

# What works for learning and teaching: A qualified teacher in every classroom

*Centre of Interdisciplinary Research in Evidence-Based Practice*

*Hong Kong Shue Yan University*

*October 25, 2019*

**Thomas F. Luschei, PhD**  
**Professor of Education**

# Agenda

- 1.The Importance of Teachers and Teacher Quality
- 2.Teacher Sorting and Unequal Access to Qualified Teachers
- 3.Ensuring That Every Child Has a Qualified Teacher: Lessons from International Research

# The Importance of Teachers and Teacher Quality

# 3 Broad Conclusions from Educational Research (OECD, 2005)

1. “The largest source of variation in student learning is attributable to differences in what students bring to school—their abilities and attitudes, and family and community background.”
2. “Of those variables which are potentially open to policy influence, factors involving teachers and teaching are the most important influences on student learning.”
3. There is little consensus about the “correlates” of teacher quality.

# Evidence of the Importance of Teachers and Teacher Quality

1. Children who move from an average teacher to a teacher at the 85<sup>th</sup> percentile of teacher quality can improve by more than 4 percentile rankings in a year—an equivalent effect of reducing class size by 10 (Rivkin et al., 2002).
2. Variations in teacher quality explain between 7.5% and 8.5% of total variation in student achievement, a far greater amount than any other school-level input (Goldhaber, Brewer, & Anderson, 1999; Rivkin et al., 2002).
3. A disadvantaged student who has five successive teachers who are one standard deviation above the mean in teacher quality can nearly overcome the mean difference in achievement resulting from being from a disadvantaged population (Hanushek & Rivkin, 2004).

# Teacher Sorting and Unequal Access to Qualified Teachers

# The Problem of Unequal Teacher Distribution

- Across the globe, highly qualified teachers are disproportionately concentrated in better-resourced schools with higher-achieving and more advantaged students.
- There is also growing evidence of uneven teacher distribution *across classrooms within schools*.
- Unequal distribution of teachers leads to important achievement and resource inequalities between more and less advantaged students.
- Unequal teacher distribution may be caused by “teacher sorting” (more qualified teachers choose better-resourced schools) or by educational policies and practices.
- Few studies have directly examined causes or remedies for unequal teacher distribution.

# Patterns of Teacher Quality in 2 Mexican States (Luschei, 2012)

TABLE 5  
AGUASCALIENTES: TEACHER ATTRIBUTES BY URBAN/RURAL, 1999–2004

Variable	Urban	Rural
% male teachers	39.89***	47.86
Average teacher test score points	16.92***	16.10
Average federal training score	3.22	3.17
Average state training score	3.36	3.27
% with <i>Normal Básica</i>	36.82	36.50
% with <i>Normal Licenciatura</i>	37.37	37.19
% with <i>Normal Superior</i>	12.64***	6.70
% with master's degree	4.71***	1.64
Average years of experience	18.71***	14.31
% with <6 years experience	3.80***	11.67
N	1,705	653

\*\*\* Significant at .1% (*t*-tests between categories).

TABLE 6  
SONORA: TEACHER ATTRIBUTES BY URBAN/RURAL, 1999–2004

Variable	Urban	Rural
% male teachers	53.28***	66.22
Average teacher test score points	17.79**	17.42
Average teacher test score (% correct)	51.54***	49.08
Average federal training score	2.79***	2.32
Average state training score	3.24**	3.12
% with <i>Normal Básica</i>	28.48***	35.03
% with <i>Normal Licenciatura</i>	46.83	46.06
% with <i>Normal Superior</i>	16.90***	13.86
% with master's degree	3.90***	1.73
Average years of experience	16.33	16.35
% with <6 years experience	9.88**	10.03
N	4,284	1,306

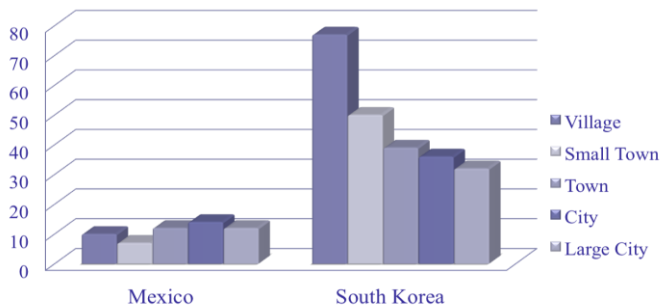
\*\* Significant at 1%.

