The Other China

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&

Collaborators in China, the US and Elsewhere

50TH-ANNIVERSARY EDITION

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THE OTHER AMERICA

POVERTY IN THE UNITED STATES

"*The Other America* is already regarded as a classic work on poverty." —*BusinessWeek*

MICHAEL HARRINGTON

With a new foreword by **MAURICE ISSERMAN** and an introduction by **IRVING HOWE**

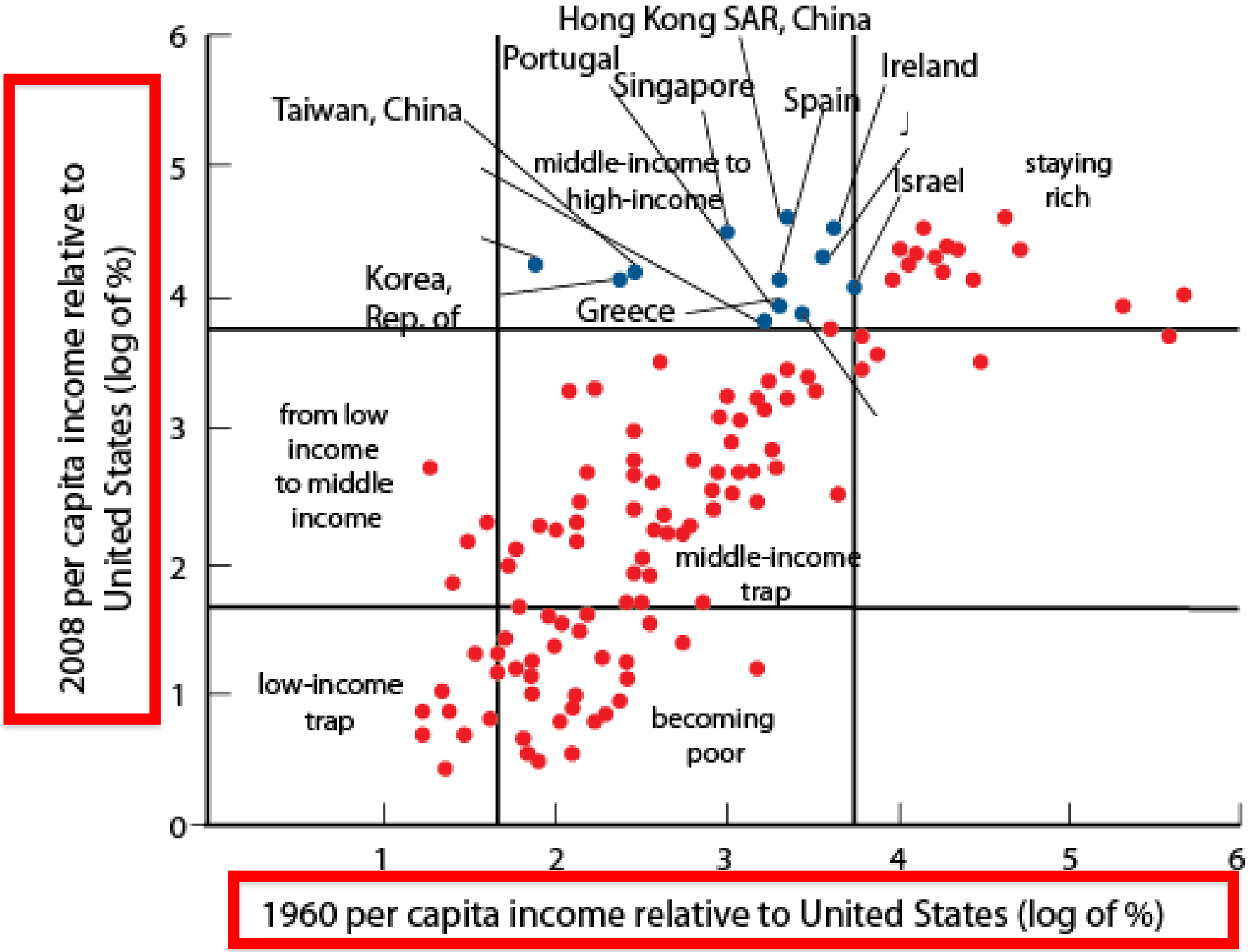
SCOTT ROZELLE AND NATALIE JOHNSON

CHINA'S INVISIBLE CRISIS

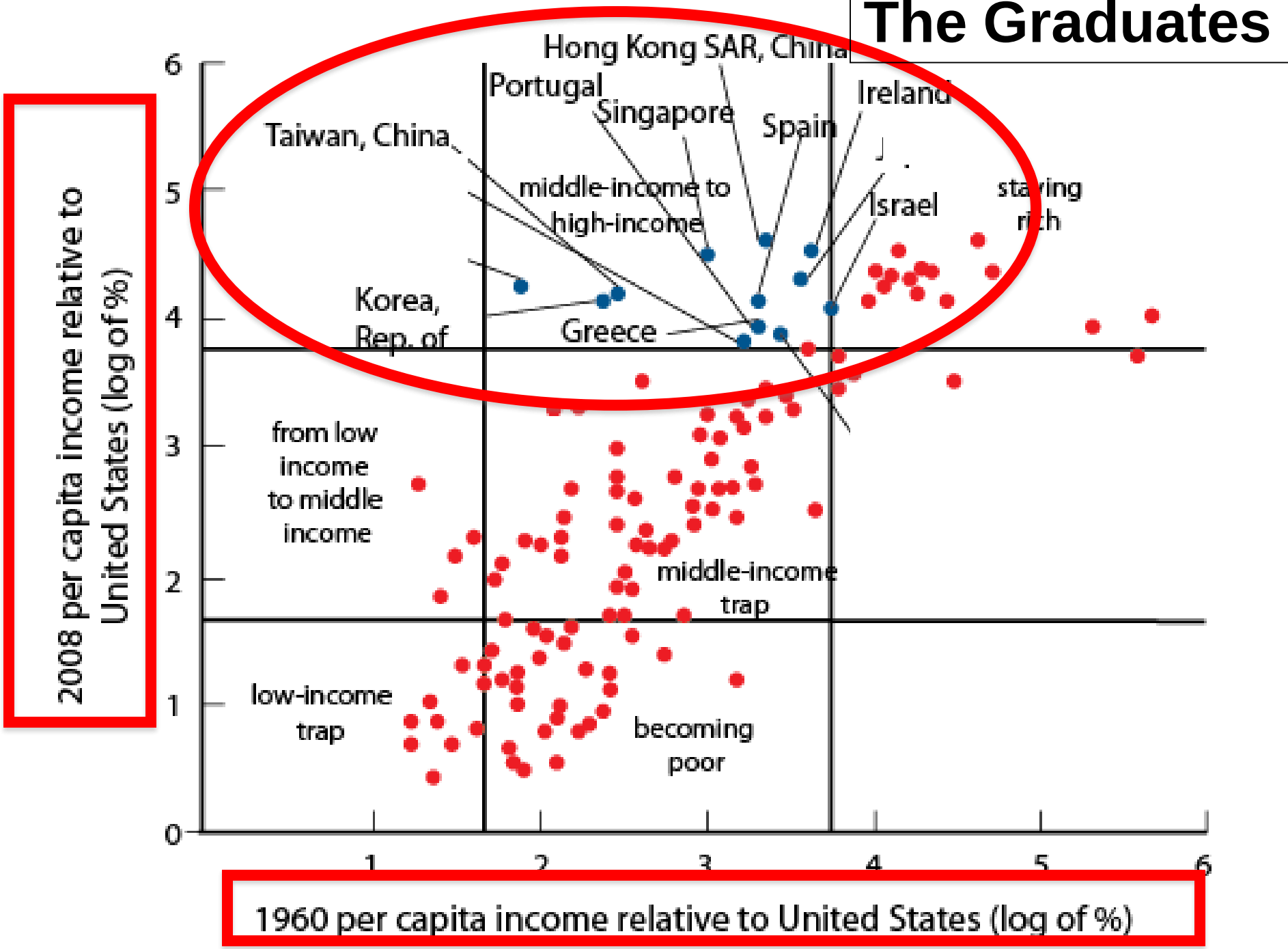
HOW A GROWING URBAN-RURAL DIVIDE
COULD SINK THE WORLD'S SECOND-LARGEST ECONOMY

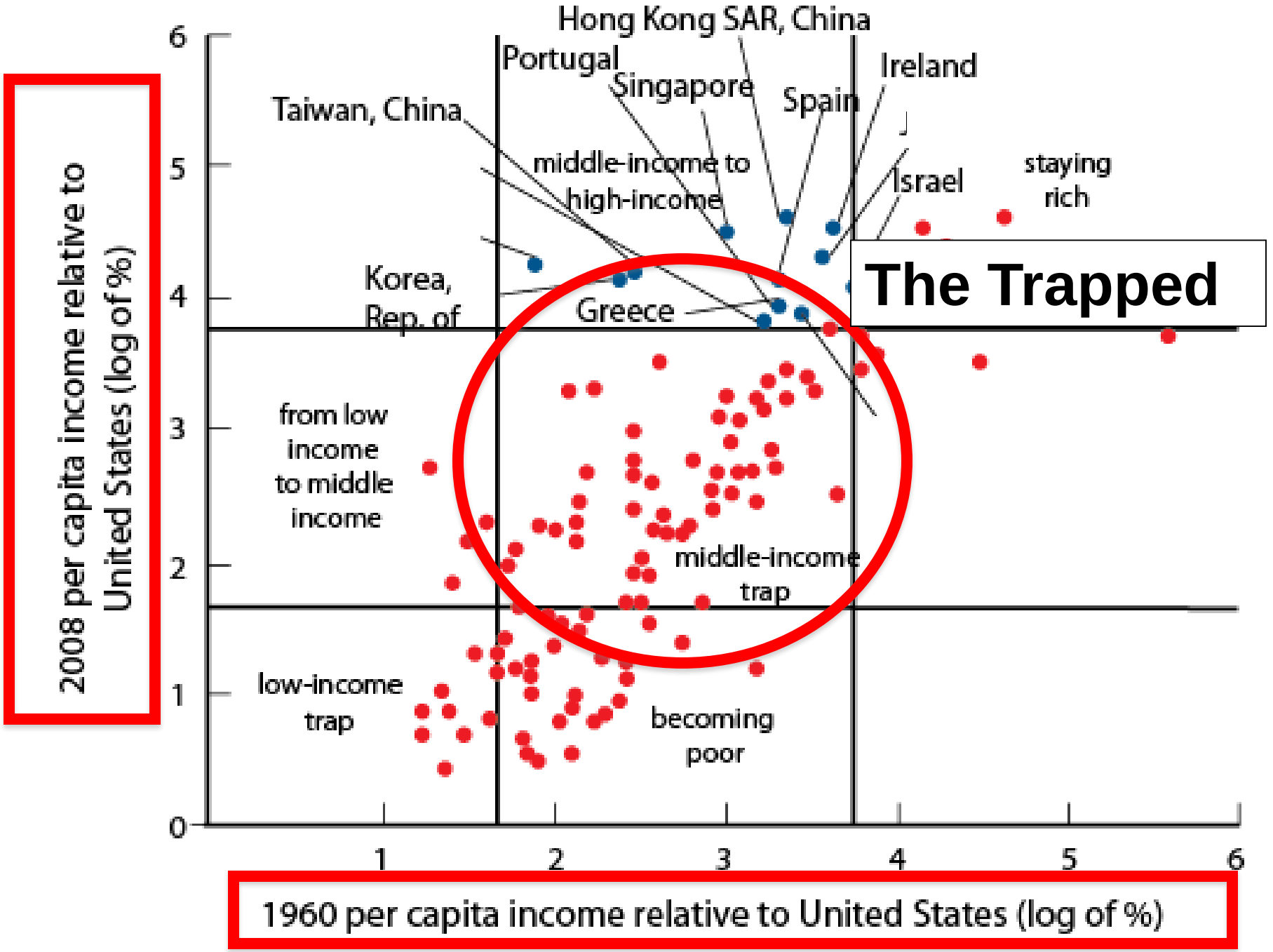
Points of Today's Talk

- Human Capital Inequality and the Middle Income Trap
- What is the nature of the Other China's human capital?
- What is the source of low levels of human capital? And, lessons for other countries


Hong Kong SAR, China
Portugal
Singapore
Spain
Ireland
Taiwan, China
middle-income to high-income
Israel
staying rich
Korea, Rep. of
Greece
from low income to middle income
middle-income trap
low-income trap
becoming poor
2008 per capita income relative to United States (log of %)
1960 per capita income relative to United States (log of %)
0
1
2
3
4
5
6

The Graduates

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1
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One fundamental difference between the Graduates and the Trapped

•At the time of middle income, the levels of human capital (think levels of education) of the ENTIRE labor force need to be high …

Why is this important?

•When a country moves from middle-income to higher income, wages rise fast and the nature of work changes from “low wage, low skill” to “high wage, high skill.” If a large share of the labor force is NOT able to participate

➔polarization (demand side problems) & low productivity (supply side problems)

➔high unemployment/high crime/social unrest & low productivity and poor investment climate

➔ stagnation

Share of Labor Force that Attained Upper Secondary Education, Middle Income Countries

Country	Share in 2015
• Turkey	36
• Brazil	46
• Argentina	42
• Mexico	34
• South Africa	32
Average Middle Income	**36**
OECD	74
Middle income grads:	72

The Trapped

Share of Labor Force that Attained Upper Secondary Education, Middle Income Countries

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Middle income grads:	**72**

The Trapped

When they were middle income countries!

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• Brazil	46
• Argentina	42
• Mexico	34
• South Africa	32
Average Middle Income	**36**
OECD	**74**
Middle income grads:	**72**

When they were middle income countries, their levels of education were almost as high as developed countries (which they have now become …)

One fundamental difference between Graduates and the Trapped

•At the time of middle income, the levels of human capital (think levels of education) of the ENTIRE labor force need to be high …

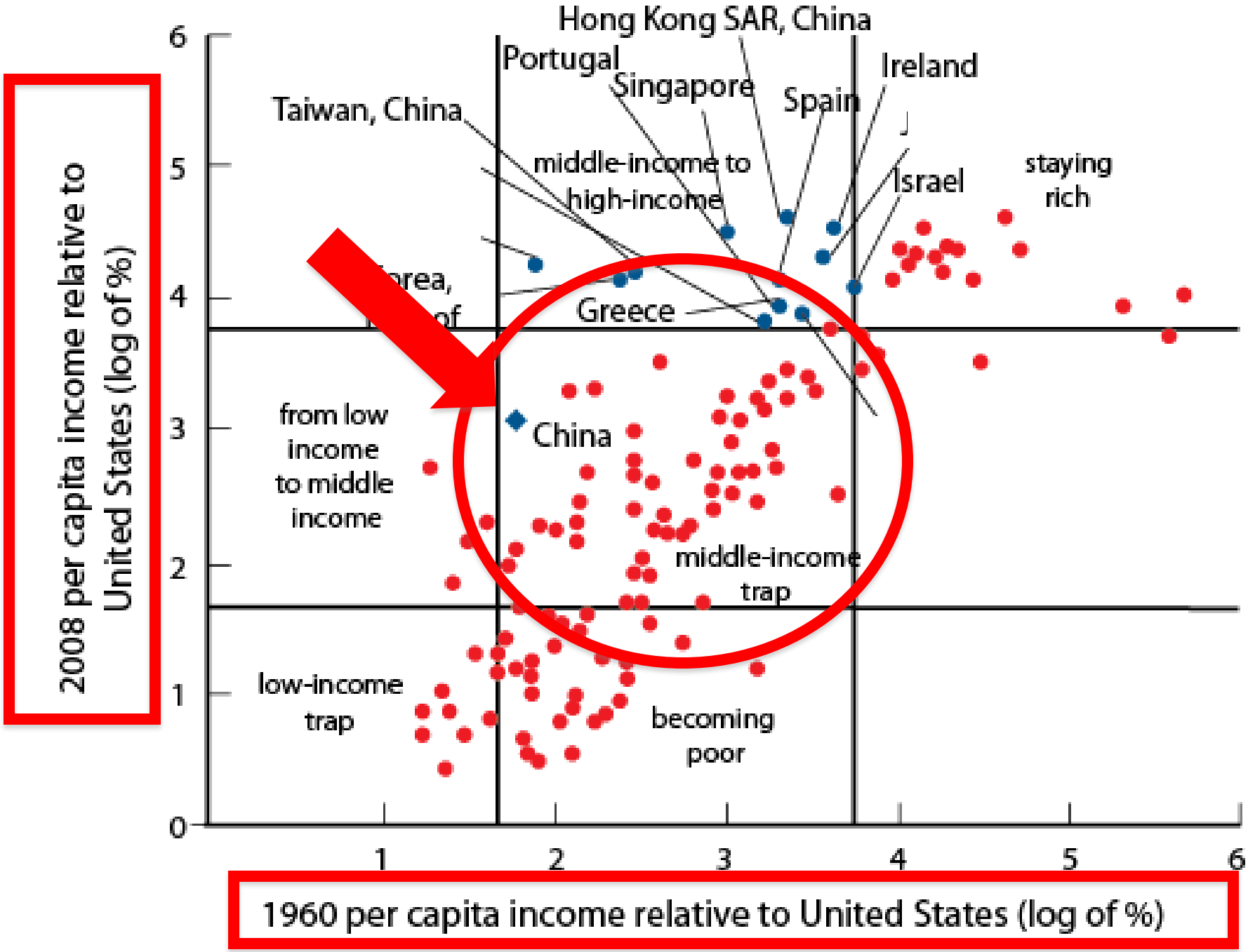
Why is this important?

• When a country moves from middle-income to higher income, wages rise fast and the nature of work changes from “low wage, low skill” to “high wage, high skill.” If a large share of the labor force is NOT able to participate

➔polarization (demand side problems, for example, high unemployment/high crime/social unrest

➔low productivity (supply side problems, e.g., poor investment climate/absence of qualified workers

➔ Stagnation ➔ more polorization ➔ etc.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5
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Outline of Today's Talk

- Inequality and the Middle Income Trap
- What is the nature of China's human capital?
- What is the source of low levels of human capital?

While all kids do not need to go to college, **all children should be going to high school** …

This is critical at this stage of development to get all children the skills they will need in the future ➔ Where is China?

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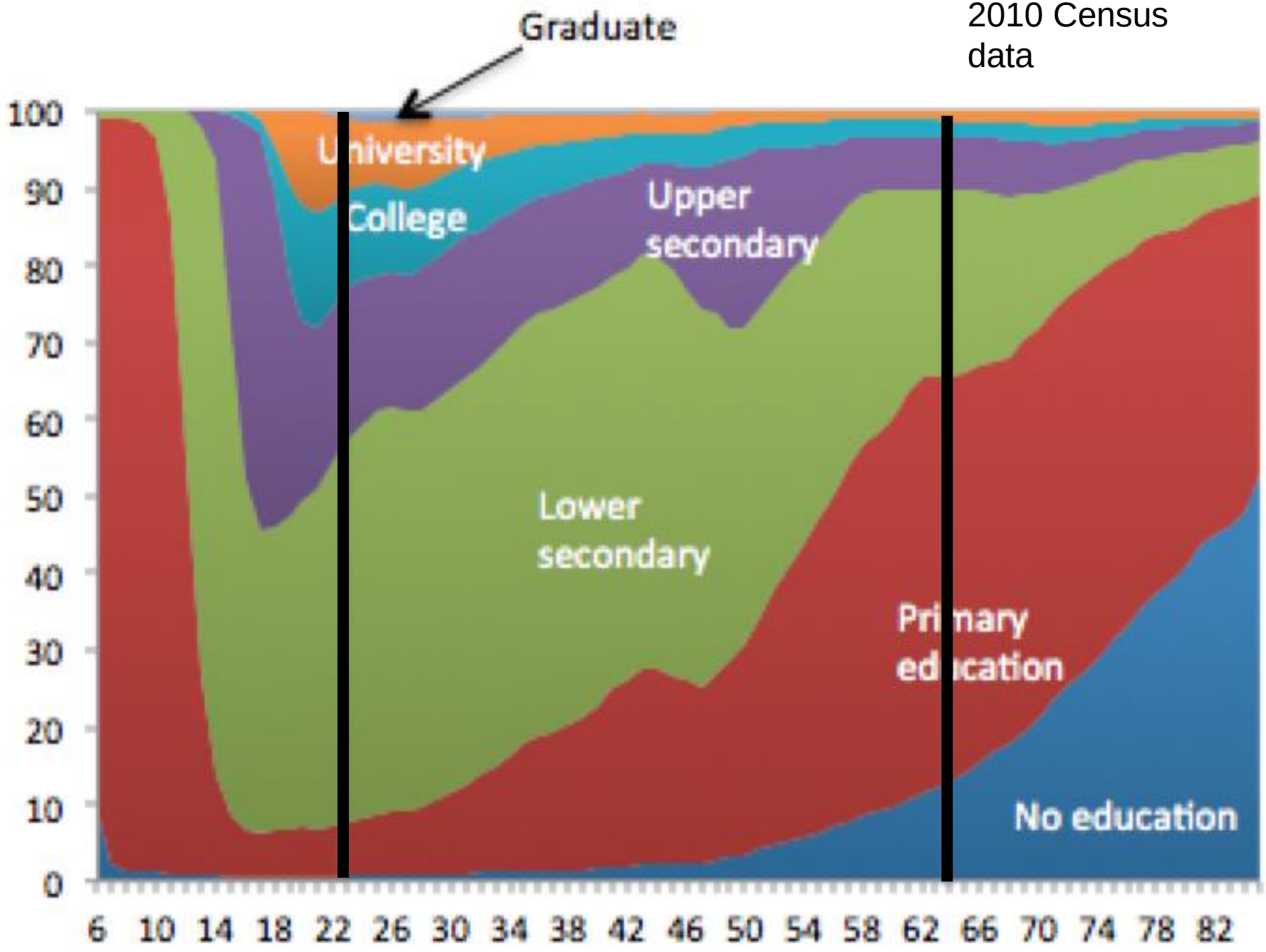
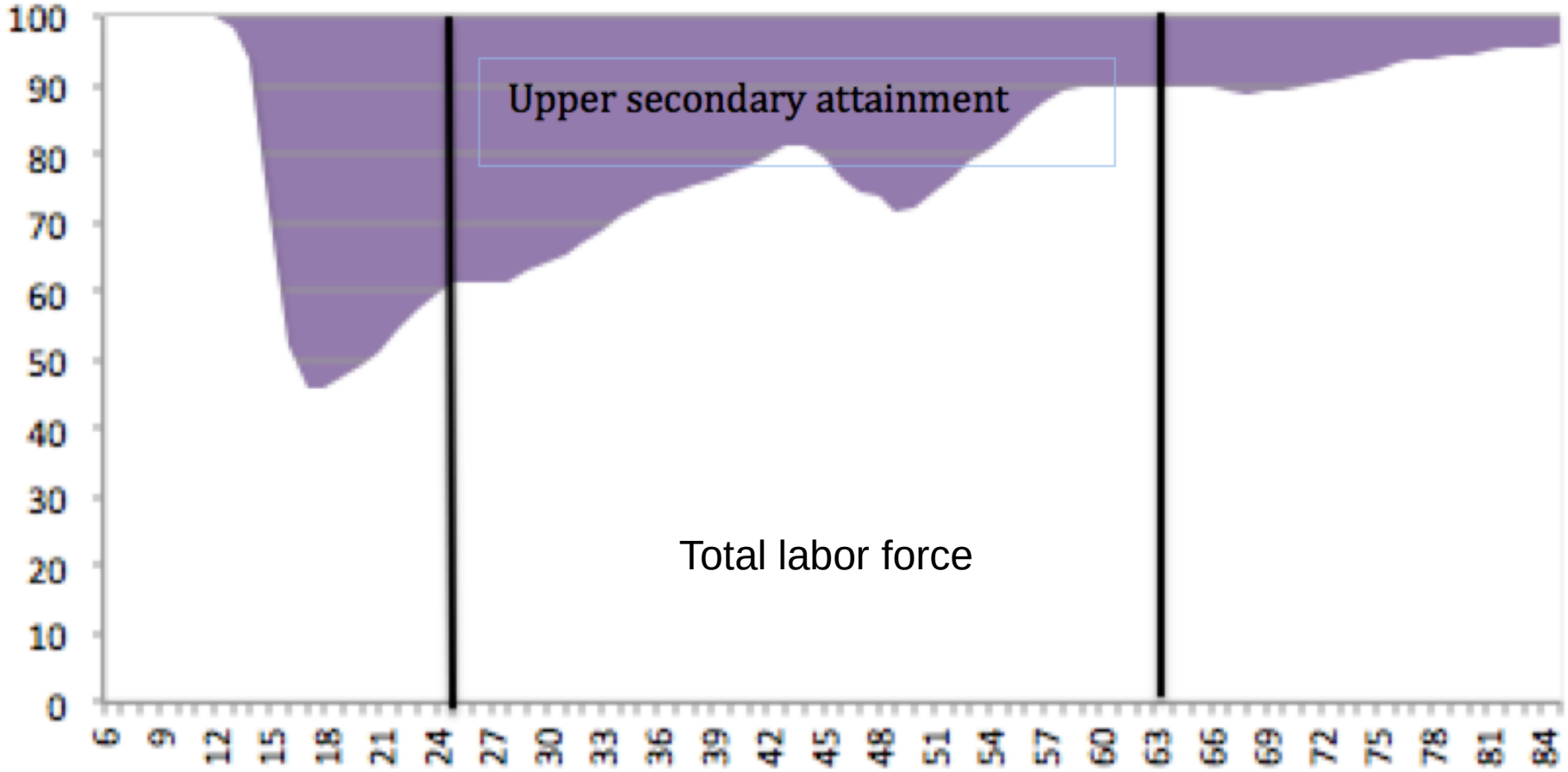
While all kids do not need to go to college, **all children should be going to high school**

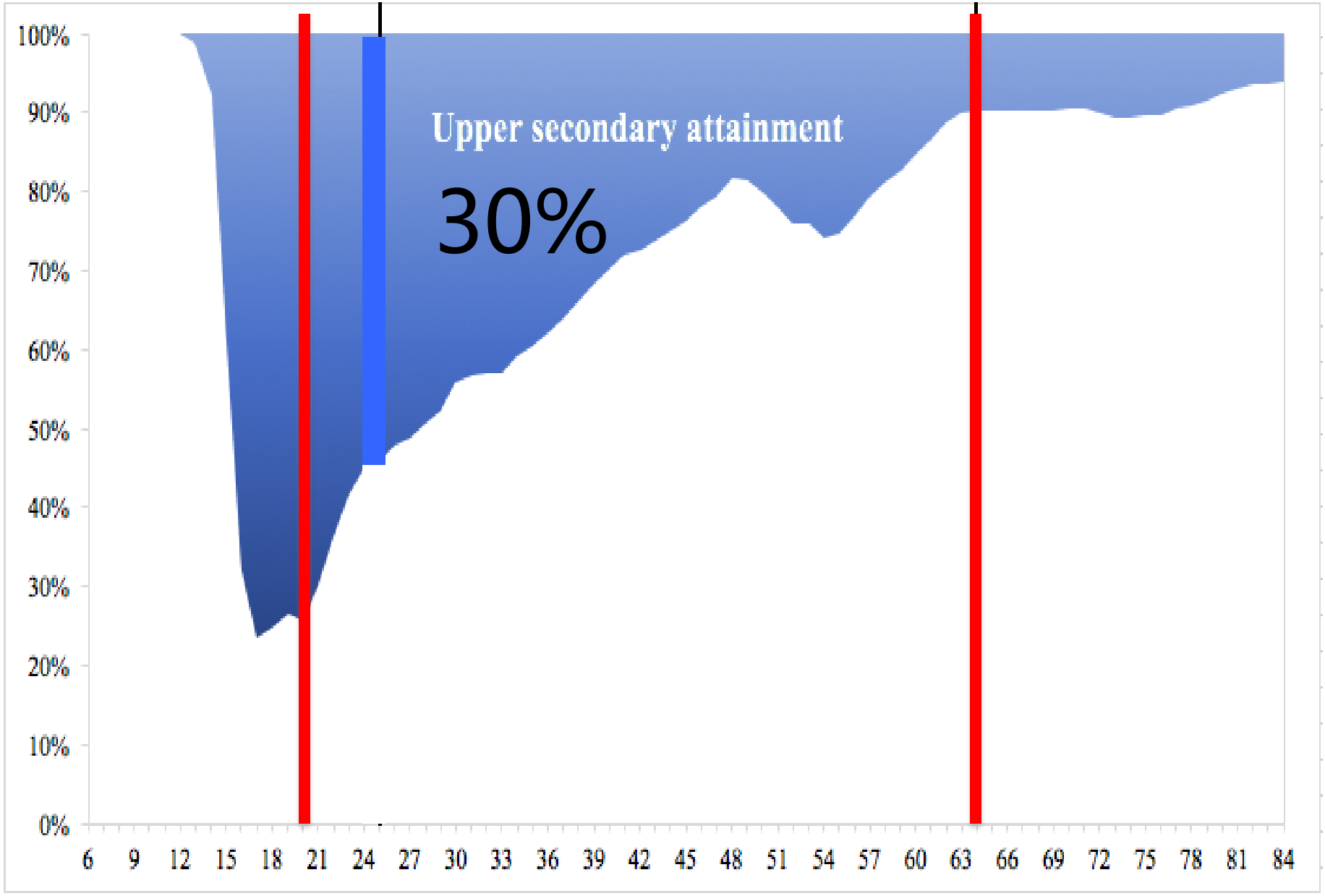
This is critical at this stage of development to get all children the skills they will need in the future: Where is China?

