

Want to boost U.S. productivity? **Tackle inequality**

Anna Stansbury, Harvard University
December 5th 2019

A great question of our time:

How to boost U.S. productivity and innovation?

ECONOMIC MYSTERY

Why Is Productivity So Weak? Three Theories

OPINION | COMMENTARY

The Great Productivity Slowdown

It began long before the financial crisis, and it has worsened markedly in the past six years.

REAL TIME ECONOMICS

WSJ Survey: What's Causing the Productivity Slowdown? Economists Are Split

MONEY

Why China is beating the U.S. at innovation

Danger: America Is Losing Its Edge In Innovation

A great question of our time:

How to revive the American dream?

What's Become of the American Dream?

MONEY

Is the American Dream dead?

Many Feel the American Dream Is Out of Reach, Poll Shows

How to revive the American Dream

The Fading American Dream

Percent of Children Earning More than Their Parents, by Year of Birth

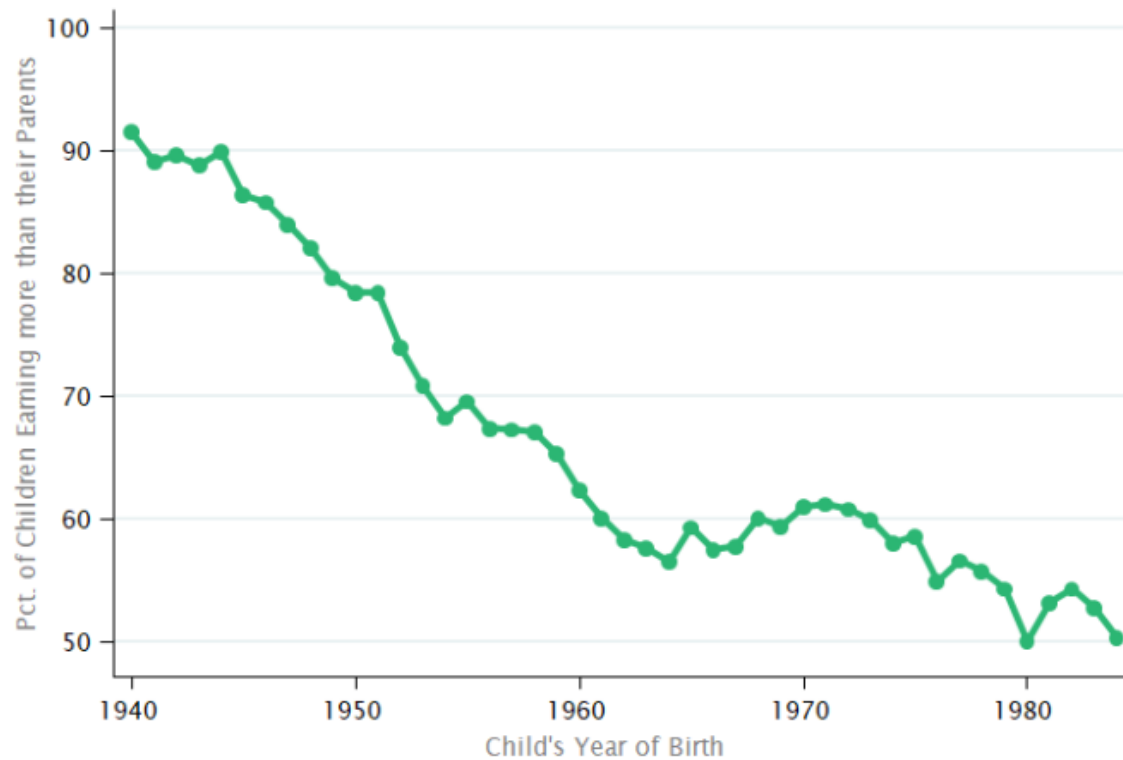


Chart from [Harvard Opportunity Insights](#) (2019), original research from Chetty et al (2019)

People often worry there is a trade-off

To boost productivity, do we need to **tolerate higher inequality?**

If we focus on projects which improve **equity and justice**, is that going to cost the economy?

The answer: (mostly) NO

Why reducing inequality can boost productivity

Productivity can be increased by:

- Increasing the rate of innovation & invention
- Having a higher-skilled workforce
- Matching people to the jobs they're best at

So: we can **boost productivity and innovation** simply by enabling disadvantaged individuals to fulfil their potential

A good shorthand to measure how well we are doing

How well do individuals from poor backgrounds do, relative to those from rich backgrounds?

