



The impact of political connection on labor market outcomes: Evidence from Indonesia

Rashesh Shrestha

The Australian National University

Indonesia Project

Oct 26, 2016

Introduction and Background

- ▶ Networks improve prospects in the labor market, both in developed and developing countries
- ▶ Anecdotal evidence that political connection are also important, especially in developing countries
 - ▶ Large literature on the value of political connections for firms
 - ▶ Limited empirical evidence on labor market outcomes
- ▶ Research question: what is the value of being politically connected for labor market outcomes?

Why might political connection matter for labor markets?

At the time of labor market entry

- ▶ Provide labor market information
- ▶ Access to high-paying sectors due to nepotistic behavior of the political elite
- ▶ Reciprocal relationship between connected individuals and employers

And also

- ▶ Greater human capital investment during childhood

Ideal to separate the impact on human capital investment from direct labor market influences

Existing research on the value of political connection

Gagliarducci and Manacorda (2014)

- ▶ Connection established by last name and municipality of birth
- ▶ Panel data approach: impact of the timing of office-holding on earnings and employment
- ▶ Estimated effect on earnings is 16 percent

Fafchamps and Labonne (2015)

- ▶ Connection established by last name
- ▶ Regression discontinuity design: relatives of narrowly elected officials have larger likelihood of employment in managerial positions
- ▶ Results driven by employment in the public sector

In this research

- ▶ Use household survey data from Indonesia
 - ▶ Control for richer data on family background
- ▶ Use government employment of family members as a measure of political connection
 - ▶ Connection to bureaucrats more widespread than connection to elected officials
- ▶ Exploit variation in political connection caused by Indonesia's transition to democracy

Main findings

- ▶ Being politically connected increases monthly income by greater than 45 percent
- ▶ Some part of the effect comes from greater human capital investment
- ▶ Evidence of segmentation in the labor market

Important for understanding labor market institution

- ▶ Better understanding of the role of political networks
 - ▶ Current focus on impact of social networks (Munshi 2003, Beaman 2012)
- ▶ Existence of political influence can distort the incentives and lower human capital investment among the majority of population lacking such influence
 - ▶ Implications for socio-economic mobility: the poor tend to have less access to political influence
- ▶ Better understand the legacy of Indonesia's authoritarian past

Theoretical model: determination of earnings

Consider a two-period model

- ▶ First period - invest in human capital $(E_{ij}, \theta_{ij}) = f(P_{ij}, .)$
 - ▶ $f(.)$ is the human capital production function, which takes connection status as one of its inputs
 - ▶ E_{ij} is observed human capital; θ_{ij} unobserved human capital
- ▶ Second period - earnings determined according to following equation

$$Y_{ij} = \alpha P_{ij} + \beta E_{ij} + \gamma X_{ij} + \theta_{ij} + c_j + e_{ij}.$$

where, Y_{ij} is labor market outcome; P_{ij} is measure of political connection; X_{ij} is vector of controls; θ_{ij} , e_{ij} , and c_j are unobserved determinants of earnings

- ▶ Estimates of α biased in presence of θ_{ij}

Use exogenous shock to political connection for identification

- ▶ Assume all investments take place before labor market entry
- ▶ An exogenous shock before labor market entry changes previously held political capital
- ▶ Use the resulting variation in political connection at the time of labor market entry for identification
- ▶ Democratization in Indonesia provides an ideal context to implement this strategy

Indonesian context: defining political connection

Politically connected = living in households with government employee in 1993

- ▶ Before 1999, Indonesia governed by an autocratic regime of President Soeharto and his party Golkar
- ▶ Institutional structure of pre-democratic Indonesia makes government employees more likely to be connected to Golkar
 - ▶ The regime used patronage and clientelistic behavior to maintain power
 - ▶ Government employees more likely to be connected to Golkar

Indonesian context: 1999 democratic election as source of exogenous variation

Golkar's performance in the 1999 election determined continuance of political connections of government employees

- ▶ Decentralization meant that district governments had more political power
- ▶ If Golkar won in a district, political connections of Soeharto-era government employees in those districts remained intact

Difference-in-differences strategy

Table: Expected earnings by Golkar's win and pre-election connection status

Pre-election connection	Golkar's performance in 1999 election	
	Golkar won ($G_j = 1$)	Golkar lost ($G_j = 0$)
Connected ($P_{ij} = 1$)	$\alpha + \beta E_i + \gamma X_i + \theta_1 + c_1$	$\beta E_i + \gamma X_i + \theta_1 + c_0$
Unconnected ($P_{ij} = 0$)	$\theta_0 + \beta E_i + \gamma X_i + c_1$	$\theta_0 + \beta E_i + \gamma X_i + c_0$

where $\theta_k = \mathbb{E}(\theta_i | P_i = k)$ and $c_k = \mathbb{E}(c_j | G_j = k)$ for $k = 0, 1$.

