

Zusätzliche Berufsorientierung und Bildungsergebnisse für Absolventen der Hauptschule

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English Title: Additional Career Assistance and Educational Outcomes
for Students in Lower Track Secondary Schools

7. KSWD-Tagung - Parallelforum D: Sekundäranalytische Forschung ...

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Motivation: Career Assistance (Berufsorientierung)

- Information, Mentoring, Coaching
 - reduces information asymmetries, realistic assessment of labor market chances, learning about one's strengths and weaknesses
- More than 300 occupations to choose: Decision making is difficult at young age
- Higher educational attainment improve labor market chances
 - difficulty to start an apprenticeship with an **LTSS (Hauptschule)** degree
 - educational upgrading rational: here information on Additional General Teaching (AGT, Zusatzunterricht)
 - present bias reduces learning efforts among youth
- Relying on routine/risk aversion/social preferences: Continue Schooling because of specificity of apprenticeship
- Pre-vocational training (Übergangssystem): Remedial programs after secondary schools

Motivation: Literature

- Concerns about Capability-to-be-trained ('Ausbildungsreife'): High importance of cognitive and non-cognitive skills (Cunha und Heckmann 2007; Solga, Baas, Kohlrausch 2012)
- Saniter and Siedler (2014): Introduction of Job Information Centers increases educational attainments and allow for a smoother transition into the labor market; no effects on individuals' earnings
- Fitzenberger and Lickleder (2015): LTSS in City of Freiburg, improvement in career planning and in grades over last two years of schooling in situation with intensive career guidance policies do not result in a high rate of transitions into apprenticeship
→ transition to 'continuation of schooling' and 'pre-vocational training' dominate

Medium Term Outcomes for LTSS Graduates

- Survey: Use sample augmented by LTSS students from Surroundings of Freiburg
→ contrast in career guidance policies
- Analyze Medium-term (during first three years after LTSS) outcomes regarding educational upgrading (MTSS degree) and entry into apprenticeship
- **Merge survey data with administrative employment records from IAB** → allow to impute MTSS degree for many cases

Survey in LTSS's in and around Freiburg

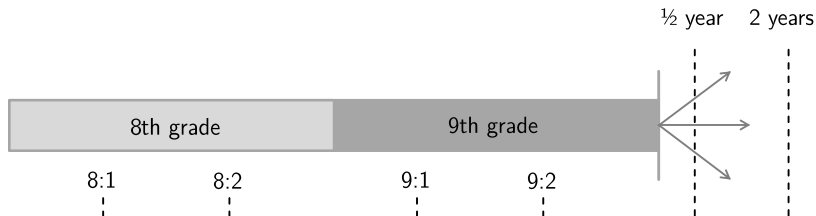
- Own survey among students, parents, and teachers
- Two cohorts of 8th/9th graders: 2007-2009 and 2008-2010
- Grades (German, Math)*
- Further education/start of an apprenticeship* based on IEB employment records
- n=664 observations (464 from City of Freiburg (CFR), 200 from Surroundings of Freiburg (SFR))
- Additional career assistance (ACA): Intensive treatment in CFR (160 extra hours per year), much less career guidance policies in SFR

* When parents have agreed to using this information.

Additional Career Assistance (ACA) in CFR

- Intensive treatment (160 extra hours per year) on top of what is offered by teachers and job counselors
- Modules (classroom setting or individualized counseling):
 - Career Planning: SWOT (strengths, weaknesses, opportunities, threats) → desired occupation
 - Knowledge about training occupations and local labor market conditions
 - Job applications
 - Internships
 - Advising parents
 - Simulate practice firm
 - Preparation for assessment tests
 - Importance of cognitive and noncognitive skills