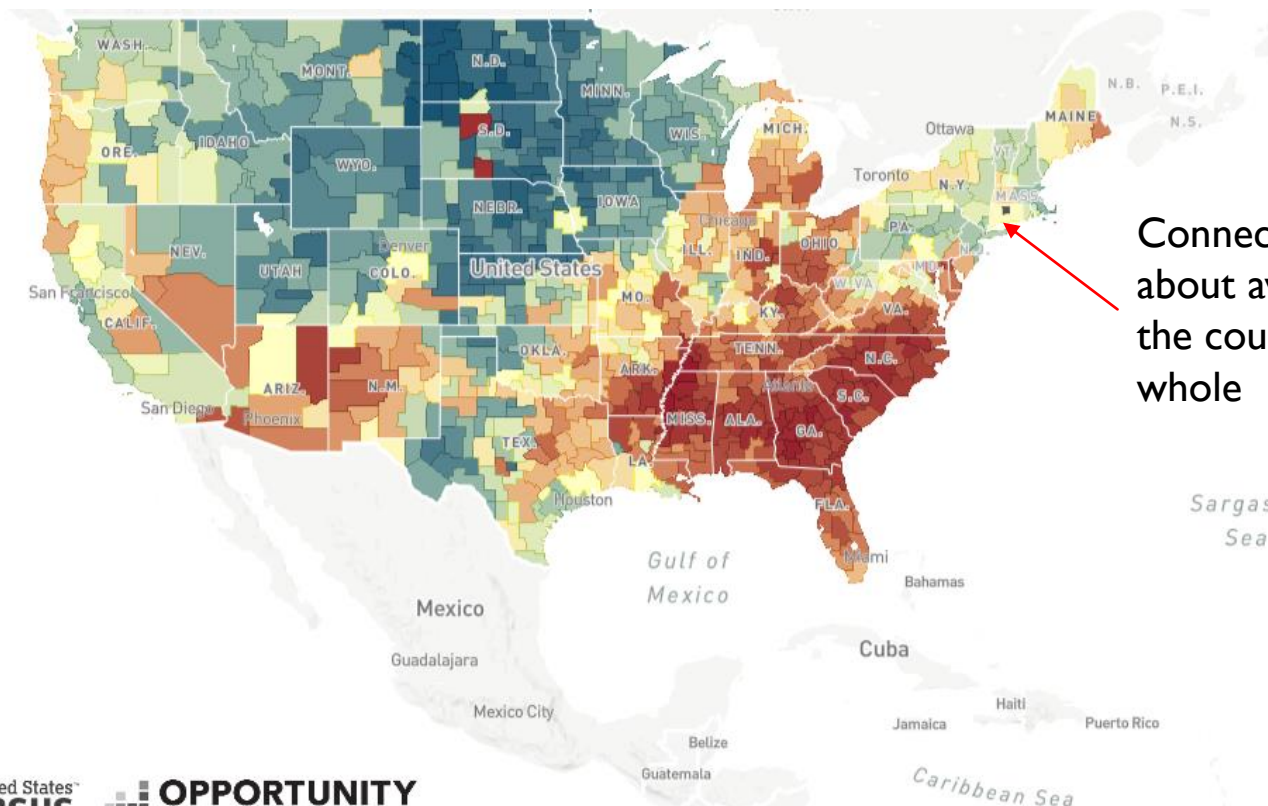
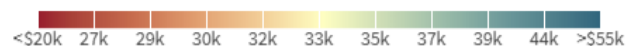
How well do racial and ethnic minorities do, relative to whites?

The bigger the disparity, the worse we have been at uncovering and realizing people's potential...

... and so, the bigger productivity gains there are from realizing it

The Connecticut context

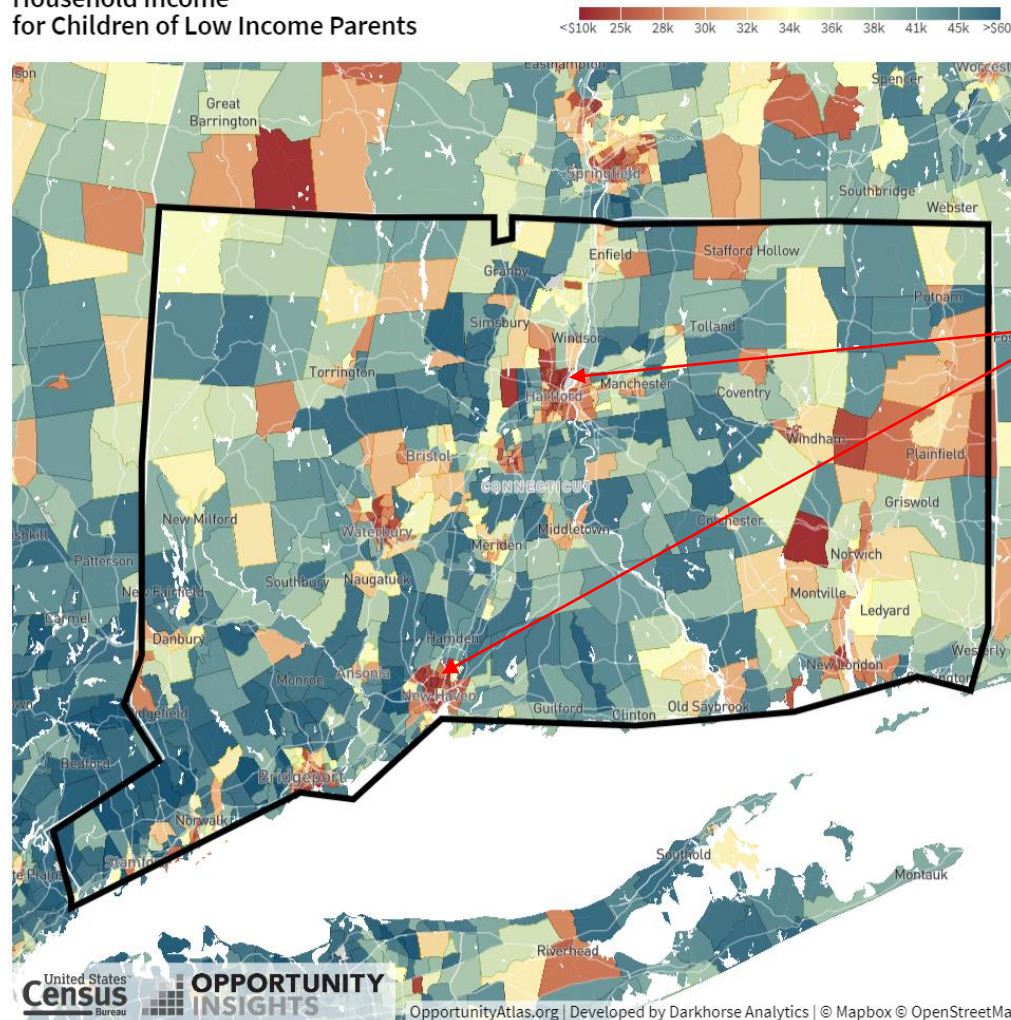
Household Income
for Children of Low Income Parents