- Actually: China has the lowest levels of human capital in the middle income world!


Graduate
2010 Census data
University
College
Upper secondary
Lower secondary
Primary education
No education
100
90
80
70
60
50
40
30
20
10
0
6 10 14 18 22 26 30 34 38 42 46 50 54 58 62 66 70 74 78 82


Upper secondary attainment
Total labor force
100
90
80
70
60
50
40
30
20
10
0
6
9
12
15
18
21
24
27
30
33
36
39
42
45
48
51
54
57
60
63
66
69
72
75
78
81
84

2015 Micro-Census



Today's Labor Force

$$\frac{\text{Upper Secondary Attainment}}{\text{Total Labor Force}} = 30\%$$

How does that compare to the rest of the world?

Middle Income Countries Human Capital Crisis

Country	2015
Turkey	36
Brazil	46
Argentina	42
Mexico	34
South Africa	32
China	30
Middle Income (avg)	**36**
OECD	**78**
Graduates	**72**

What does this mean?

➔If only 30% of those in the labor force have graduated from high school …

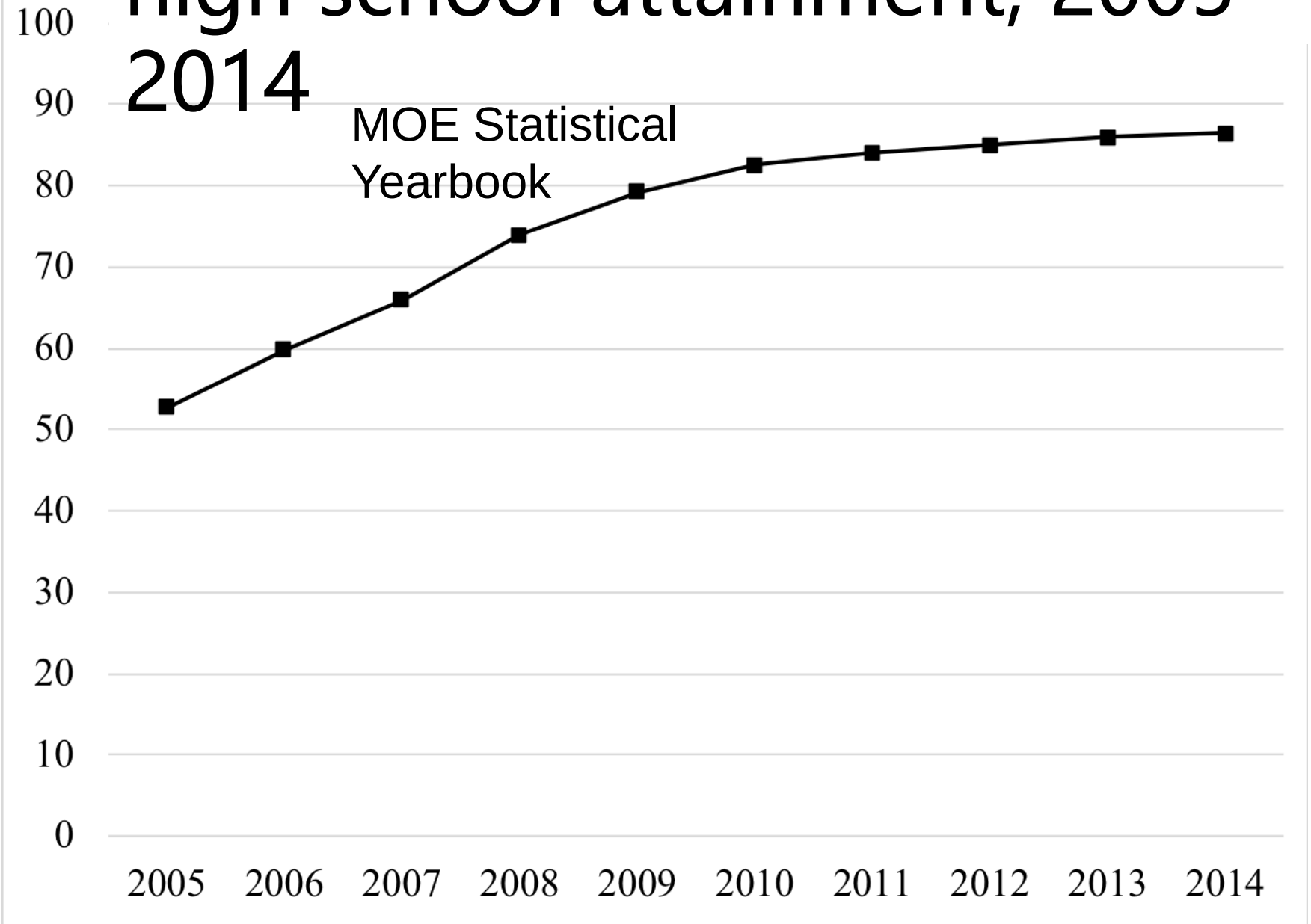
… this means that 70% of those in the labor force are **“high school drop-outs”**!!

Is this a secret?

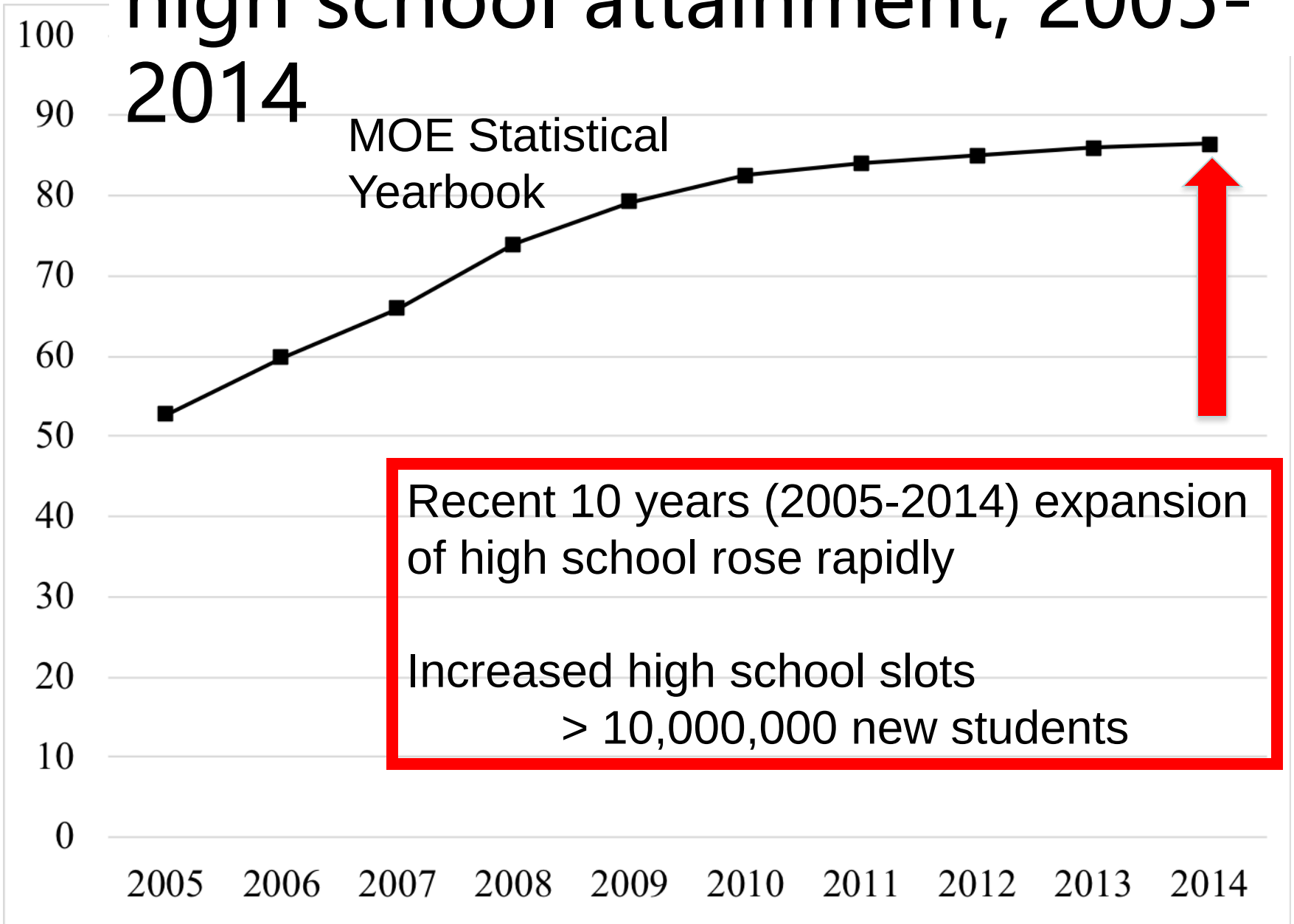
- In fact, NO!
- Current government's investment behavior shows that it is concerned about the level of education of the labor force …
- AND THEY ARE DOING SOMETHING ABOUT IT!

- This is really a problem of Mao and Deng!

15-17 year old cohorts and high school attainment, 2005-2014



15-17 year old cohorts and high school attainment, 2005-2014



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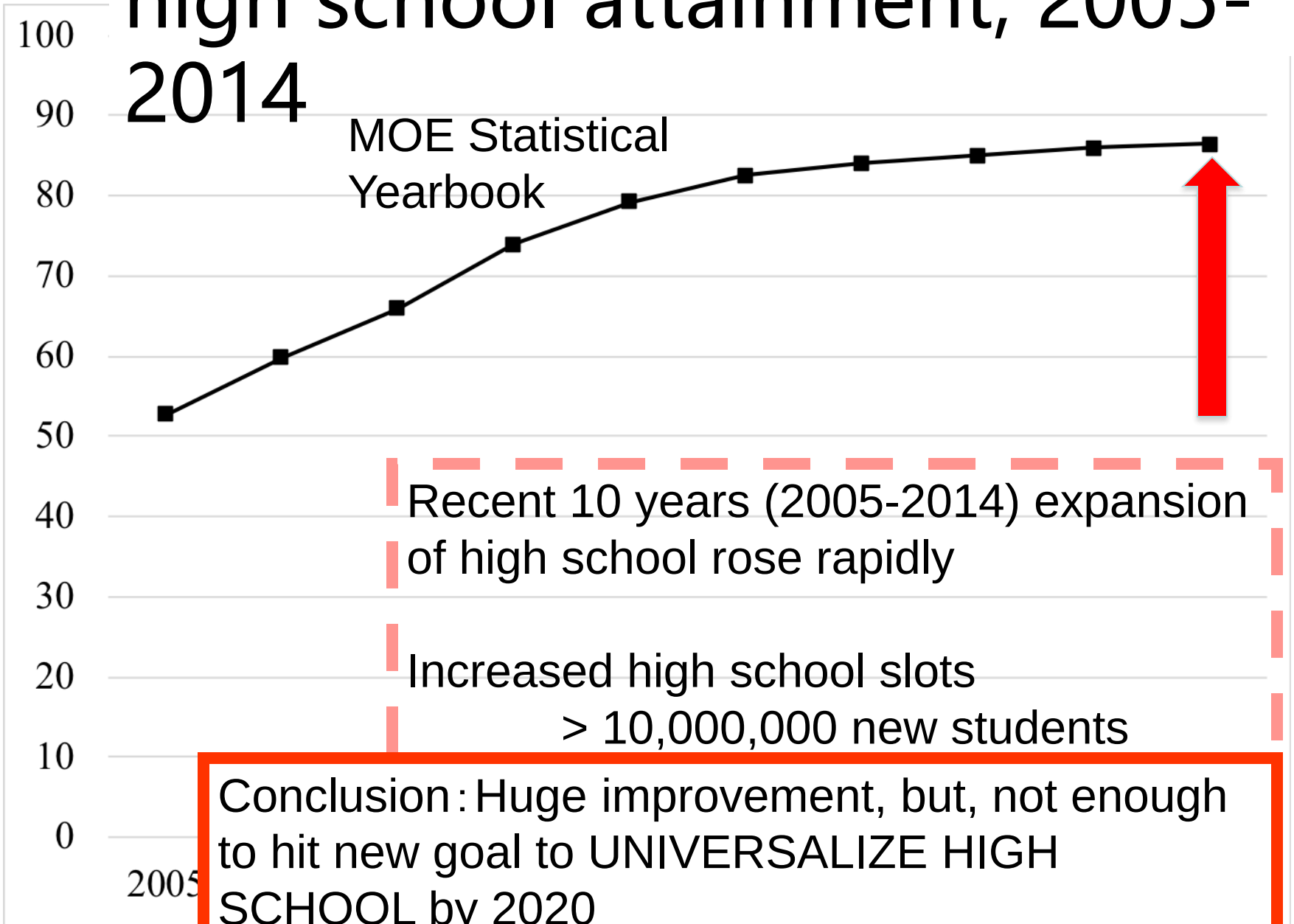
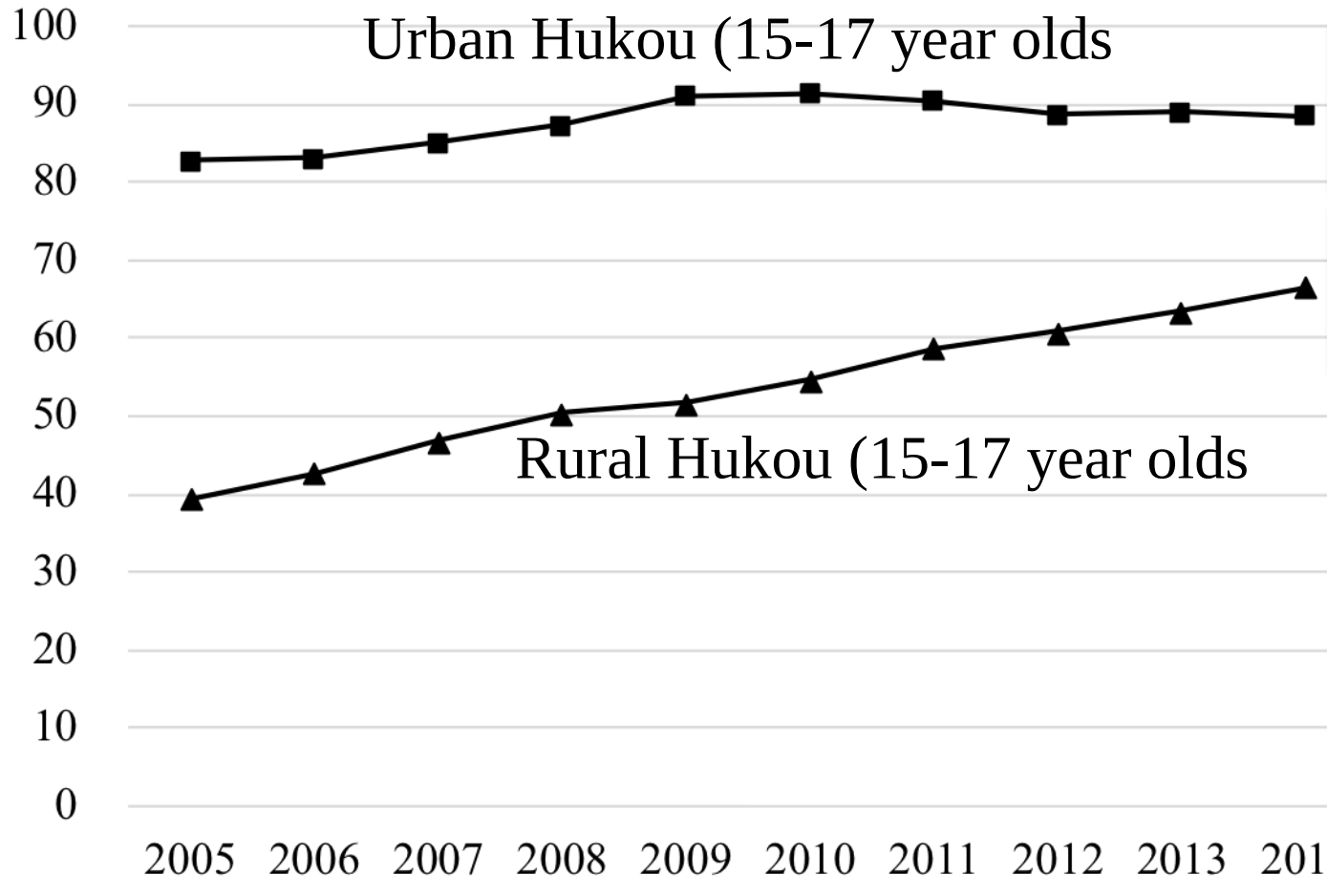


The problem: 15-17 year old Rural Youth

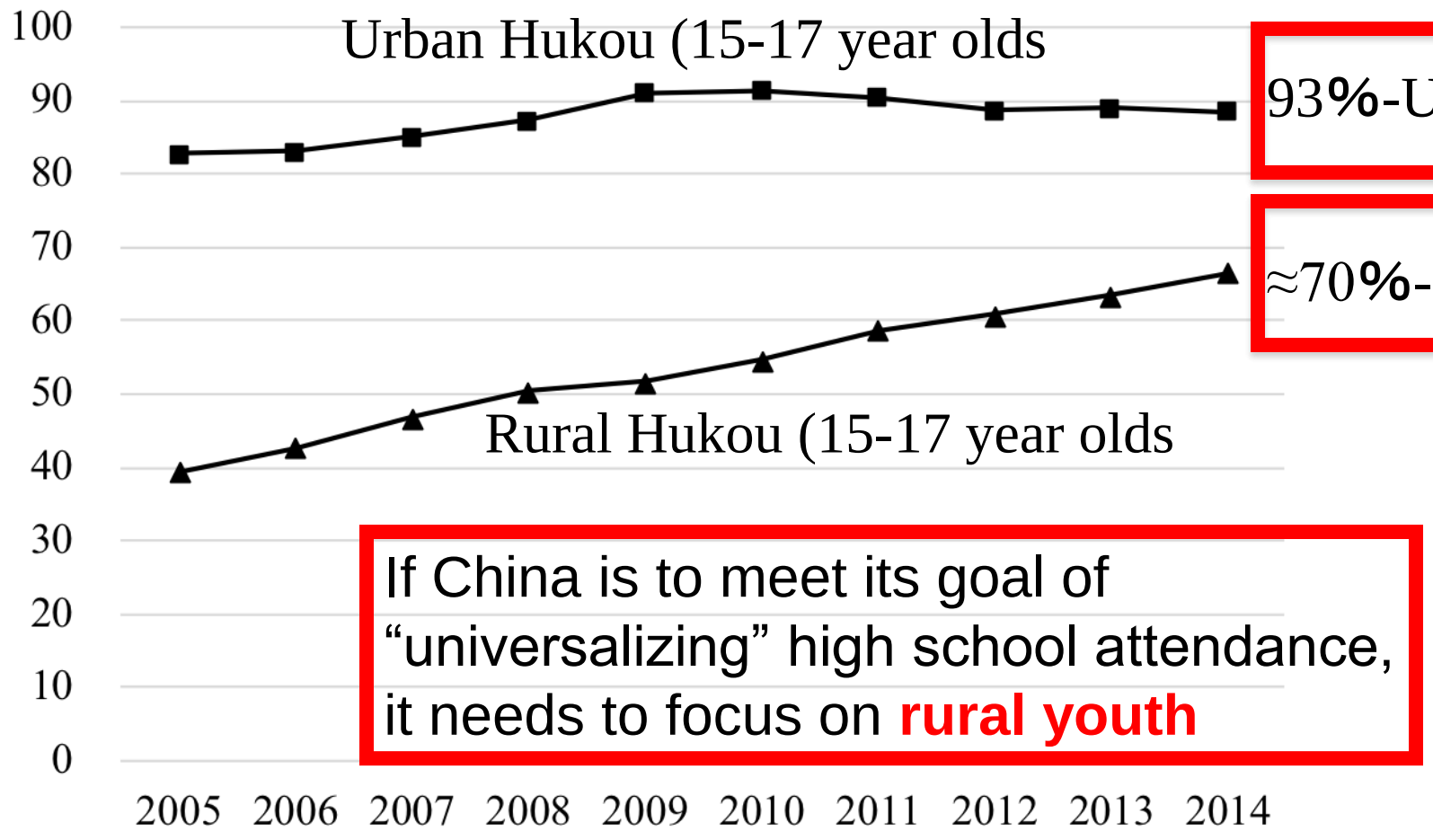


93%-Urban

≈70%-Rural

Data Sources: MOE Statistical Yearbook + China Family Panel Survey (CFPS), 2014

The problem: 15-17 year old Rural Youth

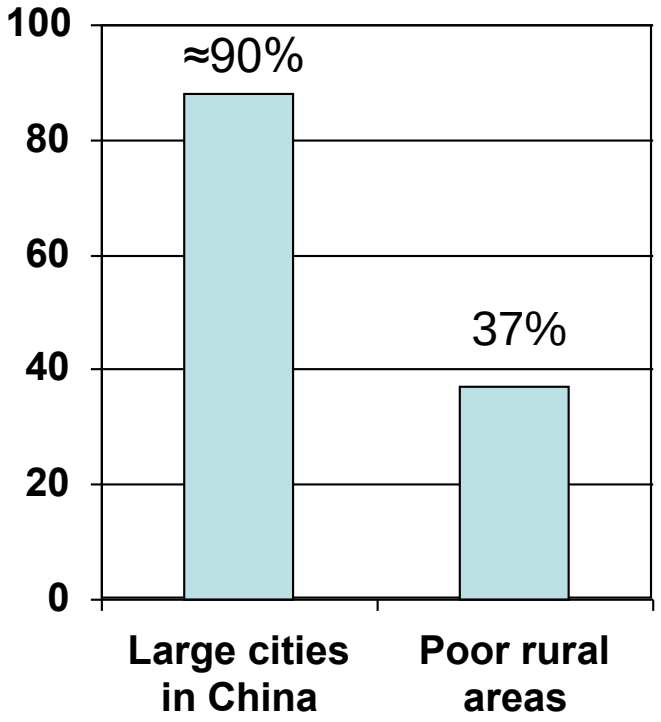


Data Sources: MOE Statistical Yearbook + China Family Panel Survey (CFPS), 2014

*Low Level of High School Education in China Today is a **Problem of Poor Rural Areas**!*

China in the 2010-2013

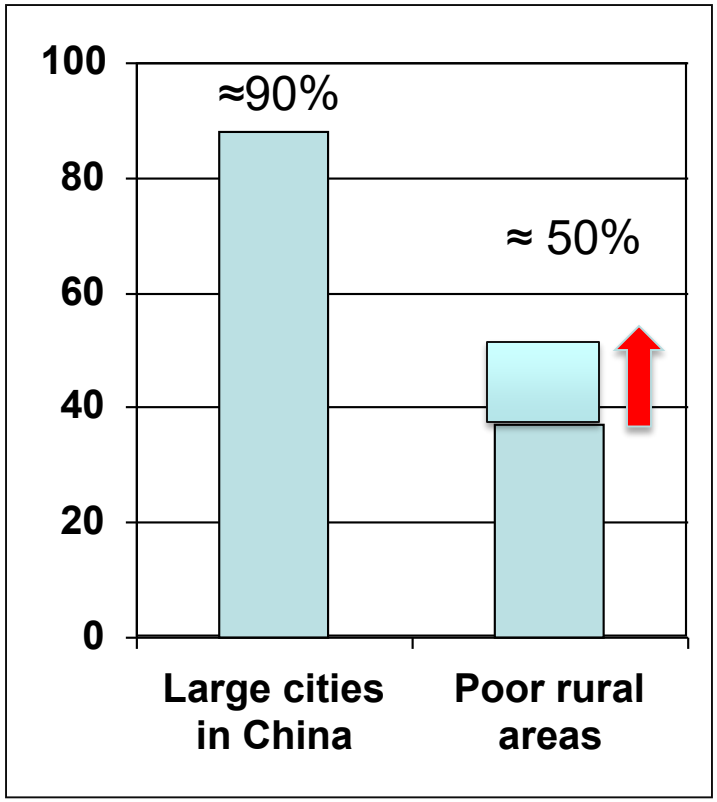
Percent of students that go to **any High School**



*Low Level of High School Education in China Today is a **Problem of Poor Rural Areas**!*

Today

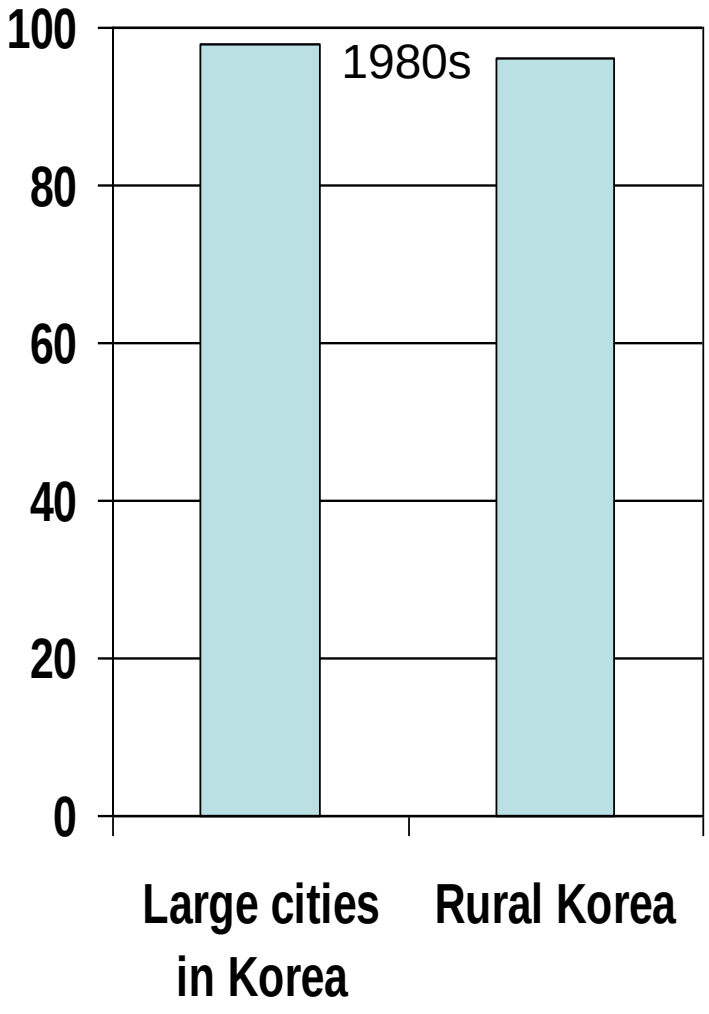
Percent of students that go to **any High School**



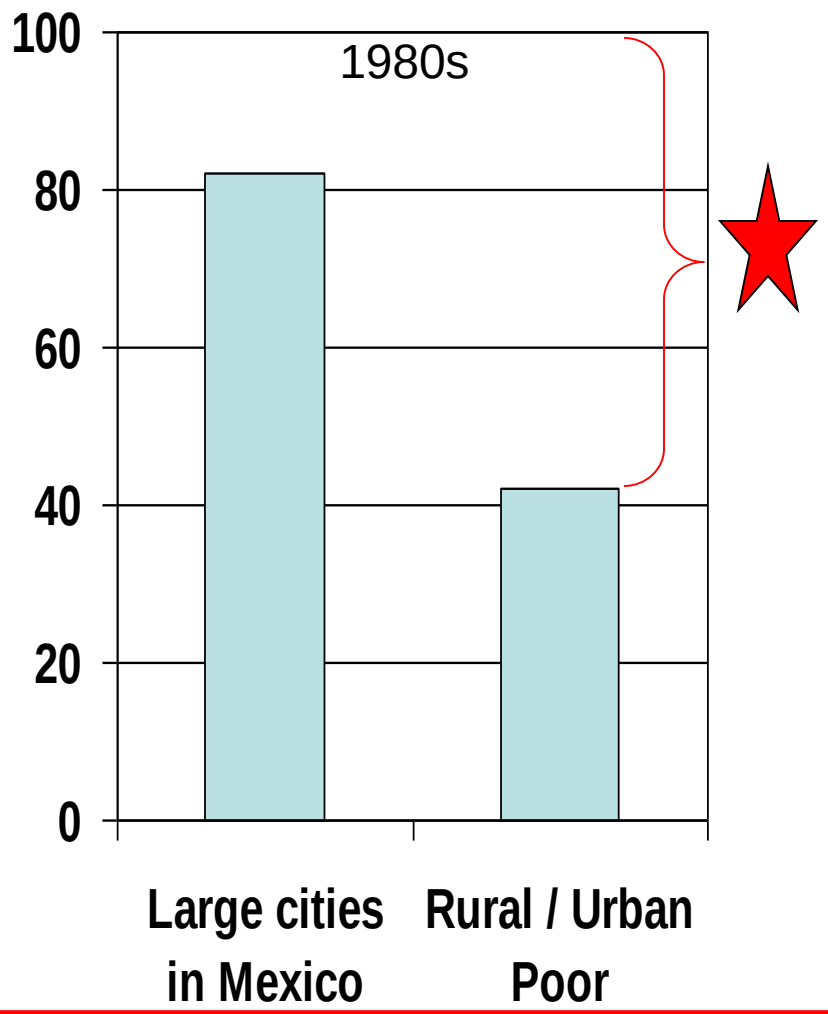
Who Does China Look Like? South Korea/Taiwan or Mexico?

