21st Century Workforce Conference

The Impact of Good Educational Public Policy & School Quality

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Plan of discussion

- Consider benefits and costs of investment in quality
  - Benefits easier to estimate
  - Bound the costs of quality
- Identify possible reforms
  - Class size reduction, salaries, spending
  - Teacher quality changes

Summary of results

- Benefits of quality improvement large
  - Individual earnings and productivity
  - Aggregate effects through growth
- Dimensions of reform
  - Magnitude of quality improvement
  - Speed of reform
- Input approaches generally ineffective

- Quality improvements require substantial changes in teacher quality

Earnings and productivity

- Consistent impact of quality (test performance)
  - Earnings
  - School attainment
- U.S. results:

½ standard deviation performance
→ 6 percent higher annual earnings

Aggregate growth

- Quality very important
- Marginal effect
  - Other things: property rights, open product and labor markets, limited governmental intrusion

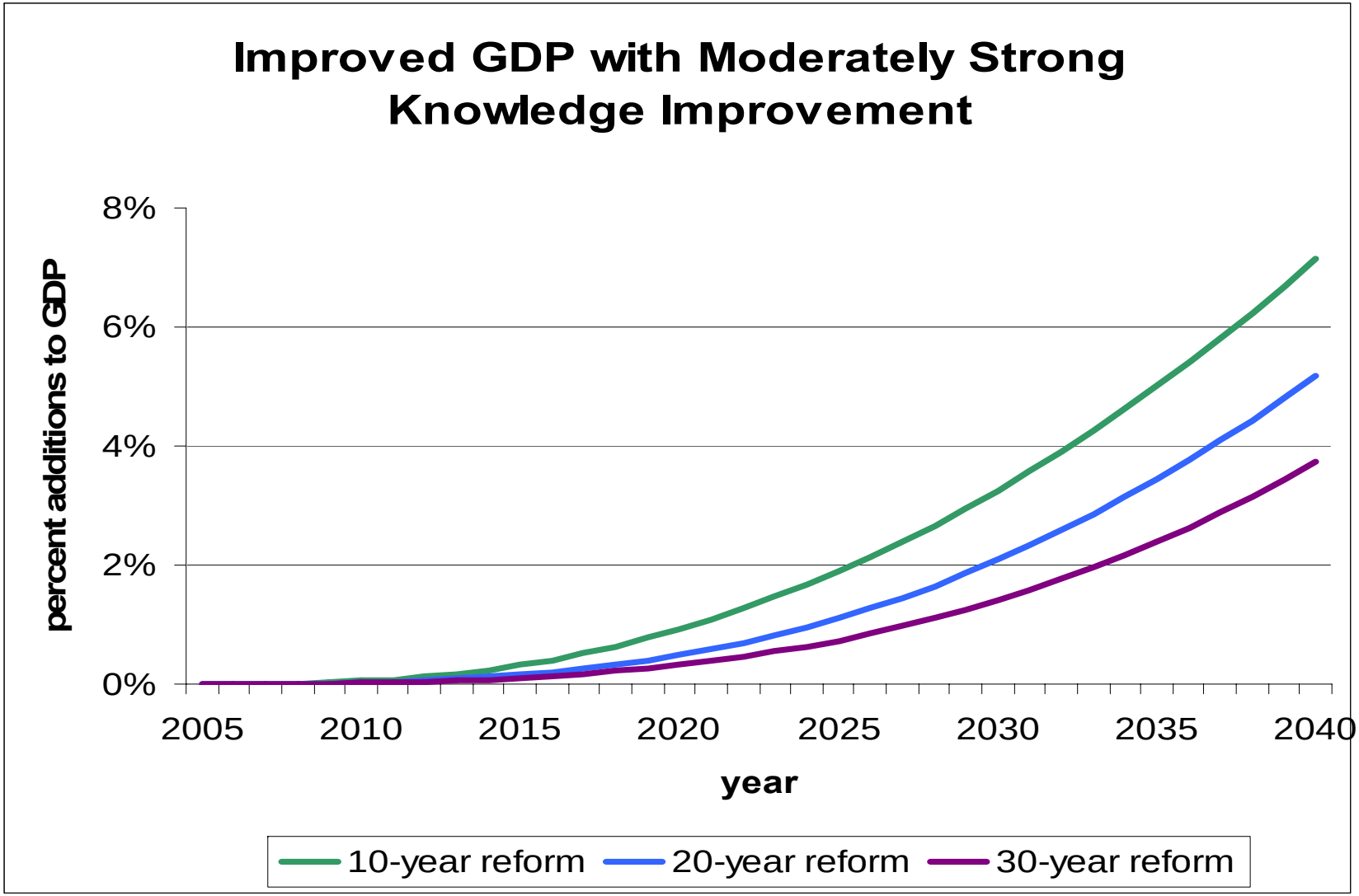
½ standard deviation national → ½ percent increase annual growth