Connecticut looks about average for the country as a whole

The Connecticut context

Household Income
for Children of Low Income Parents



But upward mobility
in parts of Hartford
and New Haven is
similar to the
poorest states:
Mississippi, Louisiana

The Connecticut context: one of the richest states - and one of the most unequal

Lots of resources to spare + Lots of opportunities to invest

\$2,522,806

Average annual income
of the top 1%

\$67,742

Average income of
everyone else (the
bottom 99%)

37.2X

The top 1% make 37.2
times more than the
bottom 99%

What you need to make to be in the top 1%:

\$700,800



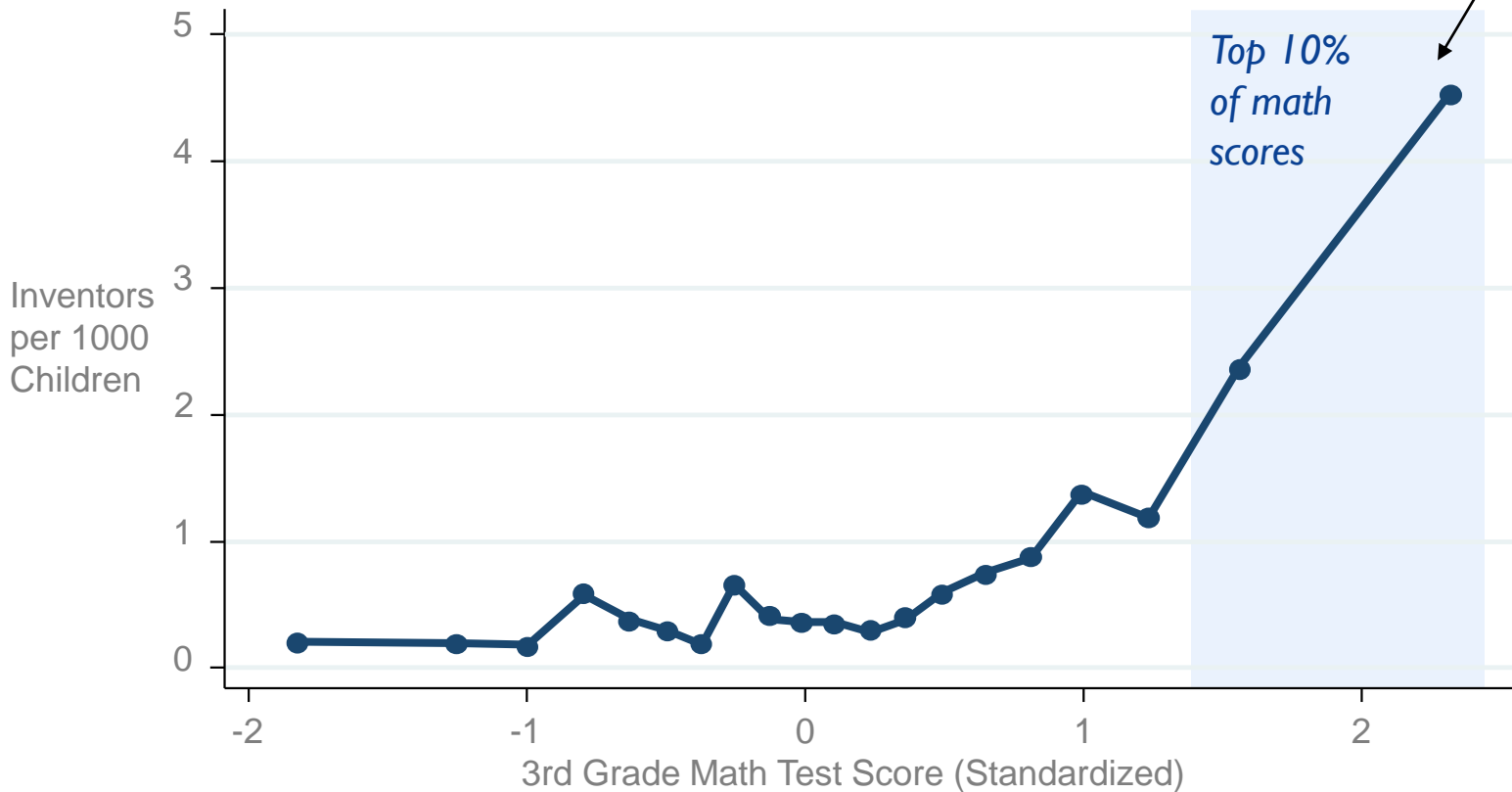
I. Innovation and inventors



Who becomes an inventor?

Who becomes an inventor? Factor I: be good at math

Kids with high 3rd grade math scores are much more likely to go on to be inventors

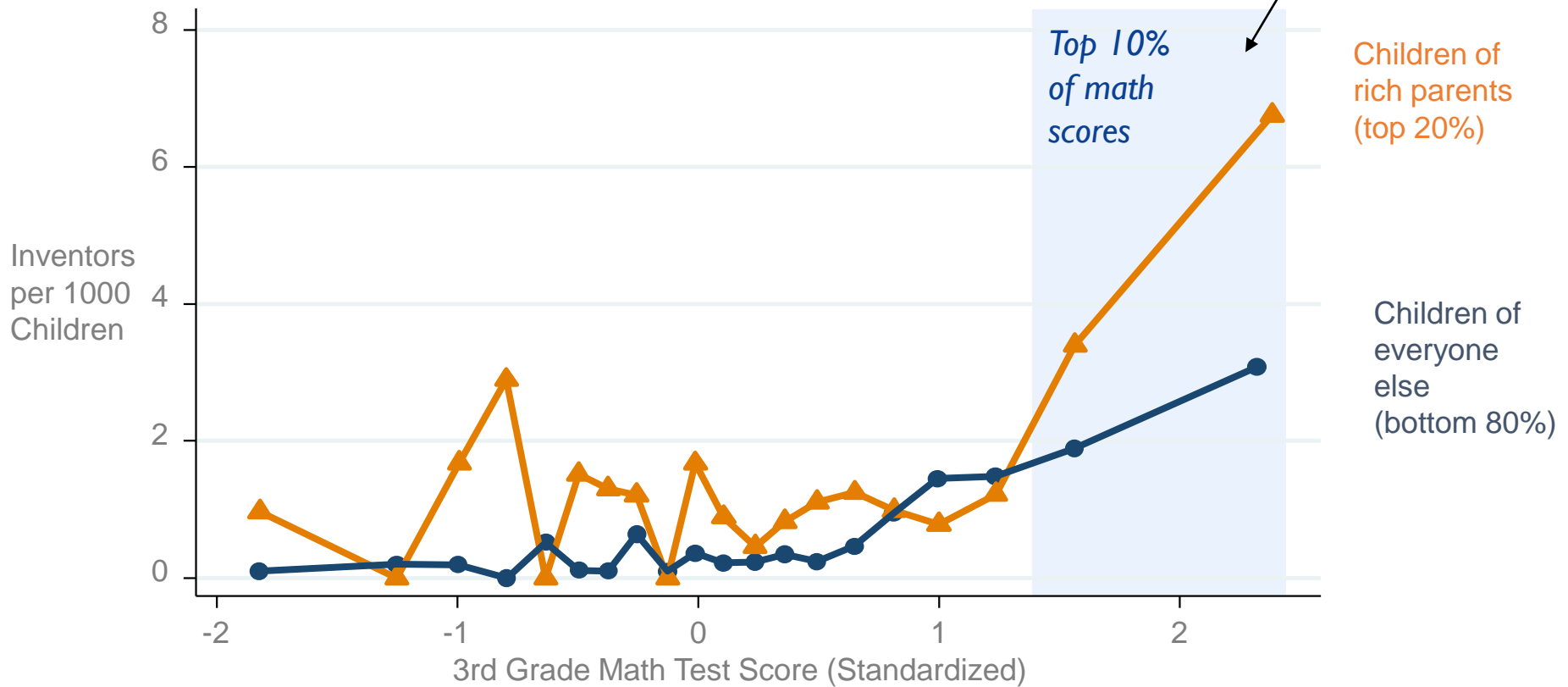


From research by [Alex Bell, Raj Chetty, Xavier Jaravel, Neviana Petkova, and John Van Reenen \(2019\)](#)

