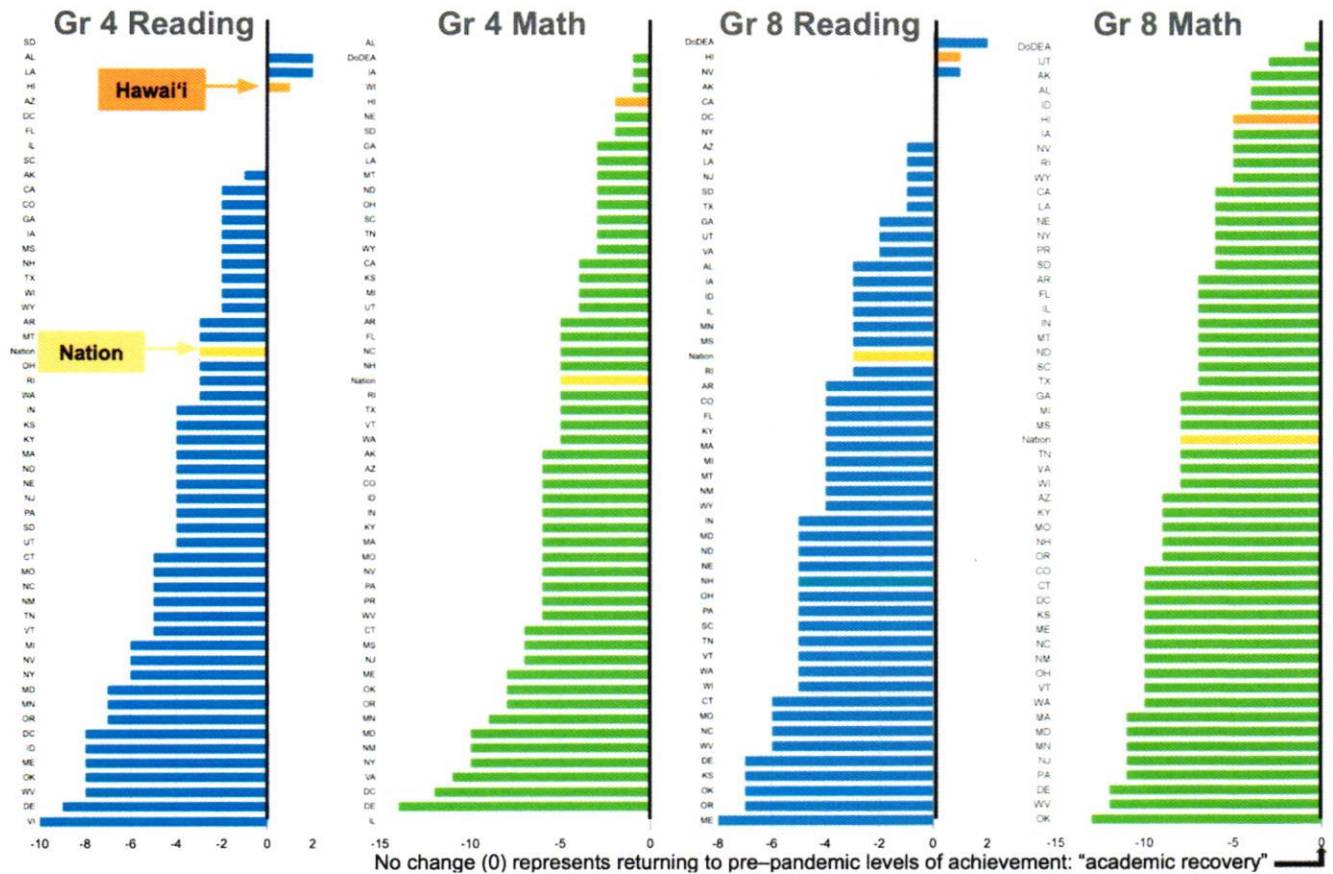
The COVID-19 pandemic resulted in school closures and disruptions that affected school-age children's education. Since the initial school closures in March 2020, Hawaii's public schools have been impacted by school closures, distance learning, quarantines and social distancing. Students' attendance, academic learning, social emotional development, physical health and mental health have all been affected. Student attendance data and academic achievement data, locally and nationally, reflect the impacts.

Stanford University economist Eric Hanushek will share his analyses of the economic impacts of pandemic learning loss. Hanushek will present the estimated impacts of lower academic achievement on personal income and the state economy for Hawaii. He will share information about Hawaii in the context of impacts of the nation and the world.

**DESCRIPTION**

Hawaii's students' academic achievement data shows an upward trajectory from 2020-2021 which was a year where education was conducted primarily online due to the COVID-19 pandemic. On both the National Assessment of Educational Progress (NAEP) and Hawaii's statewide assessment, the Smarter Balanced Assessment, which is also administered in other states, Hawaii is a leader in academic recovery when compared with other states.

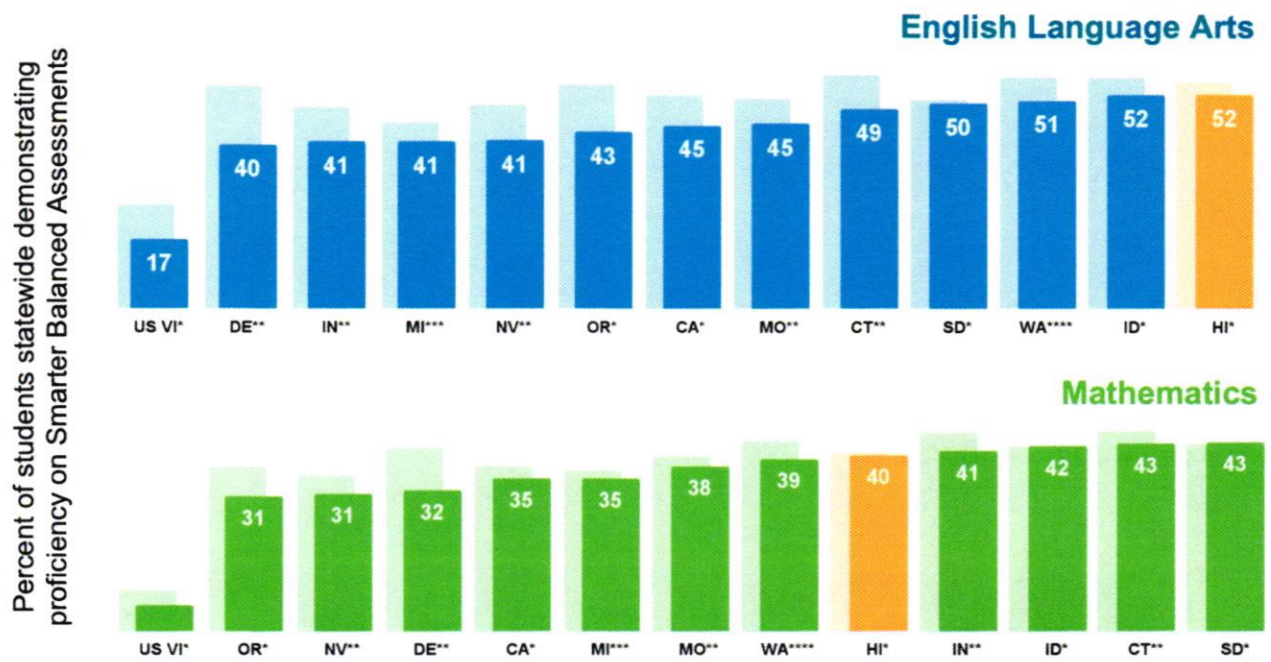
Figure 1. Change in states' average scaled score on National Assessment of Educational Progress, 2019 vs 2022



Hawaii's schools are close to returning to pre-pandemic levels of academic achievement. However, three cohorts of students have graduated since the pandemic without fully recovering, and Hawaii public schools have long aimed to exceed the pre-pandemic levels of academic achievement, as measured by statewide assessments.