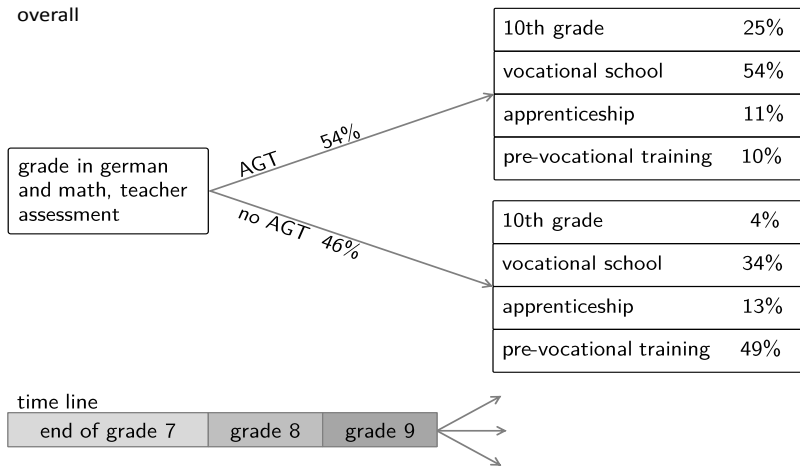
Design of the Survey



2 cohorts (graduated '09 and '10)

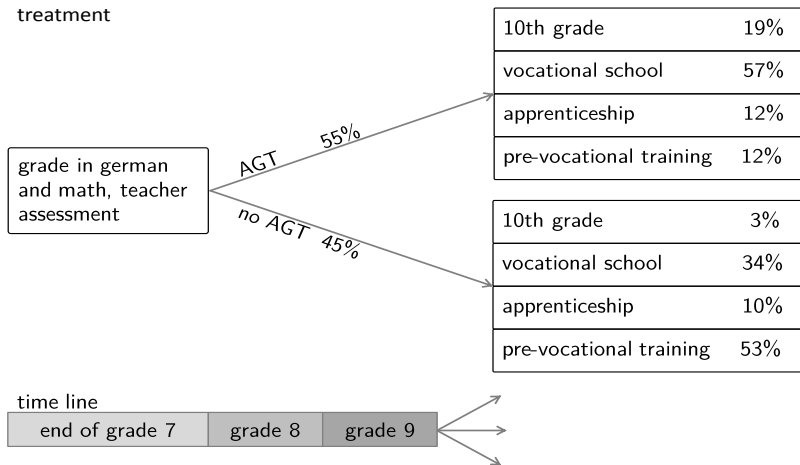
First cohort started survey at 8:2, second cohort started survey at 8:1

Additional General Teaching (AGT) and Transitions



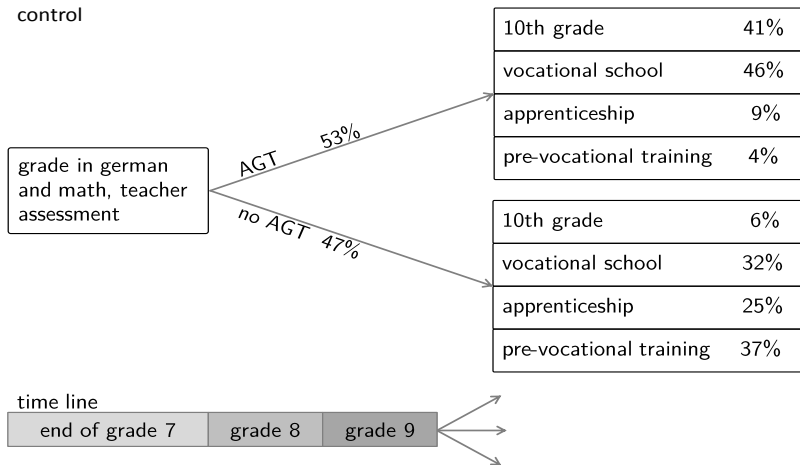
Source: Own survey and calculations. Immediate Transitions after LTSS.

AGT and Transitions: Treatment Group (CFR)



Source: Own survey and calculations. CFR: City of Freiburg.
Immediate Transitions after LTSS.

