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**Age of School Entry and
Educational Attainment**
Evidence from Germany Based
on Exogenous Variation
in Month of Birth

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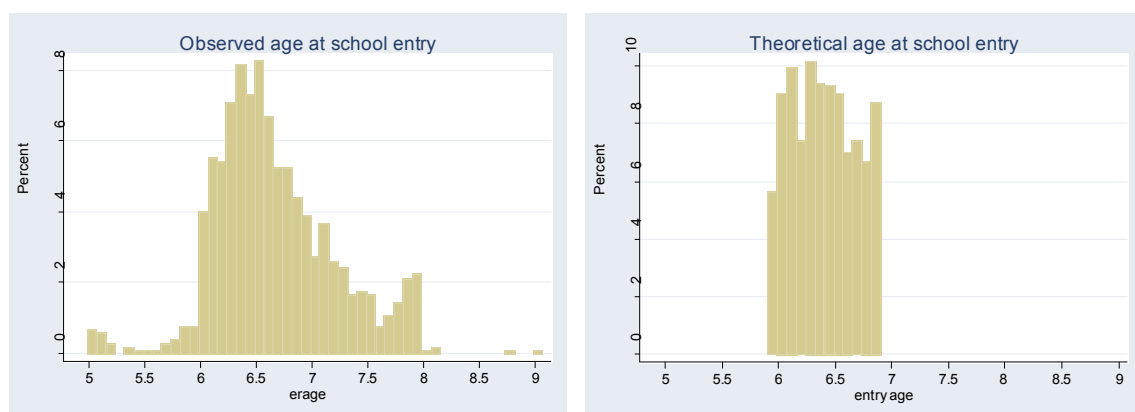
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Age of School Entry Varies Between and Within Countries

Compulsory school starting age by country			
4	5	6	7
Northern Ireland	Australia (Tasmania)	Austria	Bulgaria
Netherlands (from 8/02)	England	Australia*	Canada
	Malta	Belgium	Denmark
	Netherlands (until 8/02)	Cyprus	Estonia
	New Zealand	Czech Republic	Finland
	Scotland	France	Latvia
	Wales	Germany	Poland
		Greece	Romania
		Hong-Kong	Singapore
		Hungary (mostly)	Sweden (mostly)
		Iceland	<i>Switzerland</i>
		Republic of Ireland	
		Italy	
		Japan	
		Korea	
		Liechtenstein	
		Lithuania	
		Luxembourg	
		Norway	
		Portugal	
		Slovakia	
		Slovenia	
		Spain	
		<i>Switzerland</i>	
		U.S.A.	

Note: * except of the state of Tasmania

Source: Sharp (2002), page 2 and Bertram and Pascal (2002).

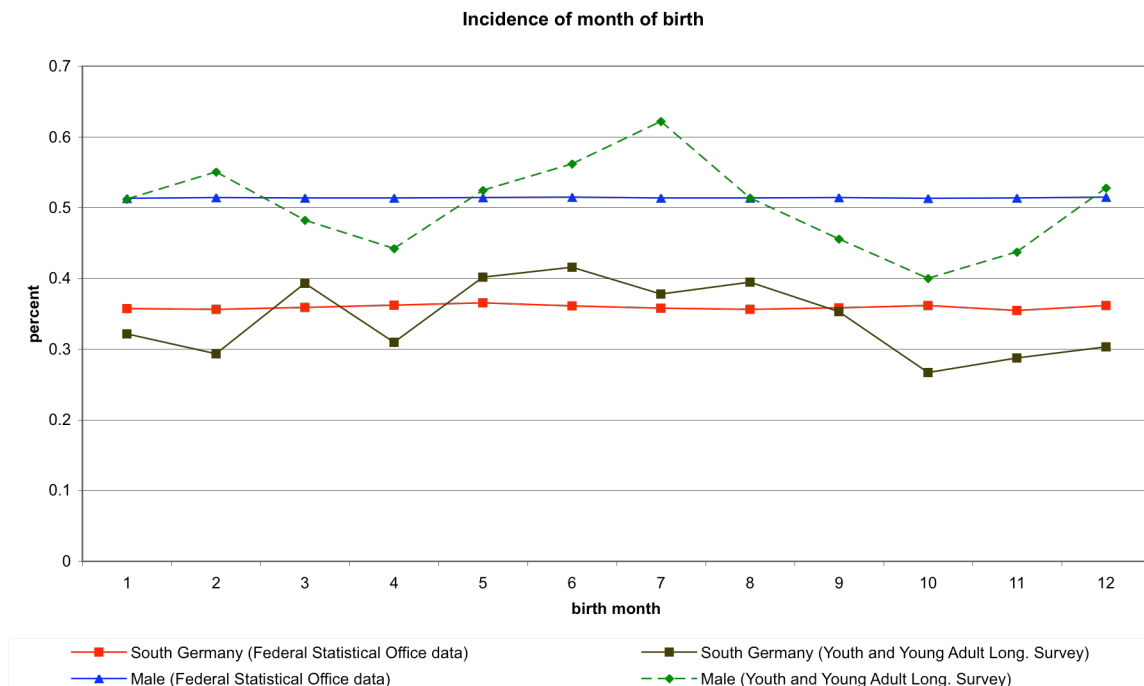


Note: Observed school entry age and theoretical entry age according to cut-off date of September.

