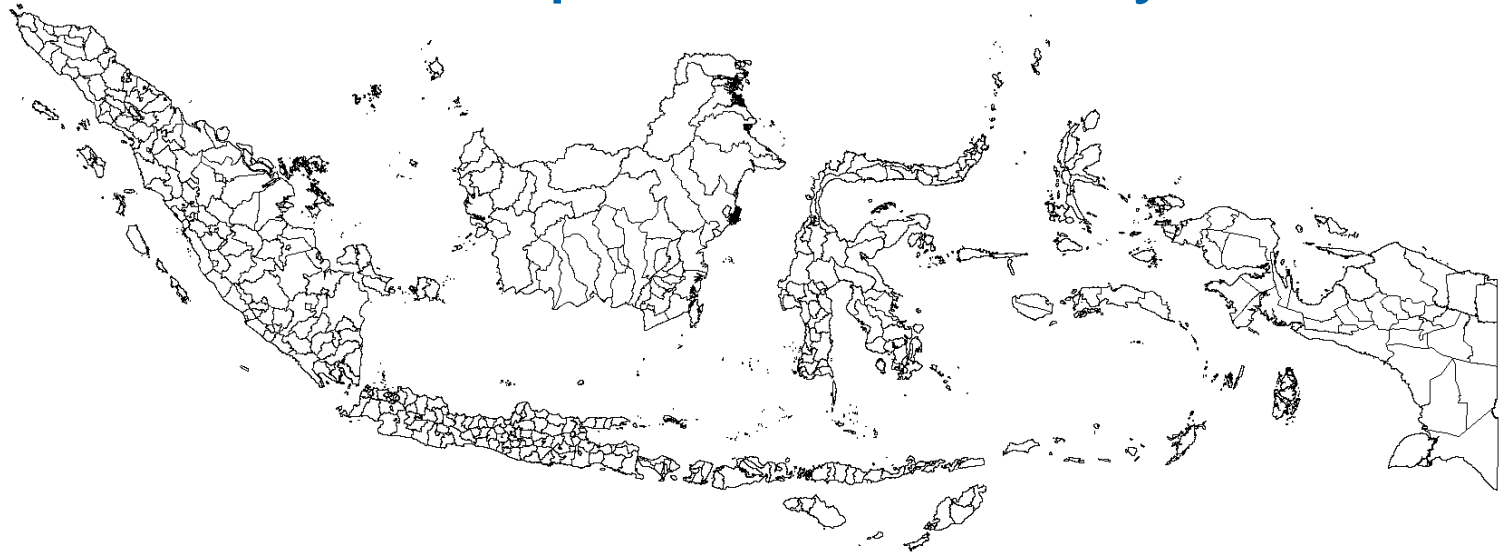


Labor market discrimination of internal migrants: An experimental study



Jan Priebe

GIGA Hamburg

UNU-WIDER: 'Transforming economies – for better jobs'
Bangkok, 11-13 September 2019

Member of

Leibniz
Leibniz
Association

- Motivation & preview of results
- Indonesian context
- Experimental design
- Results
- Policy conclusions

Stylized facts about tertiary/higher education

- Strong increase in global enrollment figures
 - 33 million (in 1970) vs. 221 million (in 2016)
 - Half of all students are enrolled in Asia alone these days
- Strong increase in the number of colleges
 - Particularly strong increase in private colleges
 - Wider geographical spread of colleges within countries
 - ‘Massification’ of college education
 - Establishment of many lower quality institutions

Returns to college education

- High tuition fees (except public colleges), but
 - Returns to college education increased over time
 - Returns are larger in developing countries
- Returns can differ by college selectivity and by discrimination
 - Labor market discrimination based on gender, religion, ethnicity, ...
 - But: Scarcity of causal evidence on
 - (Mechanisms behind) labor market discrimination
 - Disentangling signaling vs. sorting vs. learning vs. peer effects vs. network effects
 - Heterogeneous returns to college education

Returns to college education & labor market discrimination

- Non-experimental studies
 - Race:
 - Blacks in the US (Loury and Garmant, 1995); Andrews (2016)
 - Hispanics in the US (Dale and Krueger, 2014)
 - Wealth:
 - Wealthy elite: Zimmerman (2019) for Chile
 - Poor: Saavedra (2009) for Columbia

- Experimental studies: Correspondence studies
 - Race: Blacks in the US: Gaddis (2014)
 - Immigrants to Canada: Oreopolous (2011)

