Intergenerational Spillovers of Integration Policies: Evidence from Finland's Integration Plans
by Hanna Pesola and Matti Sarvimäki

Presented by Matti Sarvimäki

Labor Economics II
April 2023

- Immigrants' children struggle at school
  e.g. Algan et al. (2010), Belzil and Poinas (2010), Dustmann and Theodoropoulos (2010), Dustmann et al. (2012), Bratsberg et al. (2012), Ansala et al. (2020)

- Many possible explanations
  - discrimination, preferences/beliefs
  - parental income, neighborhoods

- Immigrants' children struggle at school

  e.g. Algan et al. (2010), Belzil and Poinas (2010), Dustmann and
  Theodoropoulos (2010), Dustmann et al. (2012), Bratsberg et al.
  (2012), Ansala et al. (2020)

- Many possible explanations
  - discrimination, preferences/beliefs
  - parental income, neighborhoods

- Hypothesis: helping parents may
  also help their children

This paper

- Treatment: Finland's integration plans
  - refining how immigrants were allocated to ALMP
  - increased language training $\rightarrow$ increased earnings by 47%

(Sarvimäki and Hämäläinen, 2016)

This paper

- Treatment: Finland's integration plans
  - refining how immigrants were allocated to ALMP
  - increased language training $\rightarrow$ increased earnings by 47%
    (Sarvimäki and Hämäläinen, 2016)
- Research design: phase-in-rules of a 1999 reform
  - integration plans mandatory only for unemployed immigrants who had arrived to Finland after May 1st, 1997 $\rightarrow$ RD design

This paper

- Treatment: Finland's integration plans
  - refining how immigrants were allocated to ALMP
  - increased language training $\rightarrow$ increased earnings by 47%
    <small>(Sarvimäki and Hämäläinen, 2016)</small>
- Research design: phase-in-rules of a 1999 reform
  - integration plans mandatory only for unemployed immigrants who had arrived to Finland after May 1st, 1997 $\rightarrow$ RD design
- Take-aways
  - parents' integration plans helped their children
    - ▶ 24% increase in degree's average earnings
    - ▶ 0.5 SD increase in 9th grade GPA, 36% decline in idleness
  - hypothesized mechanisms: better language skills, information, peers

Related literature

- Descriptive work on the education of immigrants' children

  e.g. Algan et al. (2010), Belzil and Poinas (2010), Dustmann and Theodoropoulos (2010), Dustmann et al. (2012), Bratsberg et al. (2012), Ansala et al. (2020)

- Impact of integration programs for adult immigrants

  e.g. Åslund and Johansson (2011), Joona and Nekby (2012), Sarvimäki and Hämäläinen (2016), Battisti et al. (2019), Lochmann et al. (2019), Dahlberg et al. (2020), Foged, Hasager, Peri, Arendt, Bolvig (forthcoming), Heller and Slungaard Mumma (2020); see Hangartner, Sarvimäki and Spirig (2021) for a review

- Impact of school-based interventions on immigrants' children

  e.g. Avvisati et al. (2014), Goux et al. (2015), Silliman (2017), Alesina et al. (2018), Alan et al. (2021), Carlana et al. (forthcoming)

- Impact of parents' income and employment on children's education

  e.g. Akee et al. (2010), Aizer et al. (2016), Dahl and Lochner (2012), Hilger (2016), Rege et al. (2011)

- Closest earlier paper: Foged, Hasager, Peri, Arendt, Bolvig (2023)
  - Danish reform changing the approach for integrating refugees
  - research design, data and results similar to ours
    - ▶ higher completion rates from lower secondary school and lower juvenile crime rates for boys who were below school-starting age when their parents were treated
- This paper's contribution
  - digging deeper in educational outcomes and potential mechanisms
  - another country and reform $\rightarrow$ increases the credibility of both projects