AGT and Transitions: Control Group (SFR)



Source: Own survey and calculations. SFR: Surroundings of Freiburg.
Immediate Transitions after LTSS.

Table 1: Valid Responses: School based Surveys

Grade and semester	treatment	control	Σ
8:1	143	78	221
8:2	299	83	382
9:1	327	97	424
9:2	246	108	354
Total N (Persons)	464	200	664

Note: Only those agreeing to merge SIAB data. Only second cohort in 8:1.

Table 2: Valid Responses: After LTSS

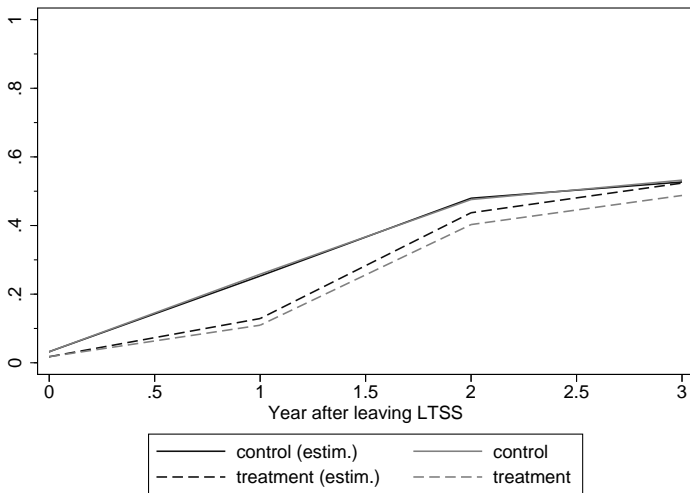
year after LTSS	treatment	control	Σ
+1	445	153	598
+2	179	91	270
+3	178	91	269
+4	145	73	218

Table 3: Plans during LTSS for Transition after LTSS

grade and halfyear	control				treatment			
	8:1	8:2	9:1	9:2	8:1	8:2	9:1	9:2
transition plan								
no idea / other	0.04	0.08	0.03	0.03	0.04	0.08	0.03	0.17
apprenticeship	0.22	0.23	0.27	0.29	0.20	0.22	0.19	0.18
further schooling	0.74	0.69	0.70	0.68	0.76	0.69	0.79	0.65
— grade 10				0.39				0.14
— vocational school				0.29				0.51
N	78	83	99	31	157	297	329	84

Source: own survey data, including student and teacher questionnaires.

MTSS-Degree: Actual versus Imputed Cumulative Incidence



Note: Observed from survey data/Estimated including imputed shares.

OLS - Final Grade when Leaving LTSS (Specification 1)

treat	-0.0812	m * AGT	0.0910
	[0.05]		[0.08]
average grade in German and Math (7:2)	.3807***	ind. coaching/mentor. desirable (teacher, 8:2)	-0.0072
	[0.07]		[0.10]
female	0.2055***	social/cognitive skills (teacher, 8:1/8:2)	-0.1132***
	[0.05]		[0.03]
migration background	0.0682	father employed	-0.0315
	[0.09]		[0.07]
share of foreigners in residential area	0.0052	father medium/high education	-0.0890**
	[0.00]		[0.04]
additional general teaching (AGT)	-0.4811***	10th grade available at LTSS	-0.0457
	[0.08]		[0.05]
Other controls	Yes	N	634
adj. R-sq	0.463		