Chart from [Harvard Opportunity Insights \(2019\)](#)

Who becomes an inventor? Factor 2: come from a rich family

But amongst those kids with math talent, it's mostly the ones from rich families who go on to invent



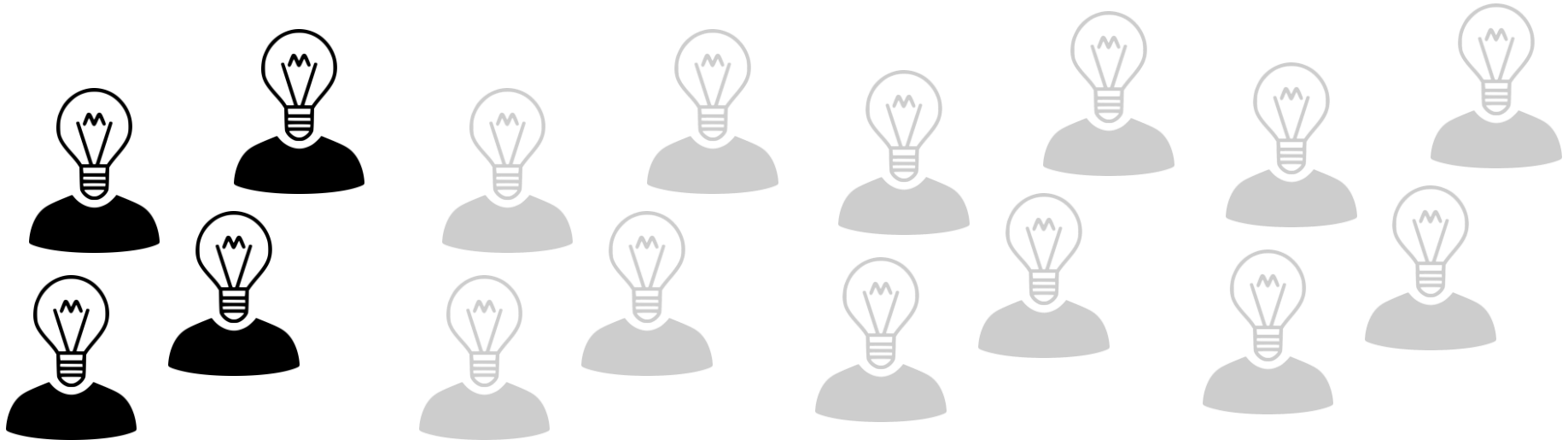
From research by [Alex Bell, Raj Chetty, Xavier Jaravel, Neviana Petkova, and John Van Reenen \(2019\)](#)

Chart from [Harvard Opportunity Insights \(2019\)](#)

How many “missing Einsteins”?

“If women, minorities, and children from low-income families were to invent at the same rate as white men from high-income families, the rate of innovation in America would **be 4X higher**”

From research by [Alex Bell, Raj Chetty, Xavier Jaravel, Neviana Petkova, and John Van Reenen \(2019\)](#)



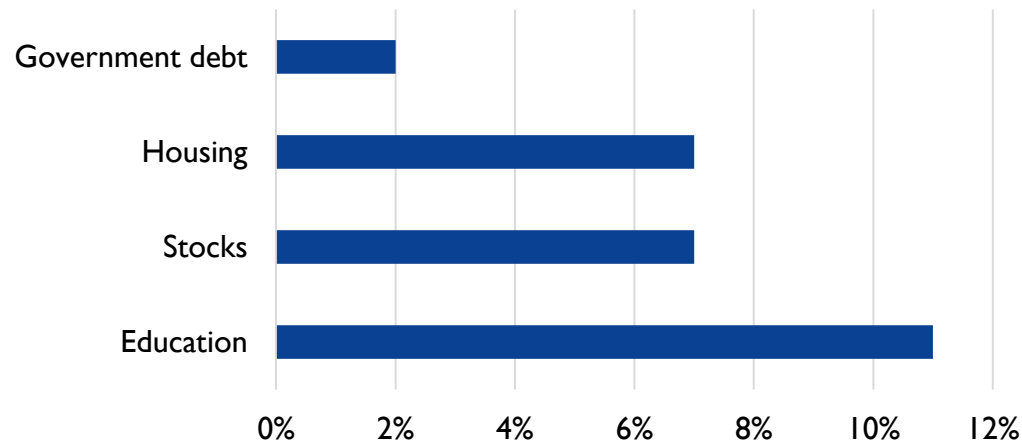


2. Education: early childhood, school, and college

Education: a huge ‘bang for the buck’...