Figure 2. Academic achievement by participating states, Smarter Balanced Assessment for 2019 (pre-pandemic) and 2023 (most recent)



Source: States' public reports of Smarter Balanced Assessment results, **2022-23 (Dark)** and **Pre-pandemic, 2018-19 (Light)**. Grades tested: \* 3-8 and 11, \*\* 3-8, \*\*\* 3-7, \*\*\*\* 3-8 and 10

Stanford University economist Eric Hanushek will share his analyses of the economic impacts of pandemic learning loss. The analyses are based on the association between students' achievement and skills and lifetime earnings and the quality of a state's labor force and the state's economy. Hanushek's analyses are based on academic achievement as measured by the U.S. Department of Education's National Assessment of Educational Progress to compare US states and Organization for Economic Cooperation and Development's Programme for International Student Assessment to compare countries.

Hanushek's analyses are available online:

- "The Economic Cost of the Pandemic: State by State":  
<https://www.hoover.org/research/economic-cost-pandemic>.
- "A Global Perspective on US Learning Losses":  
<https://www.hoover.org/research/global-perspective-us-learning-losses>

In his analysis for Hawaii, "The Economic Costs of the Pandemic: Hawaii," Hanushek estimates that "COVID-19 learning losses will result in total economic loss of 1.2 percent of GDP over the twenty-first century, a loss, in present value terms, of \$31.3 billion. Hawaii students in the COVID cohort can expect an average 3.7 percent lower lifetime earnings" (Attachment A).

**Biography:**

Eric "Rick" Hanushek is the Paul and Jean Hanna Senior Fellow at the Hoover Institution of Stanford University. He is internationally recognized for his economic analysis of educational issues. In recognition of his outstanding contributions to the field, he was awarded the prestigious Yidan Prize for Education Research in 2021. His extensive and well-cited body of work encompasses many pivotal topics within education, including class size reduction and school accountability. His seminal book, *The Knowledge Capital of Nations: Education and the Economics of Growth*, establishes the close relationship between a nation's long-term economic growth and the skill levels of its populace. He is a Distinguished Graduate of the United States Air Force Academy and completed his Ph.D. in economics at the Massachusetts Institute of Technology.

**PRESENTATION**

Superintendent Keith Hayashi will present Hawaii's academic achievement data that shows Hawaii as a leading state in academic recovery (Attachment B). Hayashi will share Hawaii's state assessment results, pre-pandemic (2018-19) and most recent (2022-23), compared with 12 other states also administering the Smarter Balanced Assessment. Hayashi will also share National Assessment of Educational Progress data showing that the change in states' performance between 2019 (pre-pandemic) and 2022. Pandemic impacts on NAEP mathematics scores for grade 8 are the basis of Hanushek's analysis.

Hanushek will present the estimated impacts of lower academic achievement on personal income and the state economy for Hawaii (Attachment B). In spite of Hawaii's strong academic recovery, compared to other states, Hawaii's young people and the economy are still projected to experience negative economic impacts. Hanushek will share information about Hawaii's student achievement and associated economic impacts in the context of impacts of the nation and the world.

If you have any questions, please contact Tammi Oyadomari-Chun, Deputy Superintendent, via email at [tammi.chun@k12.hi.us](mailto:tammi.chun@k12.hi.us) or by phone at (808) 784-6175.

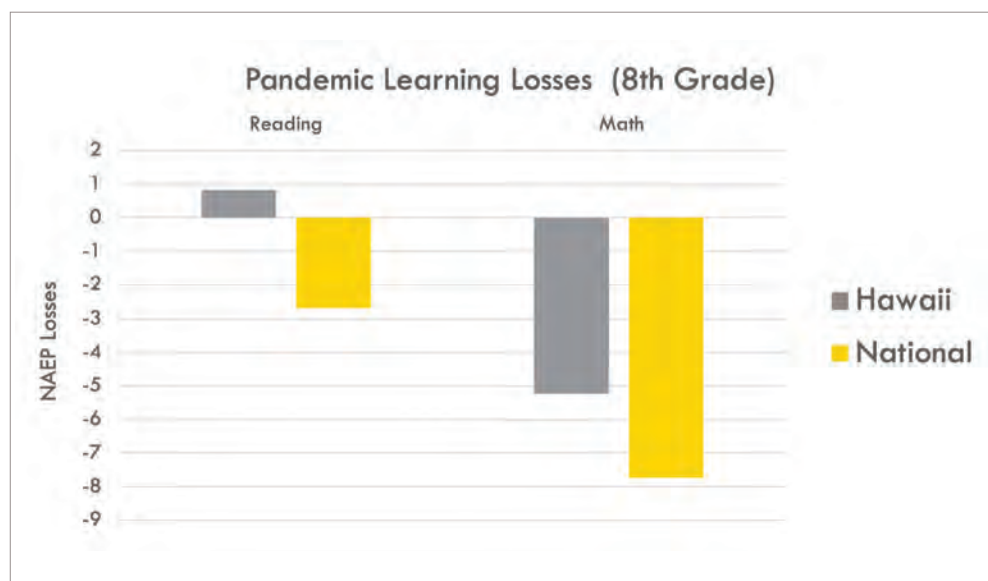
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Attachments

# HAWAII

by Eric A. Hanushek

**Hawaii had lower learning losses than the nation as a whole, but the economic impacts on affected youth and on the state remain sizable.**



## ASSESSING THE ECONOMIC IMPACT OF COVID-19

Much of the discussion of the educational impact of the pandemic has been phrased in terms such as test score points or standard deviations that have little meaning to most people. But the abstract nature of the discussion belies both the seriousness of the problems and the certainty of economic harm that lies ahead.

This analysis discusses the potential economic impact of the learning losses suffered during the pandemic. To assess the impact of the pandemic, we compare how the cohort of students in 2022 performed relative to the cohort of students in 2019. We call this comparison the “learning loss” from the pandemic. This learning drop, it turns out, has large significance for individuals and for states, because history suggests the very significant economic loss that is likely to be associated with this achievement drop.

The assessment of economic impact begins with a few simple facts: Those with higher achievement and greater cognitive skills earn more, and the value of higher achievement persists across a student’s entire work life. Moreover, the economic growth of states is highly dependent on the quality of the state’s labor force. The pandemic implies that the future workforce will be less prepared to contribute to economic growth.