\*\*\* Significant at .1% (*t*-tests between categories).

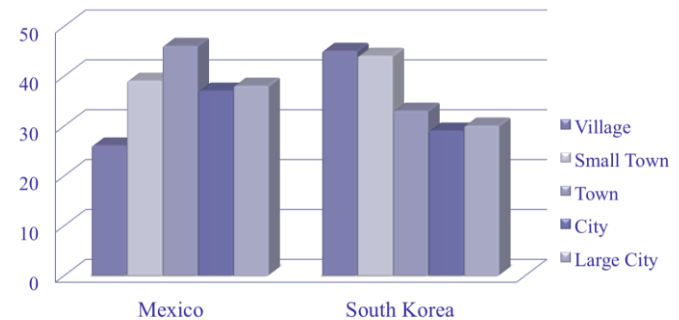


# Teacher Distribution in Mexico and South Korea (Luschei, Chudgar, & Rew, 2013)

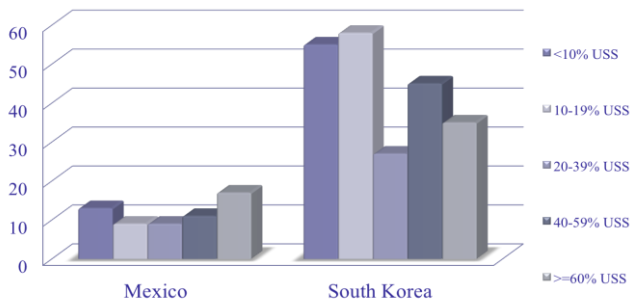
## Education & Community Size



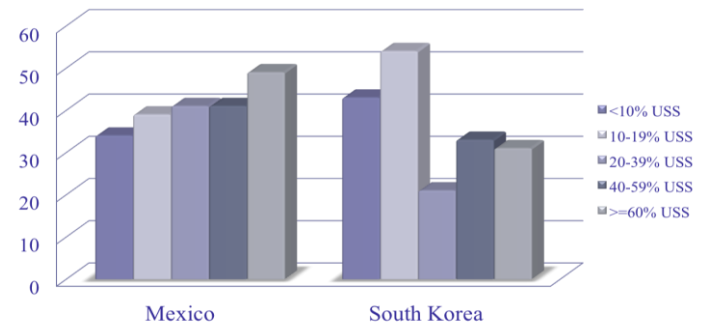
## Experience & Community Size



## Education & Parental Education



## Experience & Parental Education



# Teachers of Marginalized Children: A Cross-National Comparison (Chudgar & Luschei, 2013)



**SERCE**  
**8 countries**

**Brazil, Chile, Colombia,  
Cuba, Guatemala,  
México, Peru, Uruguay**



**TIMSS/DISE**  
**7 countries**

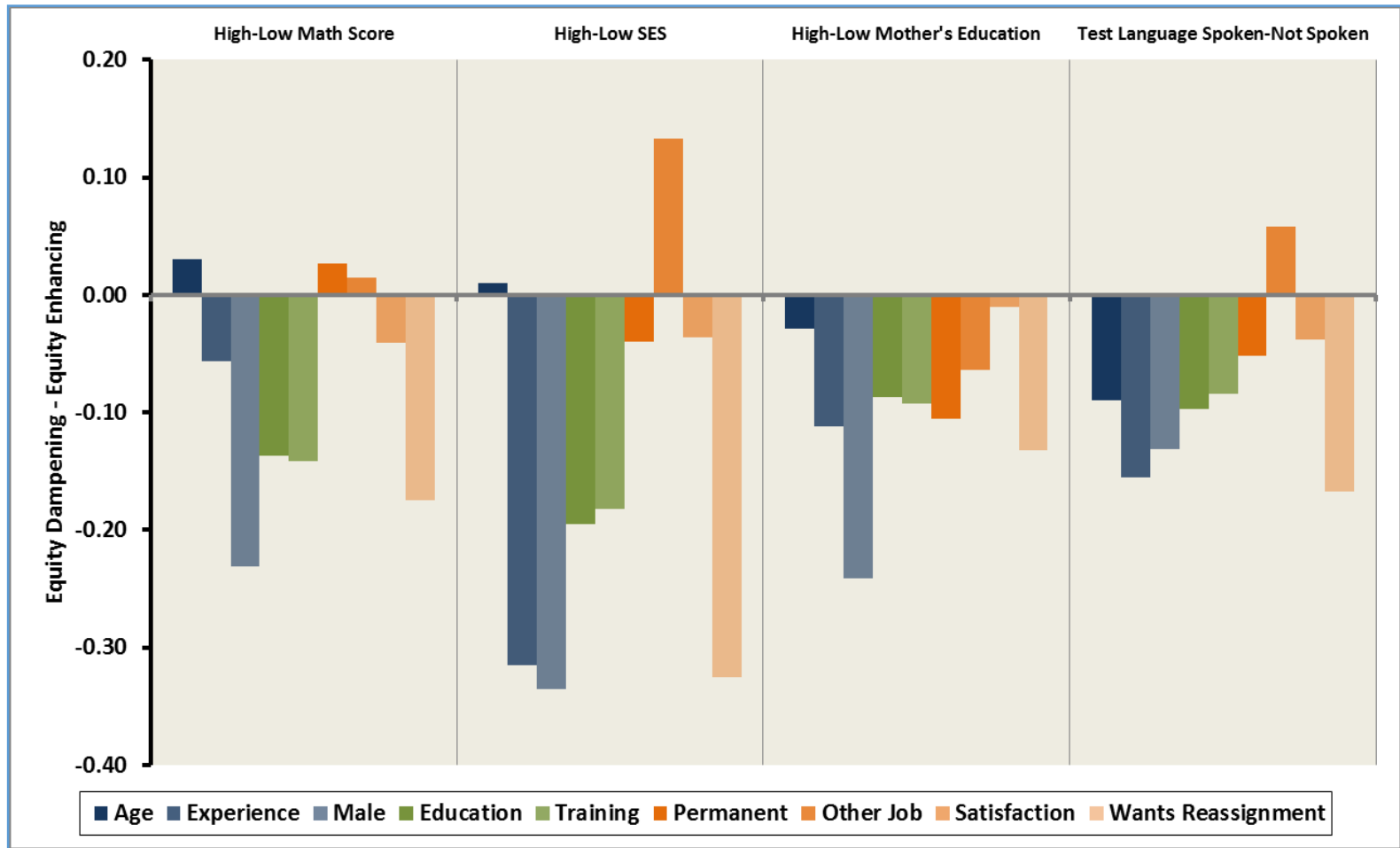
**Hong Kong (SAR),  
Indonesia, Malaysia,  
Mongolia, Taipei,  
Thailand, India**