- 1999 Act on the Integration of Immigrants and Reception of Asylum Seekers
  - main component "integration plans": individualized sequence of training, subsidized work etc. based on the existing ALMP framework
  - obligatory for recently arrived immigrants who are unemployed or collect welfare benefits (non-complience sanctioned)
  - no new resources allocated to integration of immigrants

- 1999 Act on the Integration of Immigrants and Reception of Asylum Seekers
  - main component "integration plans": individualized sequence of training, subsidized work etc. based on the existing ALMP framework
  - obligatory for recently arrived immigrants who are unemployed or collect welfare benefits (non-complience sanctioned)
  - no new resources allocated to integration of immigrants
- Sarvimäki and Hämäläinen (2016)
  - increased earnings by 47%, reduced benefits by 13%
  - had no impact on the total amount of training or sanctions
    … but did affect the content of training

Research design

- RDD based on a phase-in rule of the reform
  - new legislation into force in May 1st, 1999
  - those who arrived before May 1st, 1997 exempted

(a) Parents' integration plans

Data

- Administrative data on the entire Finnish population
- Sample
  - children of immigrants arriving with their parents
  - on average, 11 years old at arrival
  - second-generation excluded
  - 3,261 children born between 1980 and 1988
- Outcomes
  - educational attainment: expected earnings at age 35
    based on highest degree or enrollment at age 27
  - grade point average at grade 9
  - idleness between ages 15–27

(a) Parents' integration plans

(b) Children's educational attainment (degree's average earnings) at age 27

Main result: effect on educational attainment

(b) Children's educational attainment (degree's average earnings) at age 27

	Degree's average earnings	
	(1)	(2)
A: Estimates		
Reduced form	2,935	
	(1,041)	
First-stage	0.59	
	(0.05)	
Local average treatment effect (LATE)	4,964	
	(1,828)	
Additional covariates	No	
Bandwidth (months)	31.8	
Observations	1,345	

Notes. This table reports local linear estimates for the jump at the May 1, 1997 cutoff of father's arrival time for educational attainment as measured by average earnings of earlier graduates with the same degree (columns 1–2), standardized 9th grade GPA (columns 3–4) and the share of years the person is not in employment, education or training at ages 15–27. Reduced form refers to the jump in the outcome at the May 1997 threshold and first-stage to the jump in the likelihood for either parent getting an integration plan. Additional covariates are child's sex and age at arrival and parents' age, marital status, number of children under 18, regional unemployment rate, type of residence municipality (urban, semi-ruban, rural), legal status (refugee, Ingrian Finn, family member, other/unknown) and region of birth. All background characteristics are measured at the year of arrival. The bandwidths are chosen using the optimal bandwidth selection algorithm of Imbens and Kalyanaraman (2012).

	Degree's average earnings	
	(1)	(2)
A: Estimates		
Reduced form	2,935	2,514
	(1,041)	(1,037)
First-stage	0.59	0.62
	(0.05)	(0.04)
Local average treatment effect (LATE)	4,964	4,078
	(1,828)	(1,695)
Additional covariates	No	Yes
Bandwidth (months)	31.8	
Observations	1,345	

Notes. This table reports local linear estimates for the jump at the May 1, 1997 cutoff of father's arrival time for educational attainment as measured by average earnings of earlier graduates with the same degree (columns 1–2), standardized 9th grade GPA (columns 3–4) and the share of years the person is not in employment, education or training at ages 15–27. Reduced form refers to the jump in the outcome at the May 1997 threshold and first-stage to the jump in the likelihood for either parent getting an integration plan. Additional covariates are child's sex and age at arrival and parents' age, marital status, number of children under 18, regional unemployment rate, type of residence municipality (urban, semi-ruban, rural), legal status (refugee, Ingrian Finn, family member, other/unknown) and region of birth. All background characteristics are measured at the year of arrival. The bandwidths are chosen using the optimal bandwidth selection algorithm of Imbens and Kalyanaraman (2012).

