

# How Does District Resource Allocation Change in Response to Charter School Competition?

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# Research questions

- How does school district resource allocation change in response to charter competition?
- Is districts' success in stemming further enrollment loss to charter schools influenced by the resource allocation changes they make?

## Michigan Setting

- Charter school policy in effect since 1994
- 226 charter schools, 98,000 students, 6% of statewide K-12 enrollment in 2006
- Inter-district choice policy in effect since 1996
- All operating revenues move with student to choice schools
- Declining statewide enrollment & real per pupil funding (since 2002).

# Fixed effects models: The effect of charter competition on school district resource allocation

$$Y_{it} = CS_{it} B_1 + SDstructure_{it} B_2 + SDchar_{it} B_3 + IDC_{it} B_4 + I_t \delta + \theta_i + u_{it}$$

$Y_{it}$  % of expenditures on function j; & other dimensions of instructional spending

$CS_{it}$  --% CS enrollment  
--CS Short run, CS Mid run , CS Long run

$SDstructure_{it}$  Ln(district enrollment), Ln(total operating expenditure per pupil), Ln(property wealth per pupil), %FRL students

$SDchar_{it}$  % special education, vector of student racial characteristics

$IDC_{it}$  % students transferring out a district through the inter-district choice program

Panel data 1994-2006

## Charter school effects on TPS instructional expenditures: Fixed effects

	% TE total instruction		% TE basic instruction		% TE added needs instruction	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
% CS enroll	-.058**	--	-.013	--	-.019	--
CS short	--	-.043	--	.072	--	-.10**
CS mid	--	.002	--	.088*	--	-.061**
CS long	--	-.066**	--	-.03	--	-.008

\*p<.05, \*\* p<.01.

## Charter school effects on TPS salaries and class sizes: Fixed effects

	% TE instructional salaries		Ln average teacher salary		Pupil to teacher ratio	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
% CS enroll	-.057**	--	-.178	--	-.278	--
CS short	--	-.012	--	-.116	--	-1.248
CS mid	--	.035	--	.02	--	-2.788
CS long	--	-.071**	--	-.205	--	.077

\*p<.05, \*\* p<.01.

## Charter school effects on TPS support services expenditures: Fixed effects

	% TE total instructional support		% TE business & administration		% TE operations & maintenance	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
% CS enroll	.018	--	.022	--	.004	--
CS short	--	.026	--	.002	--	.01
CS mid	--	.015	--	.006	--	-.018
CS long	--	.017	--	.025*	--	.007

\*p<.05, \*\* p<.01.

## Charter school effects on TPS revenue, expenditure, and fund balance: Fixed effects

	Total expenditure per pupil		Local & state revenue per pupil		Fund balance per pupil	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
% CS enroll	-213.6	--	-2678.0*	--	-3720.2**	--
CS short	--	3626.2*	--	1108.2	--	-1135.8
CS mid	--	-563.9	--	-1814.1*	--	-3826.8**
CS long	--	-437.2	--	-3037.1**	--	-3885.5**

\*p<.05, \*\* p<.01.

# Classifying districts by intensity of charter competition

		<u>Number of districts</u>
• None:	$CS_{2001} = 0$	379
• Low:	$0 < CS_{2001} < 6\%$	142
• Threatening:	$CS_{2001} \geq 6\%$ , 33	
• Stabilizes (2001-06):	$CS_{2006} \leq CS_{2001}$	18
• Increases (2001-06):	$CS_{2006} > CS_{2001}$	15

Where CS = % of students residing in a district who attend charter schools

## District student composition by intensity of charter competition, 2001 and 2006

<u>Intensity of charter competition</u>	<u>% Poor</u>		<u>% Special ed</u>	
	1994	2006	1994	2006
None	27.0	34.8	9.8	13.2
Low	29.3	38.2	10.7	14.5
Threatening	48.4	57.4	10.7	15.7
Stabilizes (2001-06)	38.3	47.1	10.1	15.5
Increases (2001-06)	61.4	69.8	11.3	15.9
	<u>% Black</u>		<u>% Hispanic</u>	
None	1.6	3.5	1.8	2.9
Low	6.2	10.4	2.8	4.5
Threatening	27.1	32.9	4.4	7.4
Stabilizes (2001-06)	10.9	15.9	2.9	4.8
Increases (2001-06)	46.5	53.2	6.1	10.5

