Online Appendix (For Online Publication)

"Democratization, Leader Education and Growth:

Firm-level Evidence from Indonesia"

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OA1 Additional Results (Tables OA1 - OA7)

Summary statistics of additional variables used in the Online Appendices are provided in Section OA3.

Which types of plants are affected most and why?

In this subsection we estimate the same specification as column 3 of Table 2 for different sub-samples of manufacturing plants. Table OA1 focuses on employment and companion Table OA2 on indirect taxes. Columns 2 and 3 of Table OA1 show that exporters are more affected by the election of mayors without a college degree than non-exporters, while columns 2 and 3 of Table OA2 also show a higher tax incidence for exporters.[1] These findings support more anecdotal and survey evidence that taxing trade has been a comparatively easy and therefore popular method for local governments to raise revenue after decentralization (Ray, 2009), and our results show that democratization has amplified this. Trade industries have also faced particular discrimination when securing business licenses (Hofman et al., 2009; KPPOD, 2003). We also find that only relatively large plants (those larger than the median plant of 38 employees) are adversely affected by the election of mayors without a college degree. Large plants also face a greater increase in indirect tax payments under non-college educated mayors than small plants (see columns 4-5 of Tables OA1 and OA2). Large plants may be obvious targets for local governments looking to raise revenue, but college-educated mayors may give more consideration to the employment effects of such a tax policy.[2] Finally, columns 6-7 in Tables OA1 and OA2 show more significant employment effects and also much stronger taxation effects for plants with above-median capital intensity.[3] This is again intuitive since it is comparatively easier for revenue-seeking mayors to tax fixed capital rather than labor.

[1] We define exporters as plants that export a positive fraction of output in at least one year over 1990-2009, which is the entire period over which we observe manufacturing plants.

[2] Indeed, survey evidence shows that large firms in particular perceived decentralization as detrimental for doing business (World Bank, 2003). Another survey conducted in 2002 finds that large firms face a greater increase in the burden of informal payments after decentralization, in terms of amount, frequency and the number of exacting agencies or individuals (see Ray, 2009). To the extent that decentralization is a driver of the impact of democratization, these findings are consistent with our plant-level results.

[3] We define a plant to be capital-intensive in production if employment divided by revenue is smaller than for the median plant in our sample. We observe employment and revenue for all plants, but capital only for a subset.

More detailed results on infrastructure and institutional quality

In Table OA3 we study the effect of democratization and democratic mayor education on sub-components of infrastructure (Panel I) and institutional quality (Panel II) in the KPPOD data. See Section OA4 for a detailed description of each sub-component. The results in Panel I show that our main infrastructure results (see Table 4) continue to hold for infrastructure availability and quality separately. Furthermore, elements that may deteriorate or improve relatively fast such as "quality of telephone service" are affected more by democratization and mayor education. The coefficient estimates in Panel II on variables such as consistency of regulations or law enforcement typically suggest the same pattern as most of our results: negative effects under non-college educated mayors and less negative or positive effects under college-educated mayors. However, the coefficients are typically not statistically significant.

Total and development expenditure patterns

In Table OA4 we analyze data from Indonesia's Ministry of Finance on total expenditure (columns 1-2) and development expenditure (3-4) at the district level. The results show that neither democratization nor democratic mayor education has a significant impact on these items.

Do non-college educated mayors focus on other sectors? A more detailed expenditure analysis

In Table OA5 we analyze the individual components that jointly make up a district's total development expenditure. We do not find that non-college educated mayors spend significantly more on items such as family welfare, health, housing, environment, religion or education. This speaks against the hypothesis that these mayors have simply been elected for having priorities that are different from supporting the local manufacturing sector.

Second democratic mayor education and manufacturing employment

In Table OA6 we study the effect of the transition from the first to the second democratic mayor on local manufacturing employment. We include all 103 districts that meet our baseline sample selection criteria (see Section 3) minus two districts in which the first

democratic mayor steps down prematurely after 2004 (pre-2004 cases are already excluded in our baseline sample), 12 districts in which the second democratic mayor is prematurely replaced before 2010 (our sample period ends in 2009 due to data availability), and 10 districts in which an interim mayor serves between the first and the second democratic mayor. The results show no change in manufacturing employment as a college graduate is elected as second democratic mayor, irrespective of the first democratic mayor's education level.

Does the type of college degree matter?

In Table OA7 we study whether the specific degree of a democratic mayor matters. We determine three study areas that might be relevant:
Economics/Management/Finance (39% of democratic mayors with college degree for who the degree type is known and whose district is included in our baseline sample have such a degree), Political science/Administration/Government studies (20%) and Law (22%). The (omitted) baseline category (25%)[4] includes the following degrees: Engineering (14%), Medicine (5%), Education Studies (2%), Biology (2%), Mathematics (2%) and Islamic Studies (2%). The results show that our baseline findings are overall not driven by a particular degree area, but generally hold across all defined degree areas. However, the overall evidence suggests that the positive effect of a college degree is particularly strong for the area of Political science/Administration/Government studies. One potential explanation is that democratization (paired with decentralization) is a period of substantial political and institutional change and uncertainty, in which local economies benefit from a mayor with administrative and governing skills who understands and manages these complex changes.

[4] The percentages do not add up to one because some democratic mayors have multiple degrees.