	Degree's average earnings	
	(1)	(2)
A: Estimates		
Reduced form	2,935	2,514
	(1,041)	(1,037)
First-stage	0.59	0.62
	(0.05)	(0.04)
Local average treatment effect (LATE)	4,964	4,078
	(1,828)	(1,695)
B: Benchmarks		
Compliers' expectation in the absence of the treatment	20,559	21,301
	(1,210)	(1,166)
Never-takers' average	26,231	
Native's average	27,433	
Additional covariates	No	Yes
Bandwidth (months)	31.8	
Observations	1,345	

Notes. This table reports local linear estimates for the jump at the May 1, 1997 cutoff of father's arrival time for educational attainment as measured by average earnings of earlier graduates with the same degree (columns 1–2), standardized 9th grade GPA (columns 3–4) and the share of years the person is not in employment, education or training at ages 15–27. Reduced form refers to the jump in the outcome at the May 1997 threshold and first-stage to the jump in the likelihood for either parent getting an integration plan. Additional covariates are child's sex and age at arrival and parents' age, marital status, number of children under 18, regional unemployment rate, type of residence municipality (urban, semi-ruban, rural), legal status (refugee, Ingrian Finn, family member, other/unknown) and region of birth. All background characteristics are measured at the year of arrival. The bandwidths are chosen using the optimal bandwidth selection algorithm of Imbens and Kalyanaraman (2012).

	Degree's average earnings		Standardized GPA		Not in employment, education or training	
	(1)	(2)	(3)	(4)	(5)	(6)
A: Estimates						
Reduced form	2,935	2,514	0.29	0.23	-0.07	-0.05
	(1,041)	(1,037)	(0.12)	(0.11)	(0.03)	(0.03)
First-stage	0.59	0.62	0.57	0.60	0.57	0.60
	(0.05)	(0.04)	(0.05)	(0.04)	(0.05)	(0.04)
Local average treatment	4,964	4,078	0.51	0.39	-0.13	-0.08
effect (LATE)	(1,828)	(1,695)	(0.22)	(0.19)	(0.05)	(0.04)
B: Benchmarks						
Compliers' expectation in	20,559	21,301	-0.83	-0.74	0.36	0.33
the absence of the treatment	(1,210)	(1,166)	(0.14)	(0.13)	(0.04)	(0.03)
Never-takers' average	26,231		-0.28		0.20	
Native's average	27,433		0.01		0.12	
Additional covariates	No	Yes	No	Yes	No	Yes
Bandwidth (months)	31.8		26.8		27.6	
Observations	1,345		1,201		1,237	

Notes. This table reports local linear estimates for the jump at the May 1, 1997 cutoff of father's arrival time for educational attainment as measured by average earnings of earlier graduates with the same degree (columns 1–2), standardized 9th grade GPA (columns 3–4) and the share of years the person is not in employment, education or training at ages 15–27. Reduced form refers to the jump in the outcome at the May 1997 threshold and first-stage to the jump in the likelihood for either parent getting an integration plan. Additional covariates are child's sex and age at arrival and parents' age, marital status, number of children under 18, regional unemployment rate, type of residence municipality (urban, semi-ruban, rural), legal status (refugee, Ingrian Finn, family member, other/unknown) and region of birth. All background characteristics are measured at the year of arrival. The bandwidths are chosen using the optimal bandwidth selection algorithm of Imbens and Kalyanaraman (2012).