South Korea/Taiwan in 1970s/1980s

Percent of students that go to **High School**



Mexico in the 1980s!



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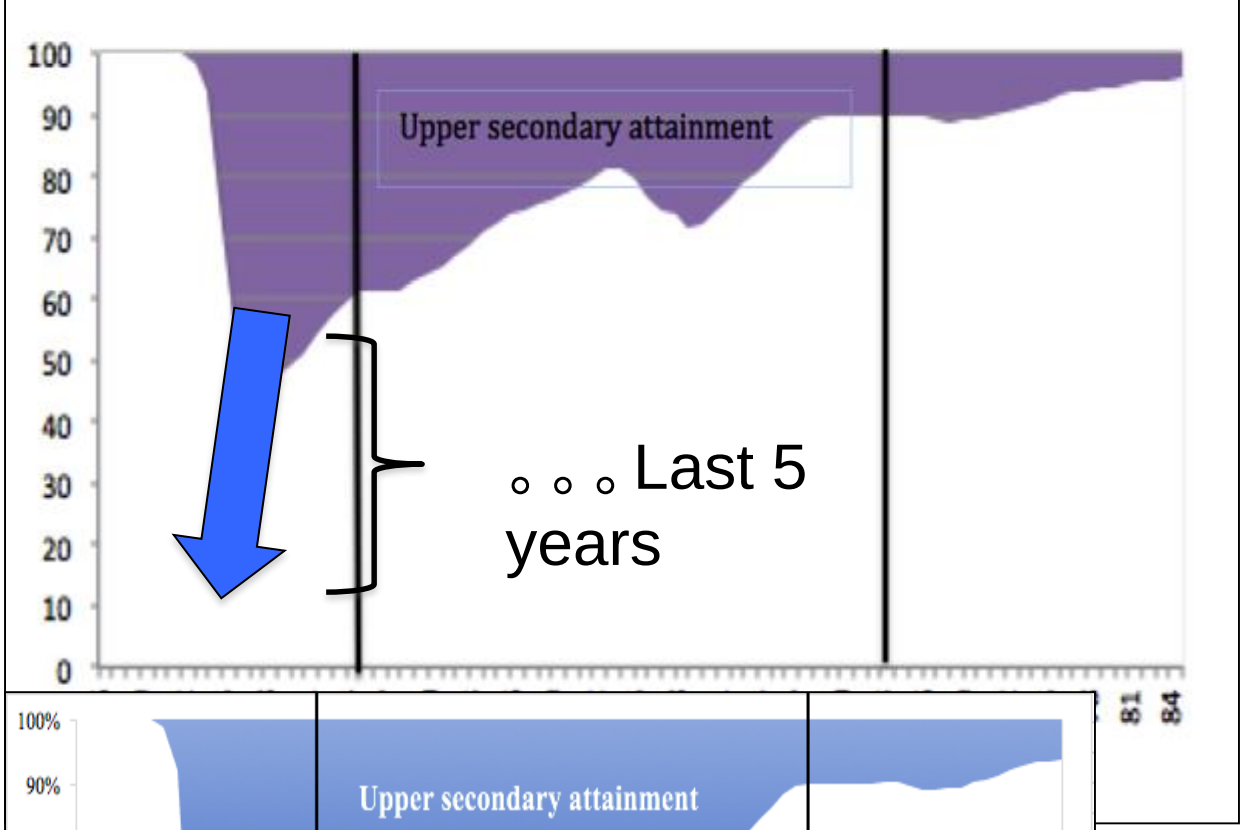
- In fact, NO!
- Current government's investment behavior shows that it is concerned about the level of education of the labor force …
- AND THEY ARE DOING SOMETHING ABOUT IT!

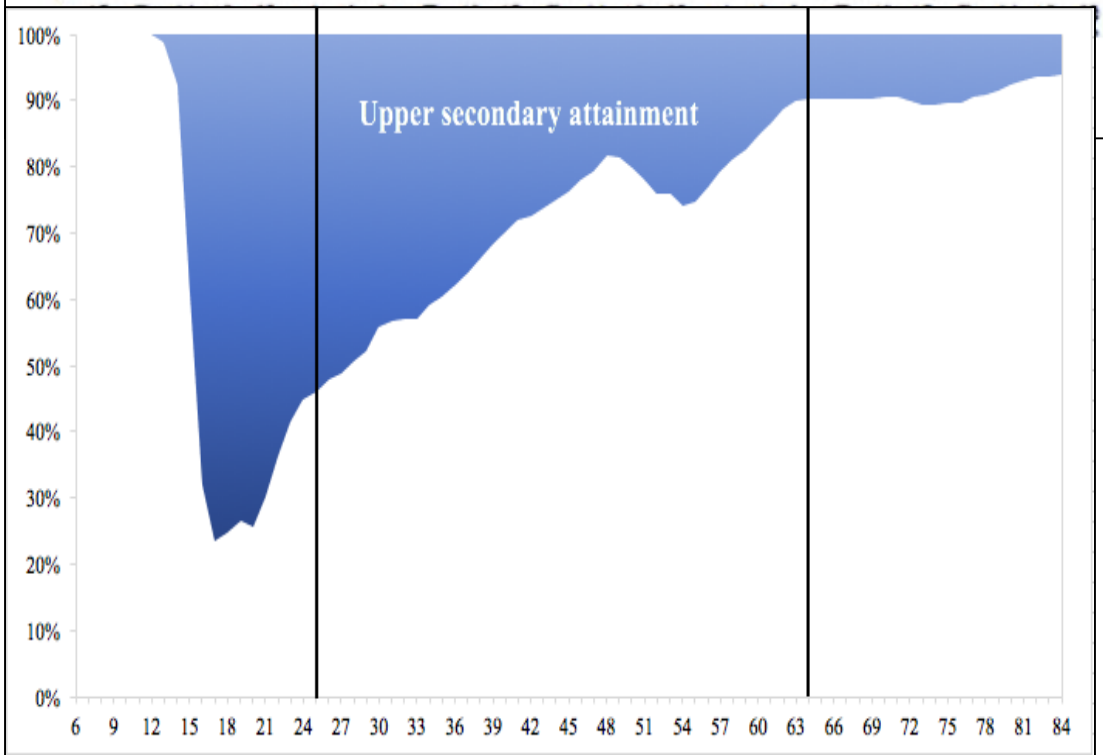
- This is really a problem of Mao and Deng!

To be clear … I believe the current governments understand the problem … The source of the problem was really due to Deng Xiaoping education strategy

2010


100
90
80
70
60
50
40
30
20
10
0
Upper secondary attainment
. . . Last 5 years
81
84

2015


100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Upper secondary attainment
6 9 12 15 18 21 24 27 30 33 36 39 42 45 48 51 54 57 60 63 66 69 72 75 78 81 84

Challenge of the government today is twofold:

ONE: get students from poor rural areas into high school (as discussed above)

TWO: make sure they are ready to learn … when they enter high school

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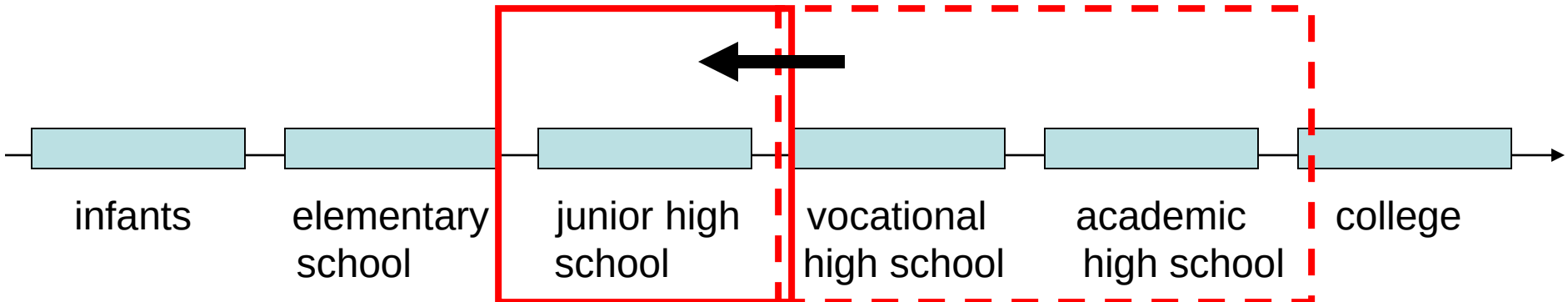
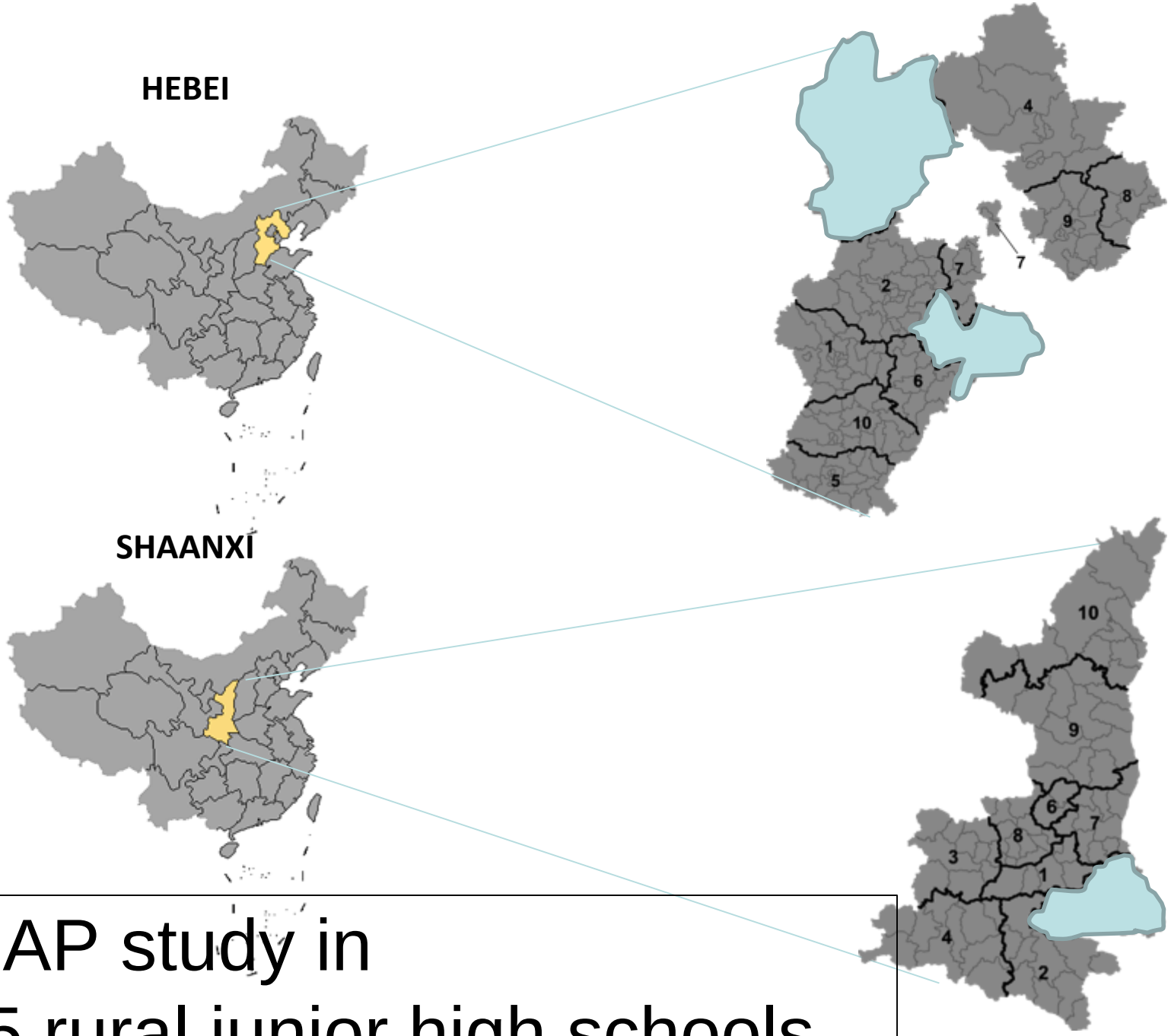
ONE: get students from poor rural areas into high school (as discussed above)

TWO: make sure they are ready to learn … when they enter high school

In fact, our studies show that the problems are starting **before** upper secondary school

What is the nature of China's human capital?



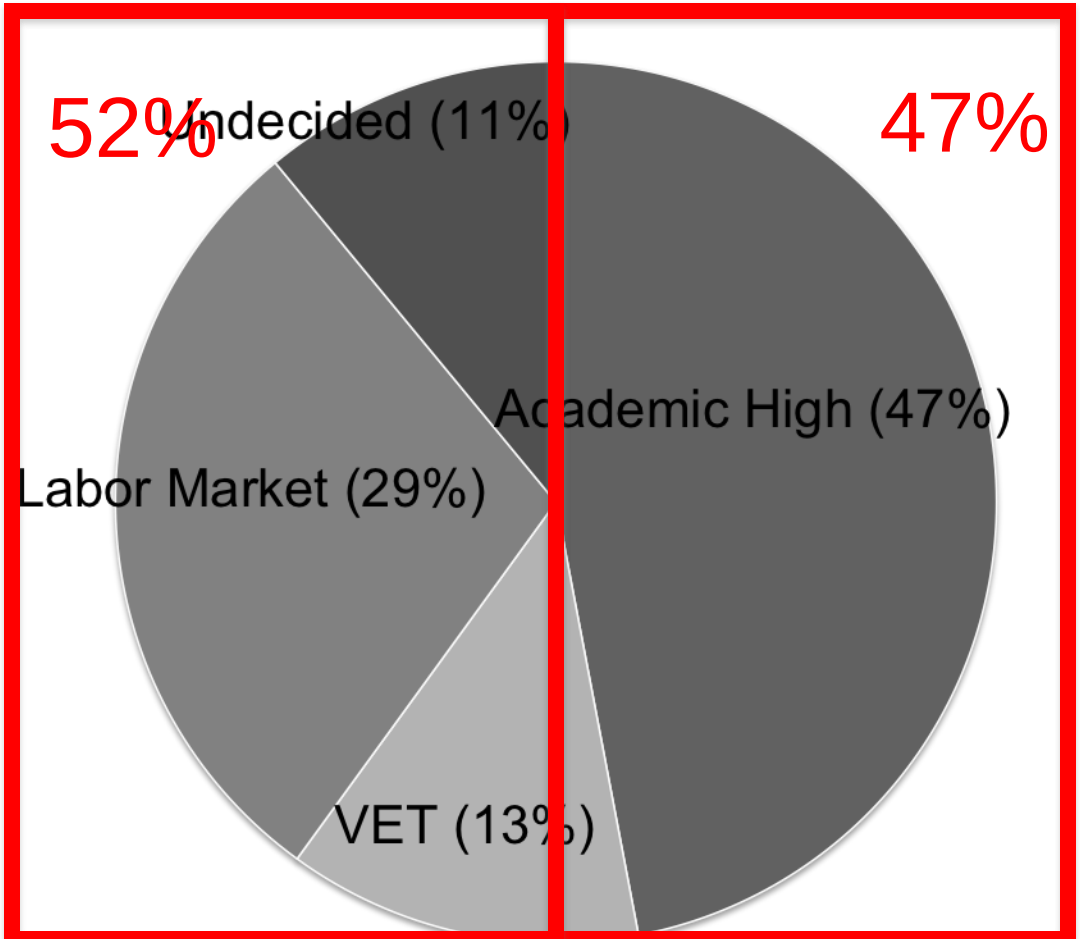


REAP study in
175 rural junior high schools

Response to Question at Baseline

(when students are in first year of Junior High)

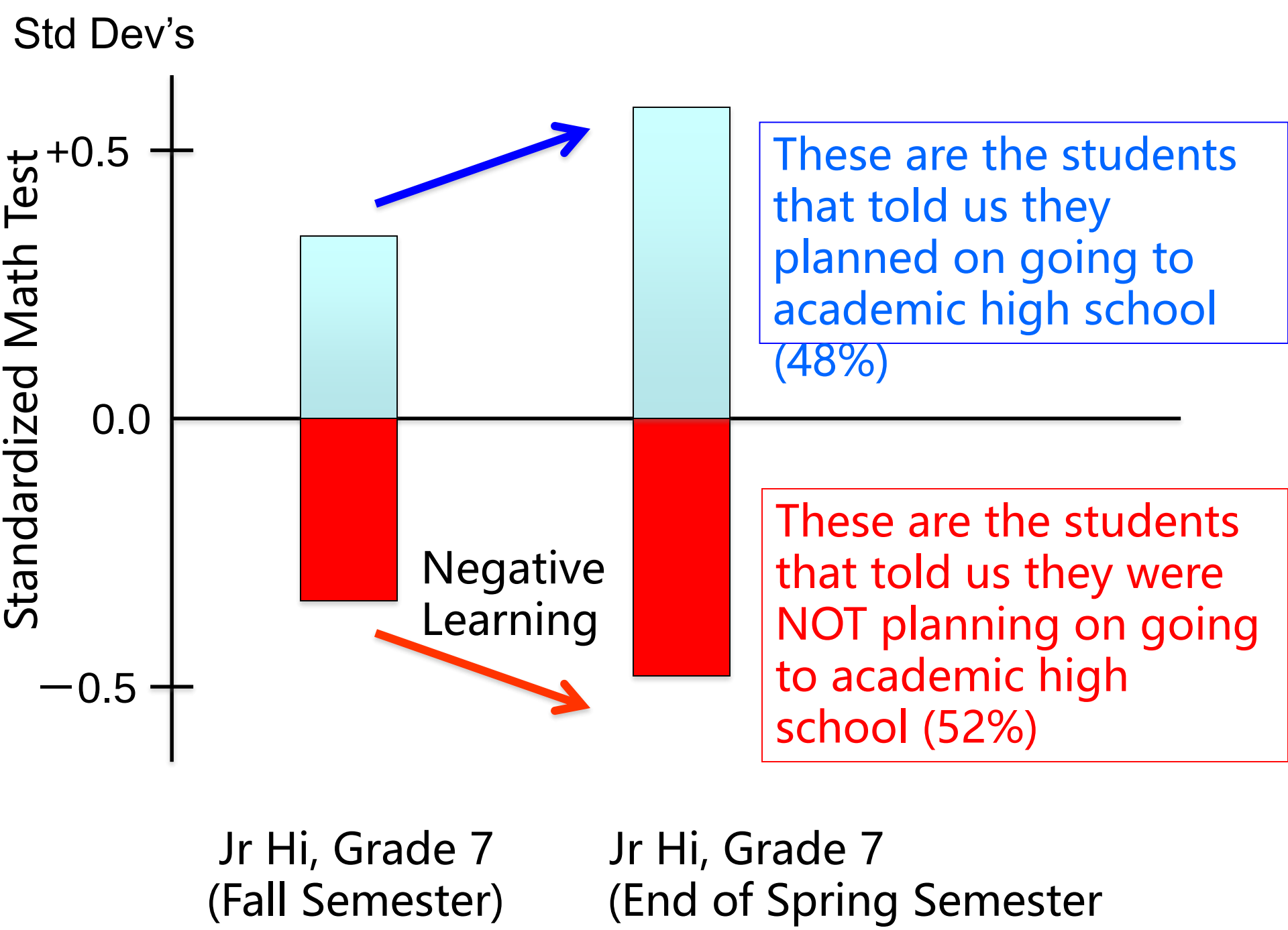
"What do you plan on doing after Junior High School?"



Two IRT-Scaled tests to measure absolute learning in Math

Junior High (Sept. 2011)

Junior High (June 2012)


Std Dev's
Standardized Math Test
+0.5
0.0
−0.5
These are the students that told us they planned on going to academic high school (48%)
Negative Learning
These are the students that told us they were NOT planning on going to academic high school (52%)
Jr Hi, Grade 7 (Fall Semester)
Jr Hi, Grade 7 (End of Spring Semester

If students are not learning in junior high school, how are they going to take advantage of the new opportunities (obligations) to attend high school?

- For many …
  - … they don’t read well
  - … they don’t write well
  - … they do not have any math skills

Why are so many children not learning in junior high?

Is it possible that they cannot learn?

Why are so many children not learning in junior high?

Is it possible that they cannot learn?

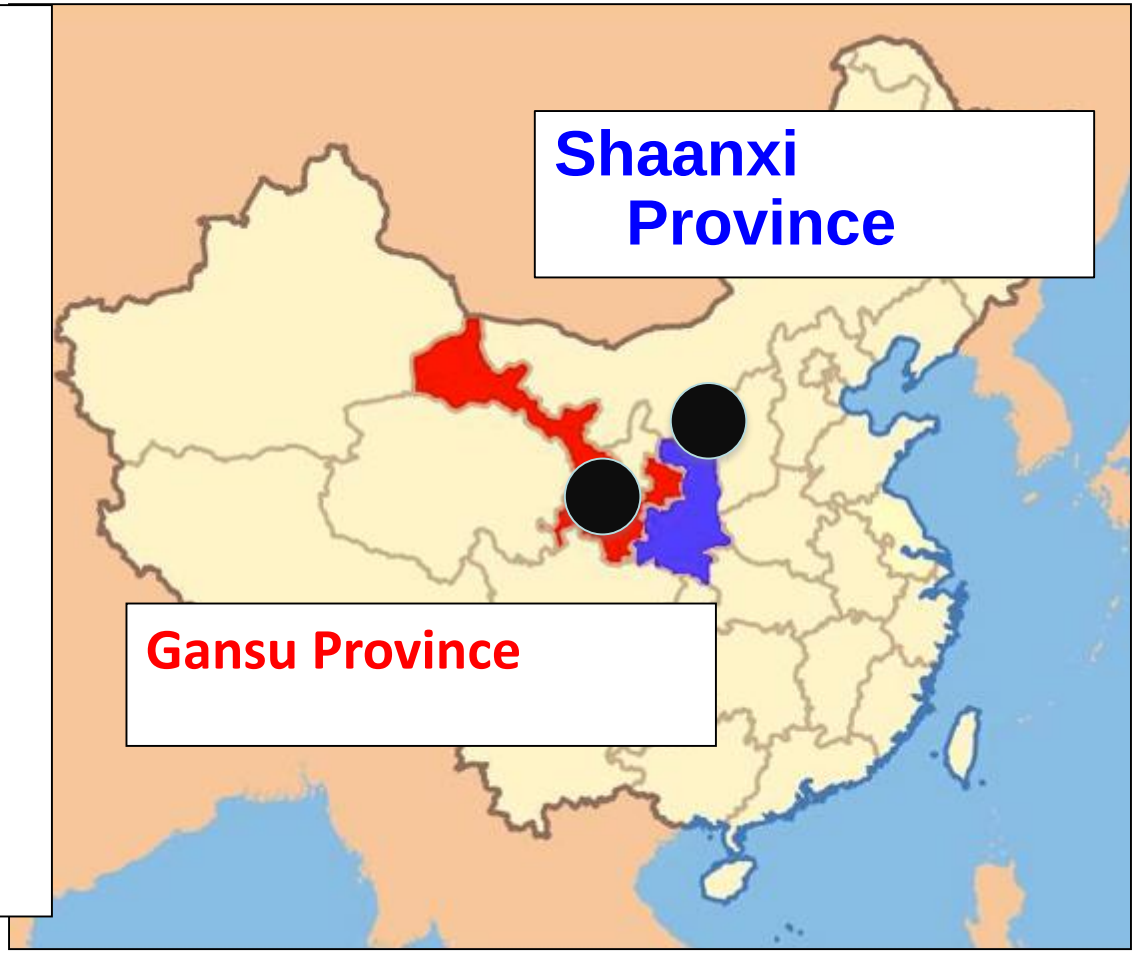
Measuring Cognitive Development of Rural Children (Sept. 2016)

Research Context

- 2 cogntive tests +
- 1 standardized math tests

- 2,500 students

- 100 rural junior high schools

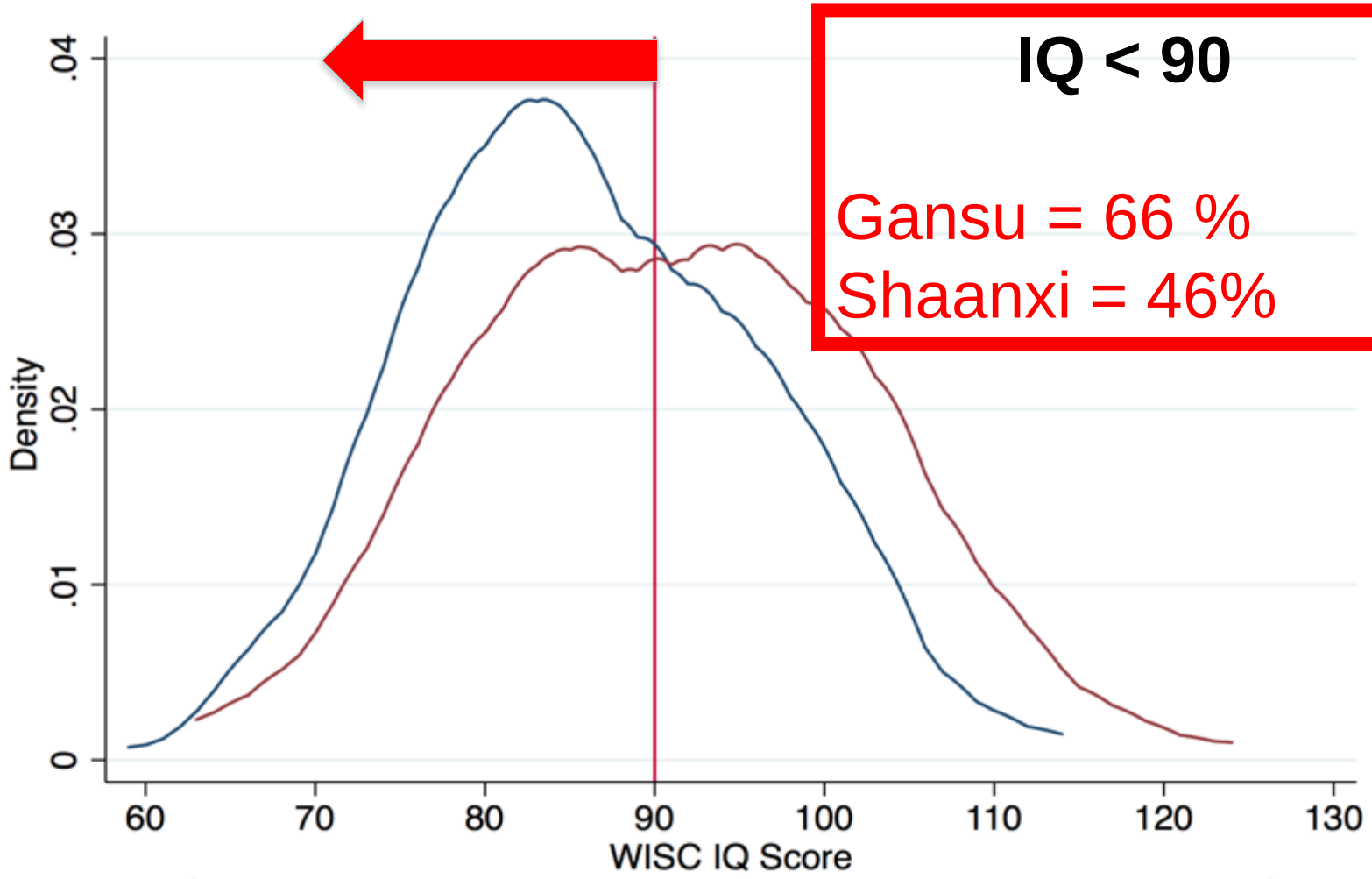


Cognitive Measures

- **WISC**
  - One-on-One Intensive IQ Exam
    - Includes both Fluid (Natural) and Crystalized (Learned) Intelligence Scales

- **Ravens Progressive Matrices**
  - Non-linguistic IQ Test (Crystalized (Natural) Intelligence-Only Scale)
  - Written Test