Table OA1: Which types of plants are affected most? Employment effects by plant type

Dependent Variable →	ln(# Employees)						
Sample →	All	Non-Exporters	Exporters	Small	Large	Labor-Intensive	Capital-Intensive
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Post Election Year	-0.052***	-0.039**	-0.077***	-0.006	-0.092***	-0.035*	-0.039***
	(0.013)	(0.016)	(0.026)	(0.010)	(0.020)	(0.019)	(0.013)
Post × Democratic mayor has college degree	0.048***	0.035***	0.064**	0.007	0.084***	0.033**	0.036**
	(0.013)	(0.013)	(0.025)	(0.008)	(0.021)	(0.017)	(0.017)
Plant FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample Period	00-04	00-04	00-04	00-04	00-04	00-04	00-04
Observations	29,994	19,522	10,354	14,868	14,346	13,937	14,209
#Districts	96	95	89	92	90	89	93
Marginal Effects:							
Democratic mayor has no college degree	-0.052***	-0.039**	-0.077***	-0.006	-0.092***	-0.035*	-0.039***
	(0.013)	(0.016)	(0.026)	(0.010)	(0.020)	(0.019)	(0.013)
Democratic mayor has college degree	-0.004	-0.005	-0.013	0.002	-0.009	-0.002	-0.003
	(0.012)	(0.012)	(0.021)	(0.007)	(0.019)	(0.013)	(0.017)

Notes: In this table we analyze the impact of democratization and democratic mayor education on employment for different types of manufacturing plants. See Section 3 for a description of our sample selection and Table 2 for a description of the explanatory variables. *Non-Exporters* are plants that never export a part of their output over 1990-2009, which is the entire period over which we observe manufacturing plants. *Exporters* are plants that export a positive fraction of output in at least one year over 1990-2009. *Small* Plants have 38 or less employees, which equals the median across the plant-years in the sample of column 1; *Large* Plants thus have more than 38 employees. *Labor-Intensive* are plants for which employment divided by revenue is larger than for the median plant, based on the sample of column 1. *Capital-Intensive* are those plants for which the ratio is below or equal to the median. The variables *Post × Suharto mayor has college degree* (where *Suharto mayor has college degree* is demeaned based on the column-specific sample) and *Election Year* are always included but not shown. Standard errors in parentheses are clustered at the district level. ***Significant at 1% level; **Significant at 5% level; *Significant at 10% level.

Table OA2: Indirect tax incidence by plant type

Dependent Variable →	Indirect Taxes / Value Added						
Sample →	All	Non-Exporters	Exporters	Small	Large	Labor-Intensive	Capital-Intensive
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Post Election Year	0.020***	0.018***	0.029***	0.012***	0.027***	0.006	0.030***
	(0.004)	(0.006)	(0.009)	(0.003)	(0.009)	(0.004)	(0.008)
Post × Democratic mayor has college degree	-0.010**	-0.008	-0.016**	-0.003	-0.016**	0.001	-0.014**
	(0.004)	(0.006)	(0.007)	(0.003)	(0.008)	(0.004)	(0.006)
Plant FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province-Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sample Period	00-04	00-04	00-04	00-04	00-04	00-04	00-04
Observations	23,873	15,870	7,902	12,552	10,581	11,773	10,487
#Districts	94	92	86	88	87	86	89
Marginal Effects:							
Democratic mayor has no college degree	0.020***	0.018***	0.029***	0.012***	0.027***	0.006	0.030***
	(0.004)	(0.006)	(0.009)	(0.003)	(0.009)	(0.004)	(0.008)
Democratic mayor has college degree	0.010***	0.010***	0.013***	0.009**	0.011**	0.007*	0.016***
	(0.003)	(0.003)	(0.005)	(0.004)	(0.005)	(0.004)	(0.004)

Notes: In this table we analyze the impact of democratization and democratic mayor education on the expenditure on indirect taxes across different types of manufacturing plants. See Section 3 for a description of our sample selection, Table 2 for a description of the explanatory variables and Table OA1 for a description of the plant types. The distinction in small versus large plants and labor-intensive versus capital-intensive plants is based on the sample of column 1 of Table OA1 to ensure comparability. The variables *Post* × *Suharto mayor has college degree* (where *Suharto mayor has college degree* is demeaned based on the column-specific sample) and *Election Year* are always included but not shown. Standard errors in parentheses are clustered at the district level. ***Significant at 1% level; **Significant at 5% level; *Significant at 10% level.

Table OA3: The effect of democratization and democratic mayor education on infrastructure and institutional quality

Panel I: Infrastructure												
Dependent Variable →	Availability Streets	Availability Seaport	Availability Airport	Availability Telephone service	Availability Electricity service	Subtotal Availability Infrastr.	Quality Streets	Quality Seaport	Quality Airport	Quality Telephone service	Quality Electricity service	Subtotal Quality Infrastr.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Post Election Year	-0.253	0.034	-0.521*	-0.643**	-0.247	-0.379***	0.026	-0.340	-0.335	-0.824*	-0.517	-0.526*
	(0.263)	(0.138)	(0.283)	(0.244)	(0.317)	(0.141)	(0.401)	(0.414)	(0.221)	(0.440)	(0.578)	(0.277)
Post × Dem. mayor has college degree	0.036	0.043	0.398	0.424	0.397	0.265*	-0.679	0.247	0.164	0.631***	0.250	0.249*
	(0.261)	(0.176)	(0.301)	(0.277)	(0.284)	(0.146)	(0.458)	(0.327)	(0.259)	(0.225)	(0.286)	(0.128)
Observations	129	129	129	129	129	129	129	129	129	129	129	129
#Districts	50	50	50	50	50	50	50	50	50	50	50	50
Marginal Effects:												
Dem. mayor has no college degree	-0.253	0.034	-0.521*	-0.643**	-0.247	-0.379***	0.026	-0.340	-0.335	-0.824*	-0.517	-0.526*
	(0.263)	(0.138)	(0.283)	(0.244)	(0.317)	(0.141)	(0.401)	(0.414)	(0.221)	(0.440)	(0.578)	(0.277)
Dem. mayor has college degree	-0.217	0.077	-0.123	-0.219	0.150	-0.114	-0.653**	-0.093	-0.172	-0.193	-0.267	-0.277
	(0.155)	(0.130)	(0.160)	(0.222)	(0.220)	(0.104)	(0.272)	(0.373)	(0.192)	(0.383)	(0.506)	(0.245)