Even if education returns to its pre-pandemic quality, there is a cohort of students that will move through the future labor force with lower skills and achievement than those both before and after them. As detailed on the following page, this cohort will have lower lifetime earnings, and their reduced skills will, by historical observations, lead to a slowdown in growth (relative to what would have occurred without the pandemic).

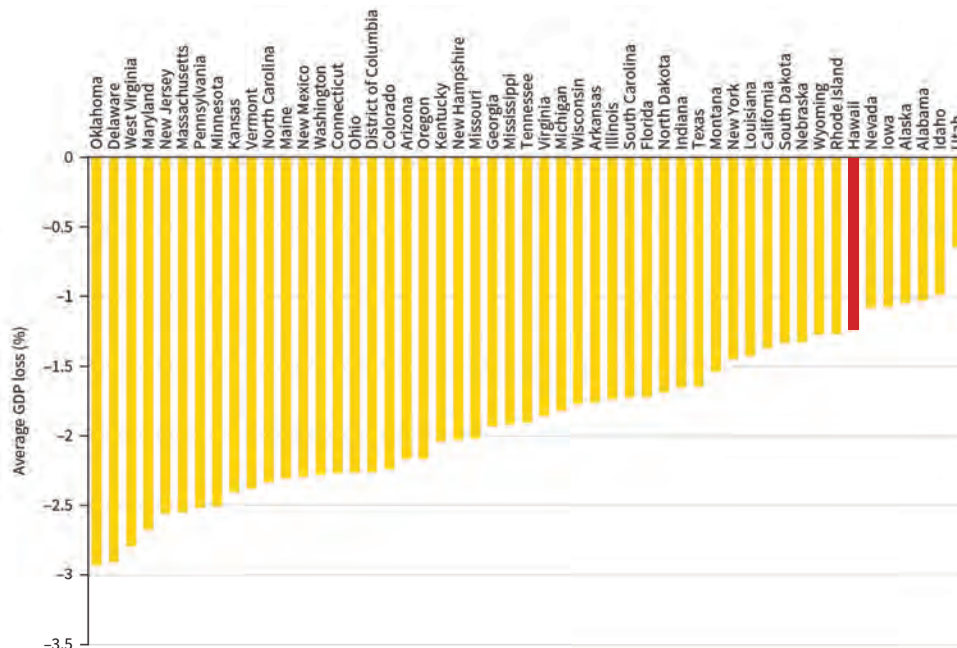
See Page 2





For the state of Hawaii, our assessment is that COVID-19 learning losses will result in a total economic loss of 1.2 percent of GDP over the twenty-first century, a loss, in present value terms, of \$31.3 billion. Hawaii students in the COVID cohort can expect on average 3.7 percent lower lifetime earnings.

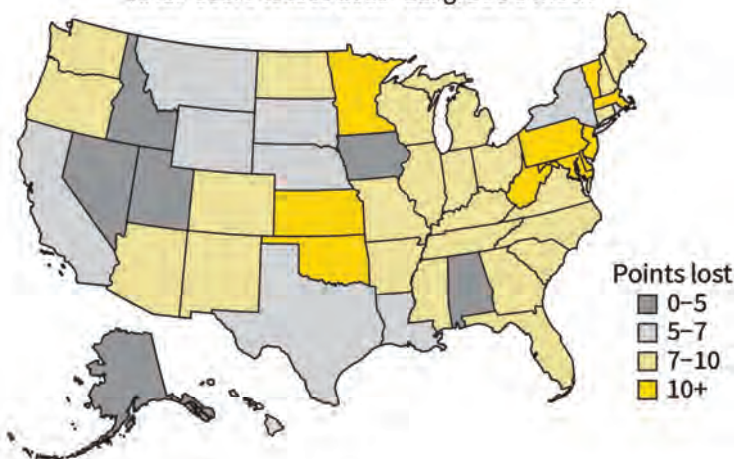
Expected Average Percent GDP Loss Over the Twenty-First Century



## THE CHALLENGE

History indicates that the economic losses will be permanent unless the schools get better. Just returning schools to their pre-pandemic performance levels will not erase the lost learning. Recovering from the pandemic requires swift and decisive improvements to the schools.

NAEP score losses 2019–22: grade 8 math



### Background

This analysis relies upon estimates for the declines in student math achievement identified by the National Assessment of Educational Progress (NAEP) for 2019 and 2022; see <https://www.nationsreportcard.gov/>. The economic costs to individuals uses the analysis of how achievement affects lifetime earnings in Eric A. Hanushek, Guido Schwerdt, Simon Wiederhold, and Ludger Woessmann. 2015. "Returns to skills around the world: Evidence from PIAAC." *European Economic Review* 73: 103-130. The projections of state losses from lower growth follow the projections in Eric A. Hanushek, Jens Ruhose, and Ludger Woessmann. 2017. "Economic gains from educational reform by US States." *Journal of Human Capital* 11, no. 4 (Winter): 447-486. **The complete national analysis can be found at [hoover.org/research/economic-cost-pandemic](https://www.hoover.org/research/economic-cost-pandemic).**





HAWAI'I STATE DEPARTMENT OF EDUCATION

# Economic impacts of pandemic learning loss for school-age children: Hawai'i in US and international perspective

Presented to the Hawai'i State Board of Education Student Achievement Committee  
March 7, 2024

**Keith T. Hayashi**, *Superintendent, State of Hawai'i Department of Education*

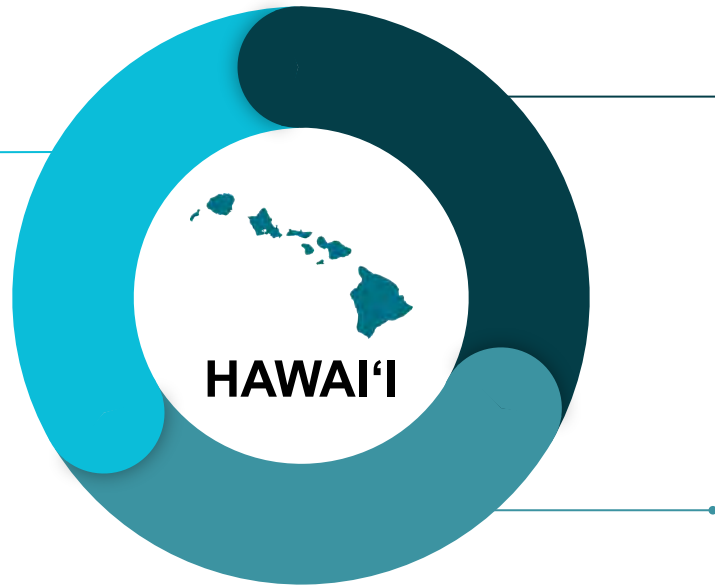
**Eric A. Hanushek**, *Paul and Jean Hanna Senior Fellow, Stanford University*



# Connection between K-12, workforce, economic development

## K-12 Education

Hawai'i's public school system will provide learning opportunities and student support to ensure all students have access to a high-quality education and preparation for college and career success and community and civic engagement.