Overview on experiment

- Location: Greater Jakarta (Indonesia)
- Method: Correspondence experiment
 - with 13,500 CVs sent to 2,700 job vacancies
- 5 CV types per job vacancy
 - Differences by internal migrant status
 - Differences by college selectivity

Preview of results

- College quality increases interview callbacks
 - + 2.9pp for public colleges + additional 3.9pp for elite colleges
- Internal migrants receive less callbacks
- Internal migrants from better colleges see less discrimination
 - Suggestive evidence for statistical discrimination
- Others
 - Follow-up calls with employers hints to statistical discrimination
 - Suggestive evidence for taste-based discrimination against blacks
 - No discrimination by gender and religion

Contribution to the literature

- College selectivity and discrimination
 - Causal evidence for interaction between college selectivity and discriminatory practices
- Internal migration
 - Causal evidence on extent and nature of discrimination against internal migrants in labor markets
- Correspondence studies
 - Few conducted in developing countries
 - No study on discrimination regarding religion and gender in a majority Muslim country

- 4th most populous country in the world (about 270 million)
 - >140 million on the island of Java alone
- Religion:
 - 87.2% Muslims, 9.9% Christians, 1,7% Hindu, 0,9% Buddhists
- Greater Jakarta: Political, economic, and financial center
 - About 35 million people
- Province and district creation: Along ethno-religious lines
- Documented cleavages
 - Java vs. outer islands
 - Religious
 - Ethnic-religious (e.g. Chinese, Papuans)

Consequences of cleavages:

- Violent conflict (Barren et al., 2009; Bazzi and Gudgeon, 2016; Pierskalla and Sacks, 2017)
- Splitting and creation of (sub-) districts (Pierskalla, 2016)
- Political coalitions and campaigns (Bünthe, 2010)
- Interpersonal trust (Gaduh, 2012)
- Trade relationships (Schmetzer, 2011; Studwell, 2007)
- Success of business negotiations (Irawanto et al., 2011)
 - Javanese manners (politeness, calmness, modesty, face saving, etc.) are highly appreciated
- Marriage market (Bazzi et al., 2017)

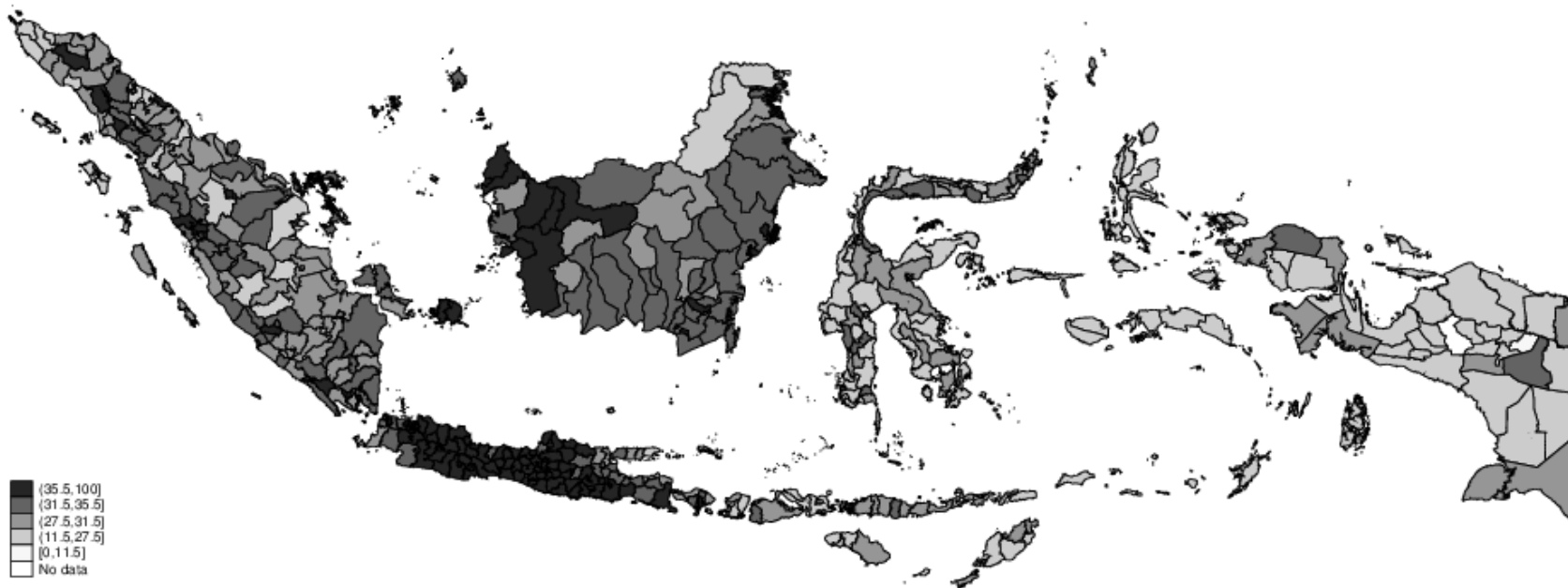
General overview: from kindergarten to senior high school