Difference-in-differences estimates the value of political connections α :

$$\alpha = \mathbb{E}(Y_{ij} | P_{ij} = 1) - \mathbb{E}(Y_{ij} | P_{ij} = 0) - [\mathbb{E}(Y_{ij} | P_{ij} = 1, G_j = 0) - \mathbb{E}(Y_{ij} | P_{ij} = 0, G_j = 0)]$$

Possible identification issues

- ▶ Human capital investment before the elections correlated with Golkar's eventual electoral performance
 - ▶ Households predicted Golkar's performance, perhaps because they knew about local electoral preferences
- ▶ Labor market outcomes after election correlated with Golkar's performance
 - ▶ Through labor market policies

Possible identification issues

Addressed by

1. Including a measure of Golkar's performance at the sub-district level
 - ▶ *Assumption*: conditional on popularity at the sub-district level, Golkar's district-level performance does not enter the human capital production function
2. Unconnected households as "controls" - they should only be affected by Golkar's performance through channels other than political influence (for example, policy)

Estimating equation

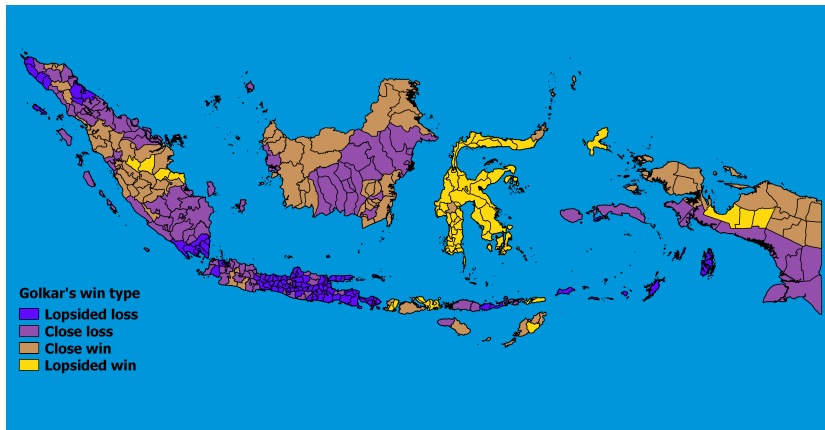
$$Y_{ij} = \beta_0 + \beta_1 P_{ij} + \beta_2 G_j + \alpha C_{ij} * G_j + \mathbf{X}_{id}' \eta + \epsilon_{ij}$$

where, Y_{ij} is log of earnings of individual i in district j ,
 $C_{ij} = 1$ if living in HH with government employee in 1993,
 $G_j = 1$ if Golkar got highest vote share in district j ,
 X_{id} vector of controls

Data source

- ▶ Individual data from the Indonesian Family Life Survey (IFLS)
 - ▶ For those aged < 25 in 1993, labor market outcomes from the 2007 IFLS
- ▶ Connection to Golkar- if living in a household where an adult family member had a government job in 1993, the first year of IFLS survey
- ▶ Party-wise vote share data at district and sub-district level
- ▶ Control for 1993 household characteristics (per capita consumption, assets, household education, religion), region and urban dummies

Golkar's district-level electoral outcome in the 1999 election



Distribution of Golkar's win margin

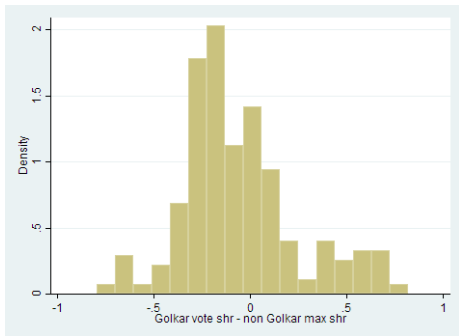


Figure: Histogram of difference between Golkar's vote share and non Golkar maximum vote share.