Panel II: Institutional Quality												
Dependent Variable →	Service procedure	Absence of abuse of authority	Subtotal Apparatus & Service	Consist. of regulations	Law enforcement	Absence of illegal levies outside bureaucr.	Executive-Legislative relations	Subtotal Law certainty	Retribution / Taxes	Dev-Budget / Budget	Subtotal Regional finance	Regional policy & regul.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Post Election Year	-0.486	-0.910*	-0.761*	-0.066	-0.252	-0.615	-0.551	-0.410	0.039	-0.204**	-0.028	-0.374
	(0.557)	(0.481)	(0.438)	(0.567)	(0.614)	(0.425)	(0.351)	(0.392)	(0.054)	(0.100)	(0.048)	(0.408)
Post × Dem. mayor has college degree	0.208	0.008	0.191	0.212	0.099	0.205	0.160	0.241	0.030	0.120	0.059*	-0.228
	(0.388)	(0.276)	(0.300)	(0.389)	(0.539)	(0.364)	(0.397)	(0.334)	(0.023)	(0.089)	(0.031)	(0.446)
Observations	129	129	129	129	129	129	129	129	129	129	129	129
#Districts	50	50	50	50	50	50	50	50	50	50	50	50
Marginal Effects:												
Dem. mayor has no college degree	-0.486	-0.910*	-0.761*	-0.066	-0.252	-0.615	-0.551	-0.410	0.039	-0.204**	-0.028	-0.374
	(0.557)	(0.481)	(0.438)	(0.567)	(0.614)	(0.425)	(0.351)	(0.392)	(0.054)	(0.100)	(0.048)	(0.408)
Dem. mayor has college degree	-0.278	-0.902*	-0.569	0.146	-0.153	-0.409	-0.390**	-0.169	0.069	-0.084	0.031	-0.602**
	(0.543)	(0.457)	(0.412)	(0.447)	(0.469)	(0.314)	(0.171)	(0.313)	(0.063)	(0.068)	(0.050)	(0.256)

Notes: In this table we study the individual components of the variables *Infrastructure* (Panel I) and *Institutional Quality* (Panel II) from Table 4. See Section 3 and the Notes of Table 4 for a description of our sample selection. The value of a variable whose name starts with "Subtotal" equals the sum of the relevant preceding variables' scores; for example, the value of *Subtotal Apparatus & Service* equals the sum of the scores on *Service procedure* and *Absence of abuse of authority*. All specifications contain district and province-times-year fixed effects. In all columns we drop districts that do not feature in any of our main manufacturing plant-level regressions (see Tables 2-4) to ensure sample consistency. Data are obtained from the Regional Autonomy Watch *KPPOD*; see Section OA4.4 for details. The variable *Post × Suharto mayor has college degree* is always included but not shown. We demean *Suharto mayor has college degree* based on the column-specific sample before computing the interaction with *Post Election Year*. *Election Year* is always included but not shown. Standard errors in parentheses are clustered at the district level. ***Significant at 1% level; **Significant at 5% level; *Significant at 10% level.

Table OA4: District-level expenditure

Dependent Variable →	ln(Total Expenditure)		Development Expenditure / Total Expenditure	
	(1)	(2)	(3)	(4)
Post Election Year	0.177	0.133	0.011	-0.023
	(0.156)	(0.163)	(0.024)	(0.037)
Post × Democratic mayor has college degree		0.039		0.038
		(0.105)		(0.030)
District FE	Yes	Yes	Yes	Yes
Province-Year FE	Yes	Yes	Yes	Yes
Sample Period	00-04	00-04	00-04	00-04
Observations	292	292	292	292
#Districts	89	89	89	89
Marginal Effects:				
Democratic mayor has no college degree		0.133		-0.023
		(0.163)		(0.037)
Democratic mayor has college degree		0.172		0.016
		(0.148)		(0.024)

Notes: In this table we use annual public expenditure data over 2000-2004 from Indonesia's Ministry of Finance. See Section 3 for a description of our sample selection and Table 2 for a description of the explanatory variables. *Development Expenditure / Total Expenditure* is winsorized from above at the 1% level. The variable *Post* × *Suharto mayor has college degree* is included in the even columns but not shown. We demean *Suharto mayor has college degree* based on the column-specific sample before computing the interaction with *Post Election Year* so that the coefficient on *Post Election Year* has an unconditional interpretation (see also the Notes of Table 3). *Election Year* is always included but not shown. In all columns we drop districts that do not feature in any of our main manufacturing plant-level regressions (see Tables 2-4) to ensure sample consistency. Data availability decreases with time over the sample period 2000-2004; the reason is that a new reporting scheme became mandatory in 2006 but could be voluntarily used by the districts already earlier. The reporting period for all expenditure items is January 1 – December 31. Standard errors in parentheses are clustered at the district level. ***Significant at 1% level; **Significant at 5% level; *Significant at 10% level.

Table OA5: Sub-categories of district-level development expenditure

Panel I										
Dependent Variable: Expenditure on... →	Industry	Agriculture	Water	Labor	Transport	Mining & Energy	Tourism & Telecom	Regional development & settlement	Environ-ment	Education, Culture etc.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Post Election Year	-0.271	0.861	-0.447	-1.228	0.857	1.910*	0.088	-0.181	0.500	0.581
	(1.058)	(0.880)	(1.514)	(0.929)	(1.045)	(1.095)	(0.936)	(1.046)	(0.920)	(1.028)
Post × Democratic mayor has college degree	1.027	-0.108	0.209	1.334**	-0.209	-1.010	0.055	-0.268	0.129	-0.135
	(0.680)	(0.542)	(0.931)	(0.568)	(0.607)	(0.883)	(0.689)	(0.672)	(0.621)	(0.704)
Observations	292	292	292	292	292	292	292	292	292	292
#Districts	89	89	89	89	89	89	89	89	89	89
Marginal Effects:										
Democratic mayor has no college degree	-0.271	0.861	-0.447	-1.228	0.857	1.910*	0.088	-0.181	0.500	0.581
	(1.058)	(0.880)	(1.514)	(0.929)	(1.045)	(1.095)	(0.936)	(1.046)	(0.920)	(1.028)
Democratic mayor has college degree	0.756	0.753*	-0.237	0.105	0.649	0.900	0.143	-0.450	0.629	0.447
	(0.708)	(0.448)	(1.123)	(0.705)	(0.497)	(0.771)	(0.558)	(0.718)	(0.543)	(0.695)
Panel II										
Dependent Variable: Expenditure on... →	Population & Family welfare	Health & Social welfare	Housing	Religion	Science & Tech.	Legal Sector	Government apparatus & supervision	Politics, Information, Commun. & Mass media	Security	Trade, Business d'ment & Finance
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Post Election Year	-1.211	0.437	-1.146	0.434	-0.300	0.207	0.803	0.006	-0.129	0.966
	(0.775)	(0.977)	(1.299)	(0.793)	(0.876)	(0.831)	(1.011)	(0.888)	(1.087)	(0.783)
Post × Democratic mayor has college degree	0.472	0.366	1.056	0.386	0.485	-0.089	0.237	-0.201	0.475	-0.901*
	(0.722)	(0.704)	(0.805)	(0.641)	(0.636)	(0.563)	(0.710)	(0.651)	(0.742)	(0.509)
Observations	292	292	292	292	292	292	292	292	292	292
#Districts	89	89	89	89	89	89	89	89	89	89
Marginal Effects:										
Democratic mayor has no college degree	-1.211	0.437	-1.146	0.434	-0.300	0.207	0.803	0.006	-0.129	0.966
	(0.775)	(0.977)	(1.299)	(0.793)	(0.876)	(0.831)	(1.011)	(0.888)	(1.087)	(0.783)
Democratic mayor has college degree	-0.740	0.803	-0.089	0.820	0.185	0.118	1.041**	-0.195	0.347	0.065
	(0.626)	(0.497)	(0.967)	(0.560)	(0.462)	(0.587)	(0.461)	(0.657)	(0.730)	(0.628)