Research suggests that the “internal rate of return” on an extra year of education is 8-11% (this return comes because of higher earnings over a child’s life). *Compare this to market investments!*

Rates of return for financial investments - and for an extra year of education



Data on rates of return to government debt, housing, and stocks from [Jorda et al \(2018\)](#),
Data on internal rate of return to education from Bhuller et al (2017)

...and even more when we consider the spillovers

For a \$1 invested in extra childhood education, or college:

- Benefit to the child → higher earnings as an adult

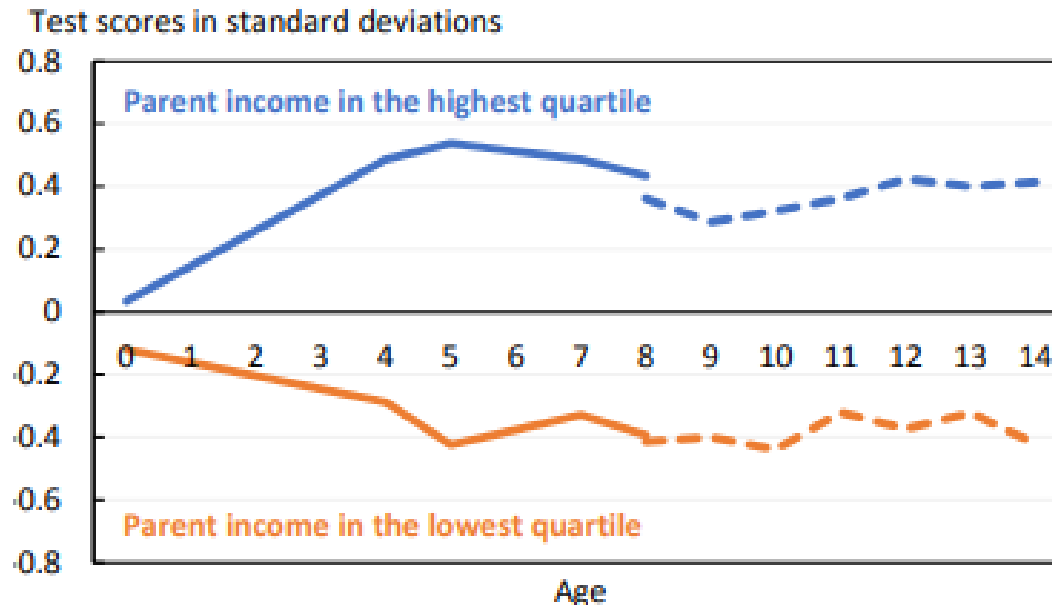
But also...

- Positive spillovers to family and community
- Increased tax revenue to government
- Reduced expenditure on social programs

→ [Hendren and Sprung-Keyser \(2019\)](#) estimate that for a \$1 investment on education, the *benefits to the government alone through higher taxes & lower spending are greater than \$1!*

(even ignoring the benefits to the children themselves, or their families...)

Where do we get ‘bang for the buck’ in education? Early Childhood



Note: IQ scores are available through age 8. After age 8, math test scores are shown. A three year moving average is used for math scores.

Sources: 2013 U.S. Collaborative Perinatal Project (solid lines); NLSY79 Child and Young Adult Supplement (dashed lines).

White House Council of Economic Advisers analysis (2014): “expanding early learning initiatives would provide benefits to society of roughly \$8.60 for every \$1 spent”

Chart from [White House Council of Economic Advisers \(2014\)](#)

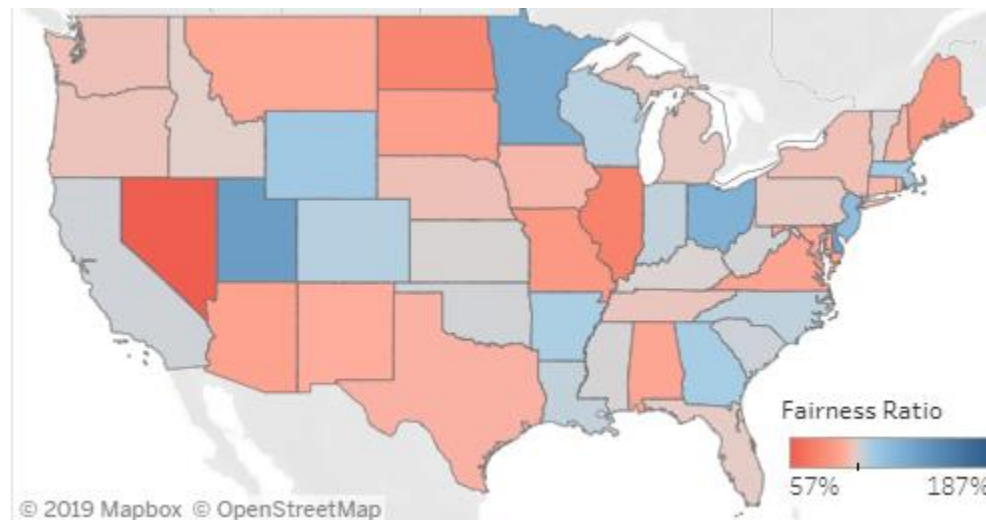
Where do we get 'bang for the buck' in education?