Cognitive Scores by Province – WISC 8th Graders



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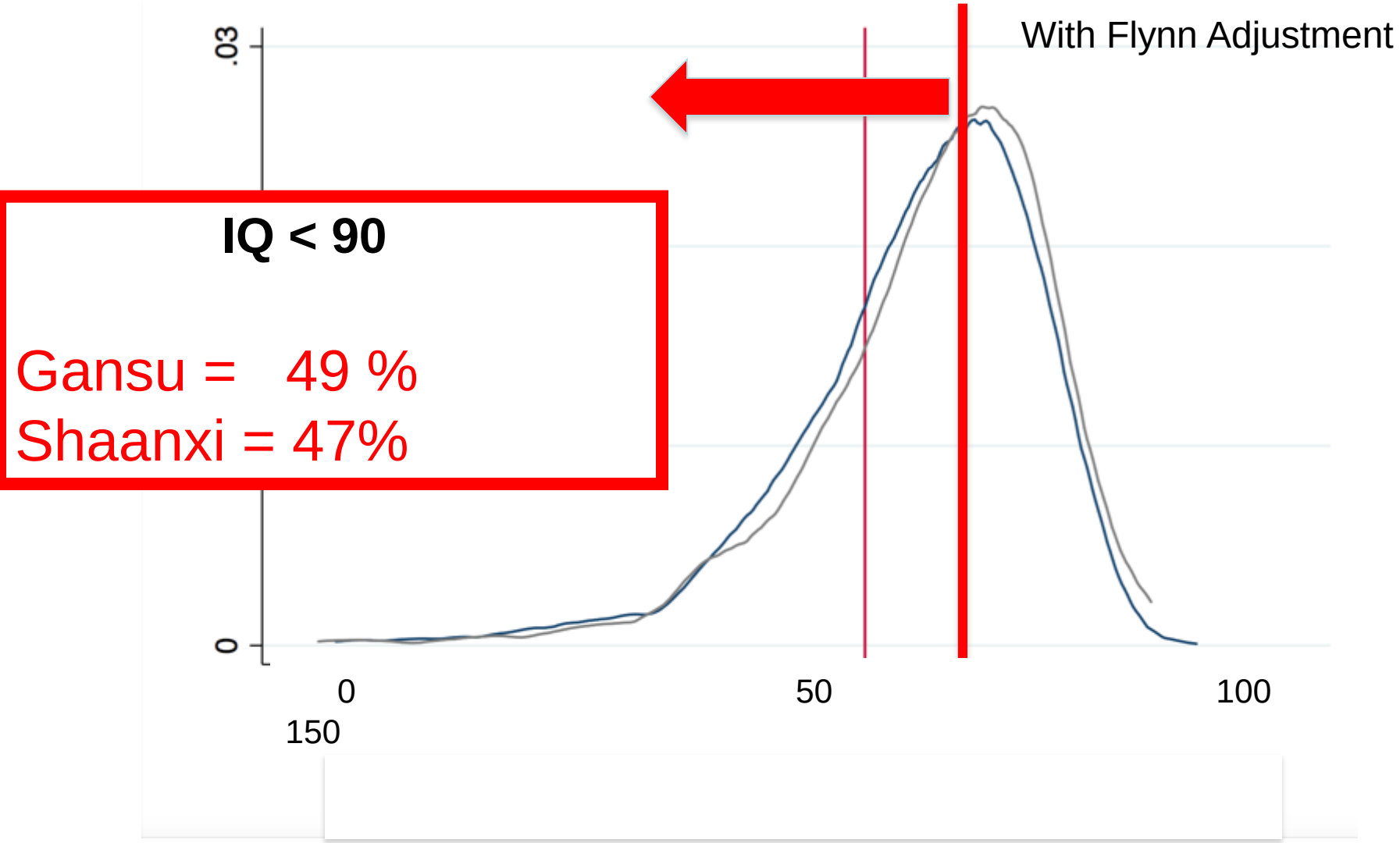
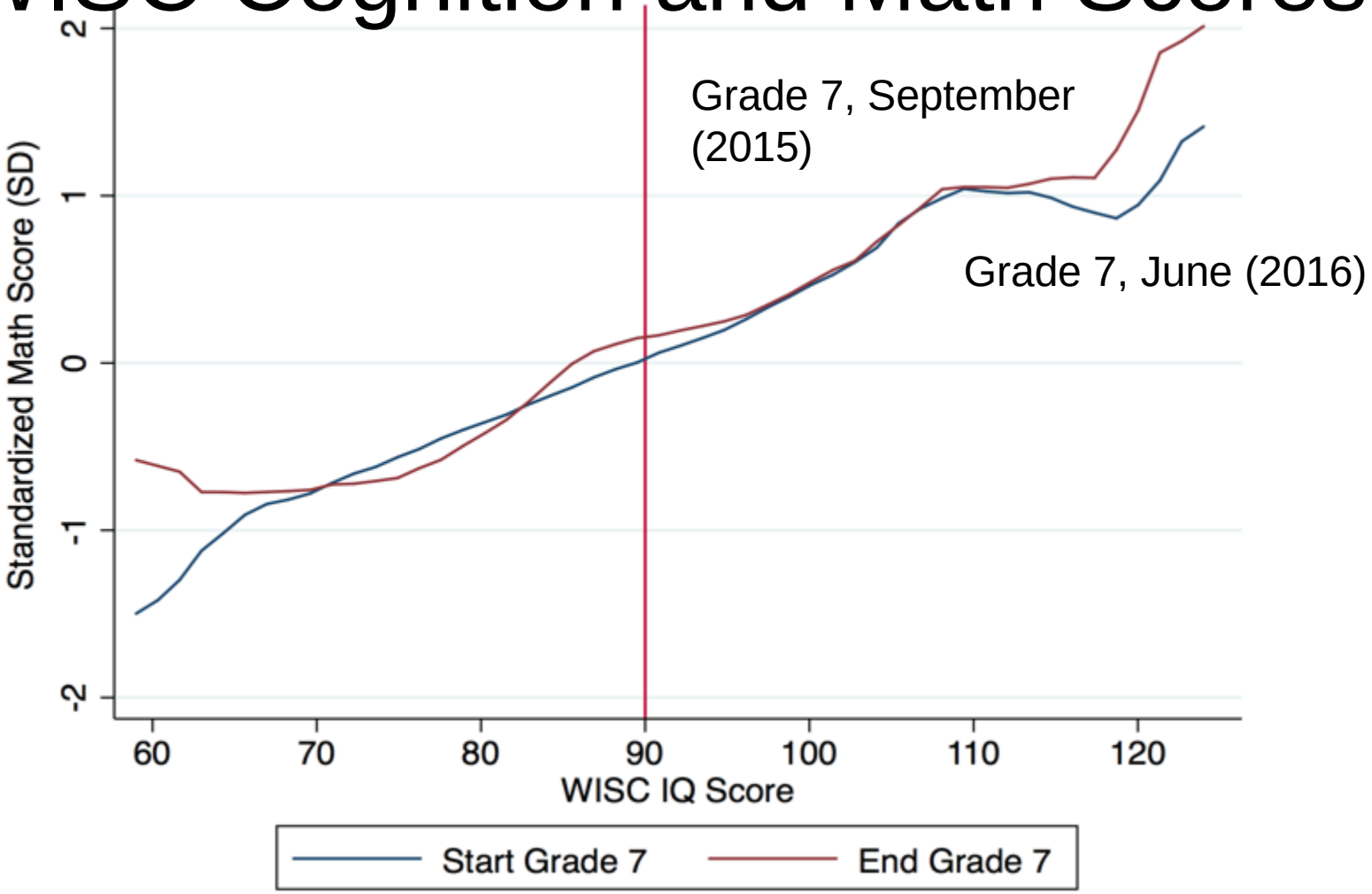


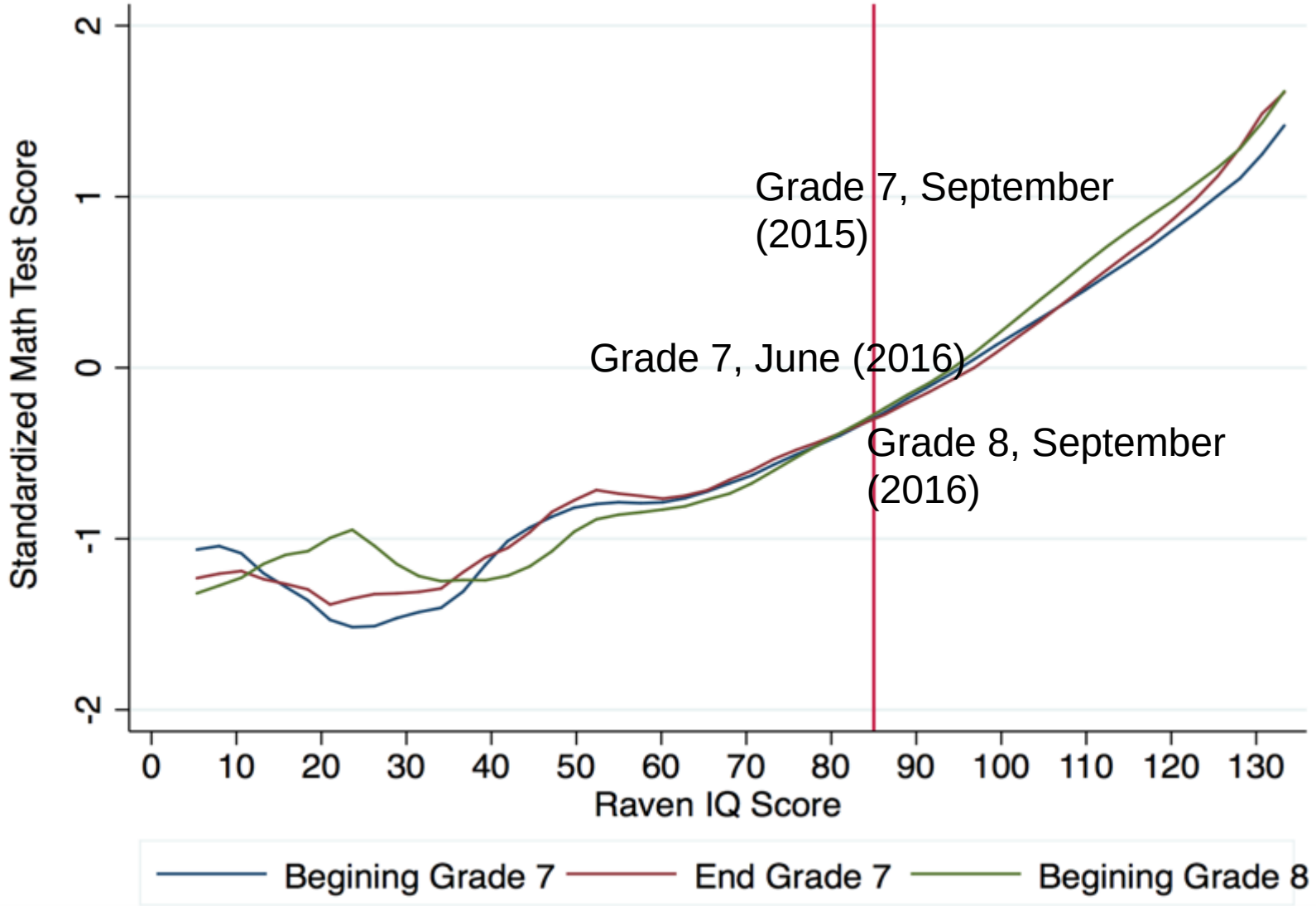
Does cognition (natural/learned intelligence) affect learning?

WISC Cognition and Math Scores



Does fluid cognition (fluid IQ) affect learning?

Raven Cognition and Math Scores



In Chinese schools … where the curriculum is set by upper level officials …

pace of learning is extremely fast and extremely competitive …

If one has low levels of cognition, they are not able to learn

Outline of Today's Talk

- Inequality and the Middle Income Trap
- What is the nature of China's human capital?
- What is the source of low levels of human capital?

Two sources

- Absence of **learning**

  (in primary school)

  &

- Poor **cognitive development**

  (low IQ since infancy/toddler-hood)

Two sources

- Absence of **learning**

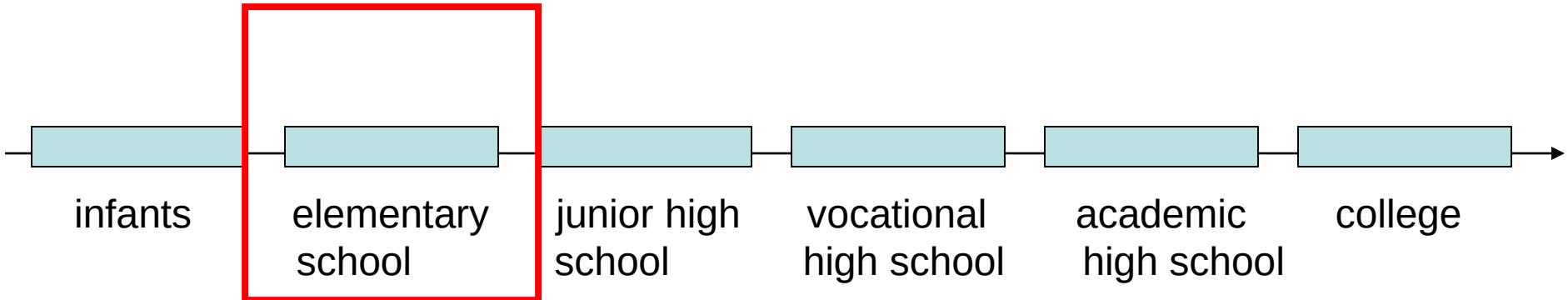
  (in primary school)

&

- Poor **cognitive development**

  (low IQ since infancy/toddler-hood)

How unequal is China's education system today?



Maybe the “REAL source” of problem begins before junior high school

- **Why?**
  - Poor quality of education in grades 1-9 and before
    - Poor facilities … teachers … curriculum …
    - Poor nutrition …

Maybe the “REAL source” of problem begins before junior high school

- **Why?**
  - Poor quality of education in grades 1-9 and before
    - Poor facilities … teachers … curriculum …
    - Poor nutrition / health!!

No matter how much investment into facilities / teacher salaries & training / curriculum … if students are sick or malnourished, may not be able to learn …

Is this a problem?

Maybe the “REAL source” of problem begins before junior high school

- **Why?**
  - Poor quality of education in grades 1-9 and before
    - Poor facilities … teachers … curriculum …
    - Poor nutrition / health!!

No matter how much investment into facilities / teacher salaries & training / curriculum … if students are sick or malnourished, may not be able to learn …

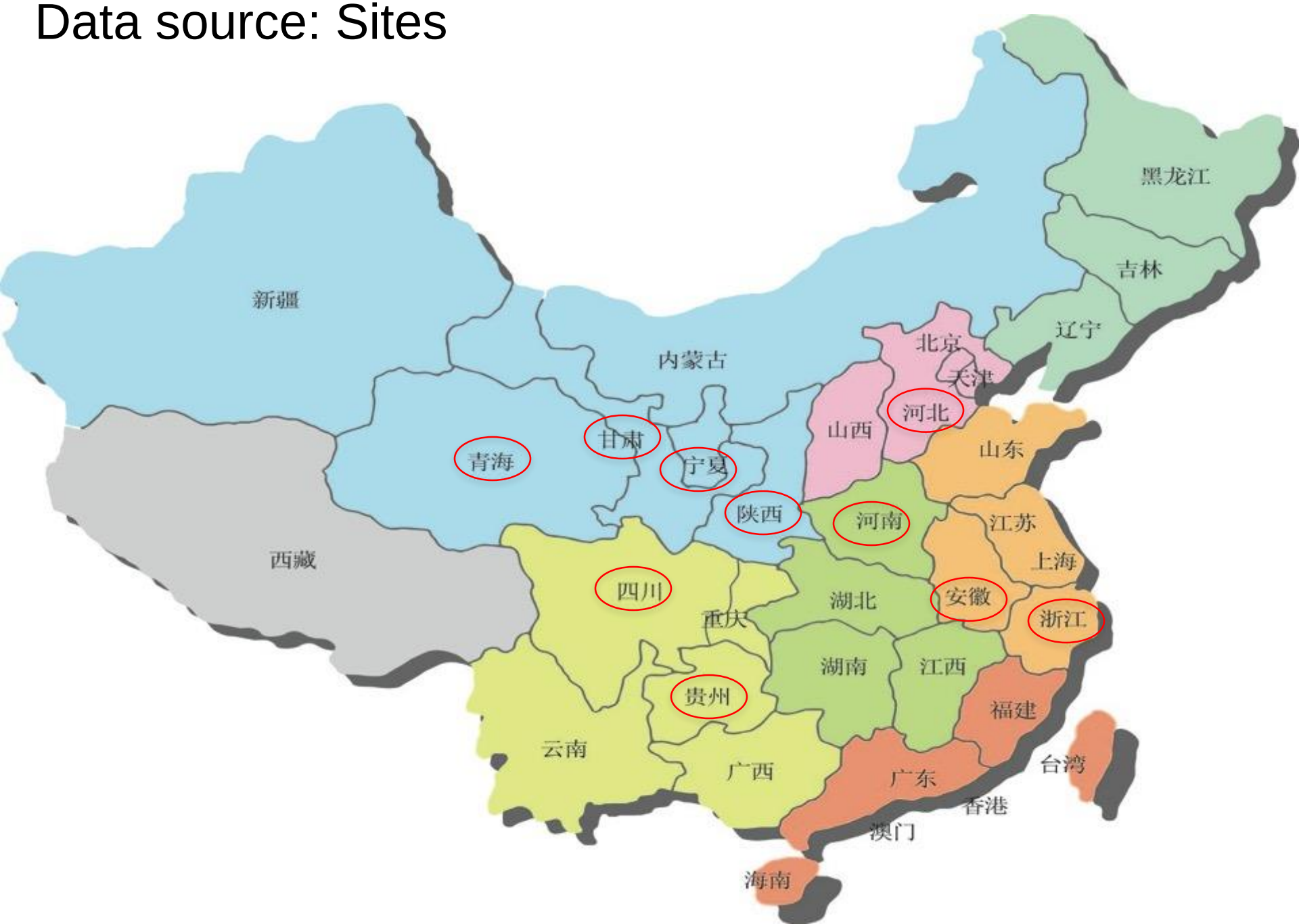
Is this a problem?

Are China’s school-aged children really so sick and undernourished that it affects their learning?

Data sources: 19 datasets,10 provinces

1. Gansu2010 — Egg vs Chewable in Gansu
2. Shaanxi2008 — Original vitamins study in Shaanxi
3. Ningxia2011 — Text messaging project in Ningxia, Baseline
4. Shaanxi2012a — CAL in Shaanxi II, Baseline
5. Qinghai2012 — CAL in Qinghai II, Baseline (3 ie)
6. Ningxia2010 — Paying for Performance I in Ningxia and Qinghai, Baseline
7. Shaanxi2012b — Paying for Performance II, Baseline
8. Shaanxi2012c — Seeing is Learning I in Gansu and Shaanxi,Baseline
9. Guizhou2009 — Worm I in Sichuan and Guizhou, 2009-2010
10. Shaanxi2010a — Life Counseling and Mental Health(Junior high 7th and 8th grade students in Yulin)
11. Henan2013 — Vocational Schools (First and second year students in Henan)
12. Shaanxi2011a — Vocational Schools (First year students Shaanxi and Zhejiang)
13. Shaanxi2010b — Junior High School Students(First year students in Shaanxi and Hebei)
14. Guizhou2013 — Intestinal Worms Ⅱ in Guizhou in 2013
15. Qinghai2011a — CAL in Shaanxi, fourth grade in June 2011
16. Qinghai2011b — CAL in Shaanxi, third grade in June 2011
17. Shaanxi2011b — CAL in Shaanxi-third and fifth grade in June 2011
18 Shaanxi2011c — Shaanxi data migrant project (all of them are 4th graders)
19 Anhui2012 — Anhui data in2012(rural 10-14y children)

Data source: Sites



Prevalence of LBC

Table2 Sample size and household composition by migrant status

Study	Sample size	Migration status			
		Both parents at home	Dad out working, mom home	Mom out working, dad home	Both parents out working
Gansu2010	2,573	32%	38%	6%	24%
Shaanxi2008	4,260	53%	27%	7%	14%
Ningxia2011	900	48%	34 %	3%	15%
Shaanxi2012a	11,102	63%	16%	7%	14%
Qinghai2012	3540	26%	28%	6%	40%
Ningxia2010	8,994	50%	32 0%	4%	13%
Shaanxi2012b	18,935	45%	23%	13%	19%
Shaanxi2012c	19,542	51%	32%	5%	13%
Guizhou2009	1,707	40%	17%	3%	40%
Shaanxi2010a	9,250	65%	23%	2%	9%
Henan2013	11,486	72%	13%	3%	12%
Shaanxi2011a	9,686	64%	20%	2%	14%
Shaanxi2010b	13,596	79%	14%	2%	5%
Guizhou2013	2,168	48%	12%	9%	30%
Qinghai2011a	1,717	53%	26%	3%	18%
Qinghai2011b	1,682	48%	29%	5%	18%
Shaanxi2011b	5,812	44%	30 %	7%	19%
Shaanxi2011c	4,737	58%	24%	6%	12%
Anhui2012	1,367	43%	21%	7%	29%
Total	133,054	56 %	23%	6%	15%

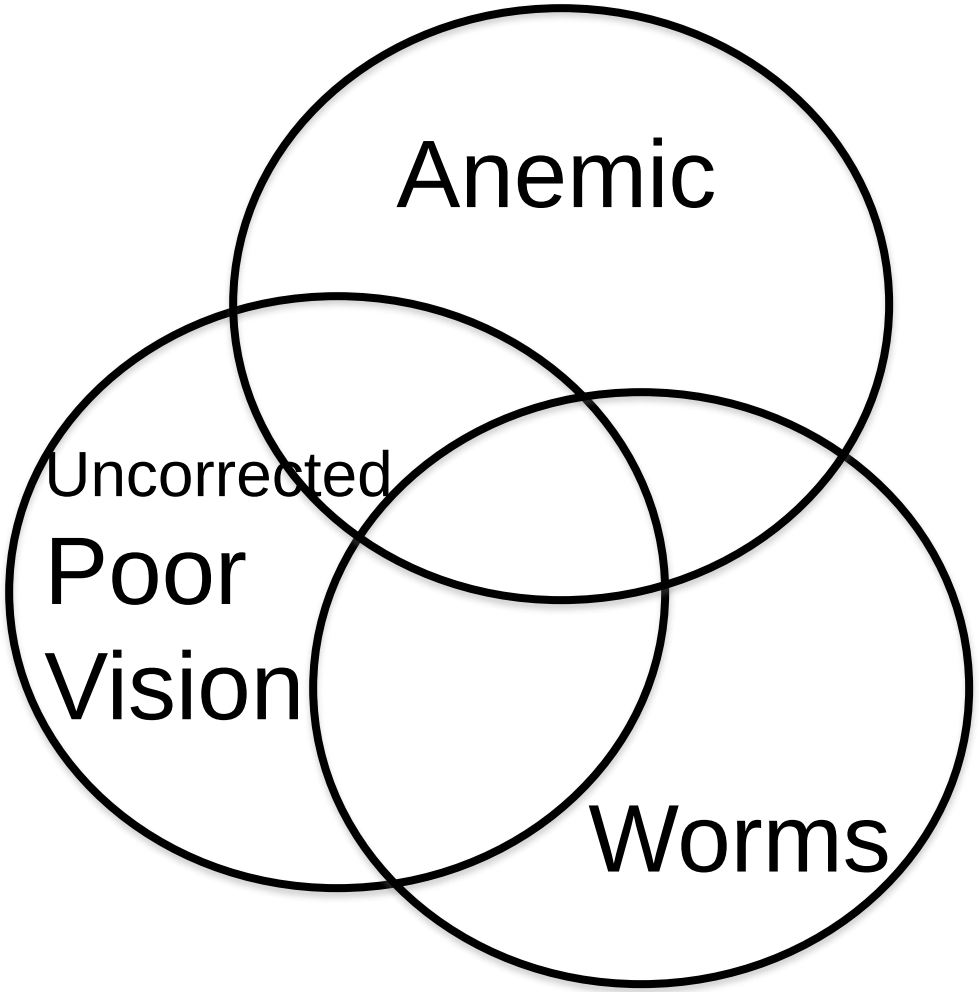
Outcomes	ALL Children in Rural China
Anemia (%)	27
Worms (%)	33
Uncorrected Myopia (%)	20

But, the real point here is: If we look at the overlap of those students with at least one of these conditions ➔ each that by itself compromises learning

Answer is: ≈ 65% to 70%

dren in rural China today are sick
urished with a disease that

n = 133,000



Estimated around 60 to 65 percent of children in Rural China are sick

Outcomes	ALL Children in Rural China
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But, the real point here is: If we look at the overlap of those students with at least one of these conditions ➔ each that by itself compromises learning

Answer is: ≈ 60% to 65%

Most children in rural China today are sick or malnourished with a disease that undermines their learning

n = 1

Are these health and nutrition problems really affecting learning? REAP experiments: solutions are easy / inexpensive

- 15¢/day vitamin ➔ overcome anemia ➔ leads to higher math test scores

- $20 pair of glasses (once every two years) ➔ eliminate nearsightedness ➔ raises overall educational performance

- $1/tablet x 4 tablets/year ➔ gets rid of intestinal worms ➔ feeling better and (if they use pills) cognitive scores are higher!!

Conclusion:

- Is one of the problems of China's education that **absence of learning**

  (in primary school)?

&

- Poor **cognitive development**

  (low IQ since infancy/toddler-hood)

Conclusion:

- Is one of the problems of China's education that **absence of learning**

  (in primary school)?

&

- Po

Absolutely Yes!

(low IQ since infancy/toddler-hood)

In fact, the problem probably almost certainly begins BEFORE children have entered school

Two sources

- Absence of **learning**

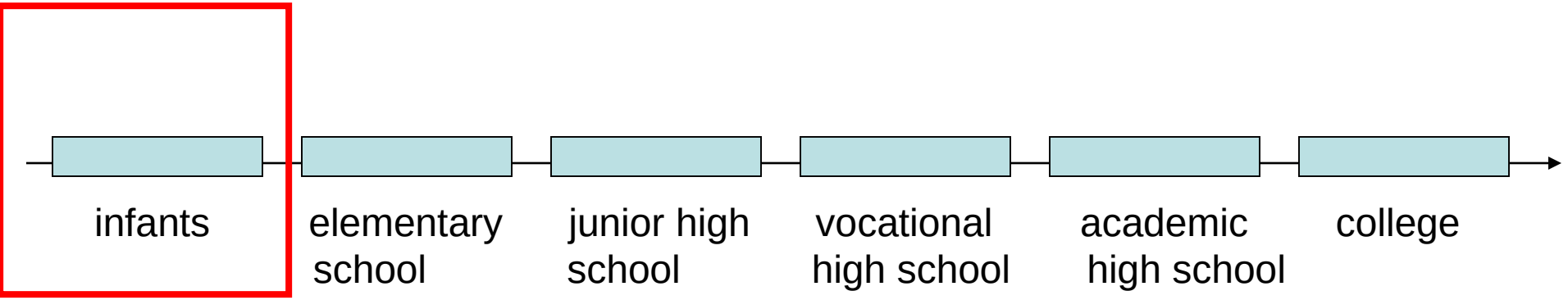
  (in primary school)

&

- Poor **cognitive development**

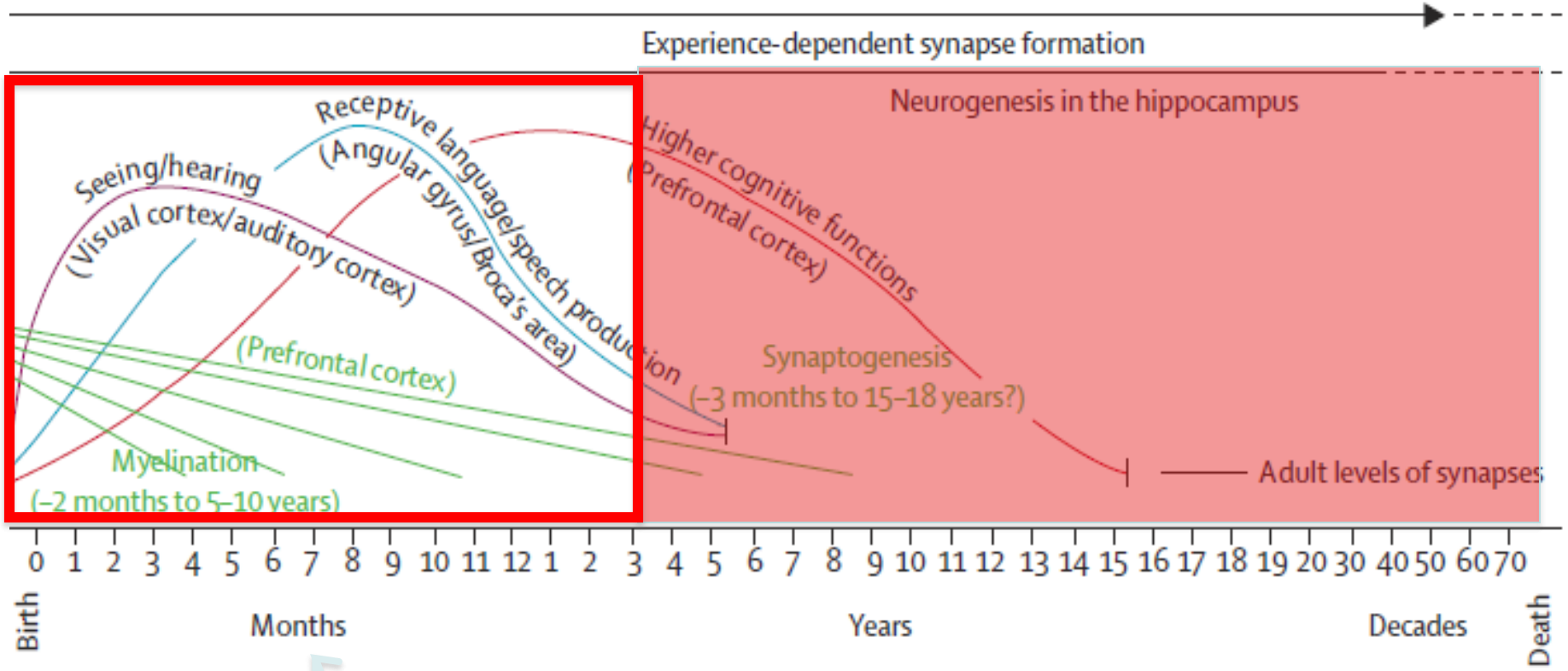
  (low IQ since infancy/toddler-hood)

How unequal is China's education system today?