Notes: In this table we study all sub-categories of total development expenditure. Each dependent variable Y is measured as $ln(1+Y)$. We exclude district-years in which total development expenditure equals zero; see the Notes of Table OA4 for further information on the sample. All specifications contain district and province-times-year fixed effects. The variables *Election Year* and *Post × Suharto mayor has college degree* are always included but not shown. We demean *Suharto mayor has college degree* based on the column-specific sample before computing the interaction with *Post Election Year*. Standard errors in parentheses are clustered at the district level. ***Significant at 1% level; **Significant at 5% level; *Significant at 10% level.

Table OA6: Second democratic mayor education and manufacturing employment

Dependent Variable →	ln(# Employees)		
	(1)	(2)	(3)
Post Election of 2nd democratic mayor	-0.009	-0.019	-0.019
	(0.010)	(0.024)	(0.023)
Post 2nd × 2nd democratic mayor has college degree		0.012	0.030
		(0.023)	(0.030)
Post 2nd × 1st democratic mayor has college degree			-0.138
			(0.157)
Post 2nd × 1st has c-degree × 2nd has c-degree			-0.020
			(0.021)
Election year of 2nd democratic mayor	-0.007	-0.007	-0.007
	(0.008)	(0.008)	(0.008)
Plant FE	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes
Province-Year FE	Yes	Yes	Yes
Sample Period	04-09	04-09	04-09
Observations	41,129	41,129	41,129
#Districts	76	76	76
#Plants	9,599	9,599	9,599

Notes: In this table we analyze the effect of the transition from the first to the second democratic mayor on local manufacturing employment. We include all 103 districts that meet our baseline sample selection criteria (see Section 3) minus two districts in which the first democratic mayor steps down prematurely after 2004 (pre-2004 cases are already excluded in our baseline sample), 12 districts in which the second democratic mayor is prematurely replaced before 2010 (our sample period ends in 2009 due to data availability), and 10 districts in which an interim mayor serves between the first and the second democratic mayor. Standard errors in parentheses are clustered at the district level. ***Significant at 1% level; **Significant at 5% level; *Significant at 10% level.

Table OA7: Does the type of college degree matter?

Dependent Variable →	ln(# Employees)	ln(Revenue)	ln(TFP)	Ind. Taxes/VA
	(1)	(2)	(3)	(4)
Post Election Year	-0.051***	-0.123*	-0.009**	0.022***
	(0.013)	(0.068)	(0.003)	(0.005)
Post × Democratic mayor has college degree	0.030	0.068	0.008**	-0.023**
	(0.029)	(0.081)	(0.004)	(0.011)
Post × Democratic mayor has Economics/Management/Finance degree	-0.013	-0.021	-0.003	0.008
	(0.023)	(0.049)	(0.003)	(0.009)
Post × D. m. has Political science/Administration/Government studies degree	0.039*	0.141**	0.001	0.013
	(0.020)	(0.057)	(0.003)	(0.008)
Post × Democratic mayor has Law degree	0.020	0.134	0.001	0.011
	(0.031)	(0.086)	(0.004)	(0.011)
Plant FE	Yes	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes	Yes
Province-Year FE	Yes	Yes	Yes	Yes
Sample Period	00-04	00-04	00-04	00-04
Observations	25,434	25,434	19,356	20,255
#Districts	74	74	74	73

Notes: In this table we study whether the specific degree of a democratic mayor matters. The (omitted) baseline category includes the following degrees: Engineering, Medicine, Education Studies, Biology, Mathematics and Islamic Studies. We drop districts from the sample for which we do not have information on the type of the college degree. The variables *Post × Suharto mayor has college degree* (where *Suharto mayor has college degree* is demeaned based on the column-specific sample) and *Election Year* are always included but not shown. Standard errors in parentheses are clustered at the district level. ***Significant at 1% level; **Significant at 5% level; *Significant at 10% level.

OA2 Robustness Checks (Tables OA8 - OA17 & Figure OA1)

In this section we discuss a large range of robustness checks. We start by discussing robustness checks that test the validity of our first identification assumption (IA1) and then move on to checks that address the second (IA2) and third identification assumption (IA3), to the extent that the different exercises can be clearly separated along this dimension. Throughout this section we focus on manufacturing plant employment as outcome variable. The below (italic) titles indicate the nature of the robustness check(s), followed by information on the corresponding table (e.g. "Table OA8"), the tested identification assumption(s) or other identification concerns (e.g. "IA1"), and also include – if applicable – the relevant table columns (e.g. "c1-2"). Note that the chosen concept-based sequence described above implies that occasionally, different columns of a given table are discussed in different places.