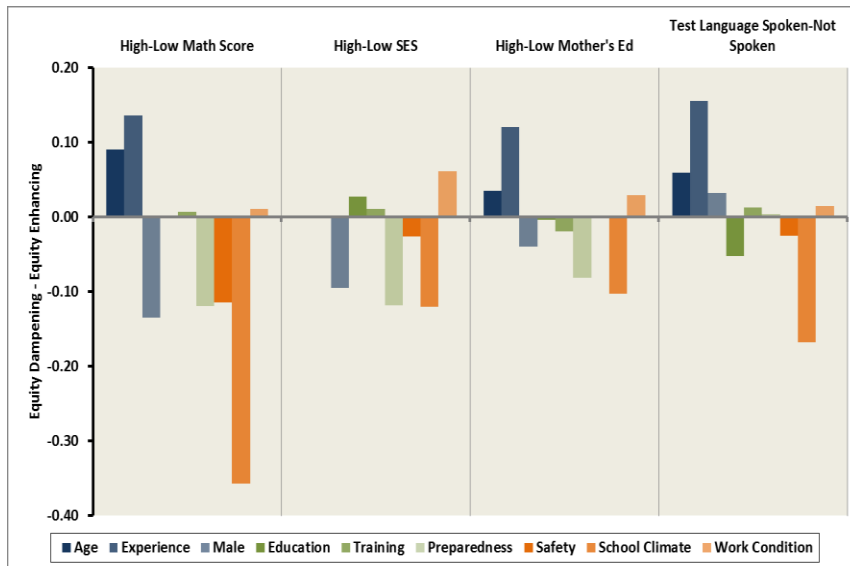
**PASEC/SACMEQ**  
**9 countries**

**Benin, Botswana,  
Guinea, Kenya, Malawi,  
Mozambique, Namibia,  
South Africa, Tanzania**

# Who teaches marginalized children?

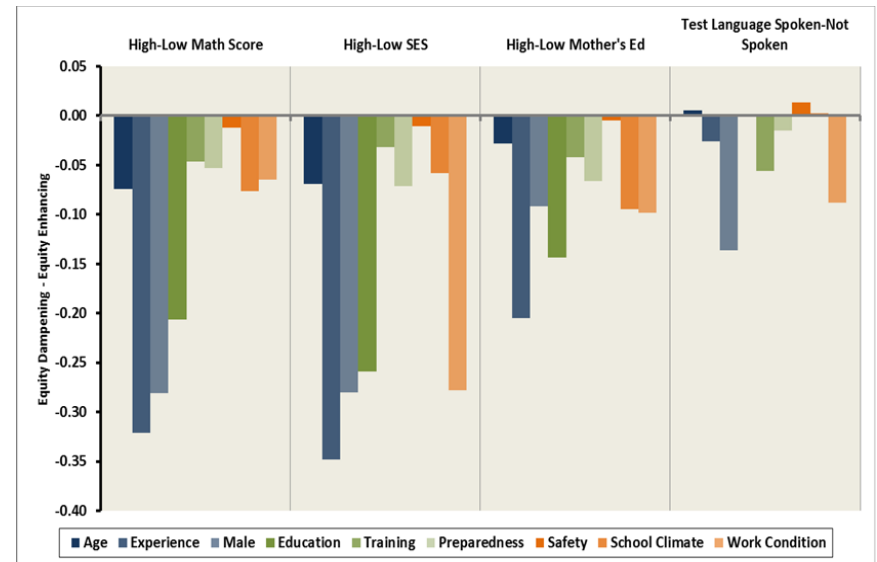


# Asia: Who teaches marginalized children?



Hong Kong

Malaysia, Taipei,  
Thailand



Indonesia

Mongolia

# Compelling, Systematic, Cross-national Evidence of Unequal Teacher Distribution

- Teachers of marginalized children tend to be male, younger, less experienced, and less qualified.
- Teachers of marginalized children are more dissatisfied with their working conditions and more likely to desire reassignment.
- Teacher sorting is particularly pronounced in terms of teacher test scores (in sub-Saharan Africa) and teacher preparedness (Asia).
- On average, Asian countries have more equitable patterns.

# Cross-School and Cross-Classroom Sorting in South Korea & the USA (Jeong & Luschei, 2019)

**Table 3. Inequality Measures of Teacher Distribution Across Schools and Classes**

Teacher characteristics	Gini index across schools		Gini index across classes	
	South Korea	United States	South Korea	United States
Years of teaching in total	0.141	0.155	0.342	0.391
Permanent employment	0.086	0.218	0.171	0.300
Out-of-field teacher	0.369	0.521	0.823	0.898
Self-efficacy in instruction	0.034	0.024	0.109	0.084

# Ensuring That Every Child Has a Qualified Teacher: Lessons from International Research

# What causes “opportunity gaps” in children’s access to qualified teachers?

Lankford et al. (2002): Teachers choose schools based on their preferences for working conditions, such as student population.

Kang & Hong (2008): Equitable access to qualified teachers in S. Korea due to: (1) uniformity in quality, (2) rotation of teachers every five years, (3) incentives to teach disadvantaged children.

Luschei & Carnoy (2010): Inequitable distribution of teachers in Uruguay may stem from policies and priorities that favor children of the elite, such as teacher hiring competitions (“*concursos*”).

Luschei, Chudgar, & Rew (2013): All else equal, a more centralized system with a greater commitment to equity will have more equal teacher distribution.

Goldhaber et al. (2015): teacher opportunity gaps may result from teacher preferences for more advantaged students, collective bargaining agreements, principal assignments, student tracking.