- 50 million pupils/students
- 4 million teachers
- 250,000 education facilities
- About 6 million pupil graduate from senior high school (SMA) annually

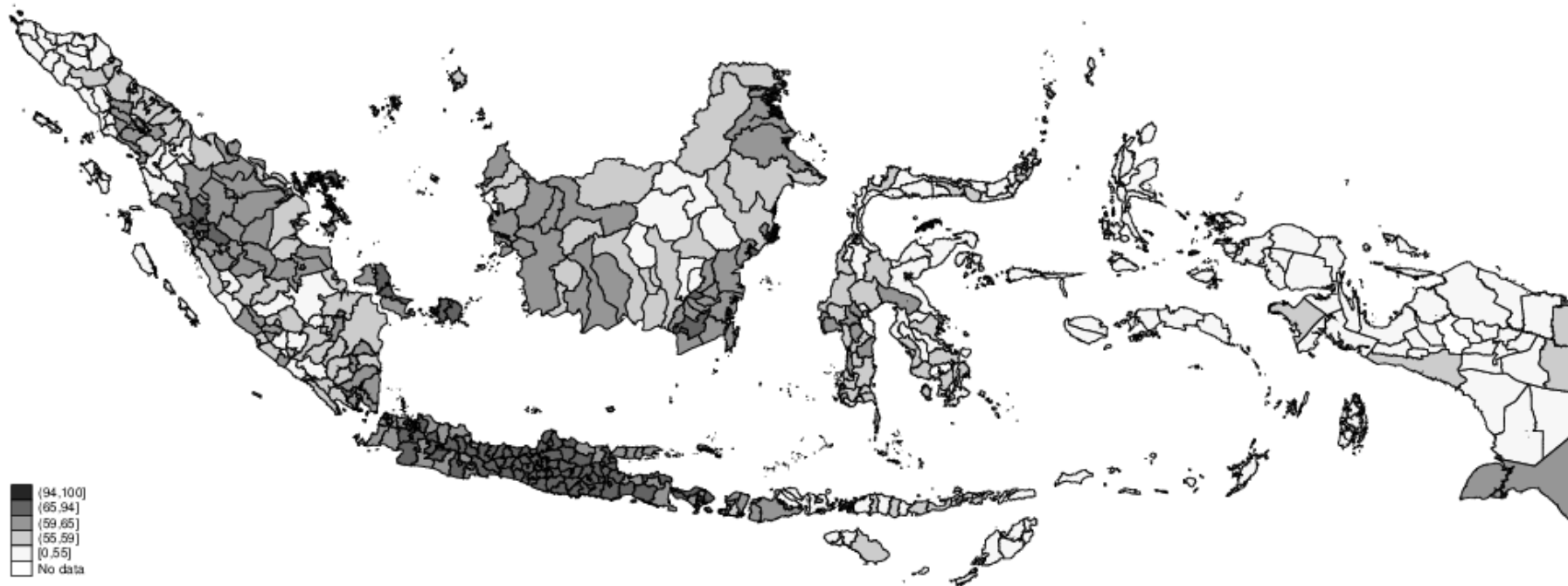
Quality of high school education (teacher + student learning outcomes)

- Rural vs. urban gap
- Richer vs. poorer provinces
- Java vs. non-Java

Average SMA test scores in 2015
(weighted by integrity index)



Average SMA level teacher competence test scores in 2015



- 3,000 institutions of higher education with 6.5 million students
- 4 main types of institutions:
 - Academies and polytechnic schools provide vocational training
 - Institutes and universities provide academic education (4.5 million students)
- 547 accredited colleges (institutes/universities) in 2015
 - 73 public and 473 private ones
- Public colleges:
 - No tuitions + admission based on national university entrance exam + highly competitive
- Elite colleges: All on Java + public