- Improved financial resources
  - unlikely to be the entire story:
    education free at all levels,
    limited credit constraints

Possible mechanisms

- Improved financial resources
  - unlikely to be the entire story:
    education free at all levels,
    limited credit constraints
- Information, values and beliefs
  - language and civic courses
  - parent's colleagues
  - children's school mates

- Improved financial resources
  - unlikely to be the entire story: education free at all levels, limited credit constraints
- Information, values and beliefs
  - language and civic courses
  - parent's colleagues
  - children's school mates

(b) Mechanisms

Conclusions
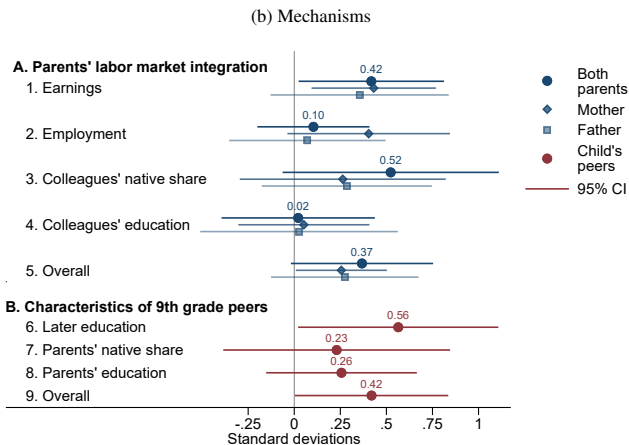
- Parents' integration plans improved their children's education
  - 24% increase in degree's earnings
  - 0.5 SD increase in 9th grade GPA, 36% decline in idleness
  - possible mechanisms: financial resources, language skills, information, peers

  _____

- *Take-away 1*: Integration programs have positive unintended consequences
- *Take-away 2*: Designing and testing interventions specifically aimed to improve educational investments probably a good idea, too

Additional material
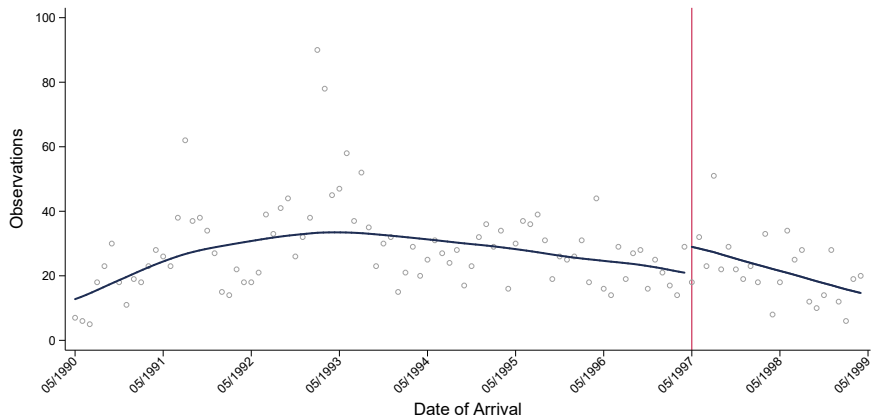
(a) Effect heterogeneity
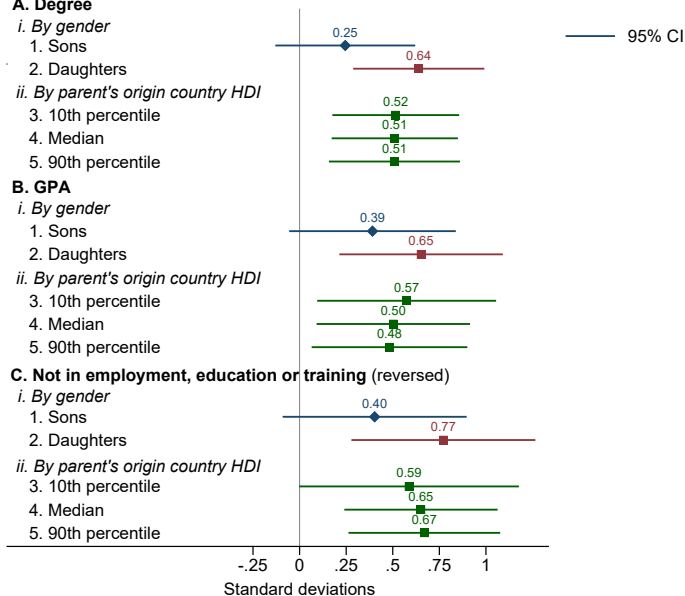
Figure A1: Observations by month of arrival