School funding

To maximize efficiency, resources should be targeted very heavily towards disadvantaged children. Are they?

Yes, for federal funding – but often no for state and local funding

In Connecticut, schools in poor districts receive slightly less state & local funding per pupil than schools in non-poor districts.



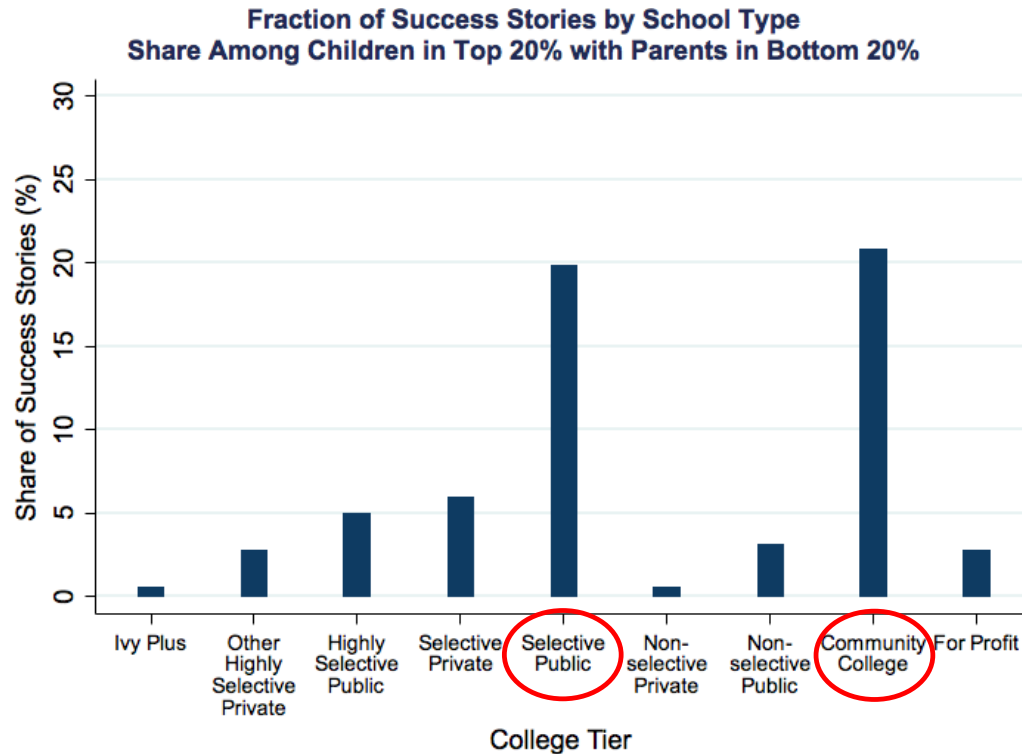
Where do we get 'bang for the buck' in education?

College

'Bang for the buck' in college education is a function of a few things:

1. **Mobility:** Which colleges do the most to boost mobility for their disadvantaged students?
2. **Access:** Which colleges are accessible to disadvantaged students?
3. **Cost:** How much does an education cost at the college?

Where do we get ‘bang for the buck’ in education? College



“The colleges with the highest mobility rates have annual instructional expenditures **less than \$6,500 per student on average**, far lower than the \$87,000 per student spent on instruction at elite private colleges.”

From research by [Raj Chetty, John Friedman, Emmanuel Saez, Nicholas Turner, and Danny Yagan \(2017\)](#)

Capital Community College stands out in mobility

Out of all two-year colleges in the country, CCC has students from some of the most disadvantaged backgrounds

But CCC is in the **top 5% of two-year colleges nationwide** in terms of the upward mobility of its students

Overall mobility index

This measure reflects both access and outcomes, representing the likelihood that a student at Capital C.C. moved up two or more income quintiles.

COMPARE TO:

Connecticut colleges

Two-year colleges

All colleges

33rd out of 690 Two-year colleges



HIGHEST [Laredo C.C.](#) 41%

LOWEST (NO. 690) [McHenry County](#) 9.4%

Visualization from *New York Times*, using data from *Harvard Opportunity Insights (2019)*, based on original research from [Chetty, Friedman, Saez, Turner & Yagan \(2017\)](#)