Figure 1: Development of colleges over time

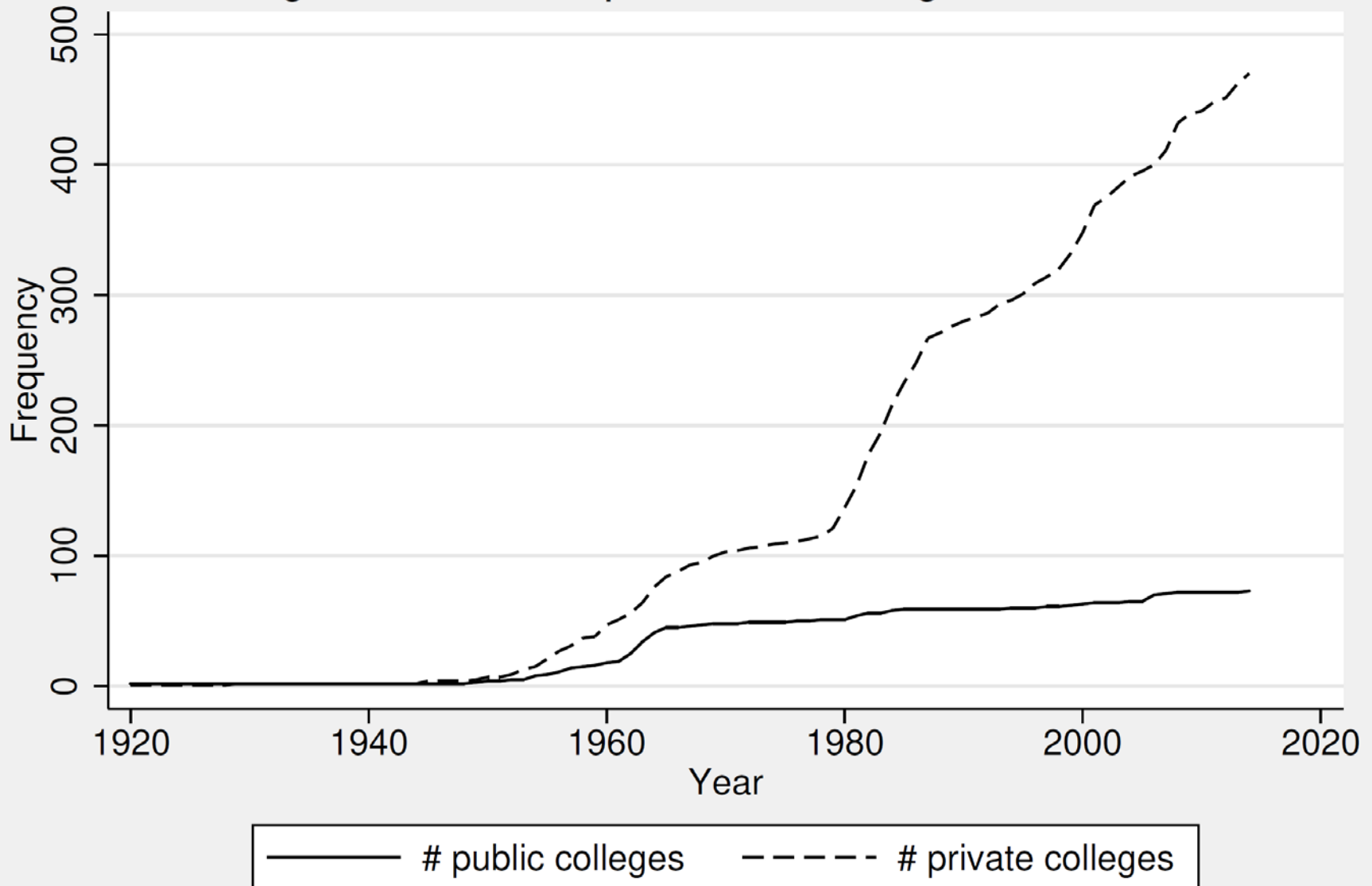
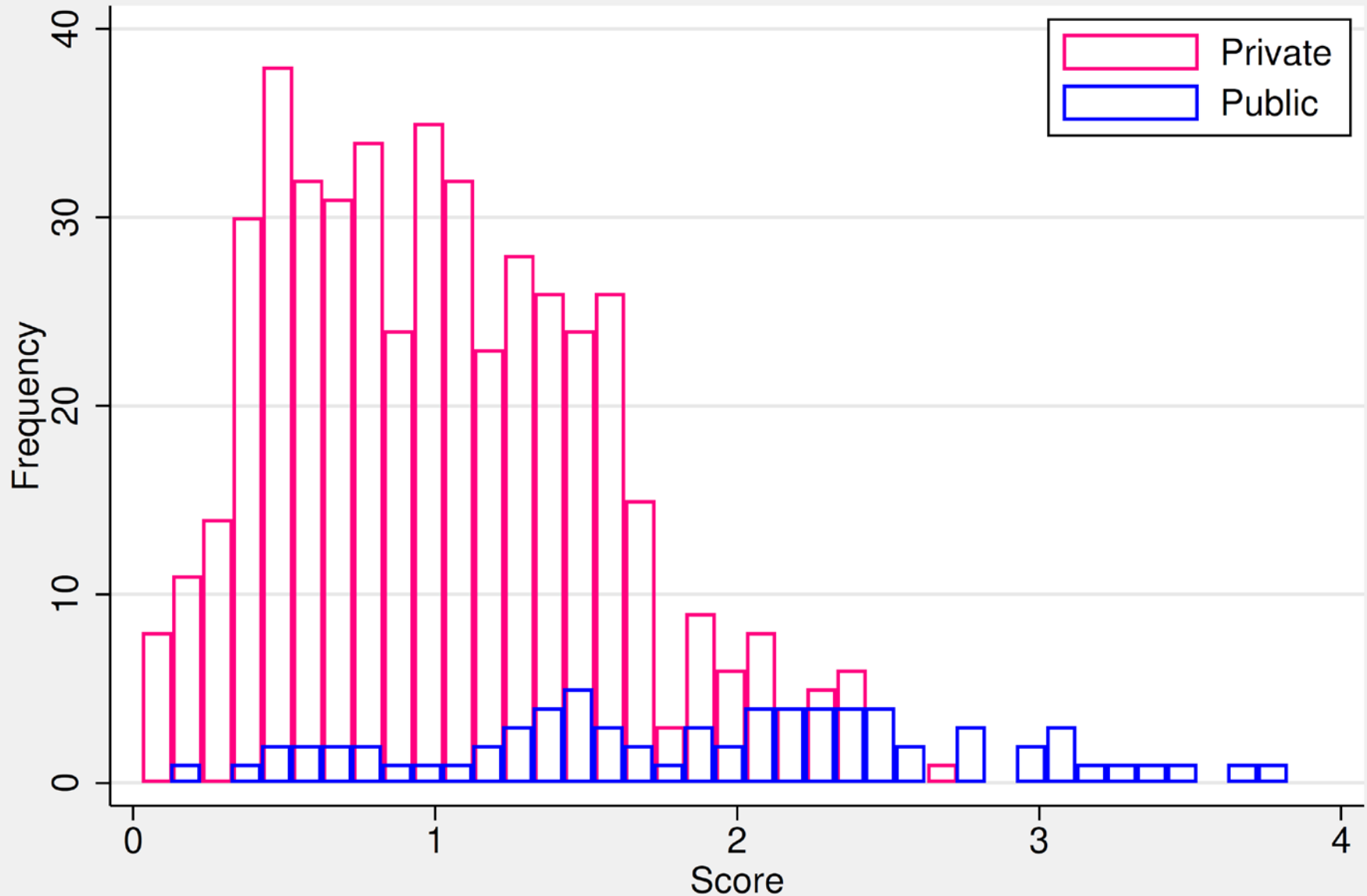