## Economic and Social Development

Investment in growing our economy and enhancing the prosperity and quality of life for all residents to journey toward their dreams with confidence and dignity.

## Workforce Development

Together with continuing education, it fuels growth, ensuring employees have the competitive skills, knowledge and attitudes to support current, emerging and future businesses and industries.

***Globally competitive, locally committed***



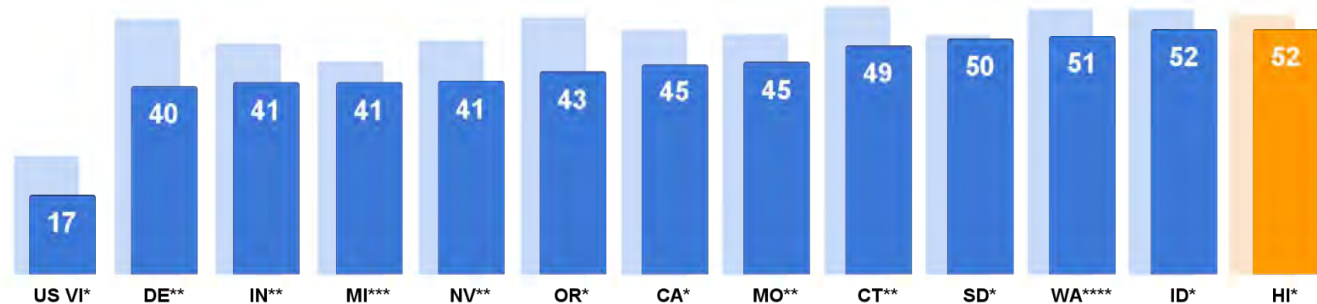


# Academic recovery from the pandemic

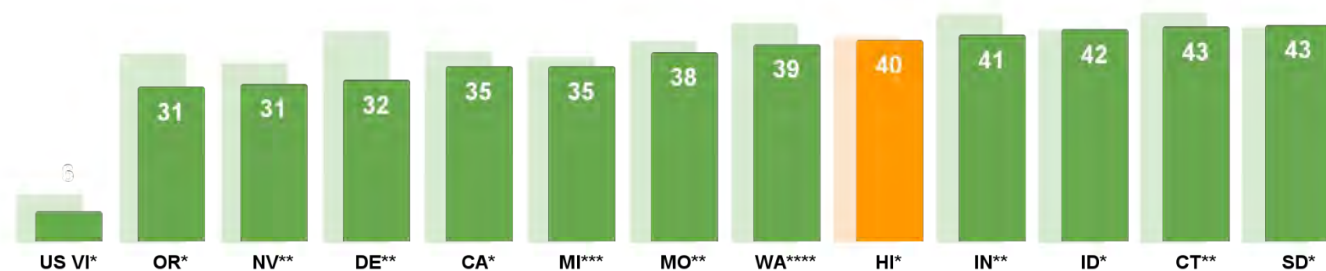
Hawai'i is a leading state

Percent of students proficient on  
Smarter Balanced Assessment

## English Language Arts



## Mathematics



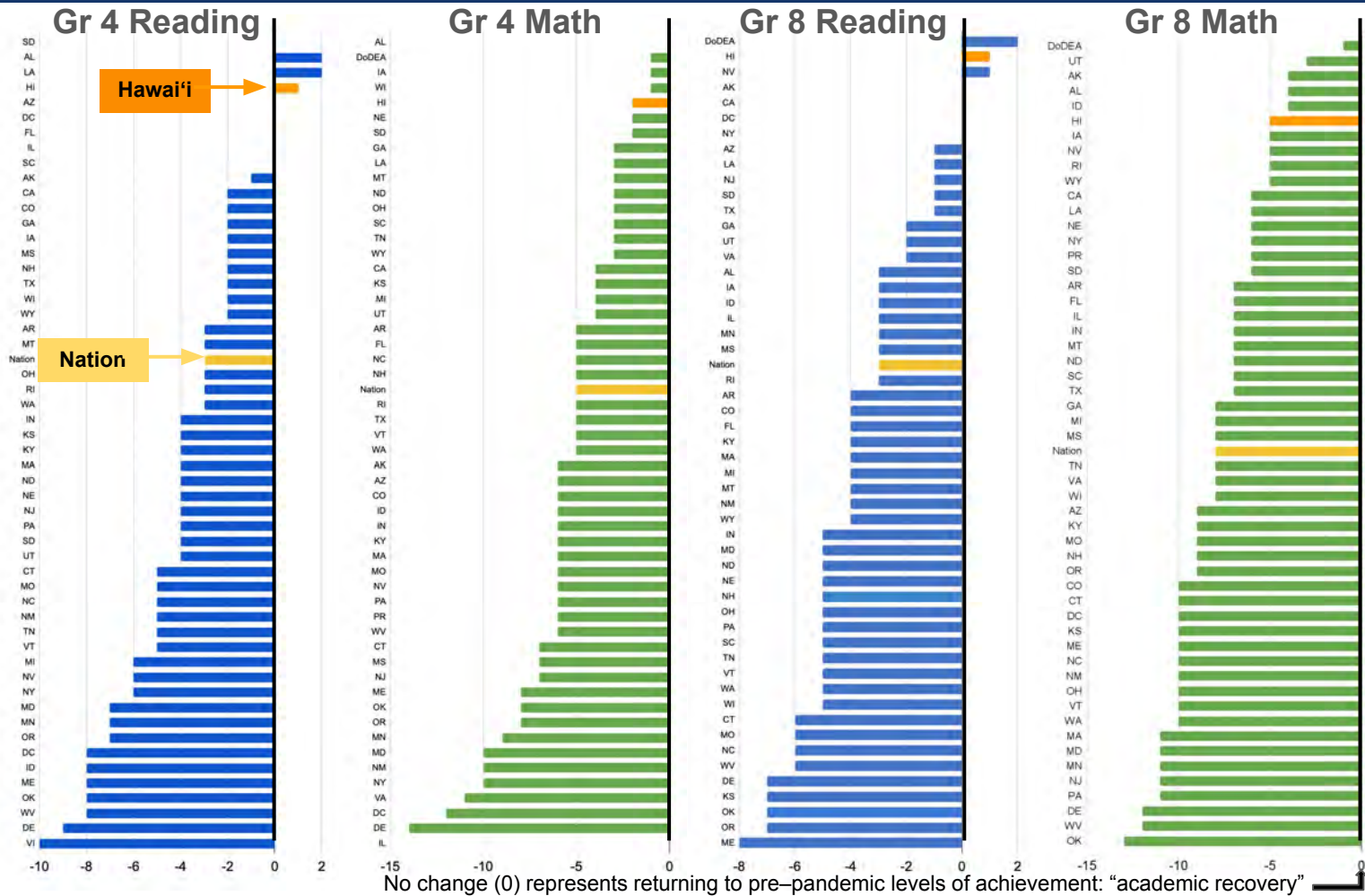
Source: States' public reports of Smarter Balanced Assessment results, **2022-23 (Dark)** and **Pre-pandemic, 2018-19 (Light)**