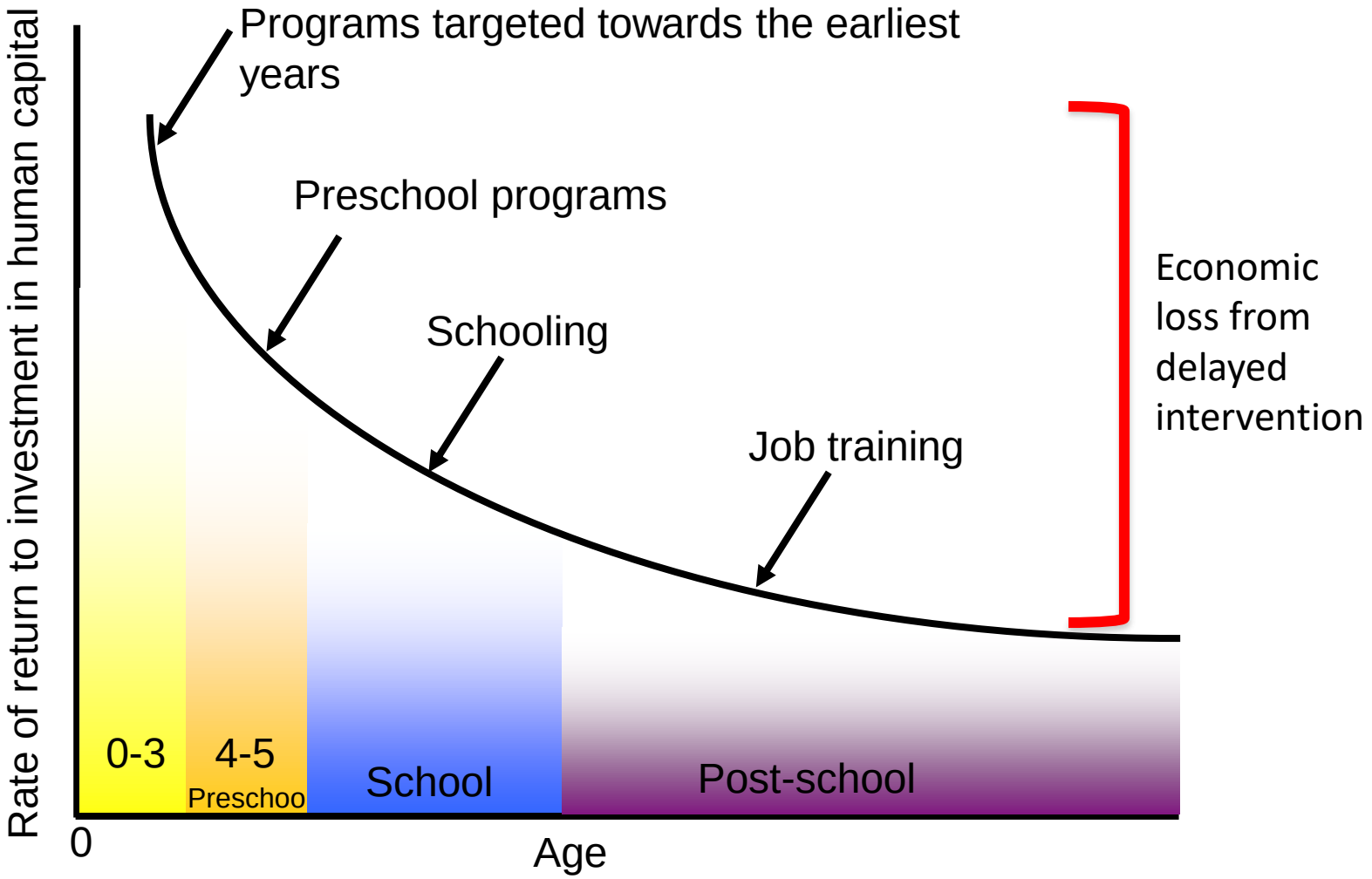
Research increasingly indicates the importance of nutrition and a good parenting (stimulating) environment within the first 1000 days of life

Science supports this notion

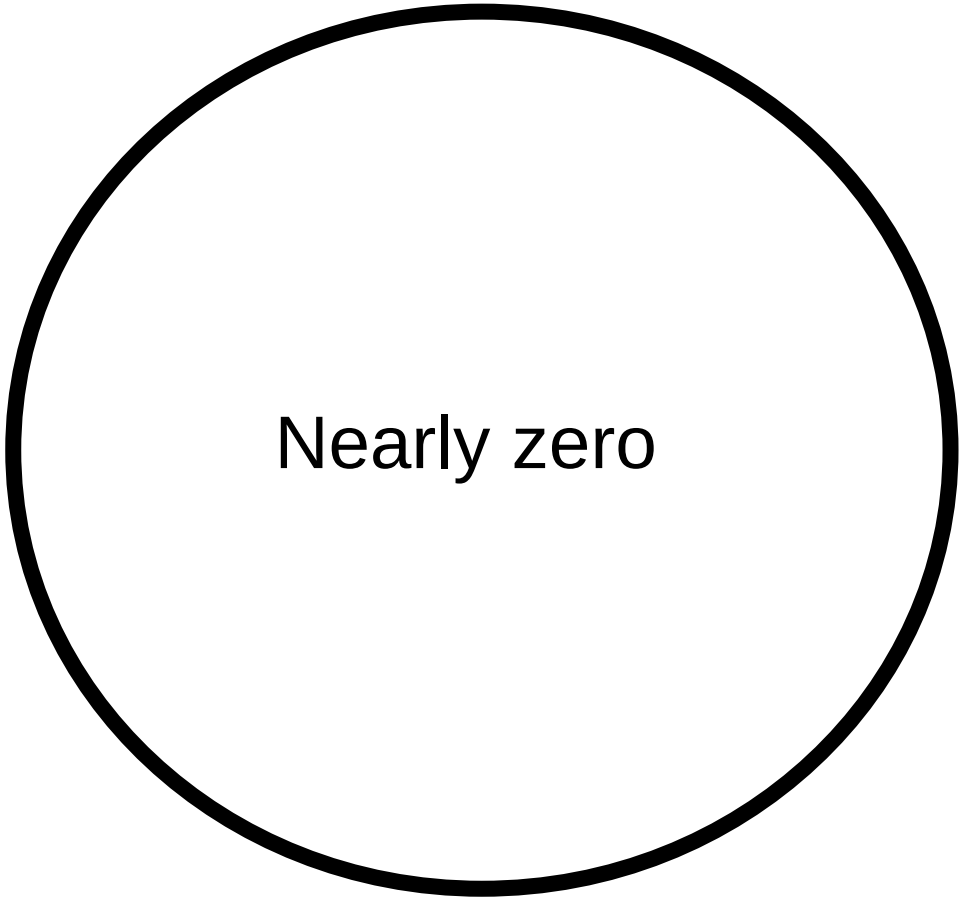


Most brain development happens before age 3, making this a crucial window for child development.

Economists (Heckman and colleagues) have also shown that intervening early in life is more cost-effective



How much does China spend on nutrition and parenting from 0-3?



So what is the situation in urban and rural China?

MDI and PDI: Bayley Scales of Infant Development (BSID)

Like an IQ test for babies

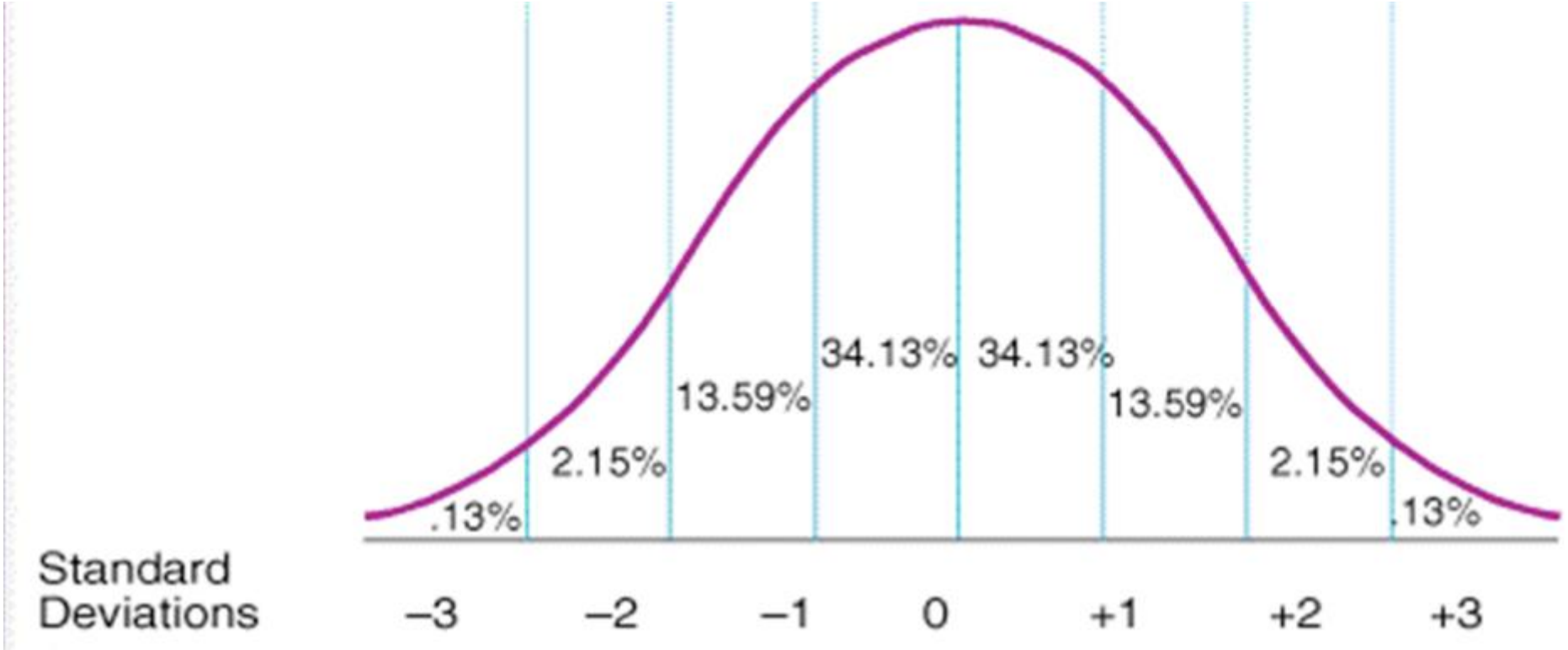
Empirical Studies on Cognition in Urban China (using Bayles III MDI scales)

Share of Sample w/ BSID scores: < -1 SD (or IQ<90)

- Urban:
  - Shanghai Jiaotong School of Medicine 14%
  - Beijing Union Hospital (Xiehe) 12%
  - Hefei Provincial Hospital 16%
  - Guangzhou City Hospital 13%

[*source; Gates Foundation 2015 Grand Challenges Conference, Beijing, October 2015*]

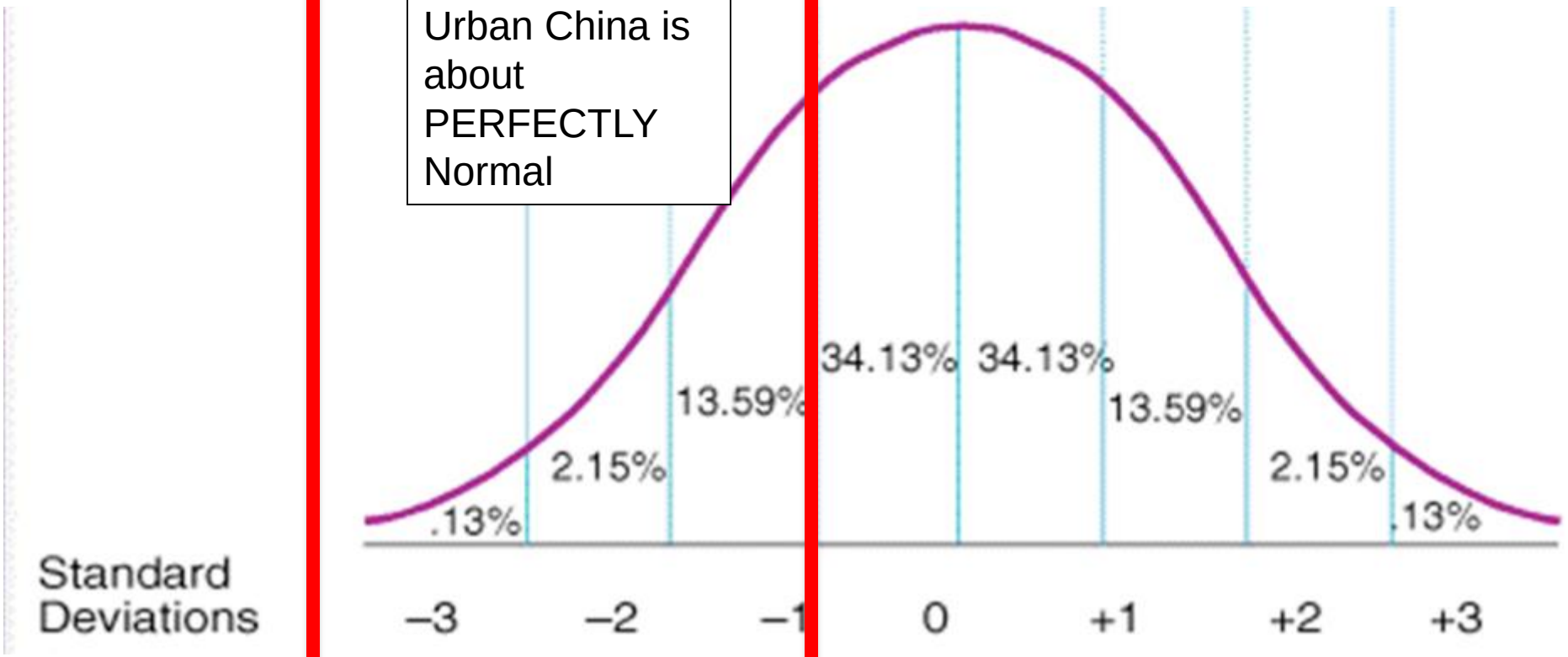
International distribution of IQ scores



IQ scores ➔	70	80	90	100	110	120	130

International distribution of IQ scores

Urban China is about PERFECTLY Normal



IQ scores ➔ 70 80 90 100 110 120 130

Empirical Studies on Cognition in China (using Bayles MDI scales)
Share of Sample with BSID scores < -SD

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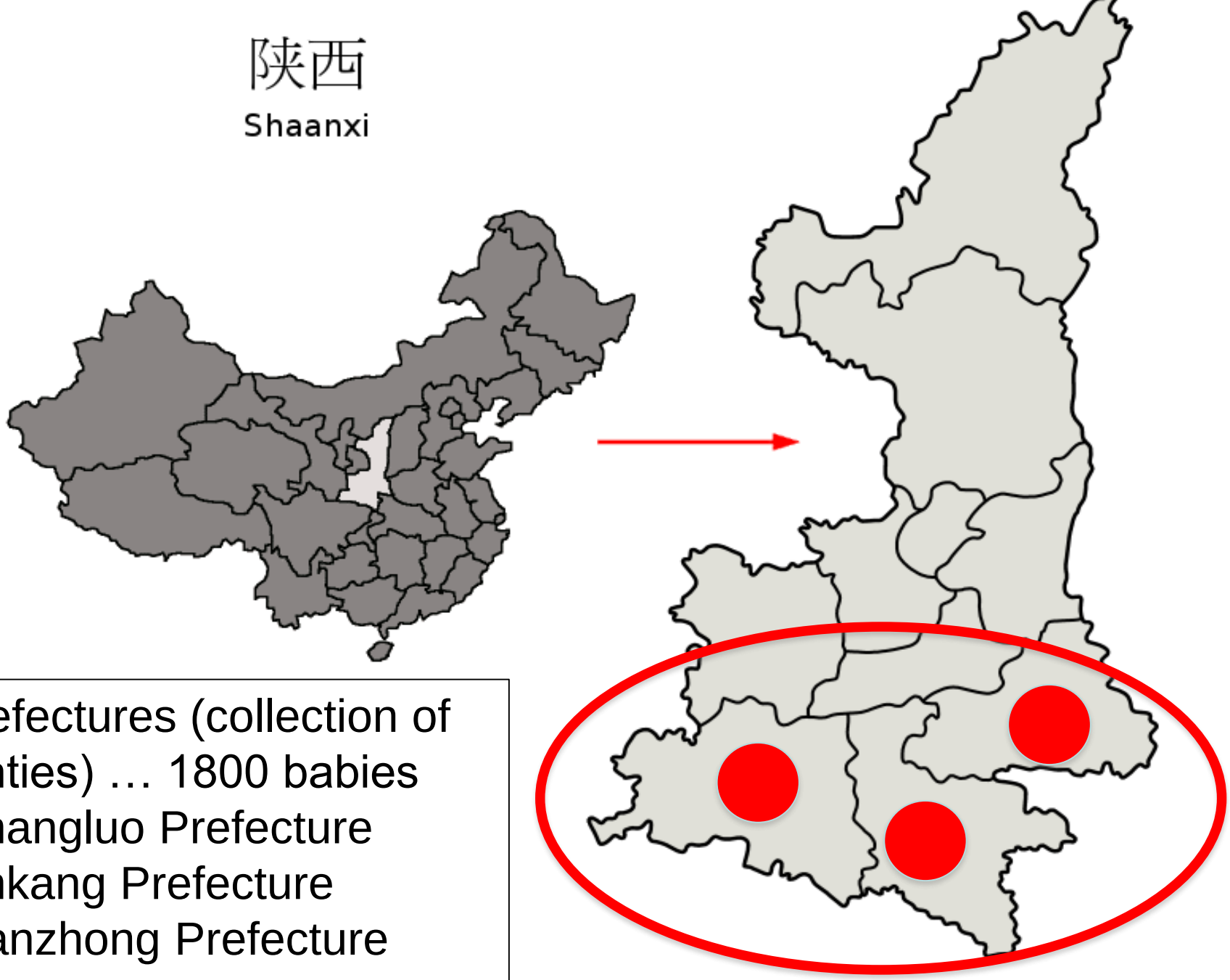
  [*source; Gates Foundation 2015 Grand Challenges Conference, Beijing, October 2015*]

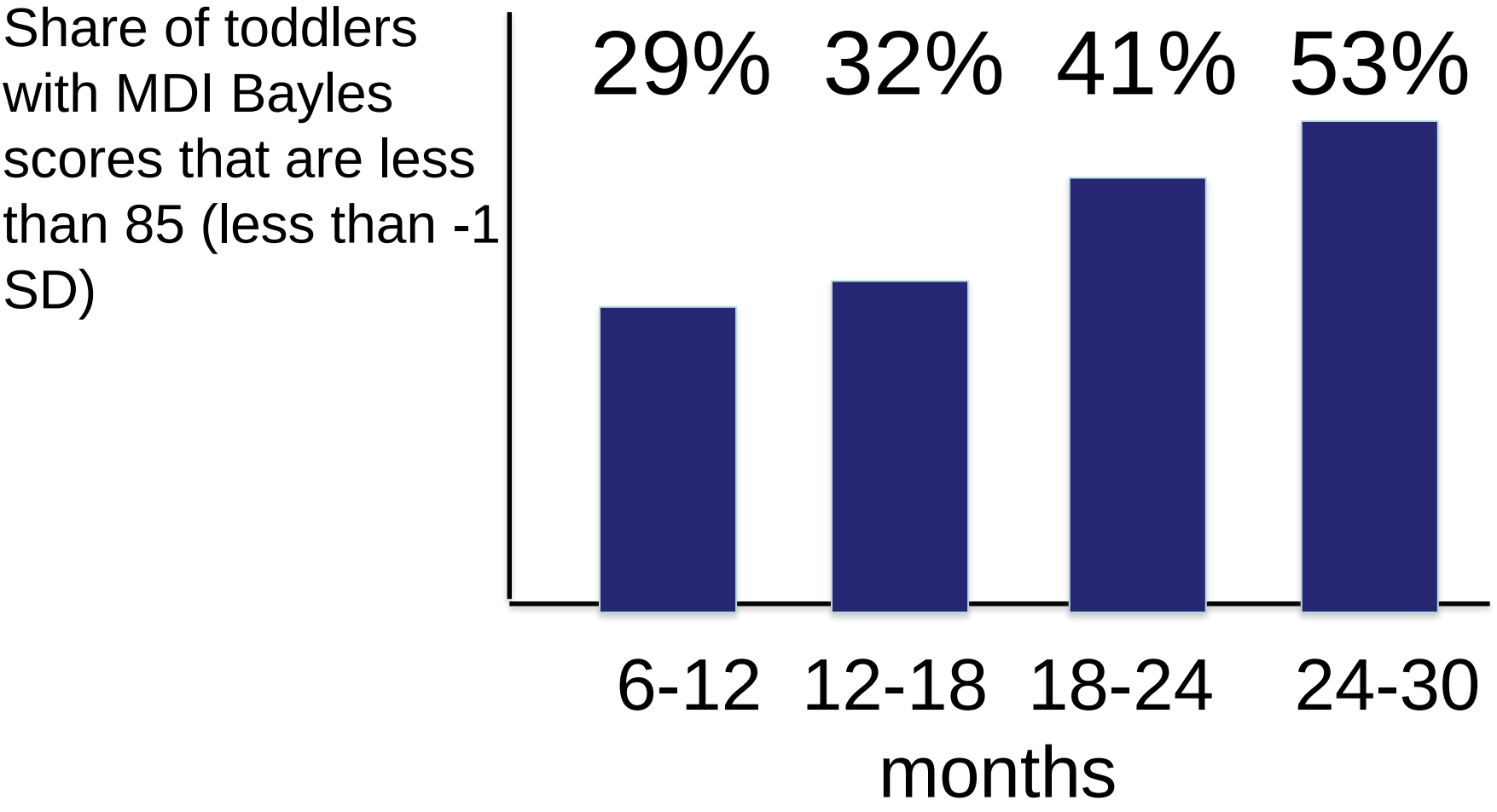
- Rural: ➔ no published studies



3 prefectures (collection of counties) … 1800 babies

- Shangluo Prefecture
- Ankang Prefecture
- Hanzhong Prefecture

Share of infants/toddlers with “low cognition/motor skills”



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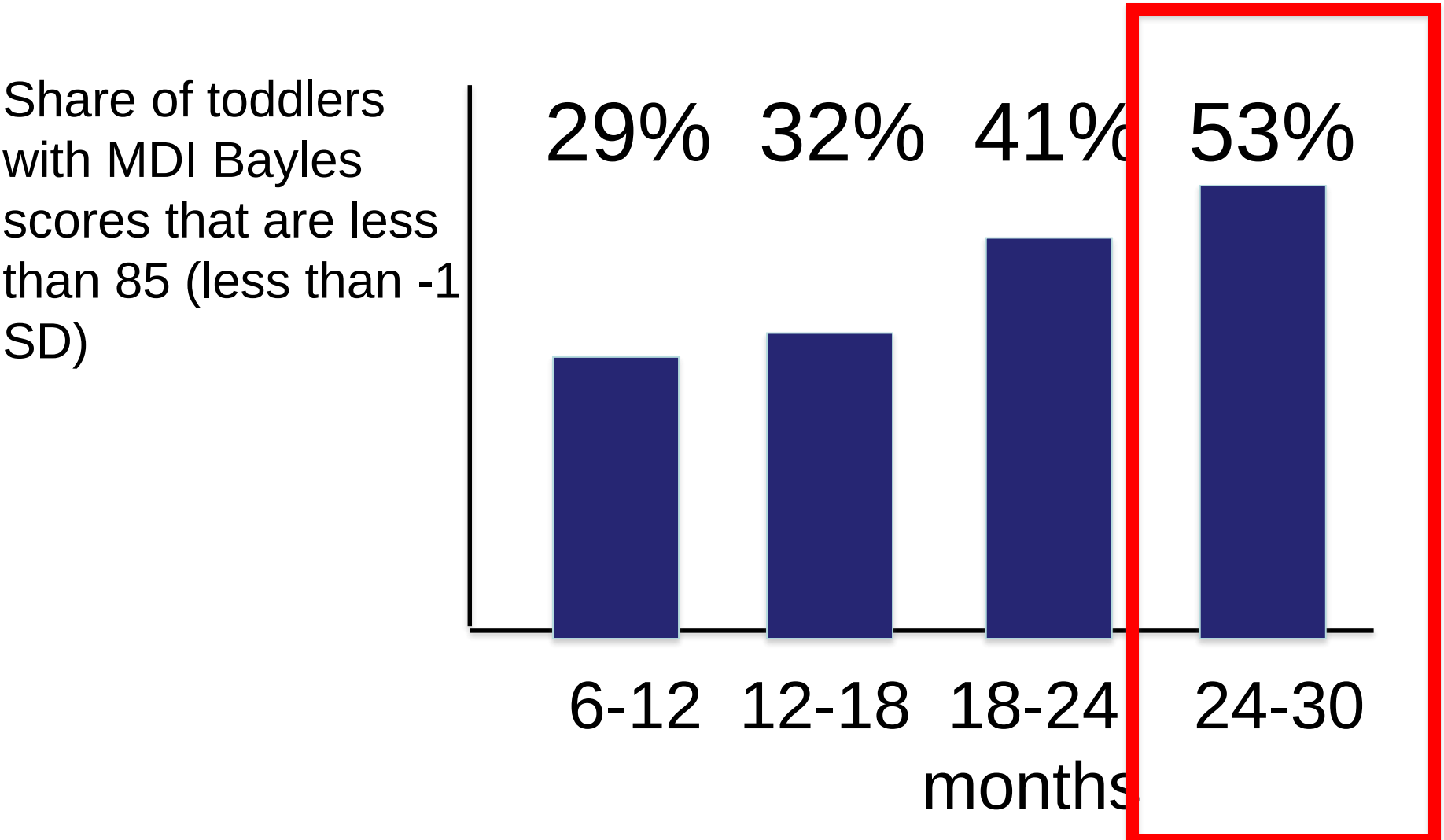
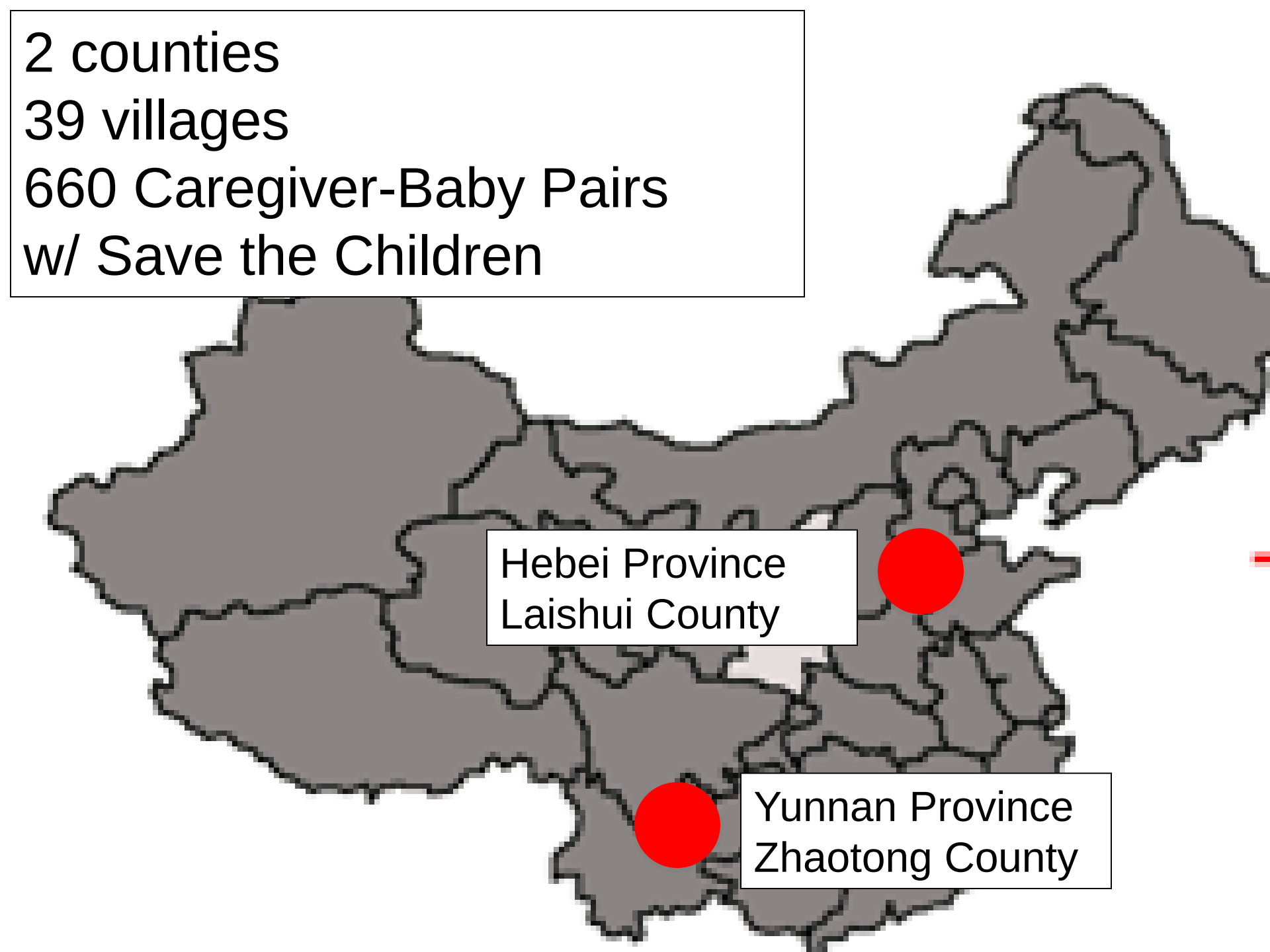
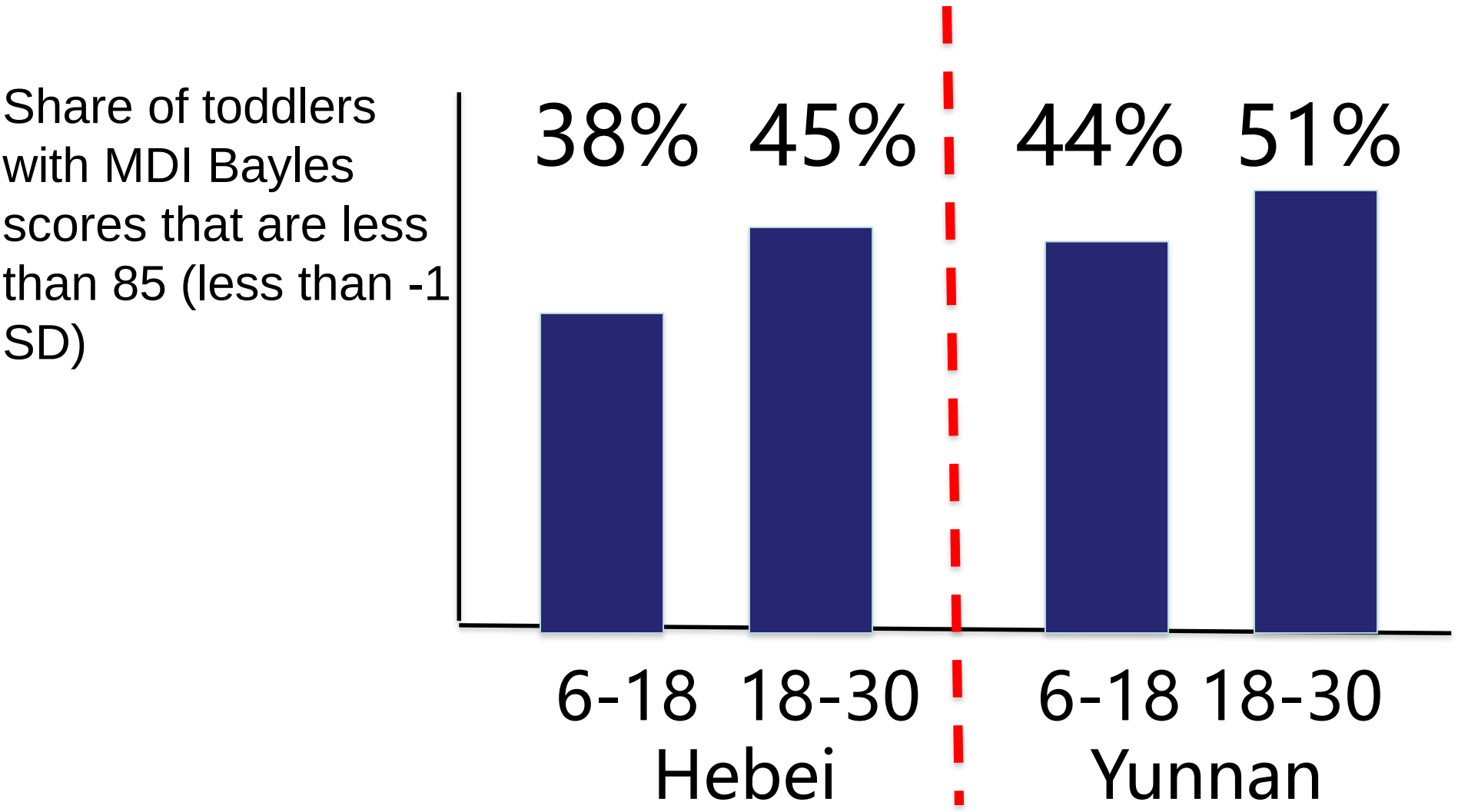