Figure 2: Official college quality scores



- Location: Greater Jakarta (“Jabodetabek”)
- Job requirements
 - Entry level positions with bachelor degree
 - Bachelor degree in Accounting, Business, Economics, and Management
 - About 30% of all undergraduate degrees in Indonesia
- List of job
 - Source: 2 largest national job websites (jobstreet, jobsdb)
 - Selection process: 2,700 unique jobs + maximum of 1 job per company
- Contacting
 - Sending of application: Email with personalized cover text + resume attachment
 - Callback rates: Contact for interview via email or phone (call, sms)

Basic features:

- Birthdate and place of birth
- Senior high school: Name + location + GPA
- College: Name + location + GPA
- Other: Hobbies, sports, extracurricular activities, language skills
- Contact details: Email, cell phone
- Contact address:
 - Javanese (always Javanese)
 - Non-Javanese (internal migrants): 75% on Java
- Names: 12 (6 male + 6 female; 8 Muslim + 4 neutral)

Main types

- Type 1: Javanese + elite college degree
- Type 2: Javanese + non-elite Javanese college degree
- Type 3: Internal migrant + elite college degree
- Type 4: Internal migrant + non-elite Javanese college degree
- Type 5: Internal migrant + non-elite non-Javanese college degree

Table 4: Job postings selected for correspondence study

Sector		Position	
Title	#	Title	#
(1)	(2)	(3)	(4)
Finance	243	Account manager	64
Fitness/Beauty	14	Accountant	335
Advertising/PR	68	Administrative assistant	266
Agriculture	54	Auditor	127
Textile	62	Bookkeeper	79
Architecture/Design	18	Business developer	22
Industry	784	Call center officer	71
Chemical	74	Consultant	119
Consulting	175	Customer relations officer	309
Call center	6	Financial analyst	126
Construction	78	HR officer	95
Education	70	IT manager	45
Media/Press	113	Management trainee	51
Social services	85	Market analyst	20
Real estate	134	Marketing officer	171
Hospitality	74	Office admin	228
Mining/oil	48	Project manager	76
IT	87	R&D analyst	19
Law	17	Risk analyst	39
Retail	320	Sales representative	343
Logistics	176	Web designer	95
Total:	2700	Total	2700

Main results (I)

Notes: Table shows the 2,700 job postings we applied to for this correspondence study. Postings were taken from jobstreet.co.id and id.jobsdb.com.

Table 8: Estimates of college type and migration status on callbacks

Parameter	Specification 1	Specification 2	Specification 3	Specification 4
	(1)	(2)	(3)	(4)
Elite college	0.065 (0.007)***	0.054 (0.007)***	0.054 (0.007)***	0.039 (0.011)***
Public college	0.019 (0.006)***	0.019 (0.006)***	0.019 (0.006)***	0.029 (0.012)**
College on Java		0.031 (0.006)***	0.035 (0.008)***	0.033 (0.011)***
College on Java x internal migrant			-0.007 (0.007)	-0.011 (0.011)
Elite college x internal migrant				0.029 (0.014)**
Public college x internal migrant				-0.014 (0.014)
Observations	13500	13500	13500	13500
r2	0.1811	0.1821	0.1822	0.1825
CV controls	Yes	Yes	Yes	Yes
Vacancy FE	Yes	Yes	Yes	Yes

Notes: Table is based on the 13,500 CVs sent. Basic controls include fixed effects for names, contact address, college and high school GPA, type of college degree, software and language skills, hobbies, and extra-curricular activities. Standard errors are depicted in paranthesis and clustered at the vacancy level. */**/** denote significance levels at 10/5/1 percent respectively.

Robustness checks

- Alternative callback definition: Explicit interview invitations
- Within vacancy spill-over effects
- With and without vacancy fixed effects

- Channels for statistical discrimination
 - Travel distance: Costs + probability to appear at interview
 - Yes, explains part of the results
 - Cultural distance:
 - Yes, explains part of the results
 - College quality:
 - Yes, explains part of the results
 - Channels for taste-based discrimination
 - Papuan effect for jobs with high customer contact
 - Others: No discrimination by religion or against women
-

Table 19: Recruiters perceptions about applicants: Background and skills

Parameter	Background			Skills		
	Family	Education	Network	English	Social	Job
	(1)	(2)	(3)	(4)	(5)	(6)
Elite college	0.20 (0.10)**	0.29 (0.12)**	0.39 (0.14)***	0.38 (0.13)***	0.35 (0.20)*	0.46 (0.14)***
Public college	-0.19 (0.11)*	0.31 (0.13)**	0.15 (0.16)	0.36 (0.15)**	-0.06 (0.23)	0.27 (0.16)*
College on Java x internal migrant	-0.13 (0.10)	0.60 (0.12)***	0.49 (0.14)***	0.42 (0.14)***	0.27 (0.21)	0.25 (0.14)*
Elite college x internal migrant	0.03 (0.10)	-0.10 (0.12)	-0.43 (0.14)***	-0.15 (0.13)	-0.15 (0.20)	0.08 (0.14)
Public college x internal migrant	0.03 (0.14)	-0.10 (0.16)	-0.43 (0.19)**	-0.15 (0.18)	-0.15 (0.27)	0.08 (0.19)
Observations	522	597	597	597	556	597
CV controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Table is based on the completed 597 follow-up phone interviews. CV controls include college GPA and dummy variables concerning an applicant's name, address, district of birth/high school, degree type, toefl test, hobbies, extra-curricular activities, software skills, and sports. Standard errors are depicted in paranthesis and clustered at the industry level. */**/** denote significance levels at 10/5/1 percent respectively.