Summary: Benefits from School Quality *very* large

- Individuals and society gain significantly
- Can finance reform ***IF*** reform is effective

Dimensions of Reform

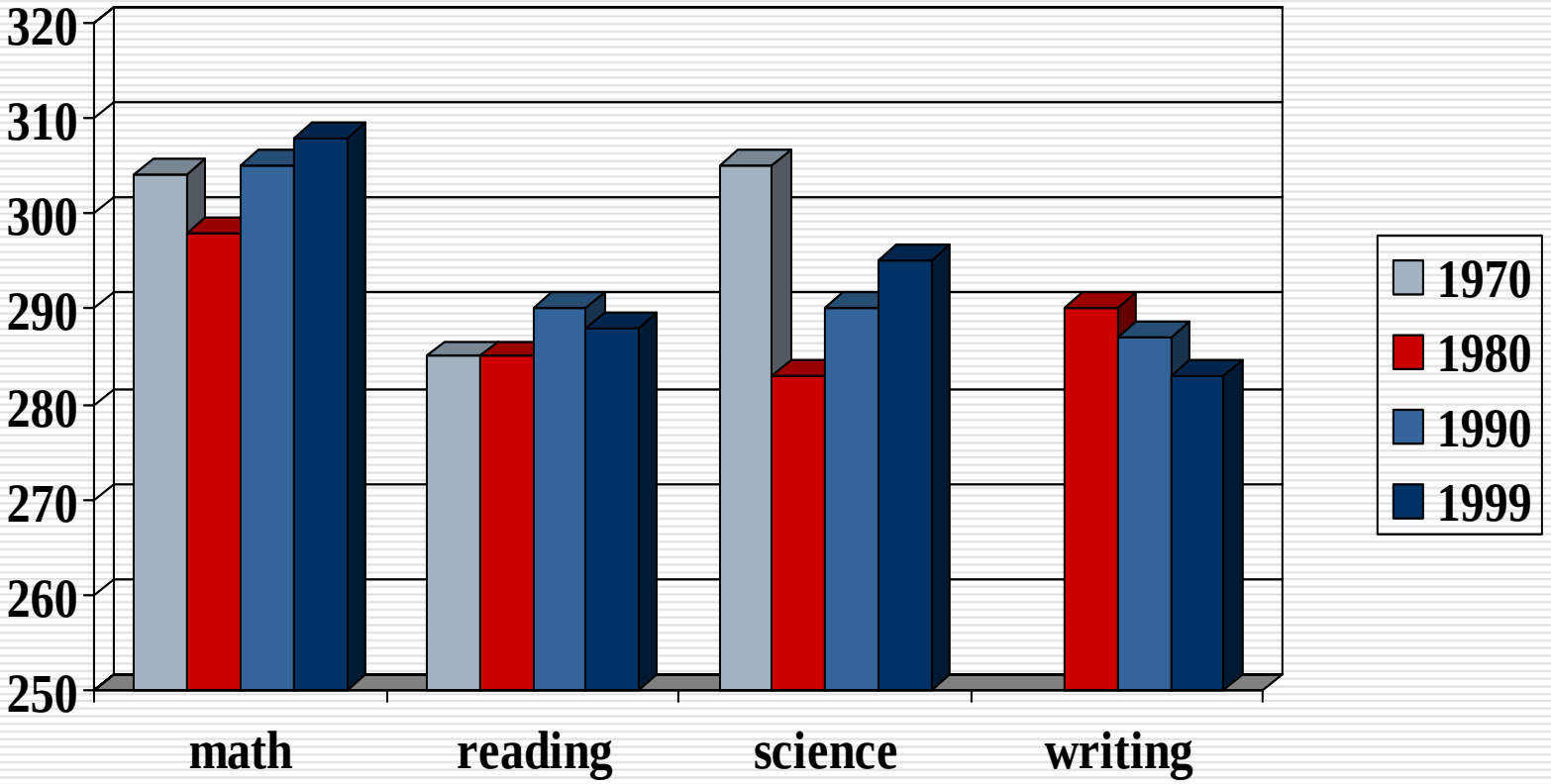
- Magnitude
  - Must focus on objectives
  - Most discussions entirely on inputs
- Speed
  - Cannot change schools instantly
  - Must have long view