Is this just a problem of Qinling Mountains?

2 counties
39 villages
660 Caregiver-Baby Pairs
w/ Save the Children



Share of infants/toddlers with “low cognition/motor skills” (Hebei and Yunnan)



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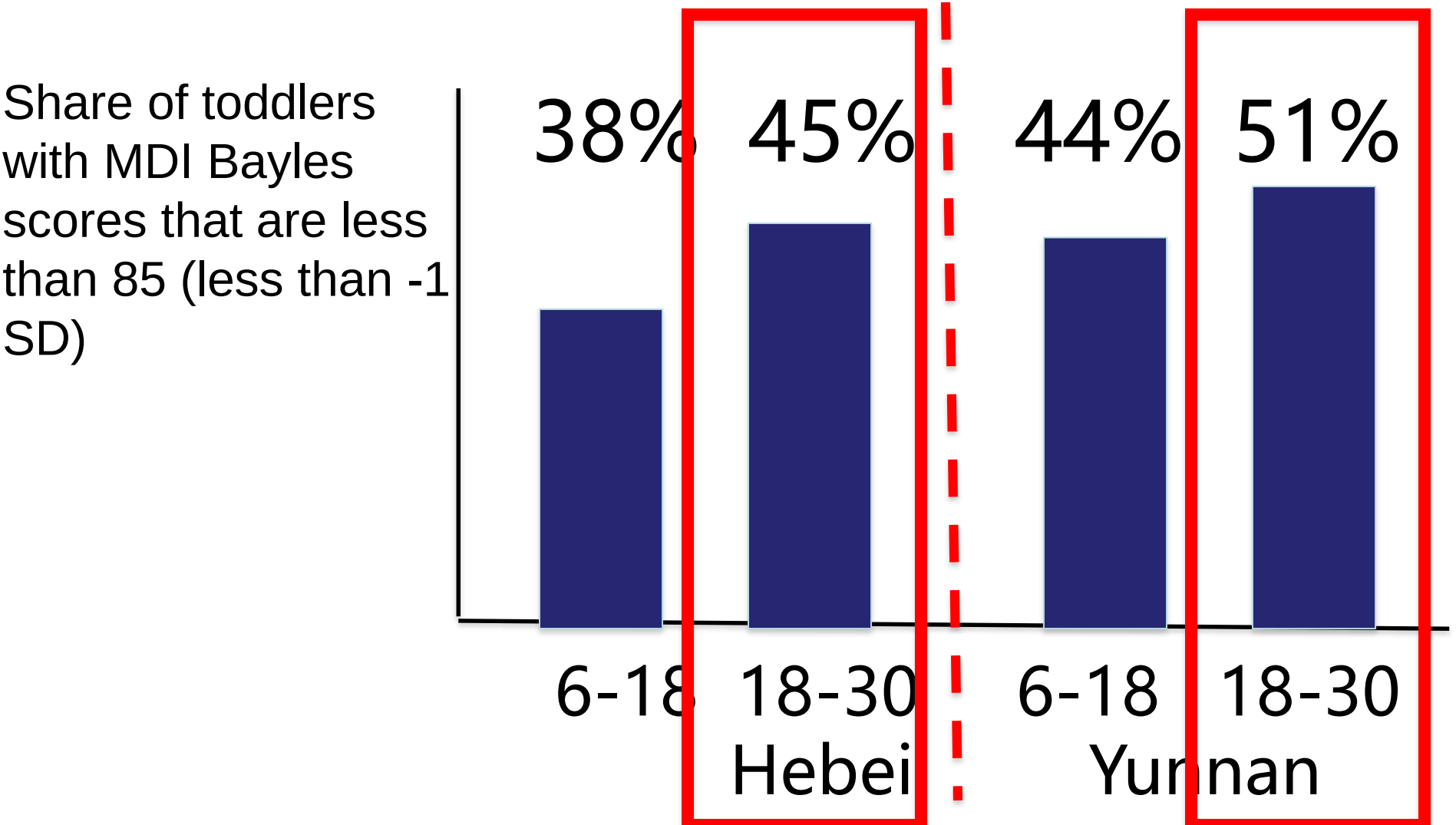


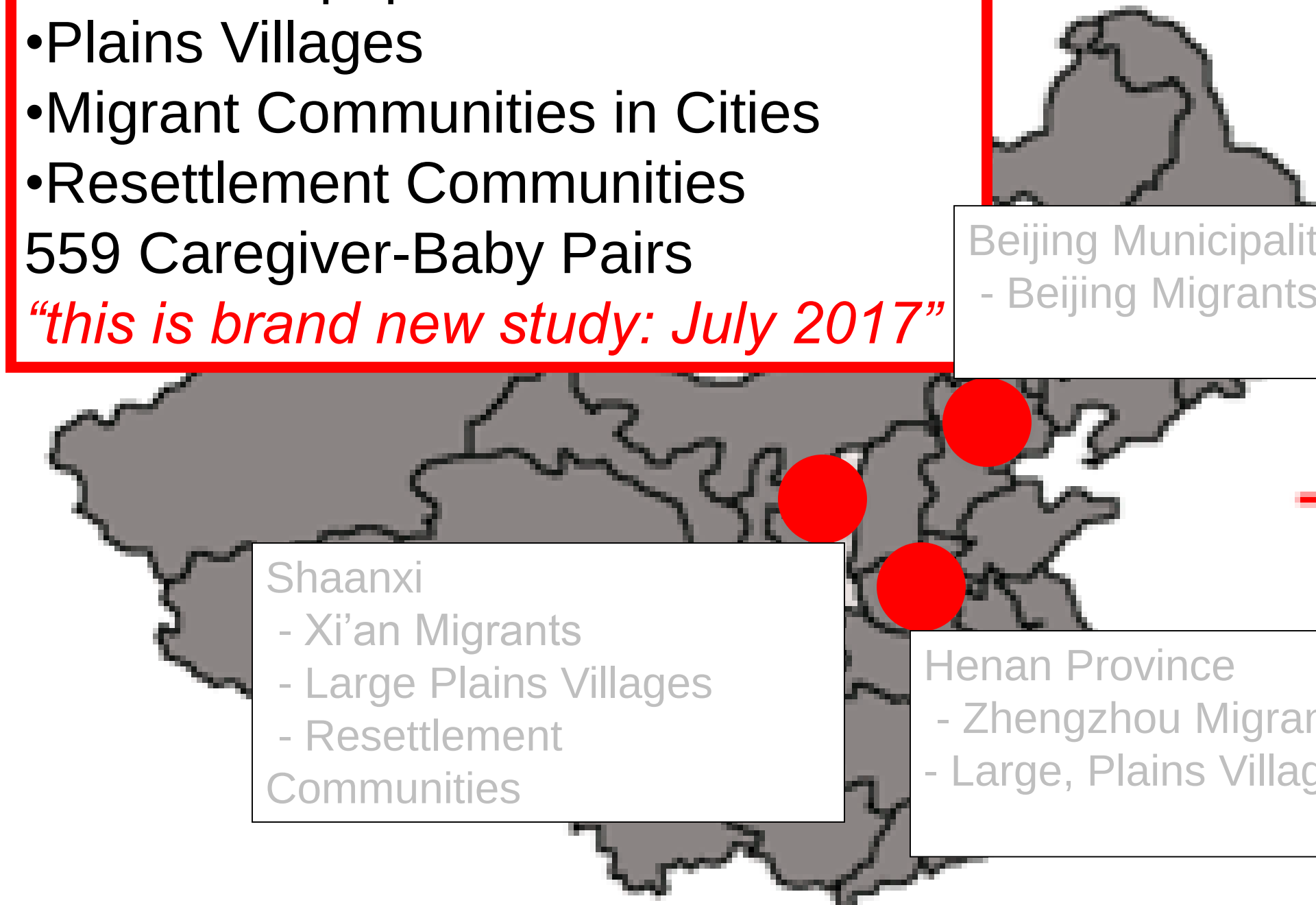
Is this just a problem of poor rural mountainous communities?

Other rural populations

- Plains Villages
- Migrant Communities in Cities
- Resettlement Communities

559 Caregiver-Baby Pairs

“this is brand new study: July 2017”



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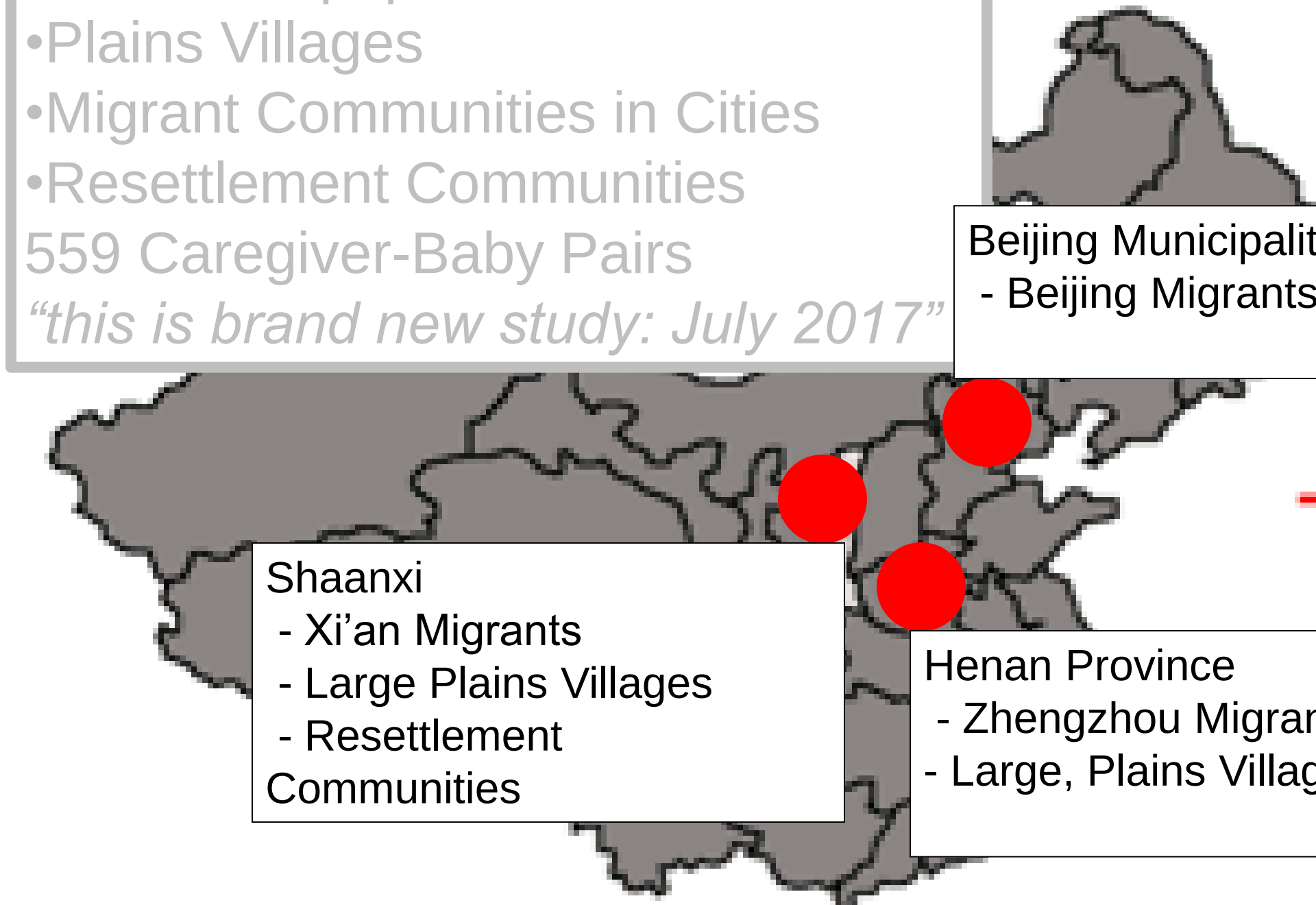
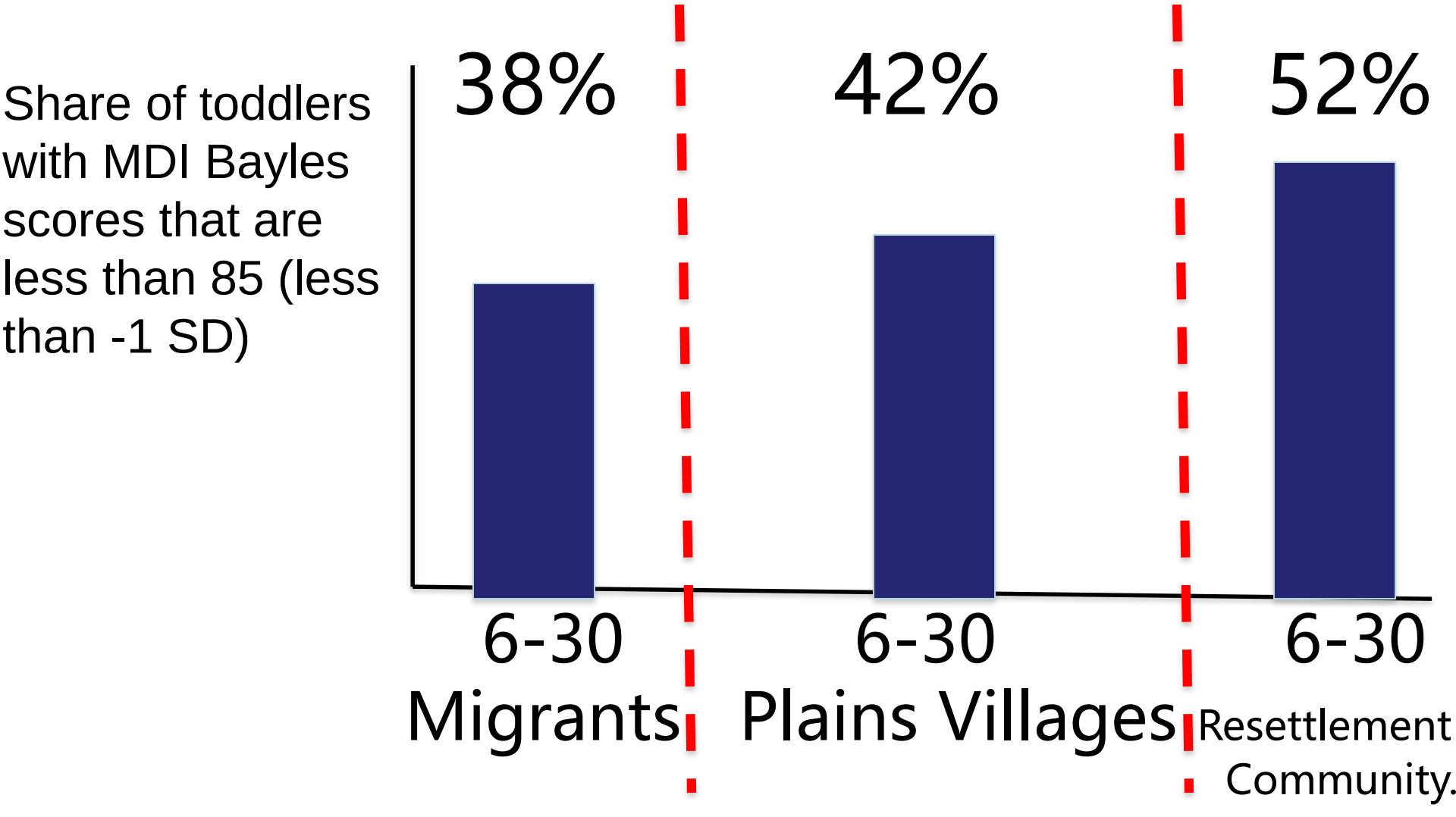


Beijing Municipalit
- Beijing Migrants

Shaanxi
- Xi’an Migrants
- Large Plains Villages
- Resettlement Communities

Henan Province
- Zhengzhou Migran
- Large, Plains Villag

Share of infants/toddlers with “low cognition/motor skills”



What about other middle income countries?

Table R2_1: Comparison of early childhood development across different developing countries

Study location	GDP per capita (PPP)	Measure of development	Sample Size	Infant age (months)	Share of Cognitive delays
Healthy population		BSID III			15%
Rural China	$16,600 (China overall)	BSID III	3343	6-30	49%
Colombia	$14,500	BSID III	1420	12-24	30-40%
Mexico	$19,500	BSID II	896	12.5-23.5	36%
South Africa	$13,400	BSID III	122	3-12	39%

summary

- In the samples from our studies of China's rural populations, on average, about ½ of the infants/toddlers were suffering from cognitive delays

➔ 40%-50%

Population in China and the Vulnerable

Whole Population:

living: 55% urban / 45% rural

hukou: 37% urban / 63% rural

Children:

hukou: 25% urban / 75% rural

Pop of Children in Rural China—How many are vulnerable?

Rural Children Population:

Coastal province rural	22%
Suburban rural	9%

Plain rural (Central China)	29%
Mountainous (Western China)	26%
Migrant Resettlement	1%
Migrant Communities in Cities	13%

Of China's Rural Children's Population how many are Vulnerable

Rural Children Population:

Coastal province rural	22%
Suburban rural	9%

Plain rural (Central China)	29%
Mountainous (Western China)	26%
Migrant Resettlement	1%
Migrant Communities in Cities	13%
	69%

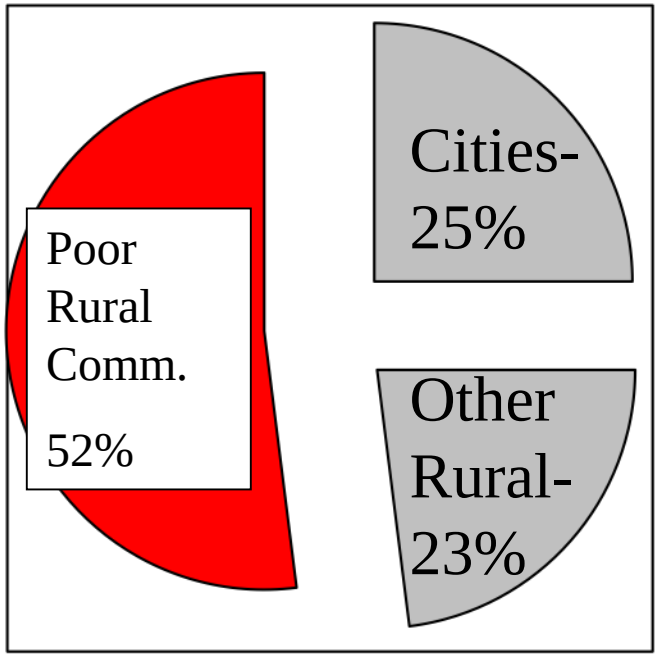
What share of the population's children are growing up in vulnerable rural communities?

0.75 x 0.69 = 52%

Important assumption:

We believe these are representative of three year olds / youth in vulnerable rural communities

- Poor rural areas/migrant communities are homes to more than ½ of all of China's children



Calculated from the 2010 Census

What share of the population's children are growing up in vulnerable rural communities?

0.75 x 0.69 = 52%

[*so if about ½ (40%-50%) of these rural children have cognitive delays*]

What share of the population's children are growing up in vulnerable rural communities?

0.75 x 0.69 = 52%

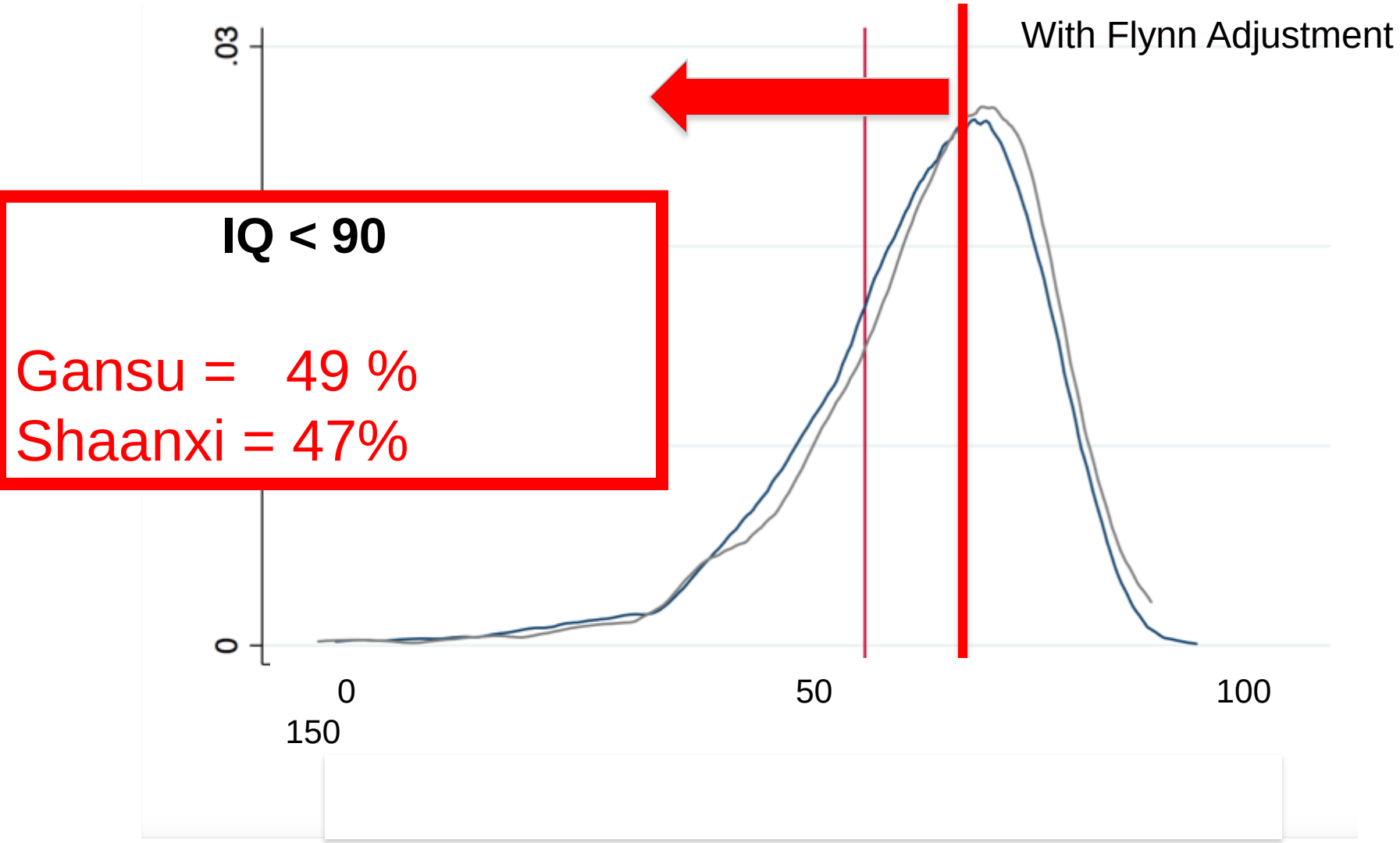
[*so if about ½ of these rural children have cognitive delays*]

then: ≈33% (25% + 7.5%) of China's population will have cognitive challenges

What is the level of cognitive development of rural children in school?

What would the 1000 day hypothesis predict?