Mayor election timing and local manufacturing characteristics (Table OA8; c1-2; IA1)

In columns 1-2 of Table OA8 we correlate manufacturing employment in the year prior to the fall of Suharto, 1997, with the election timing of the first democratic mayor. This exercise serves to test the validity of our first identification assumption. The results show that there is no correlation between the year in which the democratic mayor is elected and a) the *average* manufacturing employment across plants in the district (column 1) and b) *total* manufacturing employment (column 2). These findings complement the results displayed in Appendix-B Table 3 of Martinez-Bravo et al. (2017) (see the discussion of our first identification assumption in Section 4), bearing in mind the slightly different focus of that table. Specifically, their Appendix-B Table 3 studies correlations with the year of appointment of the last *Suharto mayor* rather than the year of election of the first *democratic mayor*. However, in practice this is a small concern because in our chosen sample the democratic mayor election year is highly correlated with the variable "Last Suharto mayor appointment year + 5", i.e. the scheduled democratic mayor election year. Note that despite dropping districts in which the Suharto mayor resigns before the end of his or her five-year term the correlation is not equal to one because in our baseline sample we keep those districts in which the democratic mayor election is delayed by one year. We do so because the reason for this is likely not district-specific; see Section OA4.5 for details. Our results are robust

to restricting our sample to those districts in which the democratic mayor election occurs exactly five calendar years after the last Suharto mayor appointment (see column 4 of Table OA10).

Common trends (Table OA9; IA1, IA2)

In Table OA9 we analyze whether pre-democratization trends in manufacturing employment differ across districts with different democratic mayor election years and education levels. The dependent variable equals the annual change in the log number of employees at the plant level. As explanatory variables, we include dummy variables for the different mayor election years (the baseline is election in 2003) and the dummy variable *Democratic mayor has college degree*, and also include the control variable *Suharto mayor has college degree* (not shown for brevity). We only include observations before elections take place, thus plant-years (which now reflect changes in employment compared to the previous year) for which both $PostElec_{kt}$ and $ElecYear_{kt}$ in equation (1) equal zero. We start with a short pre-democratization period and then gradually extend the period of analysis. In column 1 we focus on pre-democratization trends that occur within our baseline sample period, 2000-2004. This means that for districts that democratize in 1999 or 2000 no pre-trends are included because they occur before 2000; for districts that democratize in 2001 we include employment changes between 1999 and 2000; for districts that democratize in 2002 we include employment changes between 1999-2000 and 2000-2001; and for districts that democratize in 2003 we include employment changes between 1999-2000, 2000-2001 and 2000-2002. This results in a sample period of 2000-2002 in column 1, as indicated in the table. In column 2 we additionally include employment changes between 1998 and 1999 (for all types of districts) to enlarge the sample size and to be able to analyze pre-trends in districts that democratize in 2000. In column 3 we also include 1997-1998 changes in order to analyze pre-democratization trends across all districts and mayor election years. Finally, in column 4 we also include 1996-1997 changes to check the sensitivity of the results in columns 3 to adding an extra year. The results show that pre-democratization employment growth does not vary across districts that democratize in different years, which corroborates the quasi-random timing of democratization and thus the validity of IA1. Table OA9 also

shows that pre-democratization employment growth does not vary across districts that elect mayors with different education levels, which speaks against the concern that democratic mayor education is endogenous to time-varying factors (see IA2). The event study graphs in Figure OA1 complement these results by illustrating that both in districts that democratize under a college-educated mayor and those that do not, there are no significant trends in employment prior to democratization. This further strengthens the credibility of the parallel trends assumption (Baker et al., 2022).

De Chaisemartin and d'Haultfœuille (2020) estimator (Table OA10; c2; IA1)

In column 2 of Table OA10 we use the estimator of De Chaisemartin and d'Haultfœuille (2020). This estimator is preferred if there are both heterogeneous treatment effects and the timing of the democratic mayor election is not as good as randomly assigned across the districts in our sample and IA1 is thus violated (see also Section 4 and Athey and Imbens, 2022). The results are highly robust to this modification.[5]

Lead variables (Table OA10; c3; IA1)

Under the assumption that as long as democratization has not yet been adopted, "the exact future date of the adoption has no causal effect on potential outcomes for the current period" (Athey and Imbens, 2022, p.66), the (weighted) average causal effect we estimate is conceptually meaningful. This is because under this assumption, all individual effects that jointly constitute the average effect involve switching from not being treated to being

[5] The STATA command for this estimator (*did_multiplegt*) only displays the coefficient on the chosen main treatment variable (rather than other included variables), which we choose to be *Post* × *Democratic mayor has college degree*. It is not possible to re-run the regression with the same sample size while choosing *Post Election Year* as main treatment variable. This is because given that no district democratizes in 1999 with a mayor without college education, the estimator does not allow to choose the same number of dynamic treatment effects in this specification, resulting in a smaller sample size. We therefore choose *Post* × *Democratic mayor has college degree* as main treatment variable (*Post Election Year* is included but not displayed by construction) in order to estimate a specification based on the same sample that we use for our baseline analysis and thereby ensure comparability across the results in column 1 and column 2 of Table OA10. The potential concern that contrary to our baseline findings, the coefficient on *Post* × *Democratic mayor has college degree* in column 2 reflects an actual increase in employment while employment falls less or not at all under non-college educated mayors is invalidated by our analysis of relative versus absolute effects: towards the end of Section 5.1 we show that there is a clear drop in employment in absolute terms under democratic mayors without a college degree.

treated.[6] We test this assumption – which is related to IA1 as discussed in Section 4 – by first including a dummy variable that equals one if the democratic mayor election happens in the following year and another dummy that equals one if it happens two years later, and then testing whether the coefficients on these dummies significantly differ. We then do the same for these two variables interacted with the college degree dummy. The results (see column 3 of Table OA10) yield insignificant coefficients and indicate that being one year or two years away from democratization has no impact on manufacturing employment, neither for districts that later elect a mayor with college degree nor those that do not.

Dropping districts where the democratic mayor election is delayed (Table OA10; c4; IA1)

In 17 of the 96 districts that are included in our baseline sample, the first democratic mayor is elected six instead of five calendar years after the appointment of the last Suharto mayor. While the underlying reasons are likely not district-specific (see Section OA4.5 for details), this could challenge the quasi-random timing of democratization within our sample of districts and thus the validity of IA1. We therefore re-estimate our main specification without these 17 districts. As column 4 of Table OA10 shows, the results are highly robust to this modification.