Luschei & Jeong (2018): key policy variables are significantly related to teacher sorting patterns, especially cross- and within-school grouping of students.



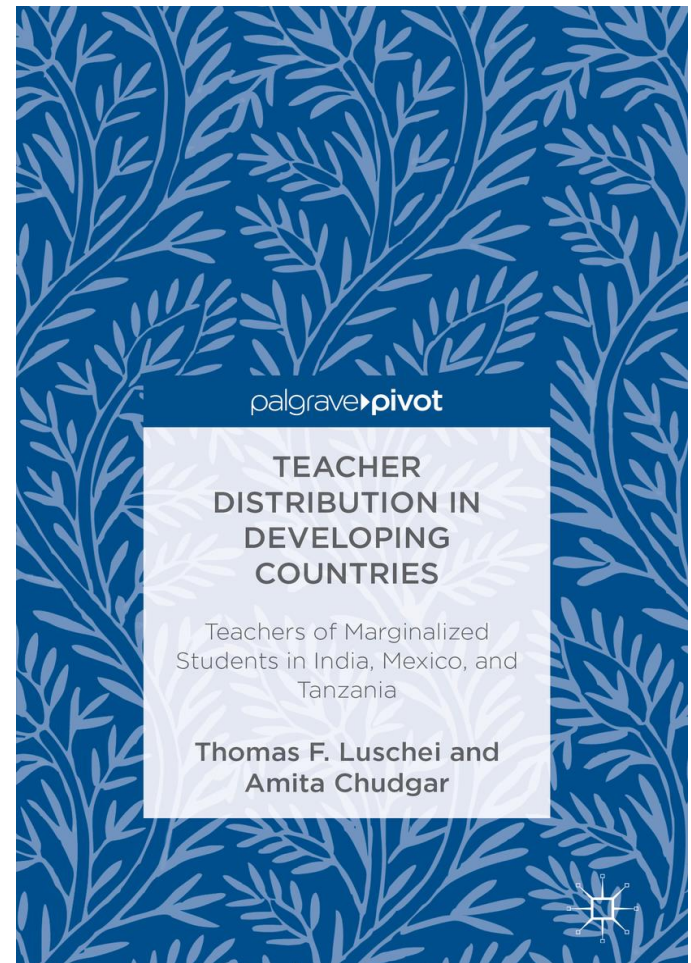
# Teacher Distribution in Developing Countries (Luschei & Chudgar, 2017)

Explore patterns of teacher distribution and policies related to inequitable teacher hiring practices & policies.

India: Karnataka, Madhya Pradesh, Rajasthan

Mexico: Chiapas, Federal District, Yucatán, Zacatecas

Tanzania: Arusha, Dar Es Salaam, Lindi



# Luschei & Chudgar (2017): Responses from Mexico

Researcher, Mexico City: “Marginalized children—who represent the majority of children—do not have access to well-qualified teachers. The answer is maybe trivial, but there is no way and the evidence is everywhere.”

Teacher Educator, Chiapas: “We give the most difficult positions to the least experienced.”

Researcher, Chiapas: The quality of teachers “is a huge problem in Chiapas and in other parts of southern Mexico...the more marginalized parts of Mexico always have a problem that there are not any qualified teachers.”

Teacher, Yucatán: “The most unprepared teachers are sent to the highest need areas, but it should be exactly the opposite.”

# Recommendations for Reaching and Teaching Marginalized Children

- Ensure Equity, Transparency, and Efficiency in Initial Hiring and Transfers
- Recognize teacher concerns to make efficient teacher allocation decisions
- Carefully Design Monetary and Nonmonetary Incentives
- Provide Adequate and Relevant Teacher Preparation and In-service Training and Support
- *Invest in Local Infrastructure and Human Capital, with a Focus on Girls and Women*

# Is Teacher Sorting a Global Phenomenon?

## Cross-National Analysis of 32 Countries

(Luschei & Jeong. 2018)