Grades tested:  
\* 3-8 and 11  
\*\* 3-8  
\*\*\* 3-7  
\*\*\*\* 3-8 and 10



# Pandemic impacts and recovery among US states

Change in states' average scaled score on National Assessment of Educational Progress, 2019 vs 2022



No change (0) represents returning to pre-pandemic levels of achievement: "academic recovery"



**Globally Competitive. Locally Committed.**





# Hawaii in US and International Perspective

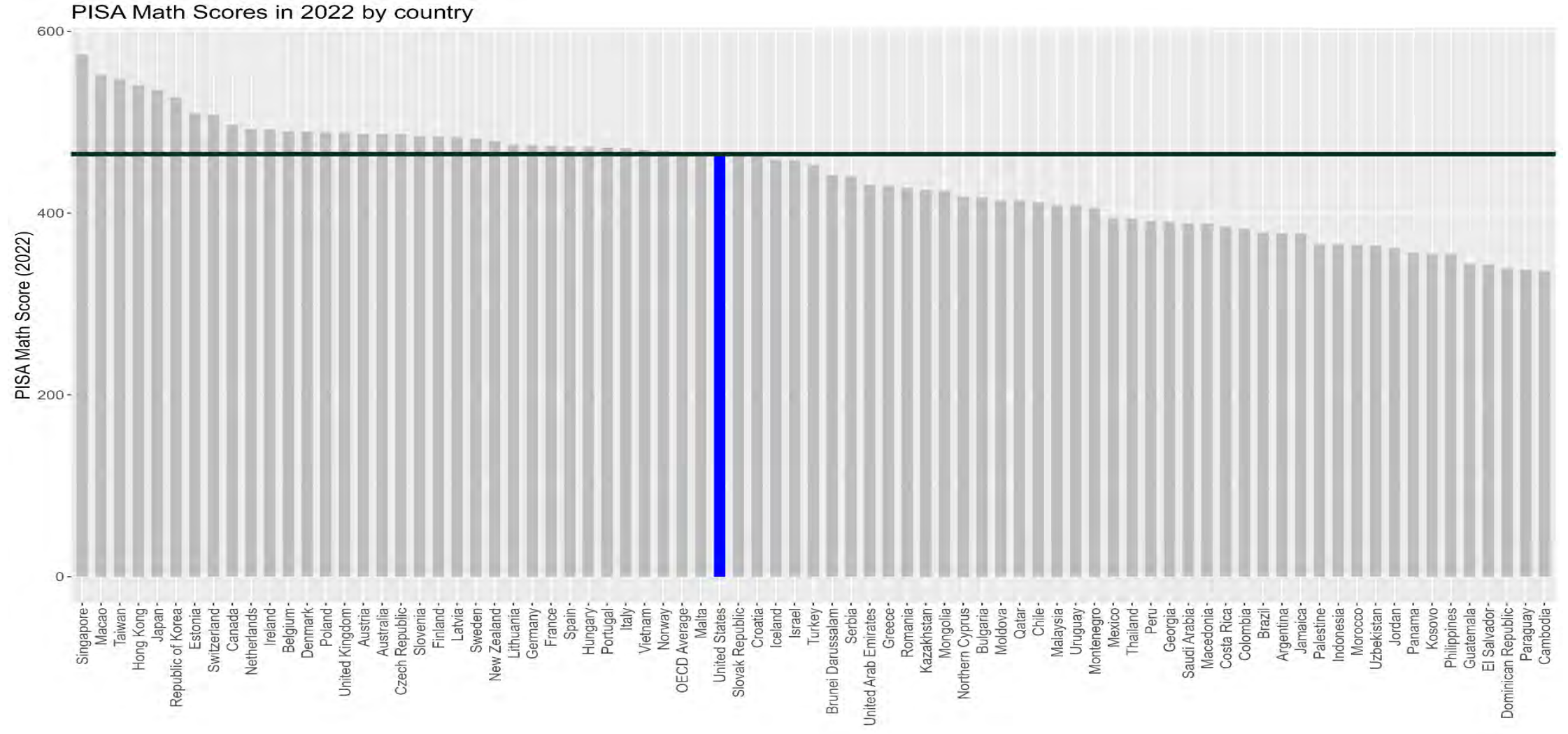
Eric A. Hanushek

Stanford University

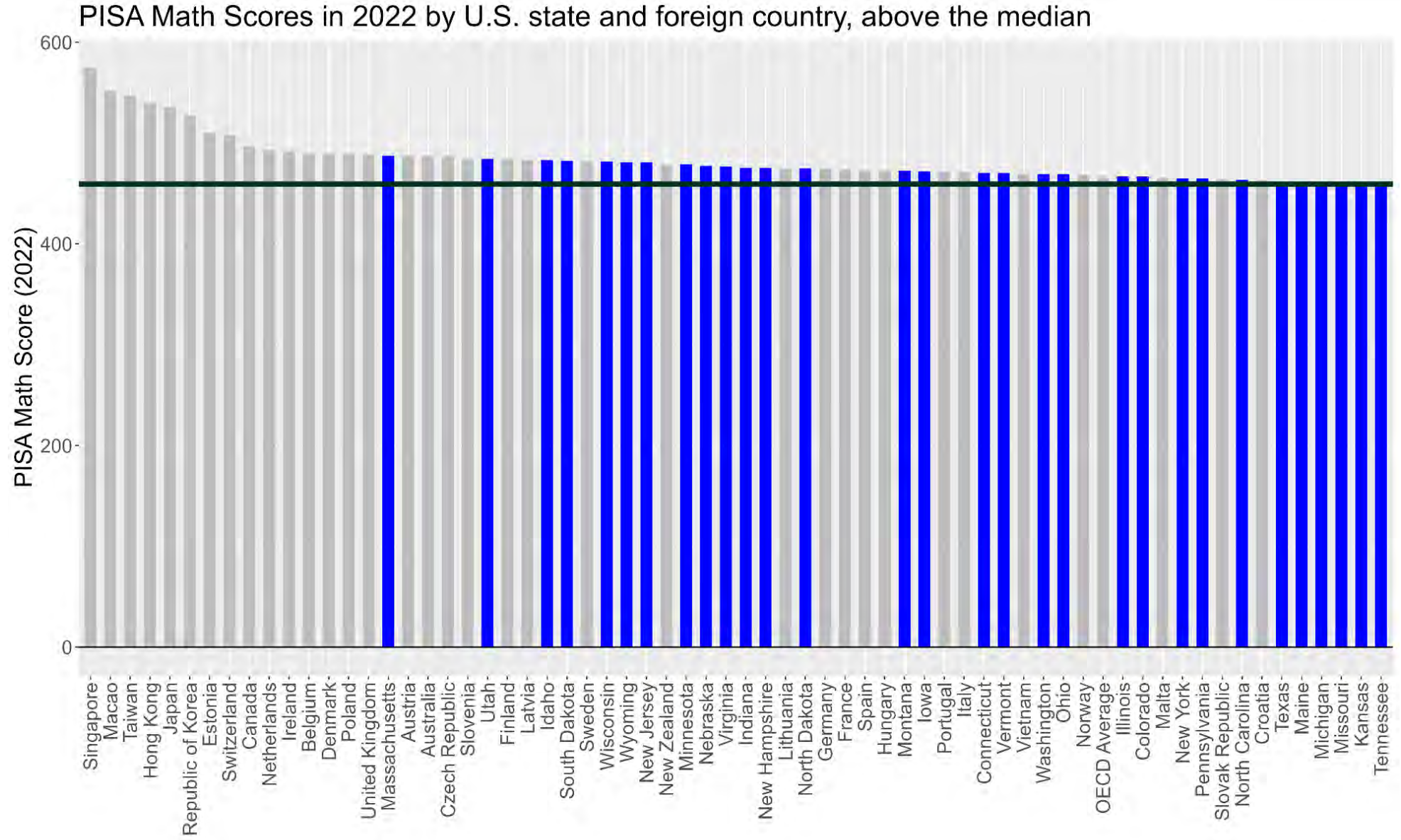
March 2024

# Outline

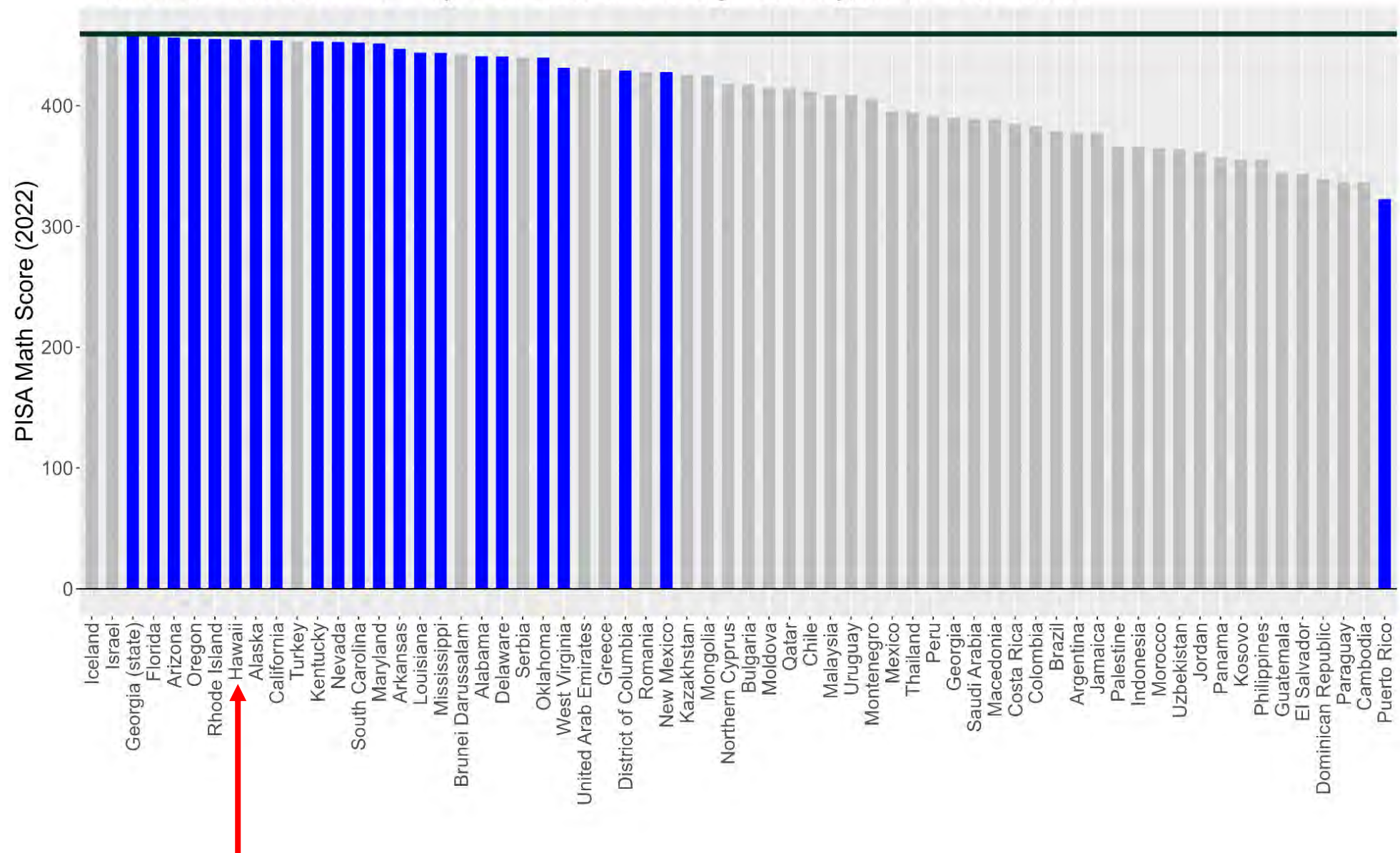
- The World Results
- Heterogeneity in the United States
- The Economic Costs of the Pandemic
- Dealing with learning losses