Findings

- Evidence of statistical discrimination against internal migrants
 - Less discrimination if colleges are attended that are (I) better and (II) on Java
- Some evidence for taste-based discrimination (skin color)
- No evidence for discrimination along religion and gender lines

Policy conclusions

- Reduce geographic differences in education quality
 - Stipulate that locational identifiers (birth place,...) are not on CVs
 - Increase use of long-distance interview/recruitment processes
-

Appendix: Alternative callback definition

Table 9: Estimates of college type and migration status on callbacks: Alternative definition

Parameter	Specification 1	Specification 2	Specification 3	Specification 4
	(1)	(2)	(3)	(4)
Elite college	0.049 (0.006)***	0.041 (0.006)***	0.041 (0.006)***	0.035 (0.010)***
Public college	0.012 (0.006)**	0.012 (0.006)**	0.012 (0.006)**	0.016 (0.011)
College on Java		0.025 (0.006)***	0.026 (0.007)***	0.025 (0.009)***
College on Java x internal migrant			-0.003 (0.006)	-0.005 (0.010)
Elite college x internal migrant				0.013 (0.013)
Public college x internal migrant				-0.006 (0.013)
Observations	13500	13500	13500	13500
r ²	0.1224	0.1233	0.1233	0.1234
CV controls	Yes	Yes	Yes	Yes
Vacancy FE	Yes	Yes	Yes	Yes

Notes: Table is based on the 13,500 CVs sent. Basic controls include fixed effects for names, contact address, college and high school GPA, type of college degree, software and language skills, hobbies, and extra-curricular activities. Standard errors are depicted in paranthesis and clustered at the vacancy level. */**/** denote significance levels at 10/5/1 percent respectively.

Table 10: IV estimates (2SLS) of peer effects in π

Parameter	Toefl	Gender
	(1)	(2)
π	0.013 (0.016)	0.024 (0.018)
Elite college	0.029 (0.012)**	0.029 (0.012)**
Public college	0.031 (0.013)**	0.031 (0.013)**
College on Java	0.041 (0.011)***	0.042 (0.011)***
College on Java x internal migrant	-0.018 (0.012)	-0.019 (0.012)
Elite college x internal migrant	0.025 (0.016)	0.025 (0.016)
Public college x internal migrant	-0.010 (0.016)	-0.009 (0.016)
Observations	13500	13500
r2	0.0222	0.0216
Fstat	1000.3800	736.2100
CV controls	Yes	Yes
Vacancy FE	Yes	Yes

Table 14: Estimates of SMA and college attributes on callbacks

Parameter	Specif. 1	Specif. 2	Specif. 3	Specif. 4	Specif. 5	Specif. 6	Specif. 7
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Elite college	0.039 (0.011)***	0.039 (0.011)***	0.003 (0.015)	-0.003 (0.021)	0.043 (0.012)***	0.037 (0.012)***	0.010 (0.016)
Public college	0.029 (0.012)**	0.029 (0.012)**	0.003 (0.014)	0.004 (0.014)	0.030 (0.012)**	0.023 (0.012)*	0.005 (0.014)
College on Java	0.033 (0.011)***	0.032 (0.011)***	0.028 (0.011)***	0.029 (0.011)***	0.034 (0.011)***	0.031 (0.011)***	0.027 (0.011)**
College on Java x internal migrant	-0.011 (0.011)	-0.010 (0.011)	-0.012 (0.011)	-0.012 (0.011)	-0.011 (0.011)	-0.010 (0.011)	-0.011 (0.011)
Elite college x internal migrant	0.029 (0.014)**	0.029 (0.014)**	0.028 (0.014)**	0.028 (0.014)**	0.028 (0.014)**	0.030 (0.014)**	0.028 (0.014)**
Public college x internal migrant	-0.014 (0.014)	-0.014 (0.014)	-0.013 (0.014)	-0.013 (0.014)	-0.014 (0.014)	-0.017 (0.014)	-0.014 (0.014)
College GPA	0.024 (0.007)***	0.025 (0.007)***	0.024 (0.007)***	0.024 (0.007)***	0.025 (0.007)***	0.025 (0.007)***	0.024 (0.007)***
Private SMA	0.002 (0.005)	0.003 (0.005)	0.002 (0.005)	0.002 (0.005)	0.002 (0.005)	0.002 (0.005)	0.003 (0.005)
SMA score	-0.000 (0.000)	0.000 (0.000)*	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)
SMA score ²		-0.000 (0.000)*					-0.000 (0.000)
College quality			0.025 (0.006)***	0.017 (0.019)			0.023 (0.008)***
College quality ²				0.002 (0.005)			
College age					-0.000 (0.000)	0.001 (0.000)**	0.000 (0.000)
College age ²						-0.000 (0.000)***	-0.000 (0.000)
Observations	13500	13500	13500	13500	13500	13500	13500
r ²	0.1825	0.1827	0.1833	0.1833	0.1825	0.1830	0.1835
CV controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vacancy FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Table is based on the 13,500 CVs sent. Basic controls include fixed effects for names, contact address, college and high school GPA, type of college degree, software and language skills, hobbies, and extra-curricular activities. Standard errors are depicted in paranthesis and clustered at the vacancy level. */**/** denote significance levels at 10/5/1 percent respectively.