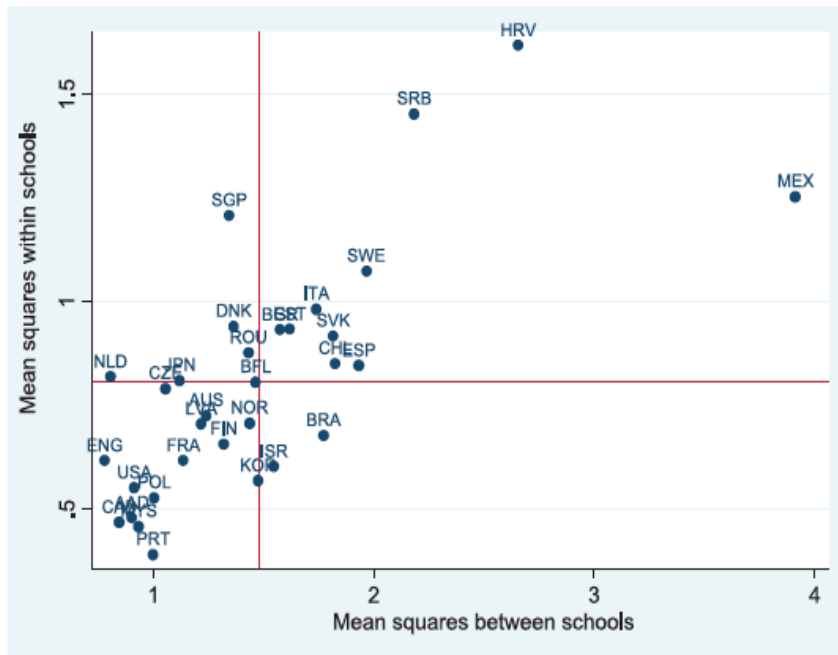


FIGURE 1. *Between- versus within-school variation of overall teacher quality factor by country/system*  
 The country means of squares between and within schools are 0.809 and 1.480, respectively.

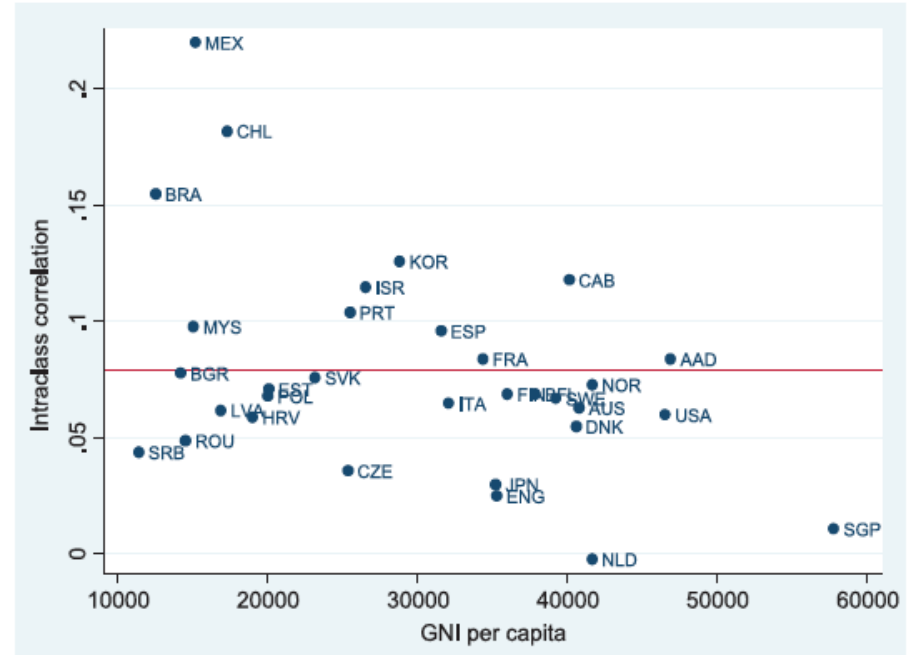


FIGURE 2. *Intraclass correlation of overall teacher quality factor between schools GNI per capita*  
 The country mean of ICC is 0.079. The goodness of linear fit regression, *R*-squared, is 0.177.