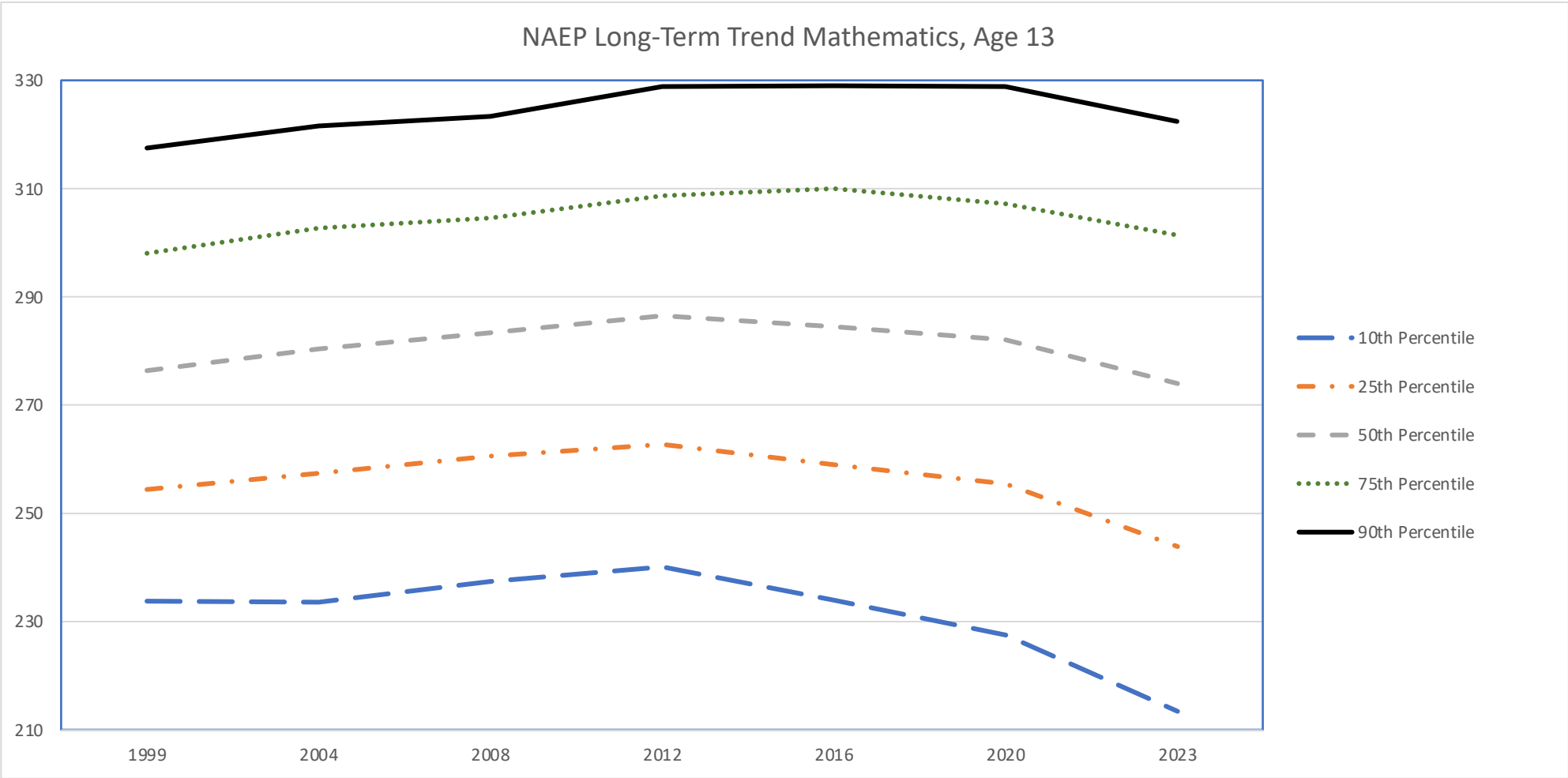






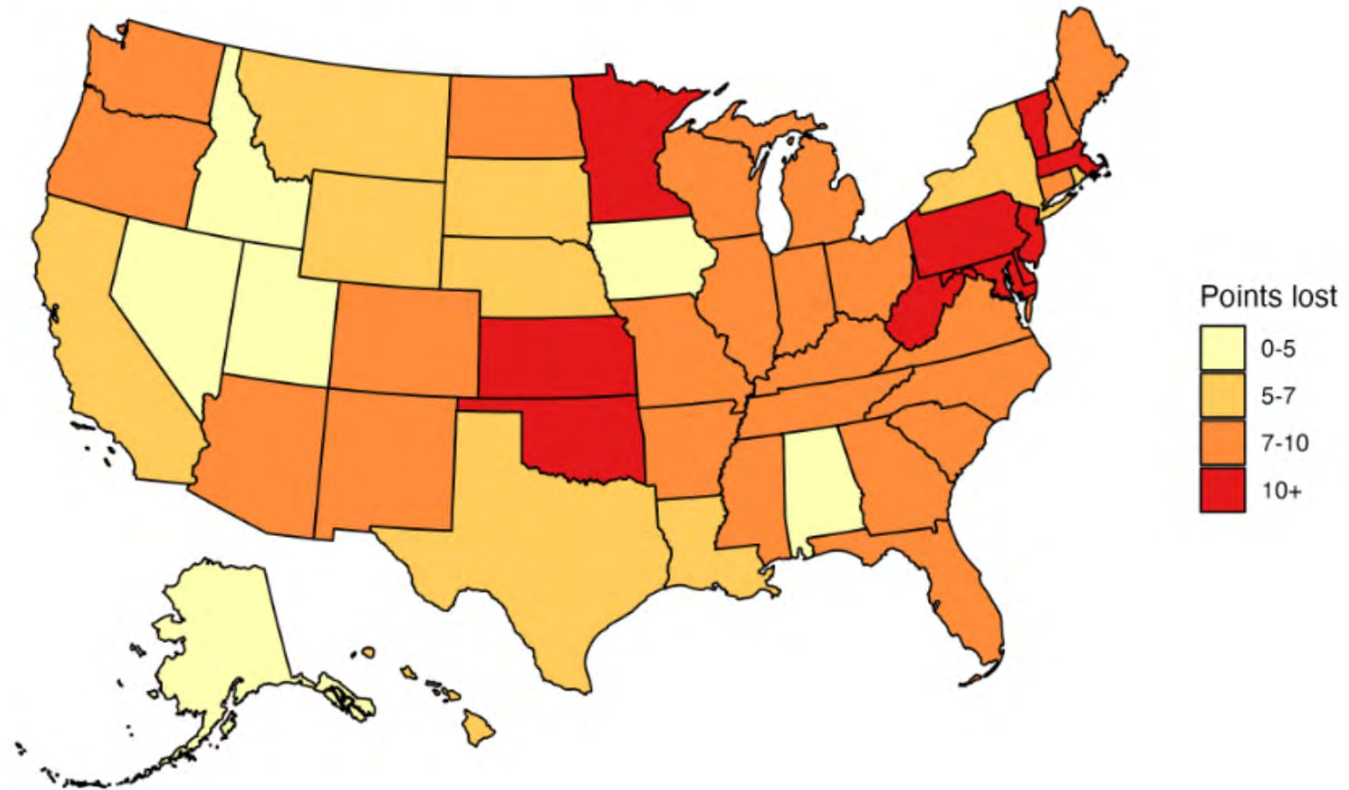
PISA Math Scores in 2022 by U.S. state and foreign country, below the median