Notes: The figure shows observations by month of arrival of the father. The lines represent local linear estimates using the edge kernel and the optimal bandwidth selection algorithm of Imbens and Kalyanaraman (2012). The dots correspond to the number of observations entering the population register by month.
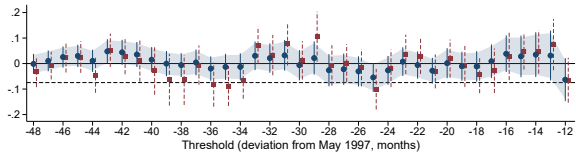
Figure A4: Alternative thresholds

(a) Average earnings of the highest degree
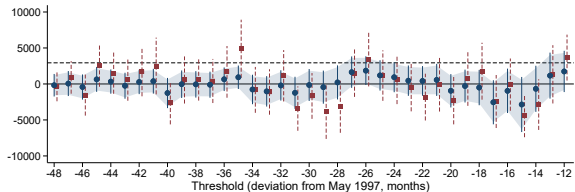
(b) Grade point average at 9th grade
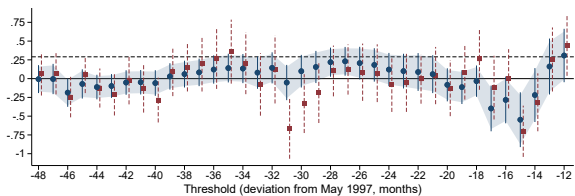
(c) Not in employment, education or training

Legend:
- ● Local linear estimates
- ■ Calonico et al. (2014) estimates
- Conventional 95% confidence intervals
- Calonico et al. (2014) 95% CI
- Armstrong and Kolesar (2020) 95% CI

Table A1: Impact of parent's integration plan on GPA and educational attainment using first parent's arrival time

	Degree's average earnings		Standardized GPA		Not in employment, education or training	
	(1)	(2)	(3)	(4)	(5)	(6)
A: Estimates						
Reduced form	2,246	3,186	0.20	0.29	-0.07	-0.06
	(987)	(1,088)	(0.12)	(0.12)	(0.03)	(0.03)
First-stage	0.47	0.61	0.44	0.58	0.42	0.57
	(0.05)	(0.04)	(0.05)	(0.05)	(0.05)	(0.05)
Local average treatment effect (LATE)	4,796	5,261	0.47	0.49	-0.17	-0.10
	(2,168)	(1,824)	(0.28)	(0.22)	(0.07)	(0.05)
B: Benchmarks						
Compliers' expectation in the absence of the treatment	21,238	20,526	-0.30	-0.31	0.38	0.37
	(1,607)	(1,280)	(0.19)	(0.15)	(0.05)	(0.04)
Never-takers' average	26,231		-0.28		0.20	
Native's average	27,433		0.01		0.12	
Additional covariates	No	Yes	No	Yes	No	Yes
Bandwidth (months)	28		24		22	
Observations	1,603		1,429		1,332	

Notes. This table is identical to Table 2 except that we now use the date of arrival of the parent who first arrives in Finland as the running variable, while our main analysis is based on the date of arrival of the father.

Table A2: Impact of parent's integration plan on GPA and educational attainment with parents defined at age 15