Table 15: Estimates of travel costs on callbacks

Parameter	Specif. 1	Specif. 2	Specif. 3	Specif. 4	Specif. 5	Specif. 6	Specif. 7
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Elite college	0.039 (0.011)***	0.039 (0.011)***	0.039 (0.011)***	0.004 (0.015)	0.039 (0.011)***	0.039 (0.011)***	0.009 (0.015)
Public college	0.029 (0.012)**	0.029 (0.012)**	0.029 (0.012)**	0.004 (0.014)	0.029 (0.012)**	0.029 (0.012)**	0.008 (0.014)
College on Java	0.045 (0.010)***	0.037 (0.010)***	0.037 (0.010)***	0.032 (0.010)***	0.038 (0.010)***	-0.058 (0.023)**	-0.055 (0.023)**
College on Java x internal migrant	-0.023 (0.010)**	-0.015 (0.011)	-0.014 (0.011)	-0.016 (0.011)	-0.015 (0.011)	0.082 (0.023)***	0.073 (0.023)***
Elite college x internal migrant	0.029 (0.014)**	0.029 (0.014)**	0.029 (0.014)**	0.029 (0.014)**	0.029 (0.014)**	0.029 (0.014)**	0.029 (0.014)**
Public college x internal migrant	-0.015 (0.014)	-0.015 (0.014)	-0.015 (0.014)	-0.014 (0.014)	-0.015 (0.014)	-0.015 (0.014)	-0.014 (0.014)
Travel cost		-0.013 (0.002)***	-0.002 (0.005)	-0.013 (0.002)***	-0.013 (0.002)***	-0.011 (0.002)***	-0.011 (0.002)***
Travel cost ²			-0.000 (0.000)**				
College quality				0.024 (0.006)***			0.021 (0.007)***
SMA score					-0.000 (0.000)		-0.000 (0.000)
Language distance						0.204 (0.042)***	0.189 (0.043)***
Observations	13500	13500	13500	13500	13500	13500	13500
r2	0.1801	0.1820	0.1823	0.1828	0.1820	0.1832	0.1838
CV controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vacancy FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 16: Estimates of customer contact job and region on callbacks

Parameter	Specification 1
	(1)
Medium x Java	0.011 (0.011)
High x Java	0.009 (0.009)
Medium x Sumatra	0.012 (0.020)
High x Sumatra	-0.011 (0.013)
Medium x Sulawesi	-0.014 (0.017)
High x Sulawesi	-0.008 (0.013)
Medium x Kalimantan	0.023 (0.020)
High x Kalimantan	0.019 (0.013)
Medium x Papua	-0.012 (0.016)
High x Papua	-0.034 (0.012)***
Medium x Maluku	-0.041 (0.016)***
High x Maluku	-0.026 (0.012)**
Medium x NTB	-0.023 (0.021)
High x NTB	-0.021 (0.017)
Medium x NTT	-0.031 (0.024)
High x NTT	0.115 (0.021)***

Appendix: Taste-based discrimination

Appendix: Gender and religion

Table 13: Estimates of gender and religion on call-backs

Parameter	Specification 1	Specification 2
	(1)	(2)
Female	0.039 (0.005)***	
Muslim	0.000 (0.006)	
Muslim x Female		0.041 (0.008)***
Muslim x Male		-0.006 (0.007)
Neutral x Female		0.035 (0.006)***
Observations	13500	13500
r ²	0.1822	0.1822
MFvsMM		0.0000
MFvsNF		0.4298
NFvsMM		0.0000
CV controls	Yes	Yes
Vacancy FE	Yes	Yes