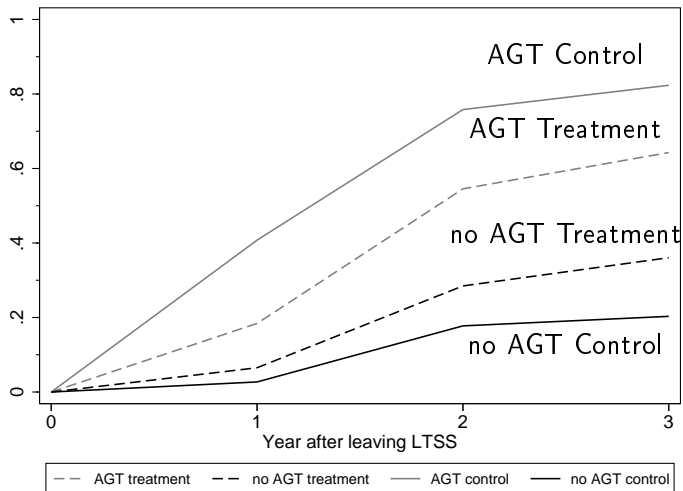
Note: Average grade in German/Math. German grading scheme 1 to 6. Regression includes dummies for missing data of questionnaires. m (\bar{m}): (no) migration background.

OLS - Final Grade when Leaving LTSS

Specification 2		Specification 3	
treat * AGT	0.0441 [0.05]	treat * AGT * m	0.0282 [0.14]
		treat * AGT * \bar{m}	0.0507 [0.07]
treat * no AGT	-0.2220** [0.08]	treat * no AGT	-0.2544** [0.10]
		treat * no AGT * m	0.0925 [0.18]
Other controls (as in Spec. 1)	Yes	Other controls (as in Spec. 1)	Yes
N	634	N	634
adj. R-sq	0.469	R-sq	0.483

Note: Average grade in German/Math. German grading scheme 1 to 6. Regression includes dummies for missing data of questionnaires. m (\bar{m}): (no) migration background.

Completion of MTSS Degree by AGT and Treatment



Treatment Effect on the Completion of MTSS Degree

Fractional Probit for MTSS based on imputed Data

$$P(mtss_{it} = 1 | X_i) = \Phi(\alpha + \tau \cdot treat + \gamma \cdot X_i + \eta_s \cdot imp_i + \eta_p \cdot imp_{\hat{p},i})$$

imp_i : imputation of MTSS degree from SIAB data

$imp_{\hat{p},i}$: imputation of MTSS degree

if still missing after imputation from SIAB

$imp_{\hat{p},i} = 0$: $mtss_{it} = 0, 1$

$imp_{\hat{p},i} = 1$: $mtss_{it}$ = estimated probability for MTSS

For $n=52$ individuals, we also impute information on participating at AGT estimated by probit regression (imputation dummy is included).

Fractional Probit (Average Marginal Effects)

Dependent variable: <i>mtss</i>	Year 1		Year 2		Year 3	
	(1)	(2)	(1)	(2)	(1)	(2)
	Treat	-0.1048 ***	-0.1245 ***	-0.0844	-0.0737	-0.0678
	[0.03]	[0.03]	[0.07]	[0.05]	[0.05]	[0.03]
Migration background (m)	0.0706 *	0.0866 **	0.0759 **	0.0748 **	0.0463	0.0411
	[0.04]	[0.04]	[0.03]	[0.03]	[0.04]	[0.04]
Female	-0.0356	-0.0051	-0.0012	-0.0028	0.0624	0.0638 *
	[0.04]	[0.03]	[0.05]	[0.04]	[0.05]	[0.04]
m * AGT	0.1719 *	0.3144 ***	-0.1835	-0.0822	-0.1065	-0.1069
	[0.10]	[0.06]	[0.11]	[0.06]	[0.10]	[0.08]
Average grade in German and Math (7:2)	0.0239	-0.0170	-0.0933 **	-0.1096 ***	-0.0880 ***	-0.0985 ***
	[0.03]	[0.02]	[0.04]	[0.03]	[0.03]	[0.02]
Additional General Teaching (AGT)	0.1602 **	0.1429 ***	0.2194 ***	0.1958 ***	0.2440 ***	0.2265 ***
	[0.06]	[0.05]	[0.06]	[0.05]	[0.05]	[0.04]
Individual coaching/mentoring: desirable (teacher, 8:2)	0.0117	0.0615	-0.0244	0.0004	-0.0032	0.0171
	[0.07]	[0.06]	[0.09]	[0.06]	[0.09]	[0.05]
Social and cognitive skills (teacher, 8:1/8:2)	0.0861 ***	0.0945 ***	0.0598 *	0.0812 ***	0.0863 **	0.0804 ***
	[0.03]	[0.02]	[0.04]	[0.02]	[0.04]	[0.02]
10th grade available at LTSS	0.0638 **	0.0222	0.0650	0.0173	0.0758 **	0.0492
	[0.03]	[0.03]	[0.05]	[0.04]	[0.04]	[0.03]
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
N	407	648	407	648	407	648