Improved GDP with Moderately Strong Knowledge Improvement
percent additions to GDP
8%
6%
4%
2%
0%
2005
2010
2015
2020
2025
2030
2035
2040
year
10-year reform
20-year reform
30-year reform

Ineffectiveness of Resource Policies

- Common approach – increase resources
  - Reduce class size
  - Increase salaries
  - Increase certification requirements for teachers
- Substantial evidence that these do not work

U.S. NAEP performance
(17 year olds)



Public school resources, 1960-2000

	1960	1980	2000
Pupil-teacher ratio	25.8	18.7	17.3
% master's degree	24	50	56
Median experience	11	12	15
Spending/pupil	$2,235	$5,124	$7,591

Washington Performance
8th Grade NAEP, 2003

	US	WA
Reading	261	264
Math	276	281

Washington Performance
8th Grade NAEP, 2003

			white students	
	US	WA	US	WA
Reading	261	264	270	268
Math	276	281	287	285

Basic or Above Performance
8th Grade NAEP, 2003

	US	WA
Reading	72	76
Math	67	72

Basic or Above Performance
8th Grade NAEP, 2003

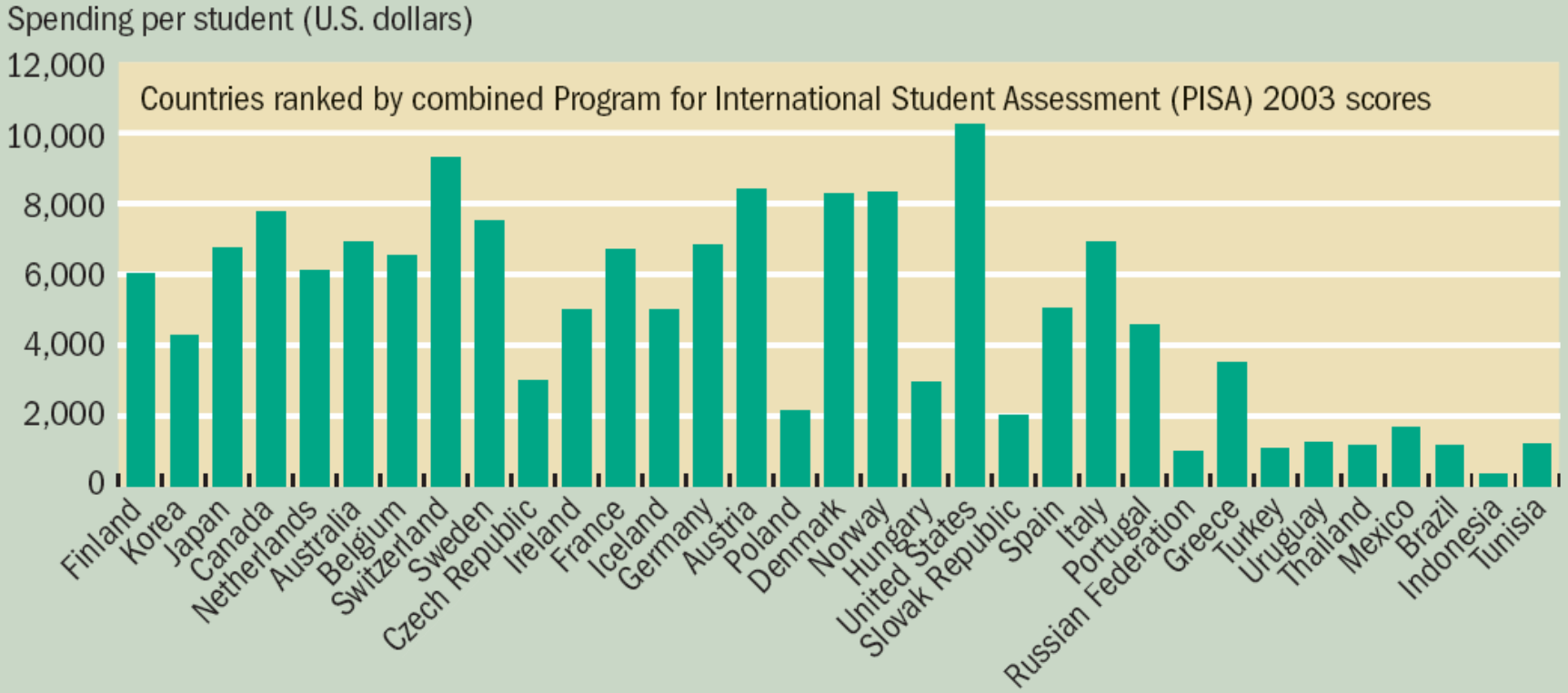
			white students	
	US	WA	US	WA
Reading	72	76	82	80
Math	67	72	79	76