# Policy Variables Associated with Teacher Sorting (Luschei & Jeong, 2018)

- Cross-School Sorting: cross-school ability grouping of students *is positively related to sorting*.
- Cross-Classroom Sorting
  - *negatively related to sorting*: cross-school ability grouping, *lack of* within-school ability grouping, financial bonuses for teachers, keeping track of data
  - *positively related to sorting*: teacher incentives for career advancement, public posting of achievement data, autonomy in curriculum and instruction

# Summary: Ensuring Equal Access to Qualified Teachers *across Schools*

- The Korean Example: uniformly well-prepared teachers, mandatory rotation of teachers, incentives to teach in difficult-to-staff schools.
- In lower-income contexts, rural development may provide a solution.
- Beware unintended consequences (Luschei & Jeong, 2018)

“Policies designed to promote educational efficiency—such as student tracking or grouping, teacher performance incentives, school accountability, and curricular/instructional autonomy—may have unintended consequences in terms of teacher sorting” (pp. 571-572).

# Summary: Ensuring Equal Access to Qualified Teachers *across Classrooms*

- Although cross-classroom teacher sorting appears to be a problem in most countries, the evidence base is very thin.
- Two possible approaches:
  1. Incentives/support for teachers who work in classes with stronger concentrations of disadvantaged students (Feng, 2010)
  2. Reduce within-school ability grouping to make classrooms more similar (Luschei & Jeong, 2018)
- Much more research is needed!

# Thank you!

**Thomas F. Luschei, PhD**

[thomas.luschei@cgu.edu](mailto:thomas.luschei@cgu.edu)



# References

- Chudgar, A., & Luschei, T. F. (2013). Final report: Study of teachers for children marginalized by social origin, economic status, or location. New York: United Nations Children's Fund (UNICEF).
- Chudgar, A., & Luschei, T. F. (2016). Understanding teacher distribution cross-nationally: Recent empirical evidence. *Teachers College Record*.
- Feng, L. (2010). Hire today, gone tomorrow: New teacher classroom assignments and teacher mobility. *Education Finance and Policy*, 5(3), 278–316.
- Goldhaber, D. D., Brewer, D. J., & Anderson, D. J. (1999). A three-way error components analysis of educational productivity. *Education Economics*, 7(3), 199-208.
- Goldhaber, D. D., Lavery, L., & Theobald, R. (2015). Uneven playing field? Assessing the teacher quality gap between advantaged and disadvantaged students. *Educational Researcher*, 44(5), 293–307.
- Hanushek, E. A. & Rivkin, S. G. (2004). How to improve the supply of high-quality teachers. In D. Ravitch (Ed.), *Brookings papers on education policy 2004* (pp. 7-44). Washington, DC: Brookings Institution Press.
- Jeong, D. W., & Luschei, T. F. (2019). Teacher sorting within and across schools and nations: A comparative study of South Korea and the United States. *Teachers College Record*, 121(8).
- Kang, N. H., & Hong, M. (2008). Achieving excellence in teacher workforce and equity in learning opportunities in South Korea. *Educational Researcher*, 37(4), 200-207.
- Lankford, H., Loeb, S., & Wyckoff, J. (2002). Teacher sorting and the plight of urban schools: A descriptive analysis. *Educational Evaluation and Policy Analysis*, 24(1), 37–62.
- Luschei, T. F. (2012). In search of good teachers: Patterns of teacher quality in two Mexican states. *Comparative Education Review*, 56(1), 69-97.
- Luschei, T. F. & Carnoy, M. (2010). Educational production and the distribution of teachers in Uruguay. *International Journal of Educational Development*, 30(2), 169-181.
- **Luschei, T. F., & Chudgar, A. (2017). *Teacher distribution in developing countries: Teachers of marginalized students in India, Mexico, and Tanzania*. New York: Palgrave Macmillan.**
- Luschei, T. F., Chudgar, A., & Rew, W. J. (2013). Exploring differences in the distribution of teacher qualifications in Mexico and South Korea: Evidence from the Teaching and Learning International Survey. *Teachers College Record*, 115(5).
- Luschei, T. F., & Jeong, D. W. (2018). Is teacher sorting a global phenomenon? Cross-national evidence on the nature and correlates of teacher quality opportunity gaps. *Educational Researcher*, 47(9), 556–576.
- Rivkin, S. G., Hanushek, E. A., & Kain, J. F. (2002). Teachers, schools and academic achievement. (NBER Working Paper No. 6691, revised). Cambridge, MA: National Bureau of Economic Research.