Source: Data of the German Youth and Young Adult Longitudinal Survey. Own computations.



Data



- German Youth and Young Adult Longitudinal Survey
- Stratified Sampling
- Around 1000 observations (depending on specification used) of young adults aged 22 to 29; born in the 1960s



Estimation Strategy

Outcome Variable:

years of secondary schooling

Impact Variable:

age at school entry in months

Instrumental Variable:

theoretical age of school entry
(as implied by month of birth)

Optional Control Variables:

- 1) no controls
- 2) gender, year of birth, federal state
- 3) type of religion or agnostic
- 4) parental education variables
- 5) parental behaviour at start of school
- 6) siblings, household resources,
parental attitude



The Exogeneity of Month of Birth

Exo group 2-6	Hamburg Accord	School Starting Date	September
Male	0.01	-0.07**	-0.06**
1962	0.02	-0.03	-0.03
1963	0.02	-0.02	-0.02
1964	0.03	-0.01	0.00
1965	0.06**	0.01	-0.03
1966	0.05*	0.02	-0.03
1967	-0.04	0.02	0.02
1968	-0.03	0.01	0.02
SHS	0.03	0.04	0.02
Bremen	-0.02	0.03	0.03
Hamburg	0.02	0.04	0.02
Niedersachsen	-0.04	-0.01	0.02
NRW	-0.07**	0.00	0.01
Hessen	0.02	0.05*	0.04
Rhl.-Pfalz	0.02	-0.01	0.01
Saarland	0.02	0.03	0.05*
Baden-Württ.	0.02	-0.03	-0.03
Bavaria	0.05*	-0.04	-0.07**
Berlin	-0.03	-0.02	0.00
Christian	-0.02	0.00	-0.01
Other Religion	0.00	-0.02	0.00
Fatherhigh	0.00	0.05	0.05*
Motherhigh	-0.05*	0.02	0.04
Fatherint	0.01	-0.01	-0.03
Motherint	0.02	0.01	-0.01
Gift	-0.03	0.01	0.03
Parents attended	-0.05*	0.01	0.04
Siblings	0.04	-0.01	-0.02*
Attitude	0.02	0.02	0.01
Resources	-0.02	0.07**	0.04**
Joint	-0.03	0.01	-0.03



First Stage Regressions with Different Sets of Control Variables

	Hamburg Accord	School Starting Date	September	Sept. and October	August, Sept. and October
Exo1	0.20	0.78	0.74	-	-
F-statistic	(7.0)	(148.6)	(138.7)	(72.5)	(54.1)
Exo2	0.17	0.77	0.73	-	-
F-statistic	(5.13)	(145.8)	(132.8)	(68.7)	(50.7)
Exo3	0.17	0.77	0.73	-	-
F-statistic	(5.24)	(146.6)	(133.3)	(69.1)	(50.9)
Exo4	0.17	0.78	0.74	-	-
F-statistic	(5.1)	(152.5)	(139.1)	(72.7)	(53.8)
Exo5	0.14	0.77	0.75	-	-
F-statistic	(2.6)	(102.0)	(101.1)	(52.0)	(37.2)
Exo6	0.14	0.76	0.75	-	-
F-statistic	(2.7)	(101.4)	(99.0)	(50.9)	(36.6)



2SLS Regressions (LATE) with Different Sets of Controls

	OLS	Hamburg Accord	School Starting Date	September	Sept. and October	August, Sept. and October
Exo1	-0.22	0.14	0.38	0.47	0.44	0.49
(se)	(0.08)	(1.13)	(0.23)	(0.25)	(0.24)	(0.24)
Exo2	-0.24	-0.17	0.30	0.50	0.46	0.50
(se)	(0.09)	(1.34)	(0.23)	(0.25)	(0.25)	(0.24)
Exo3	-0.23	-0.13	0.30	0.49	0.45	0.49
(se)	(0.09)	(1.32)	(0.23)	(0.25)	(0.25)	(0.24)
Exo4	-0.18	0.58	0.12	0.27	0.23	0.27
(se)	0.08	(1.27)	(0.21)	(0.22)	(0.22)	(0.21)
Exo5	-(0.17)	0.48	0.20	0.35	0.31	0.35
(se)	0.09	(1.81)	(0.25)	(0.26)	(0.25)	(0.25)
Exo6	-(0.14)	0.34	0.17	0.38	0.33	0.35
(se)	0.09	(1.65)	(0.24)	(0.25)	(0.24)	(0.24)



Conclusions

- Using exogenous variation in age of school entry switches the sign of the effect of age of school entry on years of schooling.
- Our preferred estimates suggest that a deferral of school entry age by one year raises the years of schooling by about half a year.
- Subsample analysis shows that the estimated effect is stronger for female pupils and for pupils in Northern States.