Resource evidence

- Econometric analyses
- Experimental evidence (Project STAR)

Quality and cost

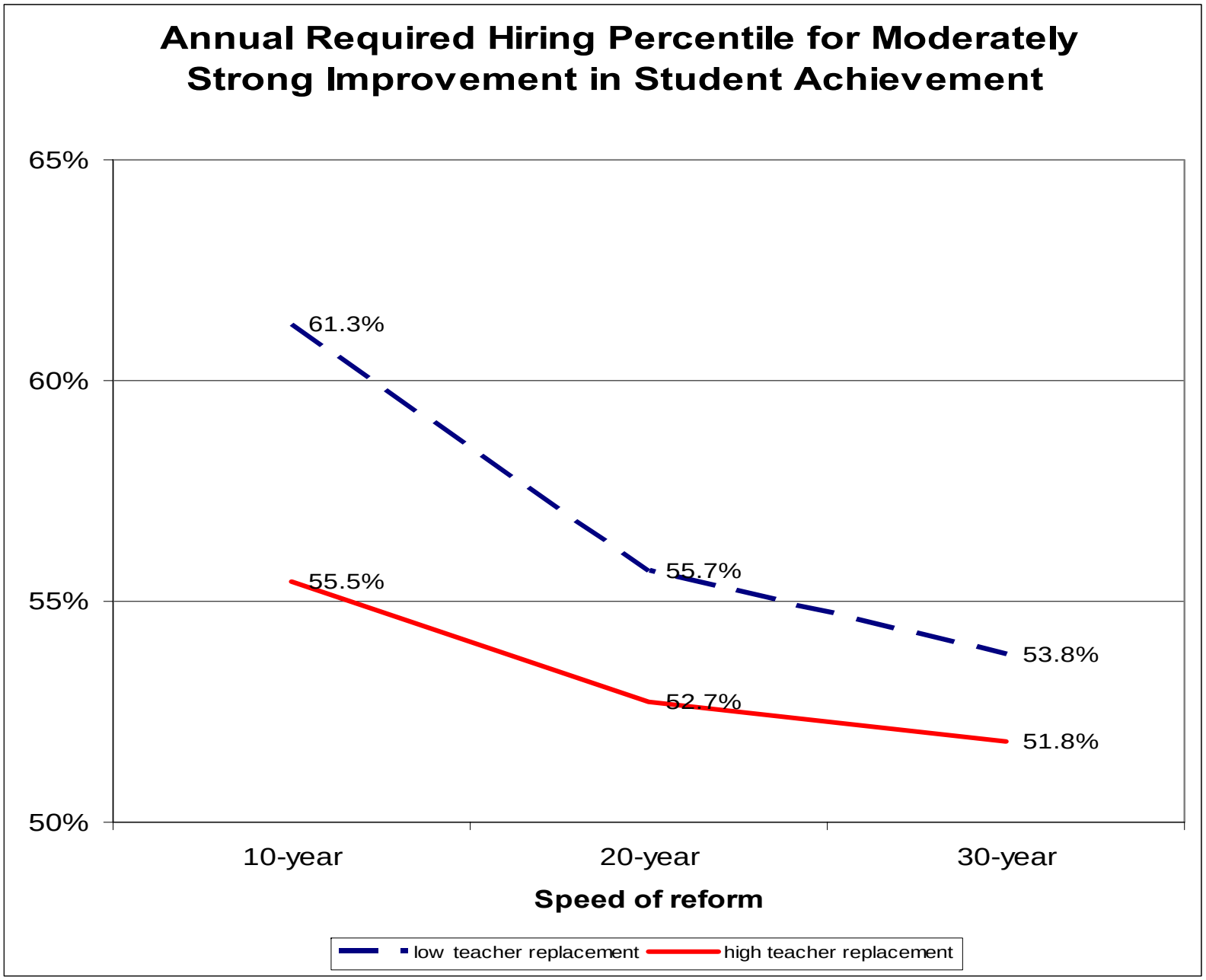
Differences in student performance are not driven by national levels of school spending.



