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World Education Leadership Symposium (WELS) Online Conference 2022

#### **Initiator and Organizer / Initiator und Leiter:**

Prof. Dr. Stephan Gerhard Huber

#### Host WELS 2022 (since 2009) / Veranstalter WELS 2022 (seit 2009):

Institute for the Management and Economics of Education (IBB) / University of Teacher Education Zug (PH Zug)
Institut für Bildungsmanagement und Bildungsökonomie (IBB) / Pädagogische Hochschule Zug (PH Zug)

#### **Cooperation Partners / Kooperationspartner:**

Association of school leaders and teachers, ministries and authorities as well as further universities and partners / Schulleitungs- und Lehrerverbände, Ministerien und Behörden sowie weitere Hochschulen und Partner



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COVID-19 and School Finance: Adjusting to Downturns and Accommodating the Costs of Online Education

Dr. Tyrone Bynoe, Associate Professor - St Bonaventure University
Dr. Thomas Downes, Associate Professor – Tufts University
WELS Online Symposium – Zug, Switzerland
September 29, 2022



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#### **Key Research Questions**

- During economic downturns, do states where inequality grows less have common elements in their finance systems?
- Or during economic downturns (such as the impending recession during COVID-19), which particular state school finance systems [or formulaic policies] are associated with more inter-district spending disparities and which school finance systems are associated with less inter-district disparities?

## Two Models of State School Finance Systems

#### Categorical Grants-In-Aid

 Categorical Grants-in-aid are state revenues sources allocated to meet specific needs.

## Tax-Effort Equalization Programs

• Tax-effort equalization programs are state formulas for operating aid generated by a system of state-and-local taxes with the goal to redistribute state wealth so that average state spending reflects what the state wants and not that of local communities.

### Spectrum of School-Finance Equalization Models

Least Centralized

Most Centralized

Flat Grant Foundation Program District Power Equalization Full State Funding



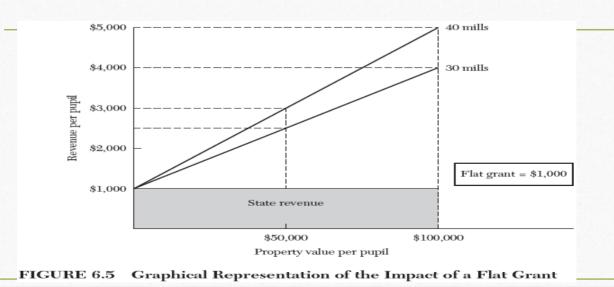


#### Flat Grants



- Flat grants provide a fixed amount of funding per pupil to each school district in the state
- This funding is not based on the locality's fiscal capacity
- Most states do not use flat grants as the primary vehicle for distributing funds to localities

#### The Flat Grant - Graphic Representation



## Equalization Impact of Flat Grants

School District	Local Property Value	Local Revenue	Flat Grant Amount	Total Spending Per Pupil
C \$	5,000	50	2,000	2,050
	50,000	500	2,000	2,500
	6250,000	2500	2,000	4,500
	6500,000	5000	2,000	7,000

### **Foundation Programs**

- Foundation programs are a means of providing equalization grants to school systems
- A foundation program
   establishes some
   minimum level of per pupil funding that must be
   met with a combination of
   local and state funding
- No district can fall below this foundation level

# The Foundation Program – A Graphic Representation

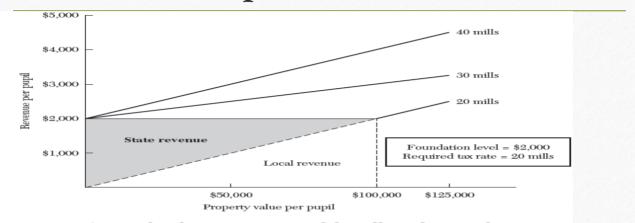


FIGURE 6.7 Graphical Representation of the Effect of a Foundation Program

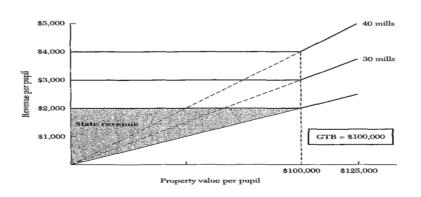
### **Foundation Program**

	Local Capacity		Foundation Level		Total Funding	
A	\$ 1,000	9,000	10,000	0	10,000	
D	\$ 7,500	2,500	10,000	2,500	12,500	
E	\$ 10,000	0	10,000	2,500	12,500	