|	Degree's average earnings		Standardized GPA		Not in employment, education or training	
	(1)	(2)	(3)	(4)	(5)	(6)
A: Estimates						
Reduced form	2,502	1,784	0.34	0.25	-0.02	0.00
	(1,032)	(1,030)	(0.11)	(0.11)	(0.02)	(0.02)
First-stage	0.56	0.59	0.55	0.58	0.63	0.64
	(0.05)	(0.04)	(0.05)	(0.04)	(0.04)	(0.04)
Local average treatment	4,497	3,044	0.63	0.43	-0.04	-0.00
effect (LATE)	(1,924)	(1,764)	(0.23)	(0.19)	(0.03)	(0.03)
B: Benchmarks						
Compliers' expectation in	21,100	22,213	-0.48	-0.34	0.28	0.25
the absence of the treatment	(1,329)	(1,250)	(0.15)	(0.13)	(0.02)	(0.02)
Never-takers' average	26,231		-0.28		0.20	
Native's average	27,433		0.01		0.12	
Additional covariates	No	Yes	No	Yes	No	Yes
Bandwidth (months)	34		31		65	
Observations	1,376		1,306		2,387	

Notes. This table is identical to Table 2 except that we now define parents as the adult living in the same dwelling and belonging to the same family as the child when the child is 15 years old.

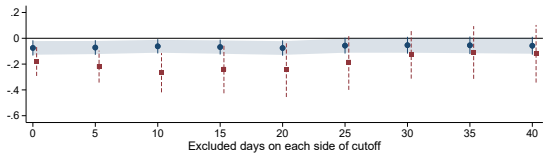Figure A5: Excluding observations around the cutoff

(a) Average earnings of the highest degree
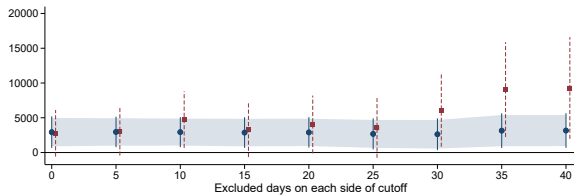
(b) Grade point average at 9th grade
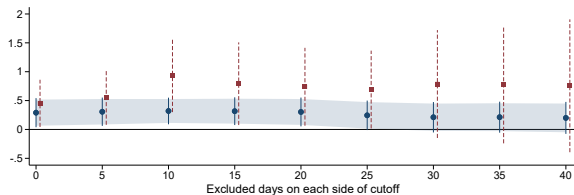
(c) Not in employment, education or training

● Local linear estimates · · · · · Conventional 95% confidence intervals ——— Armstrong and Kolesar (2020) 95% CI
■ Calonico et al. (2014) estimates - - - - Calonico et al. (2014) 95% CI

Table A3: Impact of parent's integration plan by gender and parents' origin country

	Degree		GPA		NEET	
A: By gender						
Local average treatment	2,608	1,985	0.39	0.28	-0.09	-0.05
effect (LATE)	(2,039)	(1,912)	(0.23)	(0.21)	(0.05)	(0.05)
× female	4,197	4,037	0.26	0.20	-0.08	-0.05
	(1,517)	(1,487)	(0.17)	(0.16)	(0.04)	(0.04)
Compliers' expected outcomes	22,949	23,397	-0.98	-0.90	0.33	0.32
in the absence of the treatment	(1,334)	(1,289)	(0.15)	(0.14)	(0.04)	(0.04)
× female	-4,293	-4,043	0.29	0.01	0.03	0.00
	(995)	(997)	(0.11)	(0.05)	(0.03)	(0.01)
B: By parent's origin country HDI						
Local average treatment	5,449	4,420	0.52	0.40	-0.14	-0.09
effect (LATE)	(1,803)	(1,725)	(0.21)	(0.19)	(0.05)	(0.04)
× HDI	-36	179	-0.05	-0.02	-0.01	-0.02
	(573)	(589)	(0.08)	(0.08)	(0.03)	(0.02)
Compliers' expected outcomes	20,330	21,252	-0.84	-0.75	0.36	0.34
in the absence of the treatment	(1,202)	(1,181)	(0.14)	(0.13)	(0.04)	(0.03)
× HDI	1,308	1,328	0.16	-0.11	-0.06	0.02
	(379)	(392)	(0.05)	(0.07)	(0.02)	(0.01)
Additional covariates	No	Yes	No	Yes	No	Yes