Making the control group more comparable to the treatment group (Table OA10; c5-6; IA2)

Suppose there is a time-varying confounding variable Z, where a high realization of Z leads to the election of a college-educated mayor and has a comparatively positive impact on local manufacturing, while a low Z induces the election of a non-college educated mayor and negatively affects local manufacturing. Given this hypothesized pattern, our second identification assumption is violated. Also recall that β_1 in equation (1) captures the effect of electing a non-college educated mayor on a plant in a given industry, year and province, compared to a plant in the same industry, year and province located in a district that did not yet democratize. In our baseline analysis, this latter sample of counterfactuals includes both plants in districts that *later* elect a college graduate, and plants in districts that do not.

[6] Examples of individual effects which jointly constitute the (weighted) average effect are: the impact of democratization in 2000 for the year 2001, or the impact of democratization in 1999 for the year 2003 – see Athey and Imbens (2022) for details.

Given our supposition about the confounder Z, the control group thus contains both districts where Z tends to be high at the time (those that are about to elect a college graduate) and districts where Z tends to be low at the time (those that are about to elect a non-college graduate). This calls for a robustness check in which we estimate β_1 using a restricted control group of districts that also elect a *non*-college educated mayor (later), given that time-varying confounders Z take more similar realizations in the resulting sample. We do so by estimating our baseline specification only for districts that elect a non-college graduate (which implies that *Post* $\times$ *Democratic mayor has college degree* drops from the model). Intuitively, since treatment (no college, already democratized) and control (no college, not yet democratized) districts are more similar in terms of Z than in the baseline, and since we employ a difference-in-difference estimator, Z "cancels out more" here. Further building intuition, we compare for example the development of manufacturing performance in 2000-2002 across a district that elects a non-college educated mayor in 1999 (A) and a district that elects a non-college educated mayor in 2003 (B). The results are very robust to this modification (see column 5 of Table OA10): the coefficient on β_1 is still negative, highly statistically significant, and of similar magnitude.

One might still be concerned that while in district A, Z is low as early as in 1999 (thereby inducing the election of a non-college graduate in 1999), in the control district B, Z turns low only in (or close to) the election year 2003. This would mean that over 2000-2002, Z looks very different across districts A and B and therefore does not "cancel out". However, the described movements of Z in district B (which serve to illustrate a more systematic hypothesized pattern) would imply that there is a (negative) correlation between Z and the election timing – which is invalidated exactly by the evidence of Martinez-Bravo (2017) and our study that the timing of democratization is quasi-random.

In column 6 we repeat the exercise by estimating our baseline specification only for districts that *do* elect a college-educated mayor. The parameter on *Post Election Year* in this analysis is conceptually equivalent to the marginal effect $\beta_1 + \beta_2$ in equation (1). The obtained estimate is insignificant and of similar magnitude as that marginal effect in our baseline analysis. The combination of these results and the highly plausible validity of IA1 thus further strengthen the validity of IA2.

Dropping districts that split over 1990-1997 (Table OA10; c7; IA2)

In column 7 of Table OA10 we drop districts that are involved in a district split (i.e. either split off or "lose" a part of their territory) between 1990-1997. We do so because these districts might have exhibited different trends in the years after the split, such that the concern of unobserved time-varying factors influencing the first democratic mayor election (see IA2) may be larger for such districts. The results are again very robust to this change.

Exploiting data on the closeness of mayor elections (Table OA11; IA2, IA3)

Multiple studies related to election outcomes have exploited for identification that the winning party or candidate "is essentially randomized among elections decided by a narrow margin" (Lee, 2008, p.675). While we do not have vote share data for the first democratic mayor elections, we can use such data for the elections of the second democratic mayors over 2005-2009 to indirectly address concerns over endogeneity of mayor education, specifically IA2 and IA3.[7] In terms of methodology, a classic Regression Discontinuity Design (RDD) following Lee (2008) would imply to restrict the sample to a narrow bandwidth of districts where the election result is very close; in principle, we could then compare plants in districts that elect a college-educated mayor by a narrow margin to plants in districts that elect a non-college educated mayor by a narrow margin, and argue that in those districts, mayor education is plausibly exogenous. However, since only less than 80 districts are included in the 'second democratic mayor sample' (see Table OA6), applying a sufficiently narrow bandwidth would imply to keep only a handful of districts, which would in turn imply too little variation. We therefore follow a slightly different approach in the spirit of an RDD: we first determine a set of districts in which the vote share difference between the winning mayor and the runner-up is very close (we define this threshold to be 2 percentage points, which applies to 9 districts in our sample), and then test whether the estimates on the second democratic mayors' education level depend on whether the election is close or not.[8] The underlying idea is that the election outcome in terms of mayor education is "more random"

[7] We source these data from Martinez-Bravo and Stegmann (2018).

[8] We compute the vote share difference based on the first election round, since only in one district in our sample a second round was conducted (since no candidate gained more than 25% of votes in the first round).

in districts where the election is close, compared to other districts. This implies that if mayor education is generally endogenous and our coefficients in both Table 2 and Table OA6 are therefore biased, then such a bias is smaller for 'close election' districts than others, which would be reflected in different coefficients across 'close election' and other districts. In order to test for such differences, we estimate the following specification and evaluate the estimates on β_4 and β_5:

$$\begin{aligned} ln(Y_{ijkpt}) = {} & \beta_1 PostElec_{kt} + \beta_2 [PostElec_{kt} \times CollegeDegree_k] \\ & + \beta_3 ElecYear_{kt} + \beta_4 [PostElec_{kt} \times CloseElection_k] \\ & + \beta_5 [PostElec_{kt} \times CollegeDegree_k \times CloseElection_k] \\ & + \mu_i + \omega_{jt} + \delta_{pt} + \epsilon_{ijkpt} \end{aligned}$$

The results are reported in column 2 of Table OA11 (for comparability, in column 1 we re-estimate the second democratic mayor specification that underlies column 2 of Table OA6 for the 73 districts with available vote share data) and show that $\hat{\beta}_4$ and $\hat{\beta}_5$ are not significantly different from zero. This speaks against the concern of (substantial) endogeneity of second democratic mayors' education levels, and thereby also relaxes such worries regarding the first democratic mayors. In column 3 of Table OA11, we re-define $CloseElection_k$ to equal the continuous vote share difference between the winner and the runner-up. This specification addresses the potential concern that the coefficients in column 2 are insignificant due to the limited number of districts where the election is close. Again, $\hat{\beta}_4$ and $\hat{\beta}_5$ are insignificant in column 3.