Sample criteria

- ▶ In Sulawesi islands, Golkar won in all the districts in IFLS sample
 - ▶ Remove individuals who lived in this region from the sample
- ▶ Remove districts with less than 5 sub-districts
 - ▶ Ensure that sub-district results, which may be endogenous, do not greatly influence district-level result

Table: Distribution of 5-24 year olds by region and Golkar's district result

	Golkar lost	Golkar won
Sumatra	2669	184
Java	6911	121
Nusa Tenggara	375	803
Kalimantan	140	378
Sulawesi	0	833

Issue of attrition

- ▶ In the first wave, IFLS randomly picked household members for detailed survey - 4 adults and 2 children
- ▶ These individuals were priority for follow-up interview in later waves
- ▶ Later waves interviewed all household members present
- ▶ Among those picked in the first wave, 82% tracked in 2007
- ▶ But from the entire roster, only 66% tracked in 2007
- ▶ Selection model where being picked for interview in the first wave provides exclusion restriction

Table: Summary statistics of baseline variables

Variables	Golkar lost			Golkar won		
	Num. obs.	Mean	SD	Num. obs.	Mean	SD
<i>Panel A: Household-level variables</i>						
Log per cap expen 1993	5157	10.822	0.821	733	10.614	0.694
Log total assets 1993	5157	15.079	1.996	733	14.776	1.598
HH yrs of educ	5157	7.018	4.142	733	6.258	4.129
Connected in 1993	5157	0.165	0.371	733	0.175	0.380
Non-Muslim religion	5157	0.127	0.333	733	0.018	0.132
Urban in 93	5157	0.455	0.498	733	0.207	0.406
<i>Panel B: Schooling outcomes in 1997 for aged 15-20 in 1993</i>						
In school 97	1660	0.161	0.367	244	0.094	0.293
High educ 97	1660	0.466	0.499	244	0.303	0.461
Employed 97	1660	0.426	0.495	244	0.447	0.498
<i>Panel C: Test score in 1997 for those aged 5-24 in 1993</i>						
Math score	4313	14.936	8.190	645	12.600	7.431
Indonesian lang. score	4313	16.703	7.399	645	14.879	6.968

Pre-election balance: household characteristics in 1993

	(1) Per cap. exp.	(2) Assets	(3) HH education
Connected in 1993=1	0.451*** (0.0370)	0.995*** (0.0806)	4.023*** (0.181)
Golkar winner=1	0.158** (0.0695)	0.107 (0.250)	1.485*** (0.346)
Connected X Golkar win	0.0295 (0.0788)	-0.169 (0.205)	0.212 (0.420)
Constant	10.23*** (0.0813)	12.80*** (0.150)	5.382*** (0.311)
Observations	5863	5863	5863
R-squared	0.216	0.0644	0.313

Standard errors clustered at sub-district level in parenthesis.

* $p < .1$, ** $p < .05$, *** $p < .001$

Other control vars include categories of Golkar's sub-district vote share, non-Muslim religion dummy, urban dummy, region fixed-effects. Sample is households.

Pre-election balance: schooling characteristics in 1997

	(1) In sch 1997	(2) High ed 1997	(3) Employed 1997
Connected in 1993=1	0.576*** (0.133)	0.546*** (0.125)	-0.189* (0.113)
Golkar winner=1	0.155 (0.198)	0.350* (0.194)	-0.0904 (0.192)
Connected X Golkar win	0.0643 (0.451)	-0.0740 (0.397)	-0.202 (0.344)
Constant	-0.984*** (0.203)	-0.746*** (0.131)	-1.141*** (0.131)
Observations	1891	1897	1897
Diff, Golkar lost	0.0940	0.155	-0.0674
Diff, Golkar won	0.122	0.143	-0.133
P-value of H0: Diff-in-Diff = 0	0.775	0.920	0.556

Other control vars include categories of Golkar's sub-district vote share, age, male, categories of household education, non-Muslim religion dummy, urban dummy, region fixed-effects. Sample is individuals aged 15-20 in 1993.

Pre-election balance: standardized test scores in 1997

	(1) Mathematics score	(2) Indonesian score
Connected in 1993=1	0.975** (0.370)	1.030** (0.340)
Golkar winner=1	1.087* (0.644)	1.059* (0.551)
Connected X Golkar win	-0.629 (0.915)	0.241 (0.819)
Own educ in 1997 (base: primary or less)		
Junior	2.139*** (0.295)	3.033*** (0.284)
Senior	3.779*** (0.419)	4.796*** (0.395)
College	5.182*** (0.764)	6.167*** (0.650)
Observations	4969	5073
R-squared	0.317	0.237

Other control vars include categories of Golkar's sub-district vote share, age dummies, male dummy, categories of household education, non-Muslim religion dummy, urban dummy, region fixed-effects. Sample is individuals aged 5-24 who took the tests.