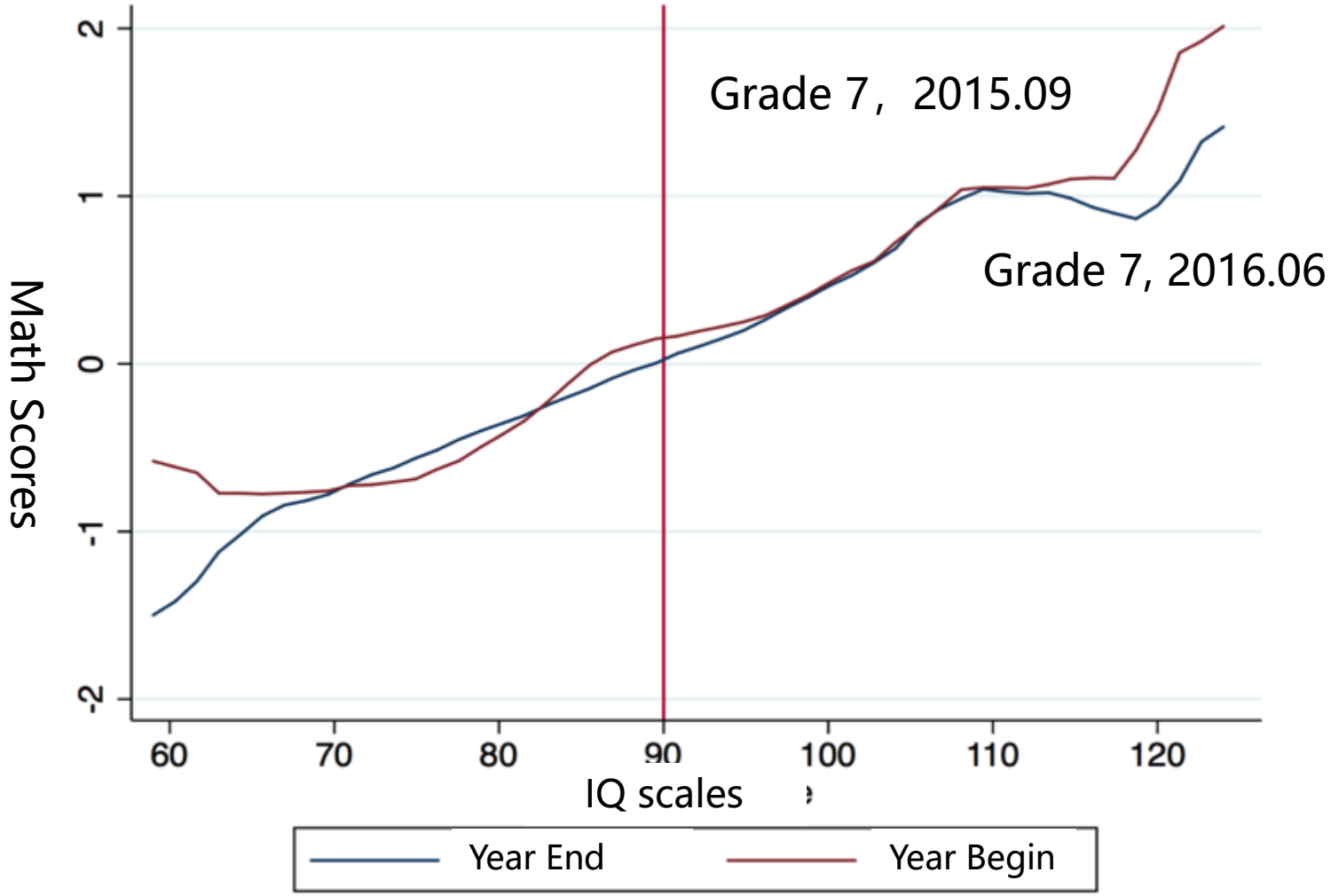
Cognitive Scores by Province – Raven 8th Graders



Cognition of Rural Students in Jr. High and Primary Schools

School / Place students	Share of IQ<90
Jr. High	
Gansu	49%
Shaanxi	47%
Primary Schools	
Beijing/Suzhou Migrants	41%
Henan/Anhui Rural Schl.	43%
Jiangxi Rural Schools	49%

Math Scores and IQ



We believe a HUGE part of today's rural education problem starts at 0-3

… and it can be solved!

Two sources

- Absen
(in primary school)

Absolutely yes!

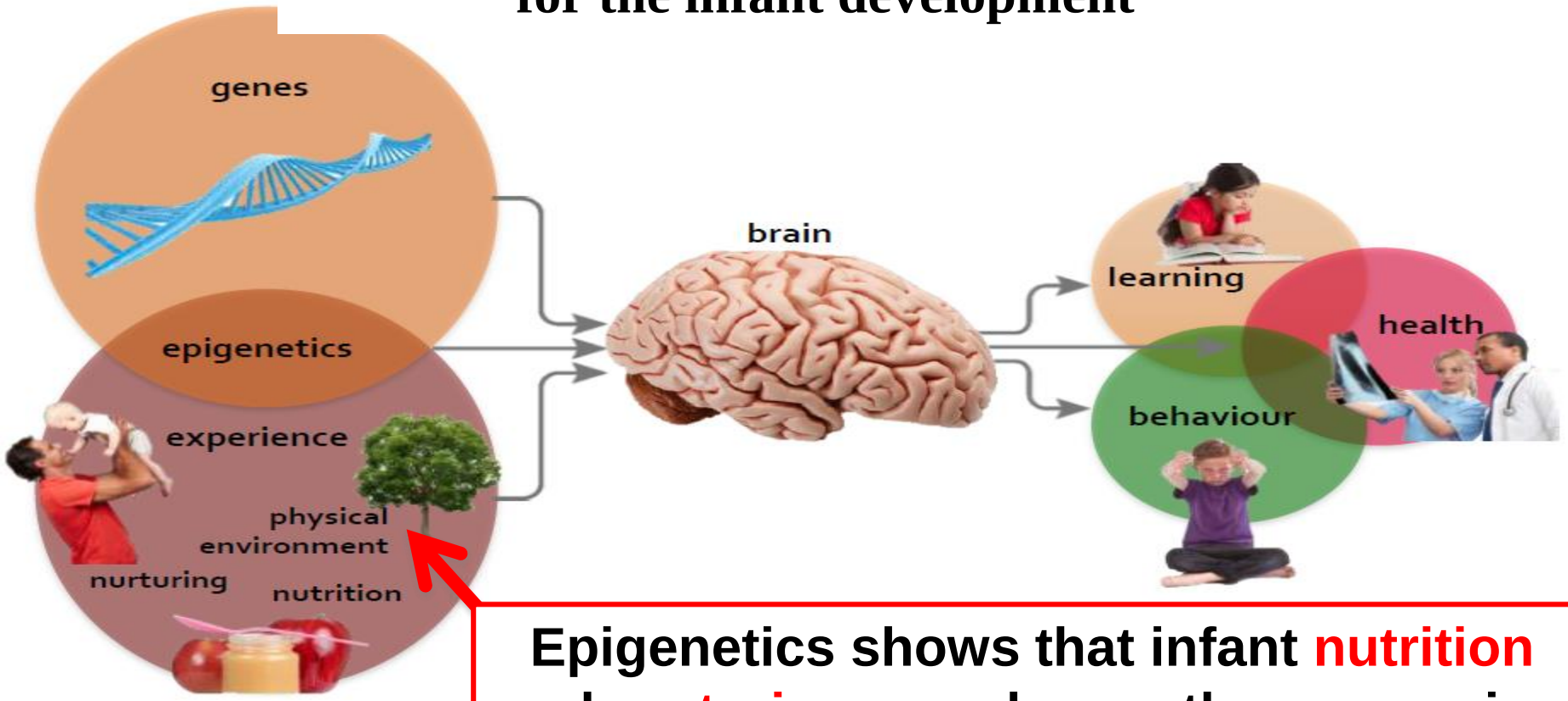
&

- Poor **cognitive development**
(low IQ since infancy/toddler-hood)

How can this problem be solved?

Brains are Built / Not Born

Both genes and environment are important for the infant development

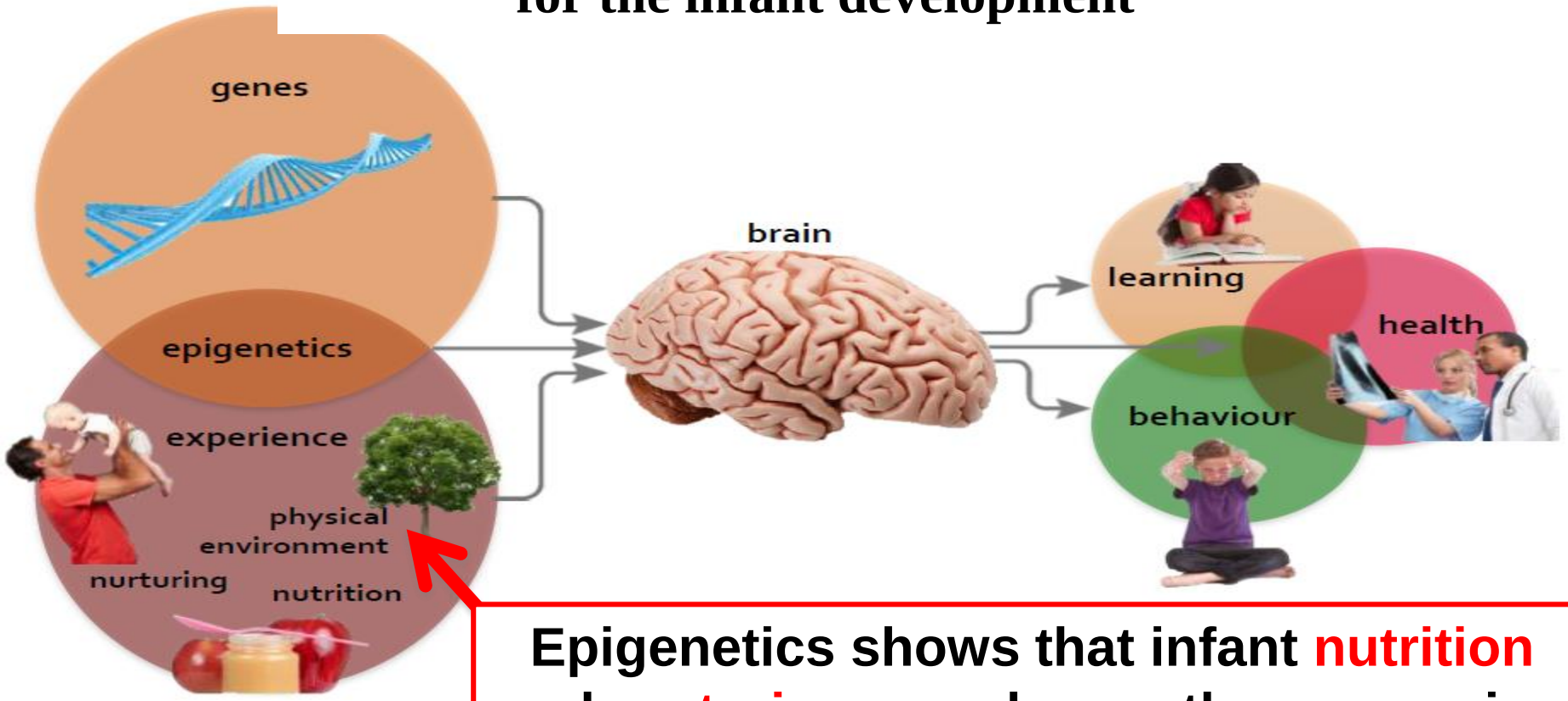


Adapted from: Fields, D. (2011); Jessell, T. (2000); McCain, M., M

Epigenetics shows that infant nutrition and nurturing can change the expression of Gene, maybe we need pay more attention on nurturing or parenting

Solutions:
Nutrition and/or Nurture (Parenting)

Both genes and environment are important for the infant development



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Epigenetics shows that infant nutrition and nurturing can change the expression of Gene, maybe we need pay more attention on nurturing or parenting

Randomization

- Randomly assign each sample town to one of three arms:
  - Control (58 towns)
  - Nutrition (58 towns)
  - Parenting (58 towns)

Sampling and Project Design:
174 Townships;
≈1800 caregiver-baby pairs

Enrolled all babies in village between 6 to 12 months

- Arm 1: “Free Villages”: Caregivers trained about baby nutrition and given free NurtureMate packets (58 towns)
- Arm 2: Parenting/stimulation Group (58 towns)
- Arm 3: Control Villages: No intervention, just regular observation (58 towns)

What is baseline parenting like … in Rural China?

Parents / caregivers love their children

	Intervention Group		Control Group		p
	Baseline	[illegible]	Baseline	[illegible]	
I really enjoyed being with my child.	83.8		91.5		
Playing with my child was fun and interesting.	80.2		86.4		
Would you spend money on your baby, if you could help	**100%**		**100%**		

High Aspirations:

What are the education hopes for your child / grandchild?

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What are the education hopes for your child / grandchild?

95%

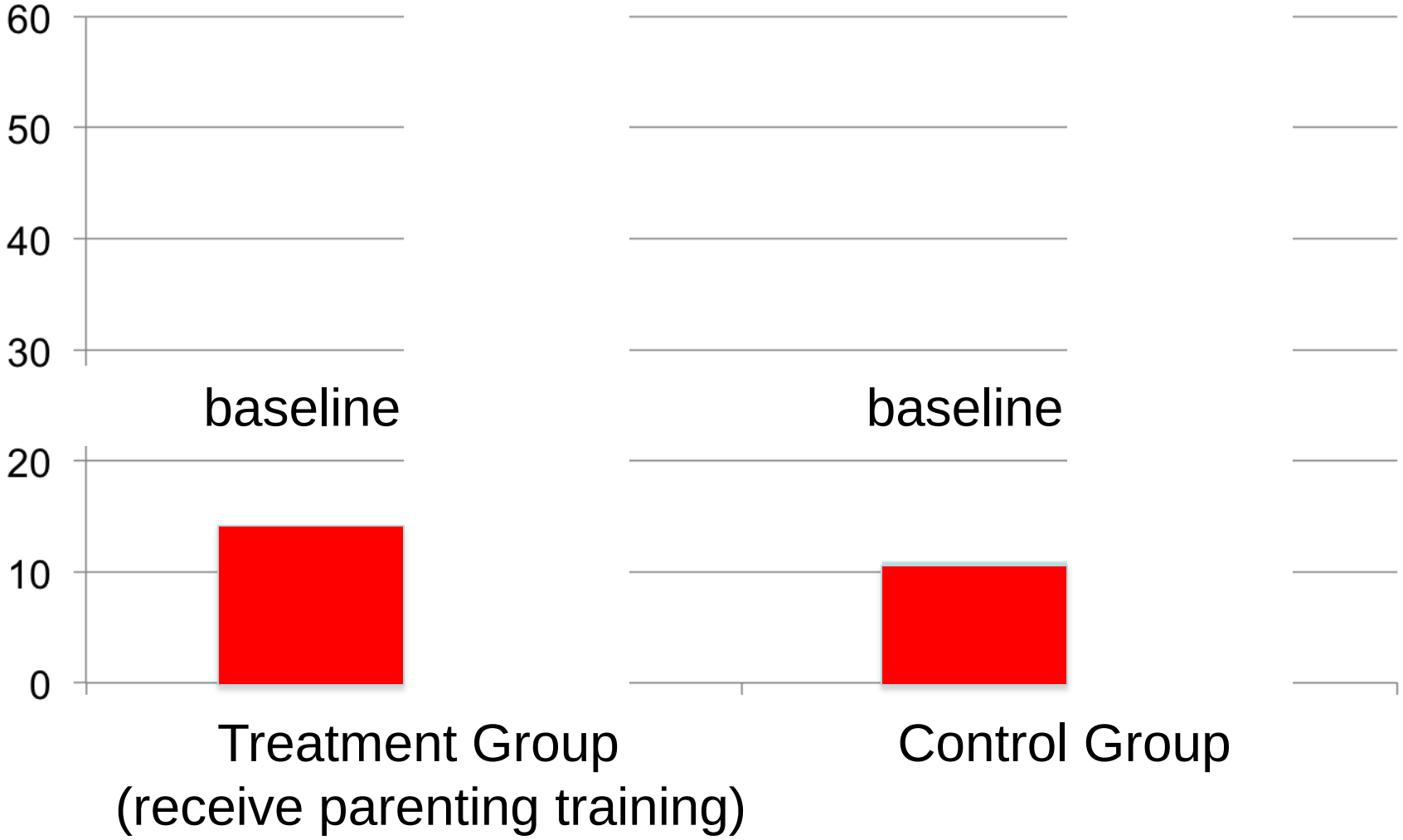
High Aspirations:

What are the education hopes for your child / grandchild?

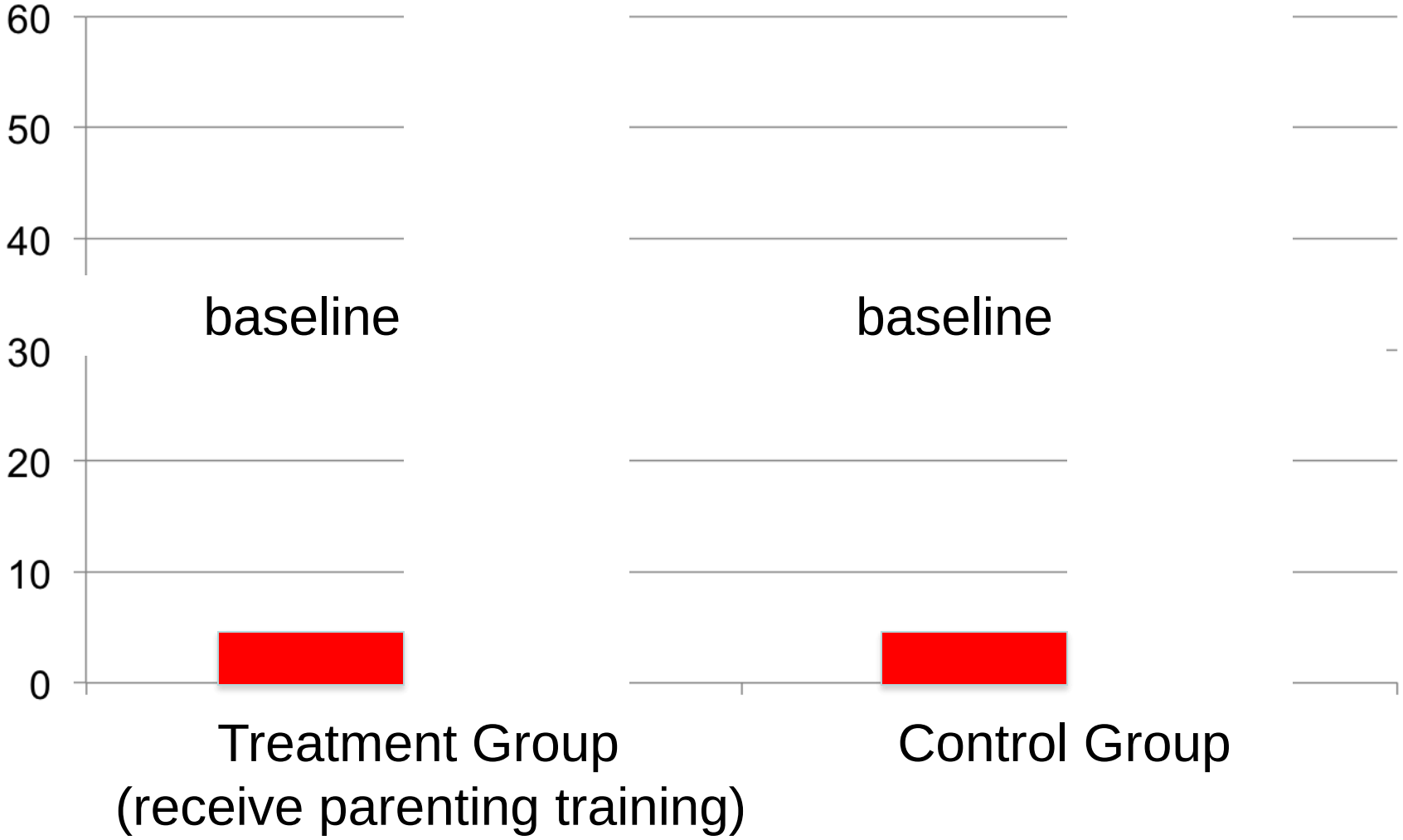
95%

17%

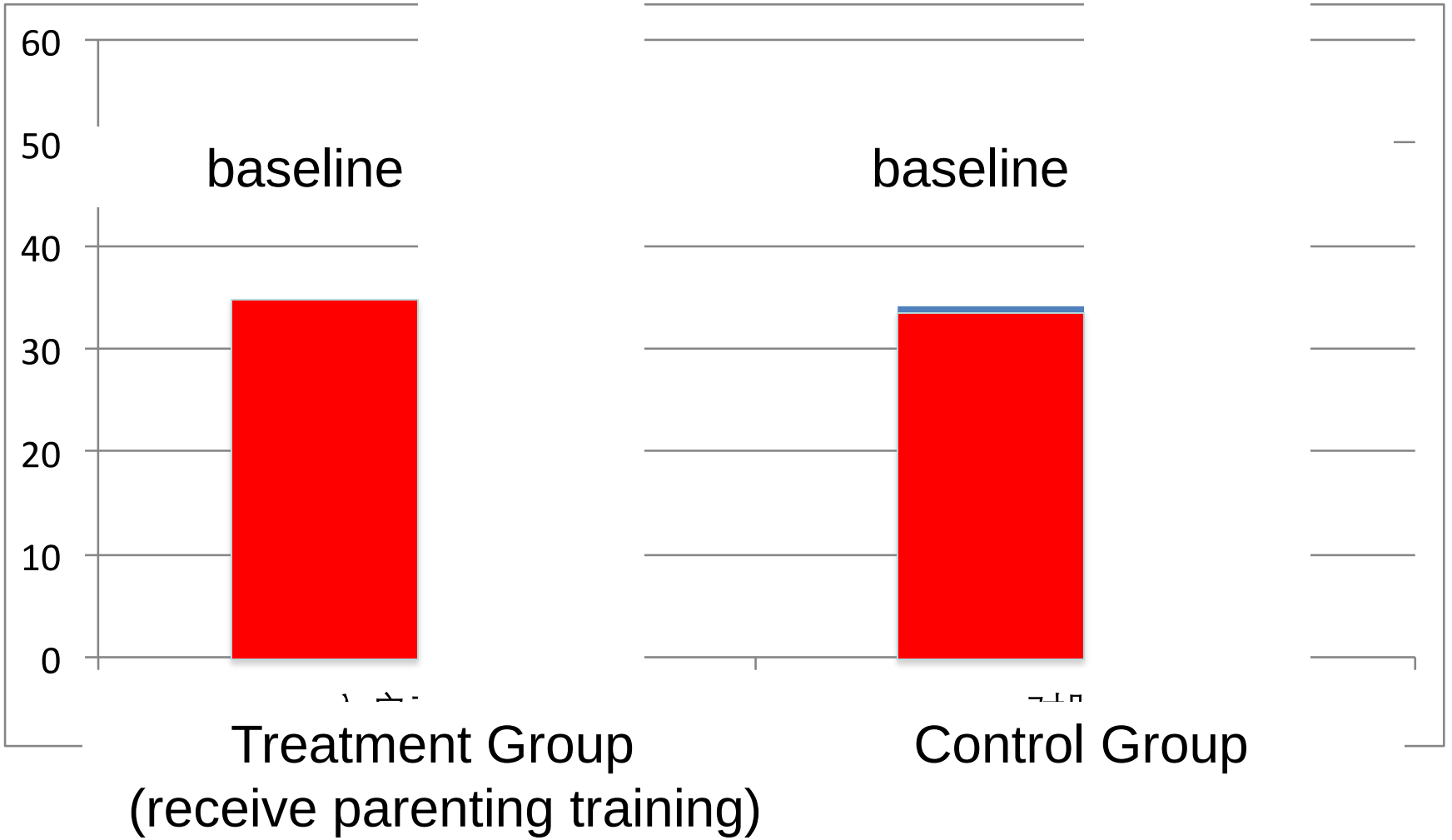
Share of caregivers that told stories to their children yesterday



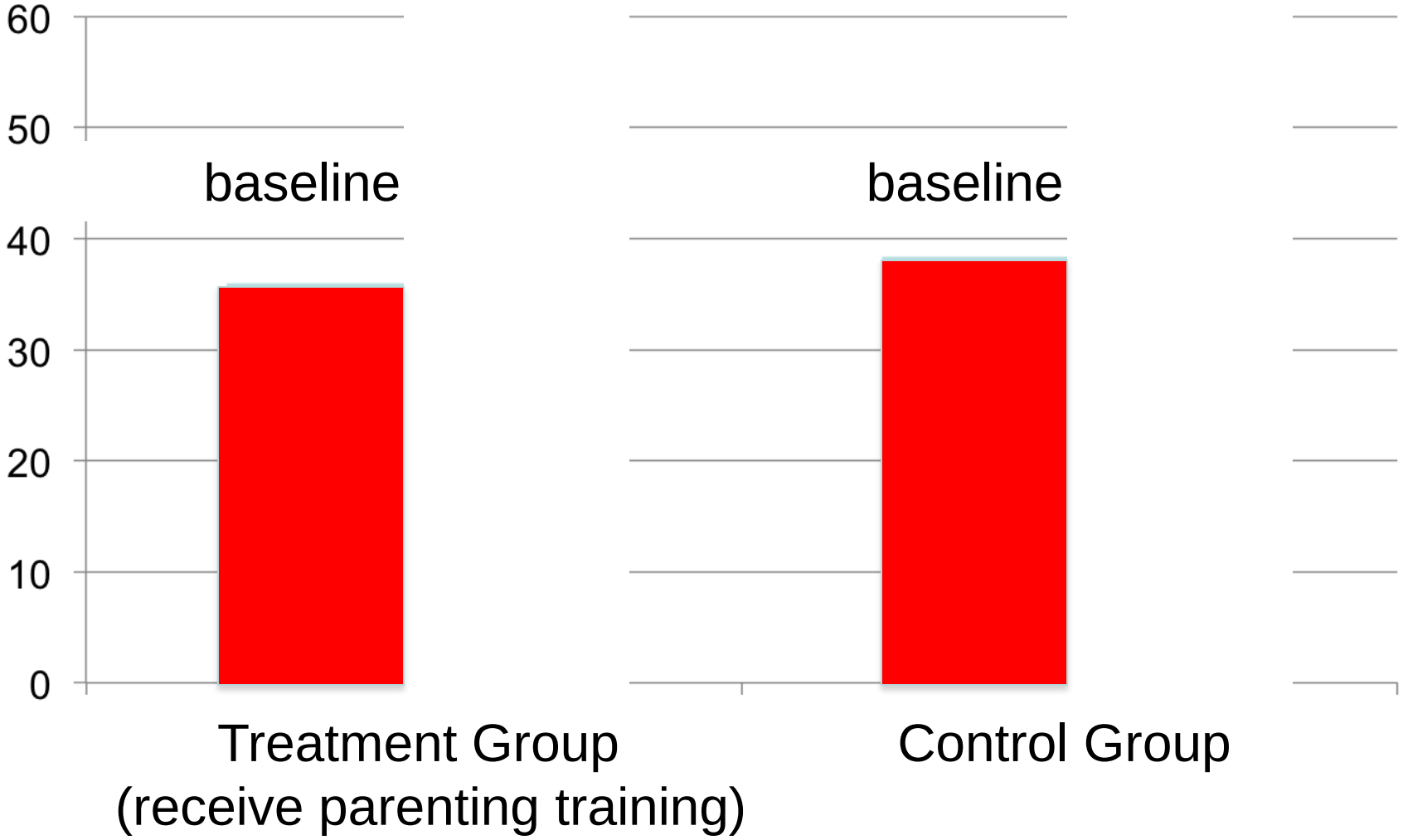
Share of caregivers that read a book to their children yesterday



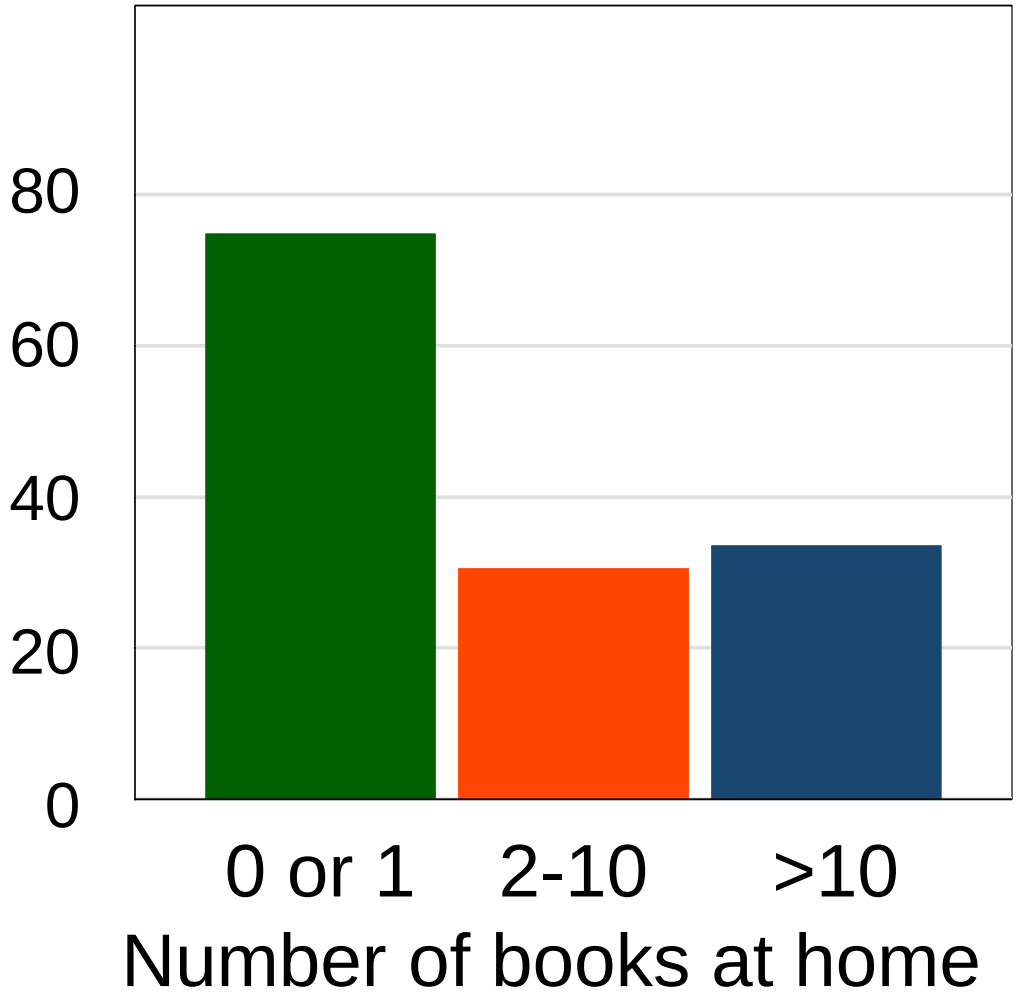
Share of caregivers that played with their children yesterday