# District resource allocation by intensity of charter competition, 1996

	Intensity of charter competition				Total	(3)-(4)	(1)-(4)
	None (1)	Low (2)	Threatening /stabilizes (3)	Threatening /increases (4)			
<u>% of Total exp</u>							
Total instruction	66%	64%	65%	59%	65%	6.0% **	6.5% **
Basic instruction	54%	51%	51%	42%	52%	9.5% **	11.6% **
Added needs inst	11%	12%	13%	15%	11%	-2.4%	-4.3% **
Total support services	34%	36%	35%	41%	35%	-6.0% **	-6.5% **
Inst. support	6%	8%	7%	10%	7%	-2.5%	-3.7% **
Administration	13%	12%	13%	14%	13%	-0.4%	-0.8%
Operations & mainten	10%	11%	10%	12%	10%	-2.2% *	-1.7% **
Fund balance	19%	13%	9%	11%	17%	-2.2%	8.3%
Ave salary	41960	44727	45271	45028	42860	243	-3068
Ave pupil/teacher	21.0	22.3	21.5	23.3	21.4	-1.9	-2.3*

\*p<.05, \*\* p<.01.

# District resource allocation by intensity of charter competition, 2006

	Intensity of charter competition				Total	(3)-(4)	(1)-(4)
	None (1)	Low (2)	Threatening /stabilizes (3)	Threatening /increases (4)			
<u>% of Total exp</u>							
Total instruction	65%	63%	64%	58%	64%	6.4% **	6.8% **
Basic instruction	52%	49%	49%	41%	51%	8.3% **	10.9% **
Added needs inst	12%	13%	14%	15%	13%	-1.0%	-3.5% **
Total support services	35%	37%	36%	42%	36%	-6.4% **	-6.8% **
Inst. support	7%	9%	8%	10%	7%	-1.6%	-2.9%
Administration	13%	13%	13%	15%	13%	-1.3%	-1.5%
Operations & mainten	10%	11%	10%	12%	10%	-2.1% **	-1.4% **
Fund balance	25%	16%	10%	11%	22%	-0.7%	14.1%
Ave salary	46376	48736	48896	48482	47120	414	-2105
Ave pupil/teacher	19.3	20.5	19.8	21.5	19.7	-1.5	-2.2 **

\*p<.05, \*\* p<.01.

# Shifts in district resource allocation by intensity of charter competition

	Intensity of charter competition				(3)-(4)	(1)-(4)	(1)-(3)
	None (1)	Low (2)	Threatening /stabilizes (3)	Threatening/ increases (4)			
<b><u>2006-2001</u></b>							
<u>% of Total exp</u>							
Total instruction	-1.1%	-0.7%	0.3%	-2.1%	2.4%	1.0%	-1.3%
Basic instruction	-0.3%	0.6%	-0.1%	-0.8%	0.7%	0.5%	-0.1%
Added needs inst	-0.2%	-0.4%	1.0%	0.0%	1.0%	-0.2%	-1.2%
Total support services	1.1%	0.7%	-0.3%	2.1%	-2.4%	-1.0%	1.3%
Inst. Support	0.4%	0.0%	-0.5%	1.6%	-2.1%*	-1.2%	0.9%
Administration	0.1%	0.0%	-0.5%	0.1%	-0.7%	-0.1%	0.6%
Operations & Mainten	0.5%	0.6%	0.7%	0.7%	0.0%	-0.2%	-0.2%
Fund balance	-4.3%	-2.7%	1.3%	-5.8%	7.1%	1.5%	-5.6%
Ave salary	5603	5412	2341	4012	-1671	1591	3262
Ave pupil/teacher	1.6	1.6	1.7	2.3	-0.6	-0.7	-0.1

\*p<.05, \*\* p<.01.

# Summary

## Charter competition in Michigan

- does not shift district resources to achievement-oriented activities
- reduces instruction's spending share, increases administration's share, in long run
- associated with fiscal stress—declining fund balances

Differences in resource reallocation do not account for successful versus unsuccessful district responses