Determinants of democratic mayor education level (Table OA12; IA3)

Our third identification assumption is that conditional on the controls in vector X_k in equation (1), democratic mayor education is exogenous to variables that determine the impact of democratization on local manufacturing. In Table OA12 we study potential determinants of whether the first democratic mayor has a college degree, mainly in order to guide the choice of controls to be included in X_k for our baseline analysis. The dependent variable is a dummy variable that takes one if the democratic mayor has a college degree and

zero otherwise. As explanatory variables, we include the mayor- and district-level variables discussed in Section 4. In all columns we use Linear Probability Models (LPM), but the results are robust to a Logit specification.[9] While the coefficients in column 1 derive from separate regressions that feature only the indicated variable on the right-hand side (besides province fixed effects, which we include in all specifications), in columns 2-4 we include all variables displayed in the column in one regression. The results indicate that the first democratic mayor is significantly more likely to have a college degree if the last Suharto mayor had a college degree, even when controlling for all other variables.[10] For this reason, our baseline specification includes the interaction *Post* × *Suharto mayor has college degree*. The coefficients on the other controls are never significant across all specifications, and for many controls, the coefficients are not significant for any specification. To the extent that our control set is sufficiently comprehensive and appropriate, this might already weaken concerns over the validity of IA3. Either way, in the following we test the robustness of our baseline effects to adding interactions of *Post Election Year* with all explanatory variables in Table OA12, thereby further testing the validity of IA3.

Additional control variables (Tables OA13-OA15; IA3)

In Tables OA13-OA15, we add interactions of *Post Election Year* with control variables that do not feature in our baseline analysis. If our results are robust to adding each of these terms, then this arguably alleviates the concern that the inclusion of other, unobserved variables would invalidate our key findings – thus it supports IA3. The set of mayor-level controls consists of the democratic mayor's age in the election year, a female mayor dummy, a dummy that equals one if the mayor was born in the district and a dummy that takes one if the mayor worked in the private sector before being elected. Due to comparatively lower availability and quality of data on political party membership, we feature the control

[9] We choose the LPM models mostly for ease of interpretation. Horrace and Oaxaca (2006) show that the potential bias of an LPM increases with the relative proportion of LPM-predicted probabilites that fall outside the unit interval. Since this is not the case for any of our coefficients except for population (in two out of three specifications), this is not a major concern.

[10] In regressions that include *Suharto mayor has college degree* we exclude districts in which the Suharto mayor is elected as democratic mayor, to avoid a mechanical correlation between the two variables.

variable *Democratic mayor is member of Golkar* only in Table OA16.[11] Besides the mayor-level variables, we also include a set of district controls. These are a dummy that equals one if Golkar won the district's legislative elections in 1999 and a Herfindahl-Hirschmann Index (HHI) based on the vote share of participating parties, initial (= year 2000) GDP per capita, population, population density, education of the working age population, religious fractionalization (again measured via a HHI) and a dummy that takes one if the district is a city. With the exception of *Democratic mayor has college degree*, in all three tables (Tables OA13-OA15) we demean all variables that are interacted with *Post Election Year* based on the column-specific sample before computing the interaction. This implies that we can compare the coefficient estimate in the top row across all columns.[12] In Table OA13, we include the control variables separately. Since column 3 of Table 2 shows that conditional on democratic mayor education, Suharto mayor education has no effect, we do not include the interaction *Post* × *Suharto mayor has college degree* in any column of Table OA13. The results thus provide a robustness check on the findings of column 2 of Table 2. In Table OA14, we show that adding all mayor-level variables sequentially does not change our main conclusions.[13] Table OA15 shows that the results in column 2 of Table 2 are also robust to the sequential inclusion of all *district*-level controls (columns 2-9) as well as the inclusion of

[11] The information we have on party membership does not always correspond to the period in which the person serves as first democratic mayor. Party membership data from Martinez-Bravo and Stegmann (2018) are as of 2009, while additional data we retrieve via online search mostly correspond to the first democratic mayorship period. This timing issue likely matters because "local politics are so fluid (...) and allow individuals and groups to regularly switch their allegiances with little or no concern for ideology, policy or programme" (Hadiz, 2010, p.71). Furthermore, data on party membership are missing for relatively many districts.

[12] Without demeaning, the estimate on *Post Election Year* for example in column 3 of Table OA13 would indicate the effect of democratization under a mayor who has no college degree *and was not born in the district*. This implies that without demeaning, the coefficients on *Post Election Year* in columns 1 and 3 of Table OA13 are estimated for different scenarios, which makes them uncomparable. In contrast, demeaning ensures that the coefficient on *Post Election Year* in column 3 of Table OA13 indicates the average effect of democratization under a mayor without college education across all districts in terms of nativeness, same as in column 1.

[13] We choose the order of variables based on the number of districts for which data on the variable are available.

all (both mayor- and district-level) controls in one regression (column 10).[14] Table OA14 also indicates that after local democratization *native* mayors positively impact manufacturing growth compared to non-natives (which is consistent with the results of Hodler and Raschky, 2014) and that older democratic mayors benefit manufacturing; however, only the prior result is robust to the inclusion of all controls (see Table OA15, column 10).