NAEP score losses 2019-2022: Grade 8 Math



# Economic Costs

# Comparison of Aggregate Costs of Pandemic

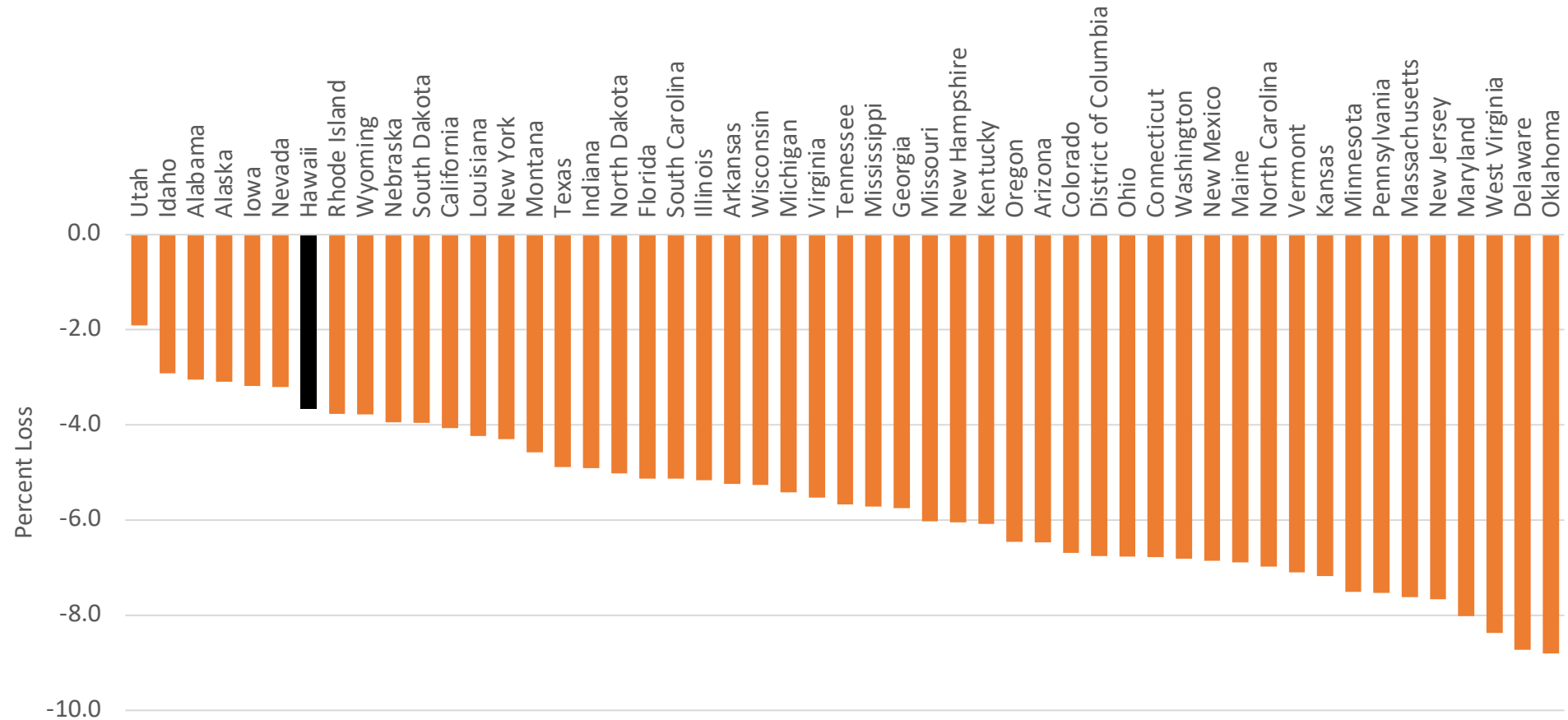
PV of Learning Losses (billion USD)	Compared to Discounted GDP	Compared to GDP in 2020	Cumulative Business Cycle	
			2008	COVID
\$30, 711	3.1%	147%	\$4,983	\$1,760

**6X**

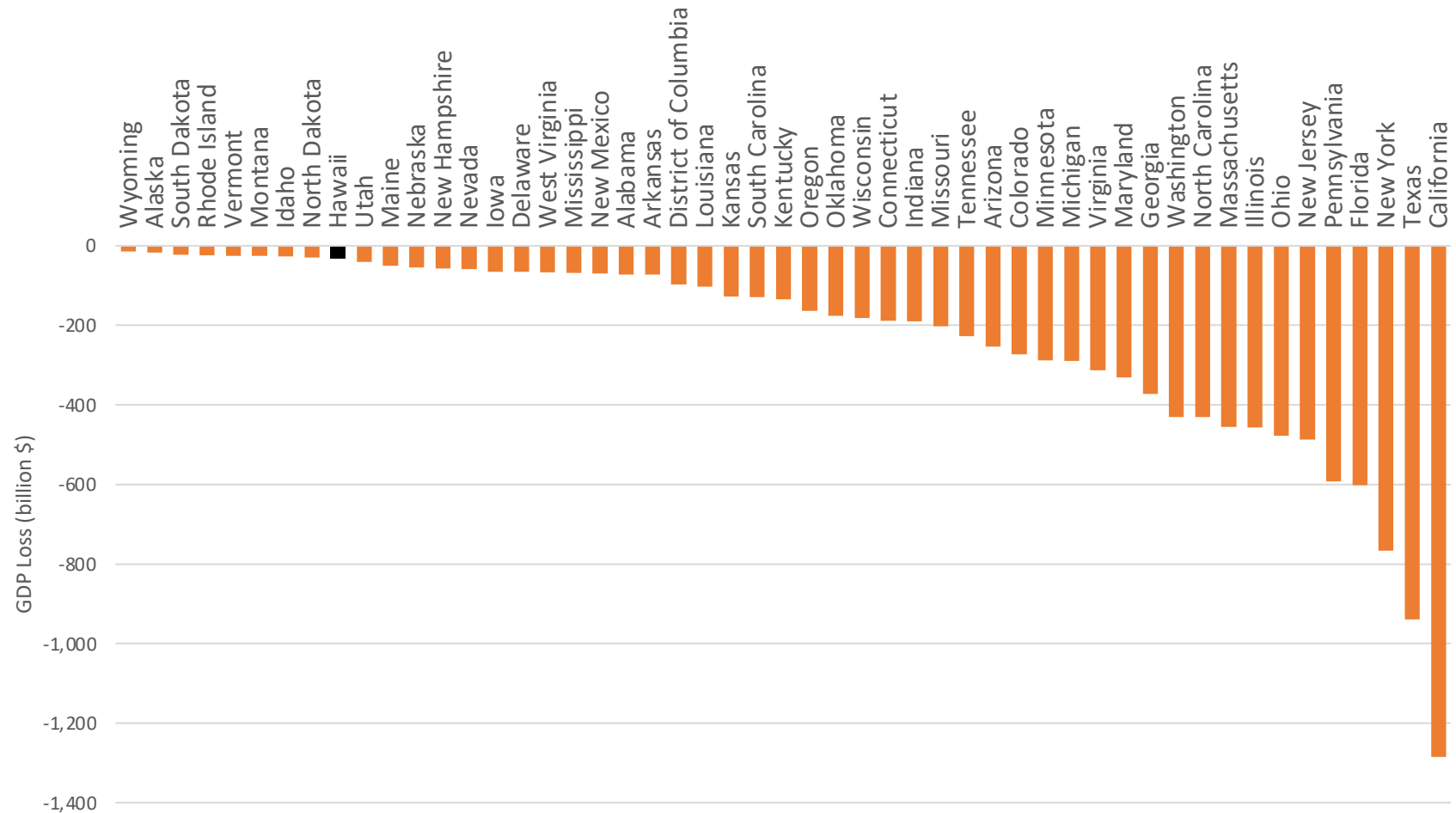
**17X**



# Average Individual Economic Losses by State



# Present Value of Aggregate State Losses in GDP



# Dealing with Losses

# Two Simultaneous but Different Problems

- Pandemic learning losses

*Already Lost = 53,000*

- Time
- Tutoring
- Teacher policies



# Two Simultaneous but Different Problems

- Pandemic learning losses

*Already Lost = 53,000*

- Time
- Tutoring
- Teacher policies

- Long term position

- Hawaii gains – relatively good against failed alternative
  - *ANAR+40*
  - *Challenging environment*
- *Incentives and local decision making*

# Thank You!!

**Details:** Eric A. Hanushek and Bradley Strauss. “A Global Perspective on US Learning Losses.”  
*Hoover Education Success Initiative*, Hoover Institution, Stanford University, February 2024

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