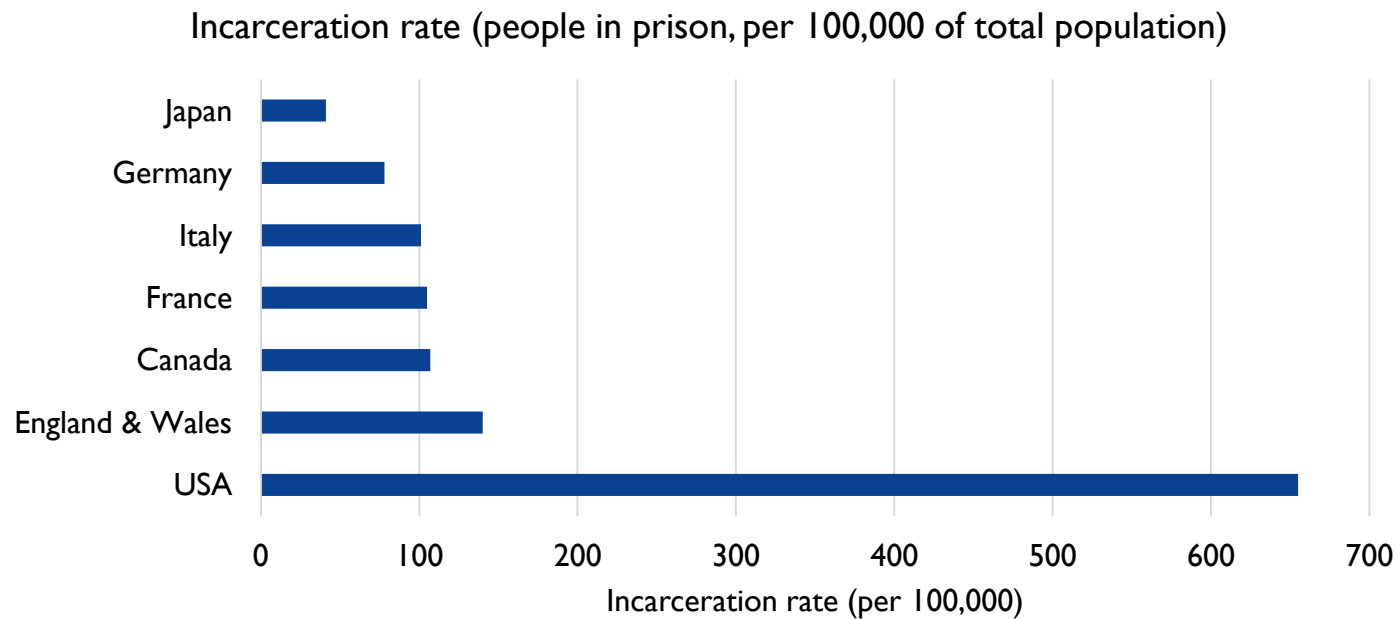


3. Better access to job opportunities

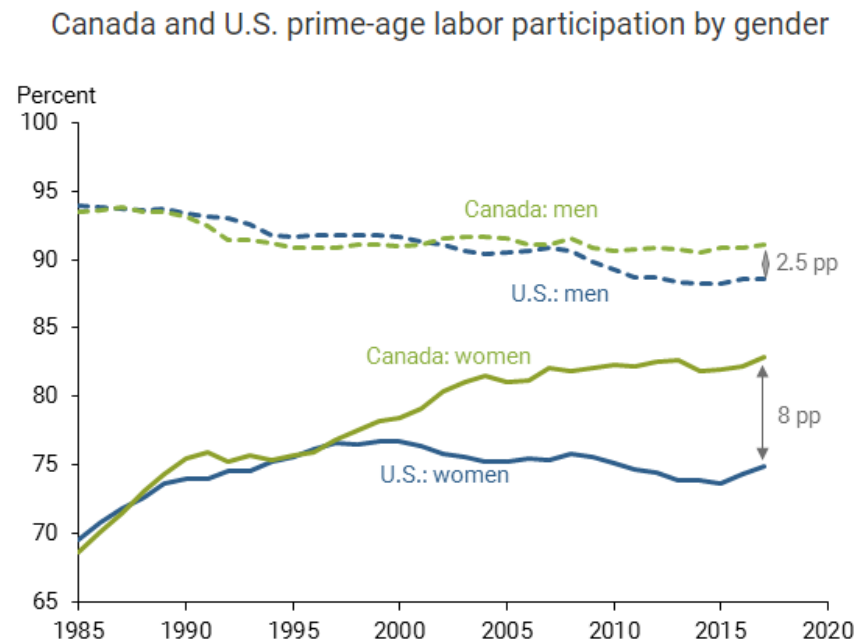
Mass incarceration: a massive waste of human potential

There are **2.2 million people** in prison in the US

The US imprisons people at a **5x higher rate** than the other developed economies



Childcare costs and little or no parental and sick leave make it harder for American women to work



Source: Current Population Survey (U.S.) and Labor Force Survey (Canada).

Legal status for undocumented immigrants would enable millions to access jobs that use their potential

There are **11 million undocumented** individuals in the US
That is approximately **3 out of every 100 people**.

Legal status for undocumented immigrants would enable:

- Access to better paid jobs & more education
- Better incomes for undocumented immigrants and their families
- Increased productivity through a better use of human potential
- Less under-the-table competition against local workers
- Higher tax revenues

The key point

When people can't fulfil their potential

-- when they can't access good jobs or the education, healthcare and support networks needed to thrive in those jobs –

it's not just justice and equity that lose out.

It's also the total productivity and prosperity of our nation.

So – if we want to boost productivity, let's tackle inequality.