Table: Summary statistics of individuals aged 5-24 in 1993

Variables	Golkar lost			Golkar won		
	Num. obs.	Mean	SD	Num. obs.	Mean	SD
Log earnings 07	3931	13.101	1.101	549	12.913	1.088
Connected in 1993	3931	0.166	0.372	549	0.182	0.386
Own educ in 2007						
Junior	3931	0.153	0.360	549	0.157	0.364
Senior	3931	0.346	0.476	549	0.242	0.429
College	3931	0.155	0.362	549	0.129	0.336
HH yrs of educ	3931	7.005	3.891	549	6.536	4.177
Age in 1993	3931	14.249	5.450	549	14.450	5.152
Male dummy	3931	0.622	0.485	549	0.632	0.483
Non-Muslim religion	3931	0.106	0.308	549	0.009	0.095
Urban in 93	3931	0.481	0.500	549	0.288	0.453
Urban in 07	3931	0.614	0.487	549	0.426	0.495

Table shows summary statistics for individuals in the original 1993 household roster and lived in districts with at least five sub-districts, excluding Sulawesi region.

Result: impact on log earnings 2007

	Dep. var: Log earnings 2007			
	(1)	(2)	(3)	(4)
Connected in 1993=1	0.240*** (0.0552)	0.0290 (0.0555)	0.0143 (0.0556)	-0.0301 (0.0539)
Golkar winner=1	-0.0882 (0.121)	-0.639 (1.249)	-0.174 (0.130)	-0.981 (1.301)
Connected X Golkar win	0.549*** (0.126)	0.443*** (0.111)	0.532*** (0.126)	0.449*** (0.120)
Constant	12.14*** (0.160)	9.184*** (0.445)	11.92*** (0.158)	9.862*** (0.446)
HH 1993 vars		Yes		Yes
Own educ			Yes	Yes
Observations	4469	4469	4464	4464
R-squared	0.111	0.152	0.168	0.184
Num. clusters	234	234	234	234

Standard errors clustered at sub-district level. * $p < .1$, ** $p < .05$, *** $p < .01$

Other control vars: Golkar's sub-district vote share, age, male, religion, urban, and region. The sample includes individuals aged 5-24 in 1993.

Result: impact on log earnings 2007, by age group

	Dep. var: Log earnings 2007			
	Older cohort (15-24)		Younger cohort (5-14)	
	(1)	(2)	(3)	(4)
Connected in 1993=1	0.364*** (0.0843)	0.0701 (0.0890)	0.0871 (0.0724)	-0.0733 (0.0732)
Golkar winner=1	-0.0445 (0.198)	-0.0771 (0.208)	-0.139 (0.122)	-0.206* (0.111)
Connected X Golkar win	0.582*** (0.169)	0.385** (0.184)	0.575*** (0.202)	0.515*** (0.178)
Own educ		Yes		Yes
Constant	12.25*** (0.232)	12.23*** (0.223)	12.29*** (0.171)	12.02*** (0.175)
Observations	2061	2057	2408	2407
R-squared	0.168	0.237	0.0694	0.115
Num. clusters	232	232	234	234

Robustness check

	Dep. var: Log earnings 2007			
	(1)	(2)	(3)	(4)
Prof. HH in 1993=1	0.241*** (0.0651)	0.0836 (0.0619)	0.131** (0.0625)	0.0837 (0.0610)
Golkar winner=1	0.0581 (0.147)	-1.372 (1.418)	-0.141 (0.135)	-1.454 (1.384)
Prof. HH X Golkar win	-0.332 (0.212)	-0.237 (0.214)	-0.379** (0.175)	-0.338* (0.196)
Constant	12.23*** (0.162)	9.253*** (0.444)	11.95*** (0.158)	9.922*** (0.446)
HH 1993 vars		Yes		Yes
Own educ			Yes	Yes
Observations	4469	4469	4464	4464
R-squared	0.104	0.151	0.168	0.183
Num. clusters	234	234	234	234

Standard errors clustered at sub-district level in parenthesis.

* $p < .1$, ** $p < .05$, *** $p < .01$

Summary of results

- ▶ Being connected to Golkar had large benefits in areas where Golkar maintained control of local politics
- ▶ Thus, large effect of political connections in the labor market
- ▶ Evidence of large segmentation in the labor market
- ▶ Could point to another source of upward bias in estimates for returns to education in developing countries besides ability

Thank you!
rashesh.shrestha@anu.edu.au