Note: Regression includes dummies for imputation based on IABS data or Probit.

Fractional Probit (Average Marginal Effects)

Dependent variable: <i>mtss</i>	Year 1		Year 2		Year 3	
	(1)	(2)	(1)	(2)	(1)	(2)
Treatment * AGT	-0.1633 *** [0.05]	-0.1830 *** [0.03]	-0.1739 * [0.09]	-0.1747 ** [0.07]	-0.1725 ** [0.08]	-0.1792 *** [0.05]
Treatment * no AGT			0.0683 [0.07]	0.0657 [0.04]	0.0745 [0.06]	0.1087 ** [0.04]
Fixed effects						
cohort	Yes	Yes	Yes	Yes	Yes	Yes
imputation dummy <i>mtss</i>	Yes	Yes	Yes	Yes	Yes	Yes
imputation dummy Probit	No	Yes	No	Yes	No	Yes
imputation dummy IABS	Yes	Yes	Yes	Yes	Yes	Yes
Other controls	Yes	Yes	Yes	Yes	Yes	Yes
N	407	648	407	648	407	648
Pseudo-Rsq	0.1912	0.1984	0.1946	0.1884	0.2099	0.199

Note: Same specification as before, except that Treatment is interacted with AGT.

Fractional Probit (Average Marginal Effects)

Dependent variable: <i>mtss</i>	Year 1		Year 2, 3	
	(1)	(2)	(1)	(2)
Treatment * \bar{m} * AGT	-0.2069 *** [0.06]	-0.2472 *** [0.04]	-0.1507 * [0.09]	-0.1799 ** [0.07]
Treatment * <i>m</i> * AGT	-0.0606 [0.05]	-0.0264 [0.04]	-0.2366 ** [0.11]	-0.1722 ** [0.07]
Treatment * \bar{m} * no AGT			0.1618 ** [0.07]	0.1580 *** [0.04]
Treatment * <i>m</i> * no AGT			-0.0527 [0.11]	-0.0190 [0.08]
Year 3 Dummy			0.0763 *** [0.01]	0.0751 *** [0.01]
10th grade available at LTSS	0.0609 ** [0.03]	0.0229 [0.03]	0.0717 * [0.04]	0.0336 [0.03]
Other controls	Yes	Yes	Yes	Yes
N	407	648	407	648
Pseudo-Rsq	0.2037	0.2173	0.2071	0.1971

Note: Same specification as before, except that Treatment is interacted with AGT.

Conclusions

- Survey data merged with administrative employment records using refined imputation provides unique opportunities to study path of post LTSS outcomes
- Contrast between Treatment (ACA: Intensive career guidance) and Nontreatment (Standard career guidance) → account for contrast City / Surroundings
- Interaction with AGT as intention of educational upgrading is crucial.
- ACA apparently results in students reversing their career plans → Heterogeneity of treatment effects
- ACA improves final LTSS grades for *no AGT* / no effect for AGT
- Educational upgrading: MTSS delayed and reduced
After 3 years: AGT strong negative effect (-16/-18 ppoints)
no AGT positive effect (+ 7-10 ppoints), only for students without migration background
- Availability of 10th grade at LTSS shows no effects
- Results robust to including Distance from FR Center