Importance of teachers

- Total effects versus measured characteristics
- Consistent differences in teachers

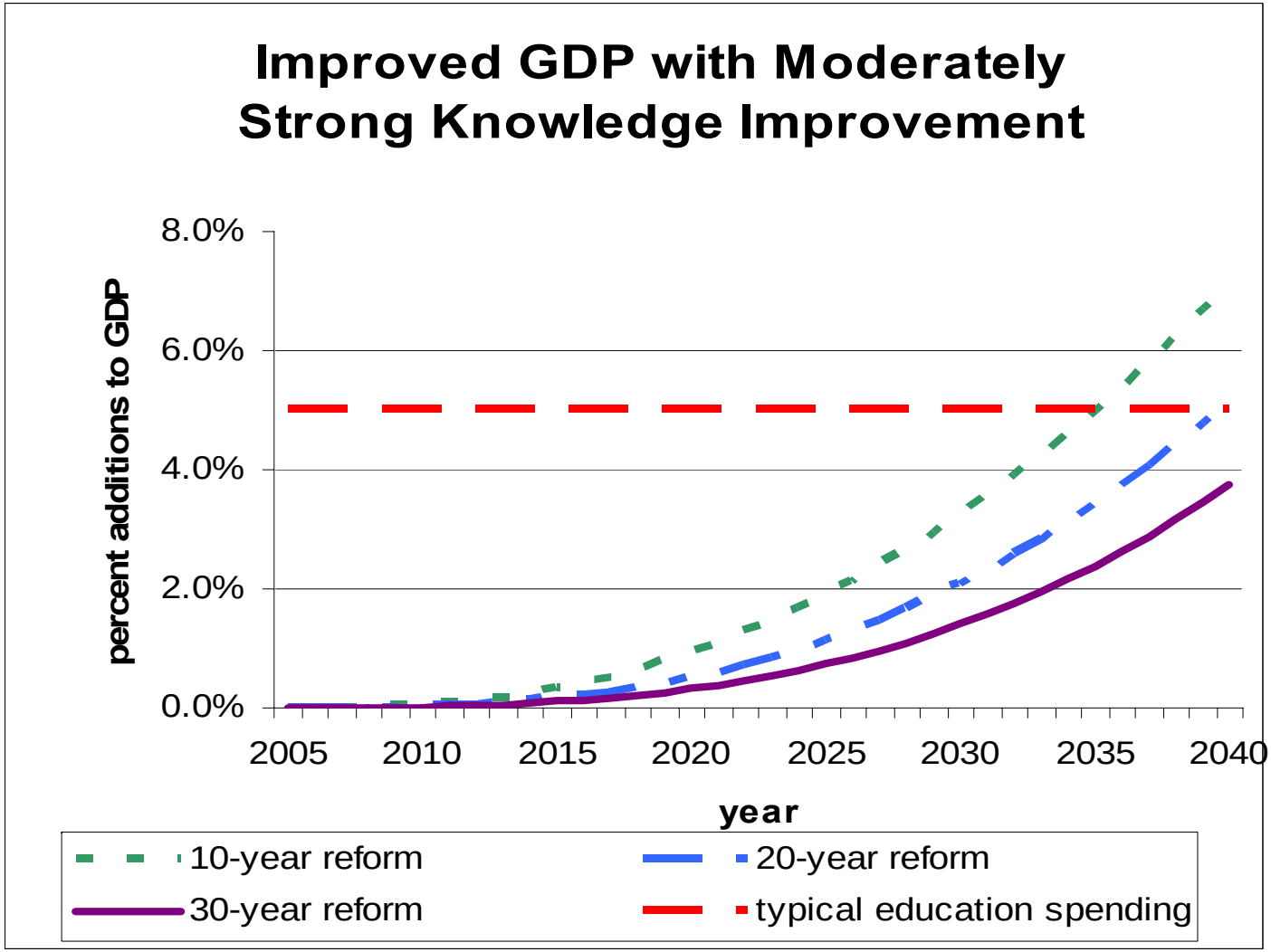
- Magnitude (lower bound):
  1 s.d. (teacher) → 0.12 s.d. (student)
- Other evidence:
  good → bad = 1 grade level equivalent


Annual Required Hiring Percentile for Moderately Strong Improvement in Student Achievement
65%
60%
55%
50%
61.3%
55.7%
53.8%
55.5%
52.7%
51.8%
10-year
20-year
30-year
Speed of reform
low teacher replacement
high teacher replacement

Uncertainty about exact incentives

- Pure resource policy ineffective
- Rigidities in hiring/retention
- Little direct analysis of incentives

- Alternatives
  - Accountability
  - Choice


Improved GDP with Moderately Strong Knowledge Improvement
percent additions to GDP
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2005
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year
10-year reform
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30-year reform
typical education spending