# District Power Equalizing Programs

- A third type of equalization program is District Power Equalizing (DPE)
- DPE programs guarantee that each locality can operate as if all school districts had an equal per pupil property tax base

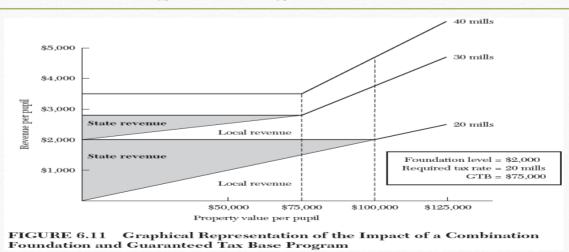
# District Power Equalizing: A Graphic Representation



### **Combination Programs**

- Other equalization formulae exist as hybrids between foundation programs and District Power Equalizing programs
- These programs take the best of other formulae and apply those components to their particular conceptual framework

# Combined Foundation Program – A Graphic Representation



## Methodology = Fixed Effects Panel Regression Simplified

Equity (Fairness or Effort) = Bo + B1 (State School Finance Systems) + B2 (Economic Downturn [Dummy Variable = 1 or 0]) + B3 (Control for State Specific Effects) + e

## Table 3 Variation in Equity Measures and Characteristics of School Financing Systems (Standard errors clustered by state in parentheses)

All specifications include state-specific effects and state-specific trends. Robust standard errors in parentheses \*\*\*\* p<0.01, \*\*\* p<0.05, \*\* p<0.1

VARIABLES	Fairness – Current	Fairness – State	FairnessLocal	Fairness – Teachers	Effort – Spending	Effort – Spending
	Expenditures	and Local	Revenues	per 100 Pupils	to GSP	to Income
		Revenues				
Downturn	0.00750	0.00948	-0.0647	0.0264	0.00364**	0.00306*
	(0.0398)	(0.0477)	(0.0580)	(0.0382)	(0.00145)	(0.00160)
Downturn x Foundation	<mark>0.0205</mark>	<mark>0.0481*</mark>	0.0640*	0.0381*	-0.000199	0.00113
Program Program	(0.0223)	(0.0280)	(0.0342)	(0.0199)	(0.000970)	(0.00107)
Downturn x Power	0.0272	0.0386*	0.0653**	0.0366**	0.000374	0.000450
equalization	(0.0230)	(0.0206)	(0.0294)	(0.0179)	(0.000698)	(0.000794)
Downturn x Flat grant	0.00772	-0.0569	-0.0772	-0.0141	-0.000378	-3.78e-05
	(0.0213)	(0.0495)	(0.0470)	(0.0344)	(0.00115)	(0.00135)
Downturn x Categorical aid	-0.0144	-0.0286	0.00394	-0.0283	-0.000447	-0.000586
Downtum x Categoricar aid	(0.0178)	(0.0221)	(0.0265)	(0.0192)	(0.000673)	(0.000727)
Downturn x Recapture	0.0381	-0.0263	-0.0218	-0.0181	0.000492	0.00129
Downtam x recaptare	(0.0291)	(0.0169)	(0.0179)	(0.0234)	(0.000810)	(0.00125)
	(0.0291)	(0.0109)	(0.0179)	(0.0234)	(0.000610)	(0.00103)
Observations	980	980	980	980	882	882
R <sup>2</sup>	0.898	0.815	0.893	0.811	0.876	0.875
	3.370	3.320	0.070		3.310	0.570

### **Major Findings**

- During downturns, state school finance systems featuring flat grants and categorical-aids were associated with enormous inequity in fairness and funding effort.
- During downturns, state school finance systems featuring the common elements of foundation-programs, power equalization, and recapture elements were associated with less inequity in fairness and funding effort.
- During downturns, state school finance systems featuring combined foundation programs were best able overcome these downturns, and exhibited even less measures of inequity in fairness and funding effort.

#### Questions??????

The manuscript on this presentation will be published in the book entitled Recent Advancements in Education Finance and Policy (Editors: Kiernan Killeen and Thomas Downes)

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