Share of caregivers that sang a song to their children yesterday



Over 70 % of HH has < 2 books



Summary: Chinese families love their children but do not know much about parenting

The intervention

- Once-per-week, in-home, one-on-one parenting class with curriculum/toys/books

- Trainers: Township family planning cadres (of course, this is a HUGE shift in their responsibilities

  ==> before: sterilization / abortions / fining

  ==> now: bring toys and books for children teach caregivers about parenting

Loosely based in Jamaica curriculum (same as used in Columbia study ➔ Our team with help from Child Psychologists from SX Normal University adapted the curriculum to China

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Toys and books

+ Toys packages: two tubs/trainer

Loosely based in Jamaica curriculum (same as used in Columbia study ➔ Our team with help from Child Psychologists from SX Normal University adapted the curriculum to China

Toys and books

Delivered by Family Planning Cadres from each Sample Town

The intervention

- Once-per-week, in-home, one-on-one parenting class

- Trainers: Township family planning cadres (of course, this is a HUGE shift in their responsibilities

  ==> before: sterilization / abortions / fining

  ==> now: bring toys and books for children
  teach caregivers about parenting

Parenting trainers

- Family planning cadres become “Parenting Warriors”

Impacts:

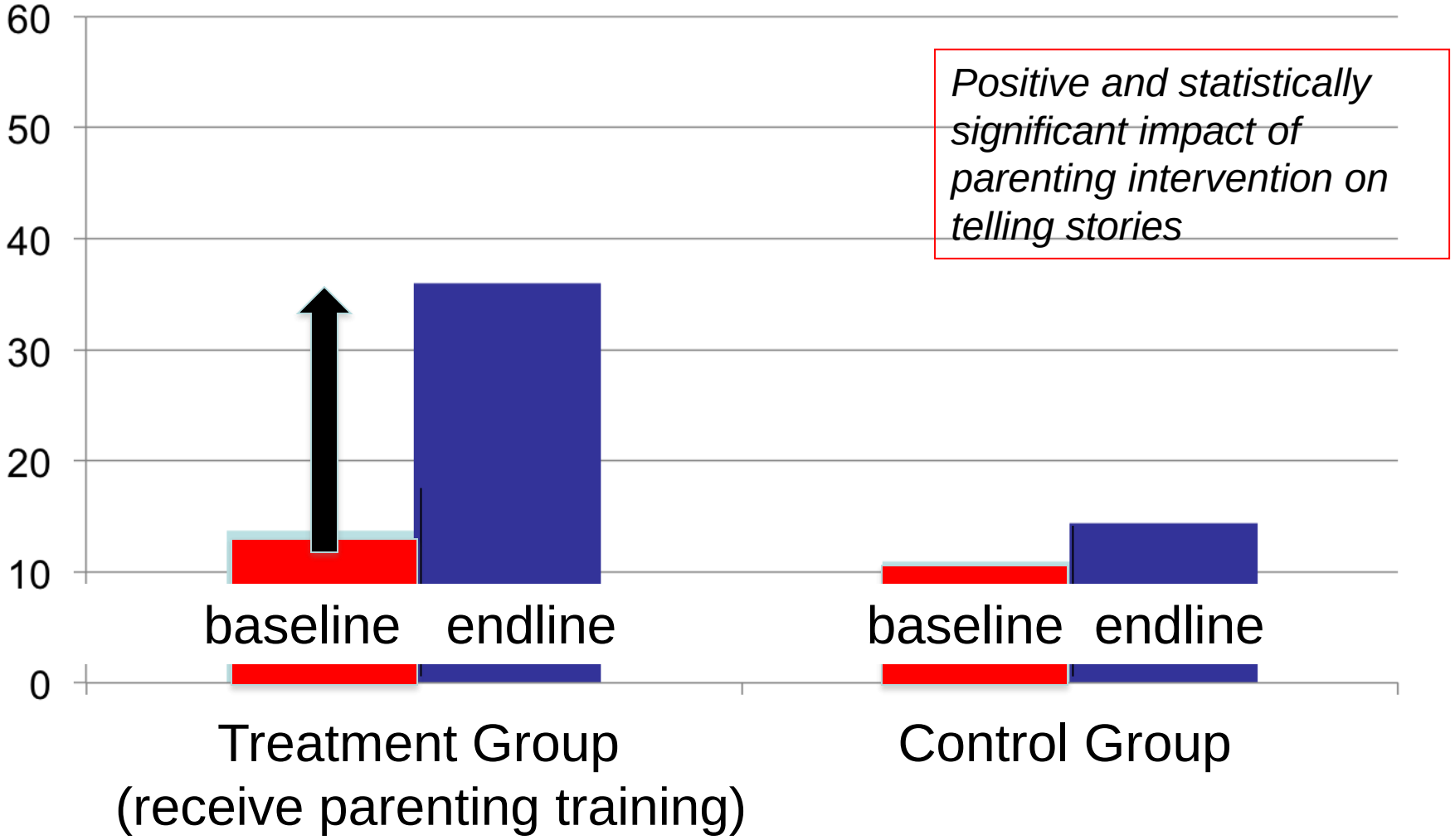
Parenting practices

&

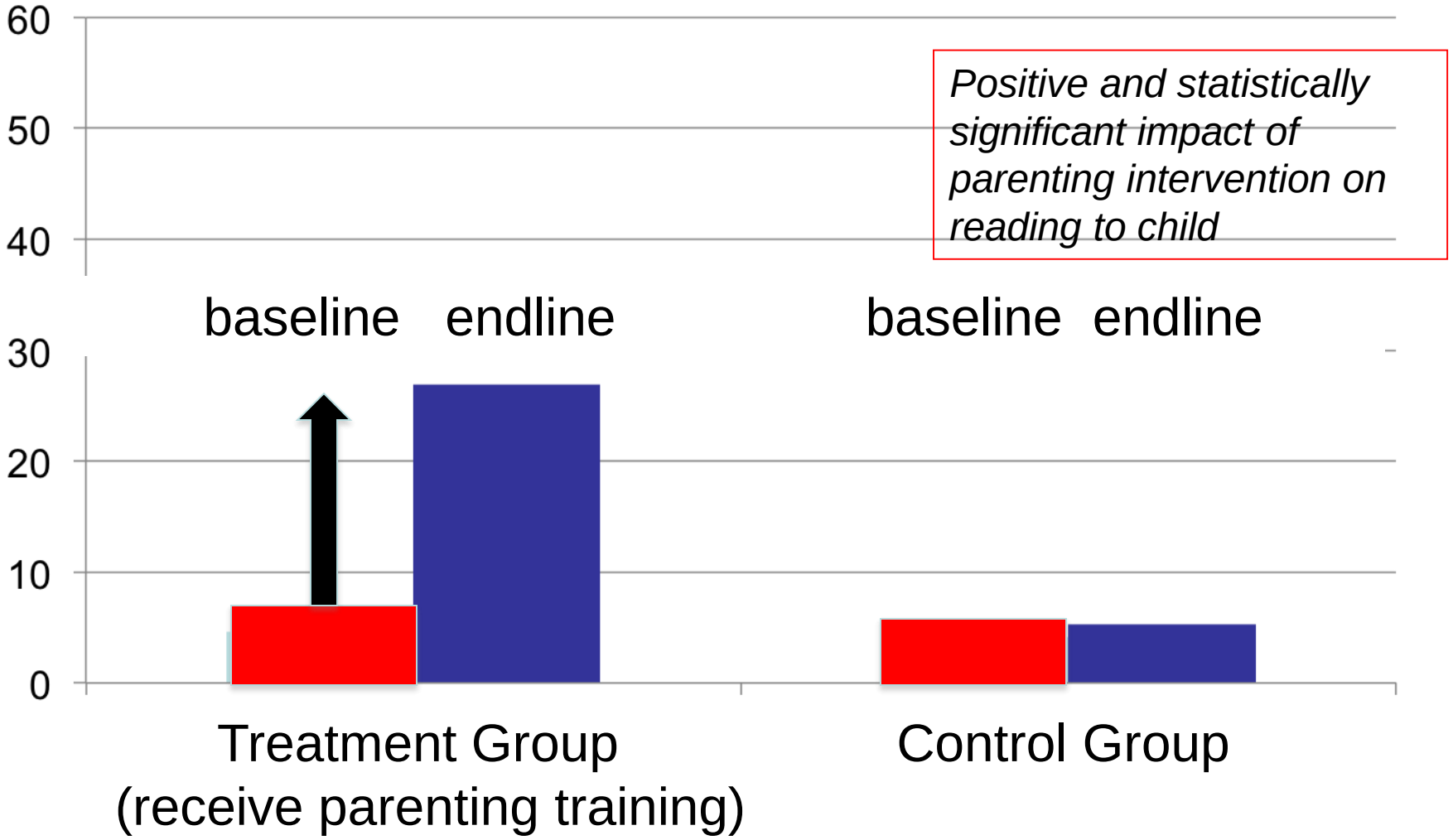
Child development

- MDI (cognition)

Share of caregivers that told stories to their children yesterday



Share of caregivers that read a book to their children yesterday



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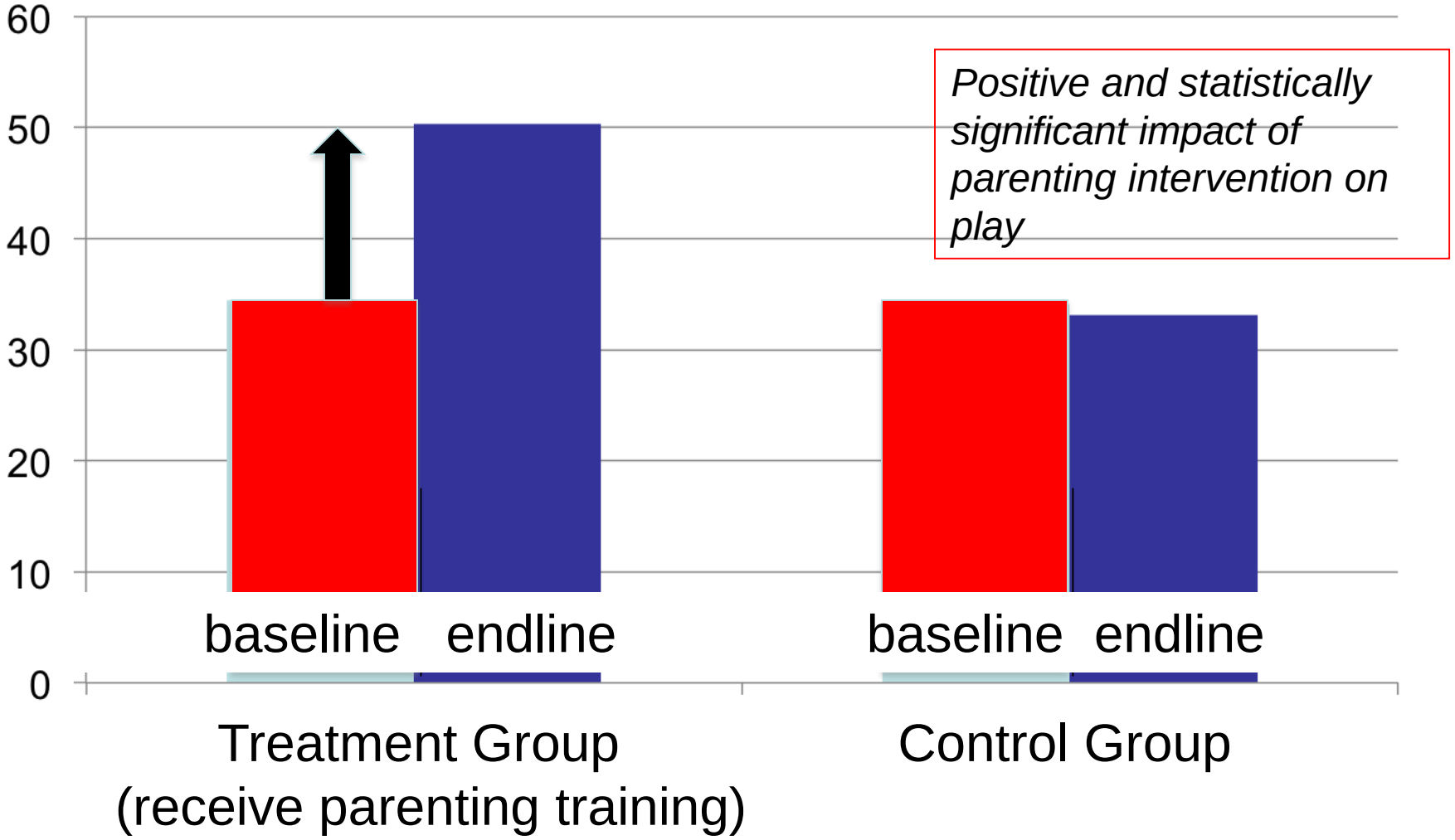

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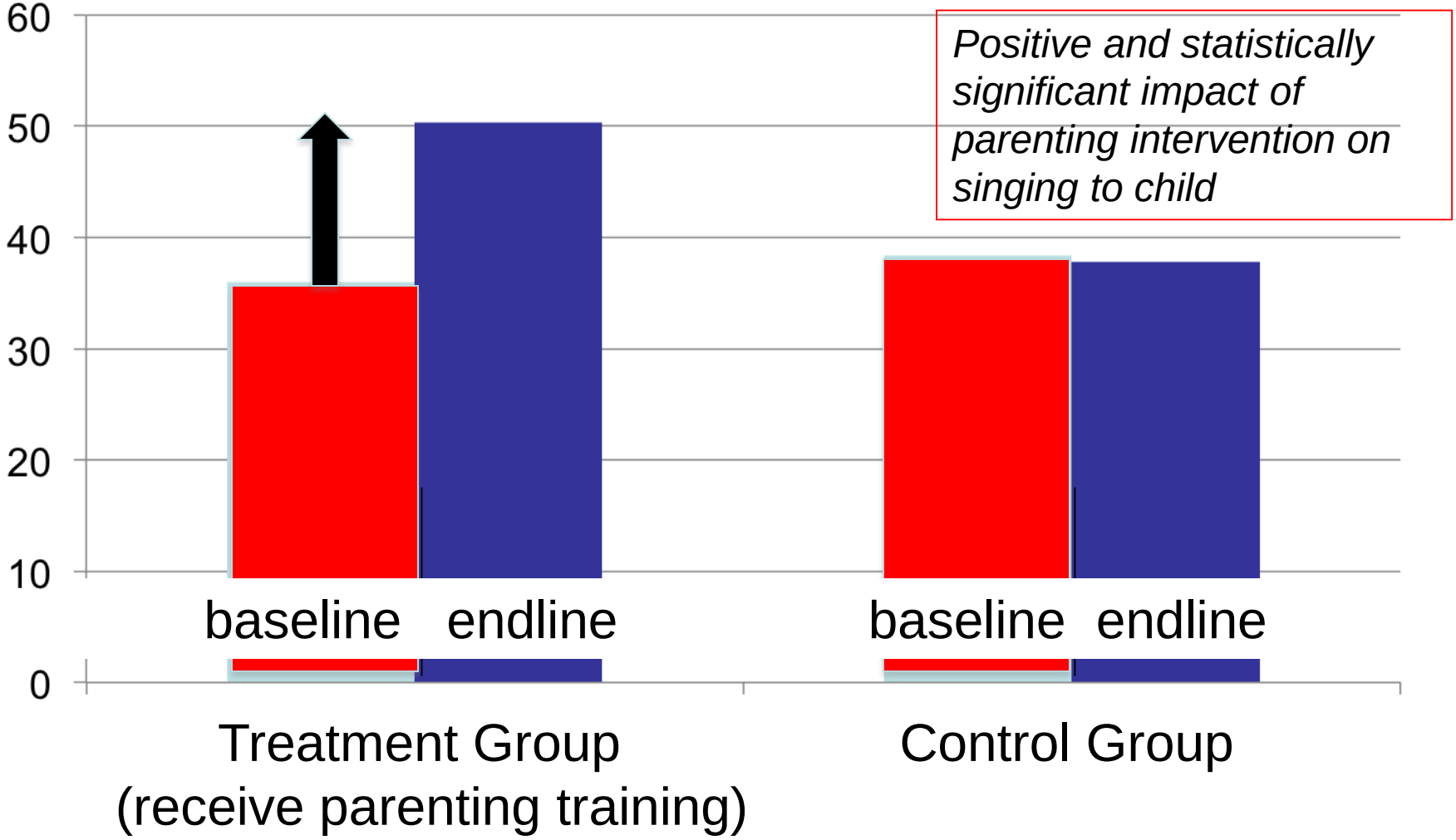
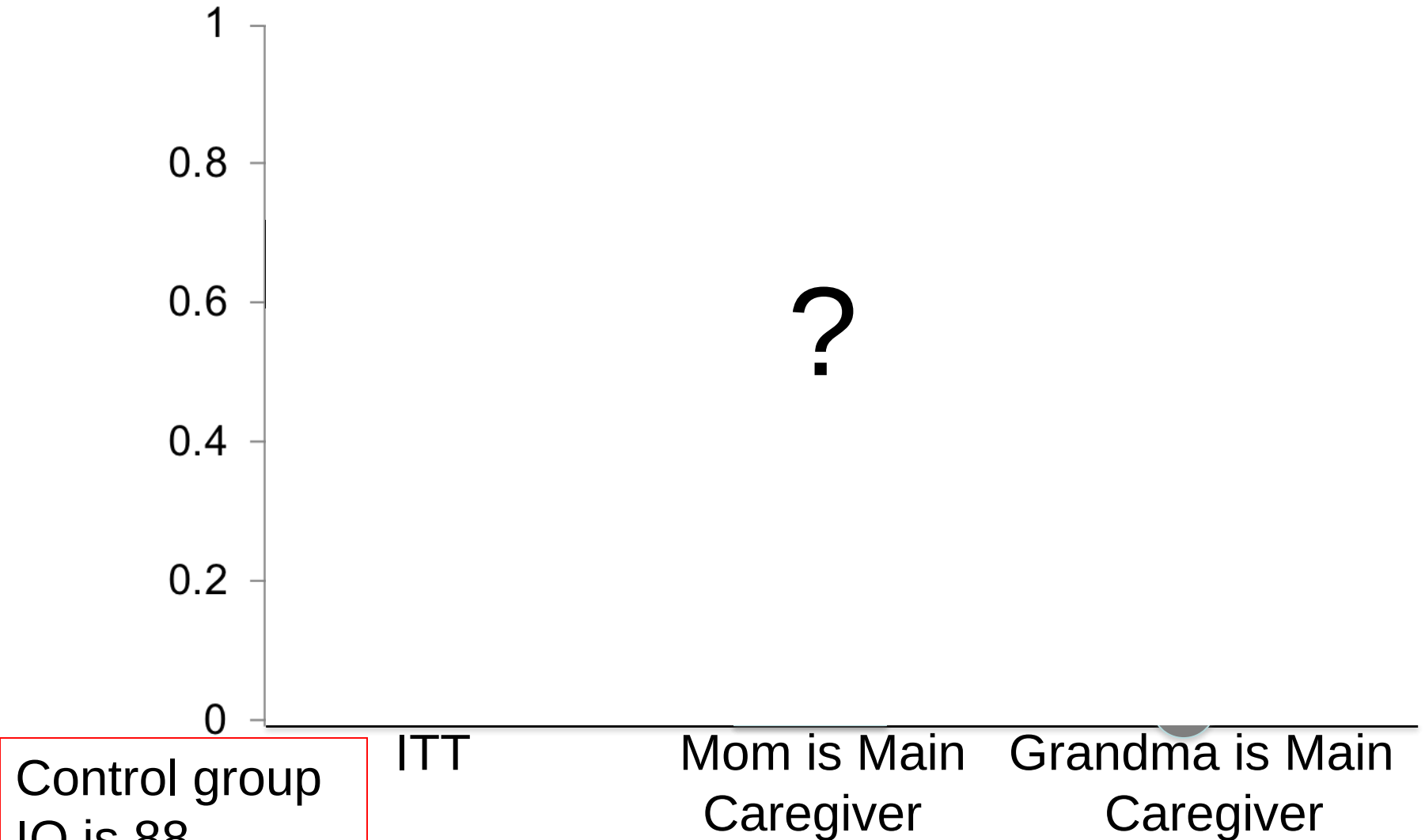


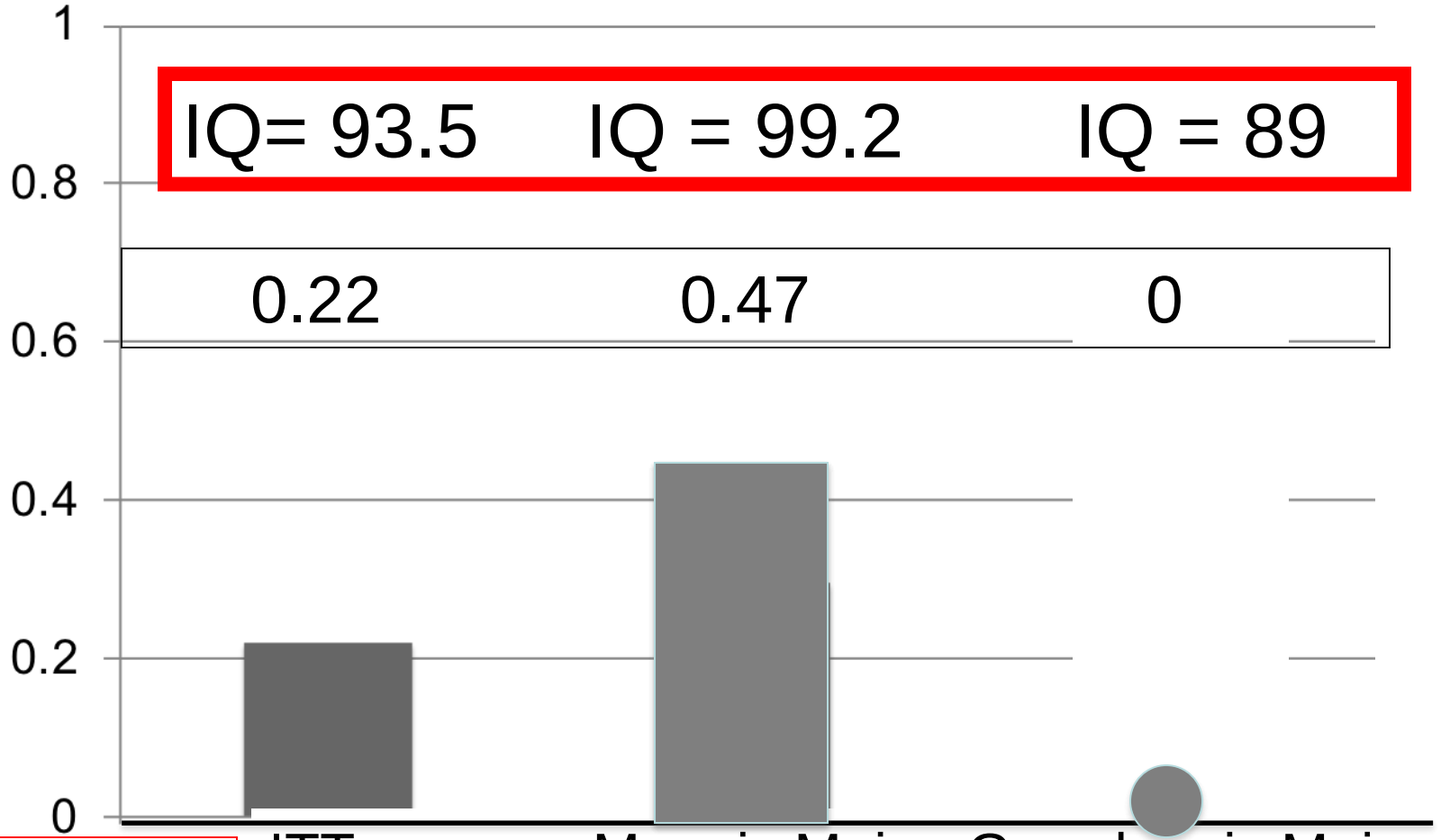
Comparing Impact Estimates
Parenting on Bayley Mental Development



Control group IQ is 88

Comparing Impact Estimates

Parenting on Bayley Mental Development



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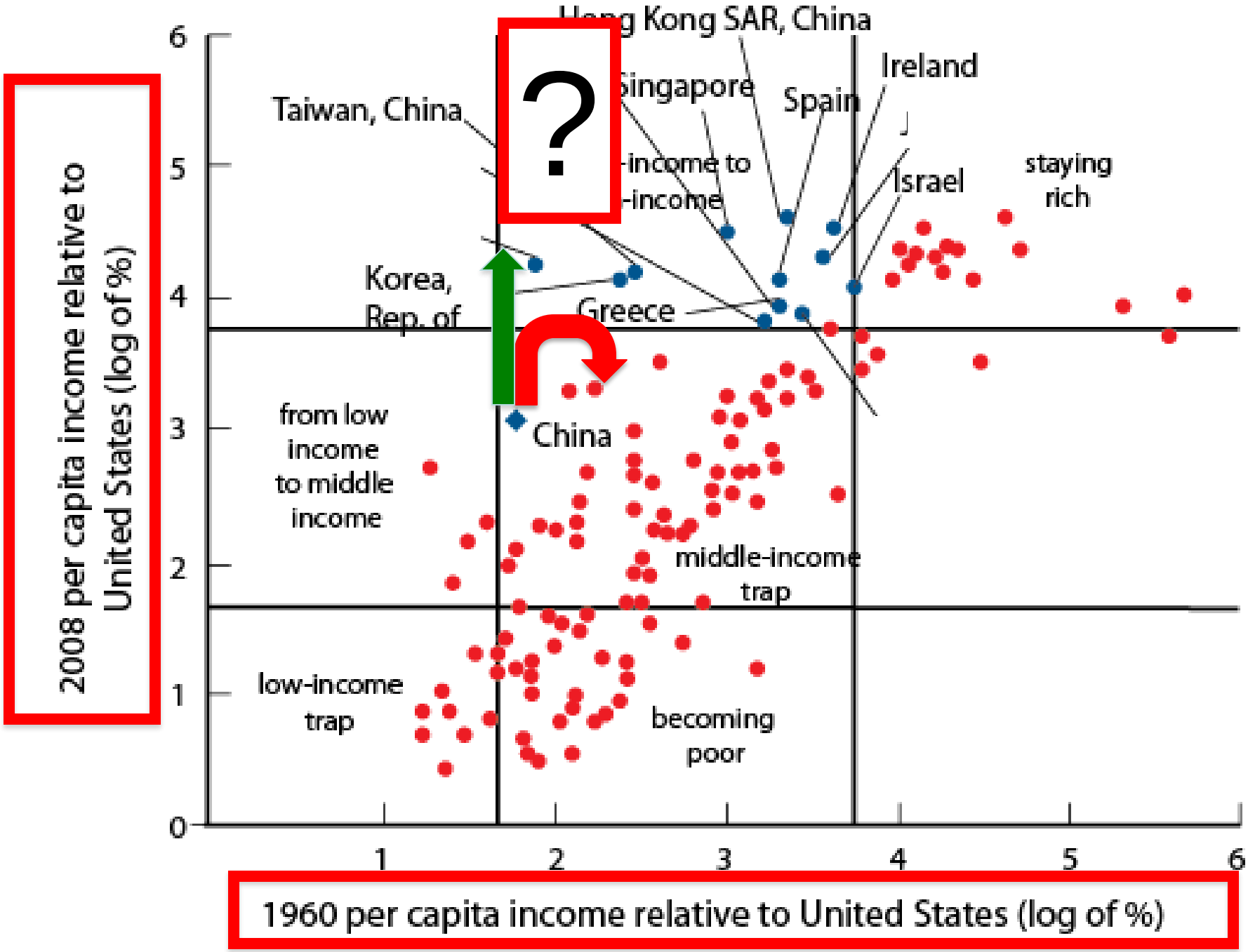
Final Thoughts


2008 per capita income relative to United States (log of %)
1960 per capita income relative to United States (log of %)
?
Hong Kong SAR, China
Singapore
Ireland
Spain
Taiwan, China
Israel
staying rich
-income to
-income
Korea, Rep. of
Greece
China
from low income to middle income
middle-income trap
low-income trap
becoming poor
0
1
2
3
4
5
6

Lessons

- Invest in 0-3 ==> huge returns / foundation for all other investments into human capital
- Health and nutrition are inputs into education
- Building human capital earlier … don't wait to expand high school until reach upper middle income … [there may be hard choices when lower middle income more education or more infrastructure ... Weight human capital more]

Thank You!

http://reap.stanford.edu