Is college education a proxy for being a member of the local elite? (Table OA16; c2; IA3)

A potential concern related to IA3 is that democratic mayors with a college degree are more likely to be member of a historical local elite that was close to Suharto and his party, Golkar. If this is true then the average college-educated mayor may be more inclined to continue the authoritarian status quo, which could explain that manufacturing outcomes are unaffected by democratization under college-educated mayors. The average democratic mayor *without* a college degree may be less of a stakeholder in the local economy (because he or she is not member of the local elite) and may therefore be more willing to tax local businesses and disregard local infrastructure for his or her own benefit. This could explain the dip in manufacturing performance under such mayors. To the extent that proximity of the democratic mayor to a local Suharto-Golkar-related elite is captured by the strength of Golkar in the local legislative elections, the described hypothesis is invalidated by the fact that our results are highly robust to controlling for whether Golkar wins these elections (see Tables OA13 and OA15). As an additional test, in column 2 of Table OA16 we control for party membership of the democratic mayor, by including the interaction of *Post Election Year* and a dummy which equals one if the democratic mayor is member of the Golkar party (see footnote 11 for details on the data). The results are highly robust to this specification as well.

Applying the method of Oster (2019) (IA2, IA3)

The method of Oster (2019) builds on the observation that omitted variable bias is pro-

[14] Due to lack of space, in column 10 we only display mayor-level variables with statistically significant coefficients in Table OA14. Note that the marginal effect on college-educated mayors in column 10 suggests that also under such mayors, democratization has a small negative effect. However, since the marginal effect is only marginally significant and the evidence on heterogeneity across mayor education levels is equally strong as in our baseline results, the latter can be considered robust to the demanding specification of column 10.

portional to coefficient movements if (and only if) these movements are scaled by the change in R-squared when controls are included.[15] She focuses on the case of a linear model in which an outcome is fully determined by a treatment, a set of observed, a set of unobserved variables, and an iid error term. On the basis of this standard model her method allows to estimate a parameter δ that captures the degree of selection on unobservables relative to observables that is necessary to produce a treatment effect of zero, for a given R_{max}. For example, a value of δ=2 indicates that the unobservables must be twice as important as the observables (for explaining the treatment variable) to explain away the treatment effect. Following Altonji et al. (2005), $\delta > 1$ reflects robustness to omitted variable bias. R_{max} is chosen by the researcher and equals the R-squared from a hypothetical regression of the outcome on the treatment variable and both observed and unobserved controls. While this can be equal to one in theory, R_{max}=1 requires that there is no measurement error whatsoever in the outcome variable, which Oster considers unlikely in most empirical settings. Given that our manufacturing data are collected via surveys, it is safe to assume $R_{max} < 1$ in our setting. While any specific choice of R_{max} is arbitrary to some degree, it obviously holds that $R_{max} > \tilde{R}$, which equals the R-squared in the regression including all observables. In column 10 of Table OA15 (which is the most appropriate specification for this exercise since it includes all controls), $\tilde{R}$=0.9694. This number is very large and is almost exclusively driven by the inclusion of plant fixed effects (mostly due to the large number of plants and thus many fixed effects relative to the sample period length): using the sample of column 10 of Table OA15, a regression of *ln(# Employees)* on a constant and a dummy for each of the 5,385 plants results in an R-squared of 0.9675. Given the small difference of the full model to this benchmark despite the inclusion of multiple controls and additional fixed effects, it is very difficult to imagine any unobserved control that would push up the R-squared above, say, 0.98, let alone 0.99. Choosing R_{max}=0.98 results in $\hat{\delta}$=2.44 (using the STATA command *psacalc2*) and R_{max}=0.99 yields $\hat{\delta}$=1.26, both of which are safely above one. Even the impru-

[15] This point is closely related to the logic of partial R-squared in Imbens (2003) and is also utilized by Altonji et al. (2005), whose method provides the basis for Oster (2019).

dent choice of R_{max}=1 yields a $\hat{\delta}$ that nearly signals robustness ($\hat{\delta}$=0.85).[16] Based on these results, the threat of unobservables driving our treatment effects to zero appears very limited.

How representative is our sample of districts? (Table OA8; c3-6; Sample selection)

As we discuss in Section 3, in our main specifications we exclude districts that may endanger our identification strategy and/or may conceptually not allow the estimation of our effect of interest: the impact of the direct transition from the non-democratic Suharto mayor to the democratic mayor. We now analyze whether and to what extent the resulting sample is representative for the entire population of 1997-districts. We start by studying correlations between local manufacturing employment before the fall of Suharto and the sample selection criteria mentioned in Section 3; see columns 3-6 of Table OA8 for the results. Columns 3 and 4 show that the size of a district's manufacturing sector in 1997 is uncorrelated with the sample selection criteria. Columns 5 and 6 show that the growth rate of manufacturing employment over 1990-1997 is also broadly similar across the selection criteria.[17] These results provide evidence in favor of the hypothesis that our main results are representative for the districts we exclude. That said, one may be concerned about the fact that the coefficient on *District split in 1998-2004* is marginally significant in both columns 5 and 6. One interpretation of this result is that there are factors that determine whether a district splits which also have an effect on manufacturing trends. If these factors also determine the impact of democratization on manufacturing, i.e. if there are heterogeneous treatment effects across "non-splitters" and "splitters", then our main results are not representative for the splitters. The previous literature (see e.g. Pierskalla, 2016; Bazzi and Gudgeon, 2021) has found that districts that split indeed differ along several characteristics from "non-splitters". Most notably, the likelihood of a district split decreases with population density and increases with religious fractionalization and the local strength of the Golkar party. We therefore test whether the local success of democratization depends on one or more of these factors.

[16] To put this finding in perspective, note that the results of only 42% of papers using randomized data (which are thus most likely to have a causal interpretation) published in the *American Economic Review*, *Quarterly Journal of Economics*, *Journal of Political Economy*, *Econometrica* or *American Economic Journal: Applied Economics* over 2008-2013 survive the choice of R_{max}=1, i.e. for 58% of those papers, $\hat{\delta}$ <1 (Oster, 2019).

[17] We only compute these growth rates for districts that did not split over 1990-1997, which results in dropping 21 of the 292 districts.

The results are displayed in columns 5 (strength of Golkar), 11 (population density) and 12 (religious fractionalization) of Table OA13 and in columns 2 (strength of Golkar), 8 (pop. density) and 9 (relig. frac.) of Table OA15. We do not obtain robust evidence that the success of democratization is different in districts that split over our sample period, which suggests that our results are representative for all districts.

Mayor education, district splits & sample selection (two robustness checks, see below)

While the findings discussed on the previous page suggest that our main results are representative for all districts, there is one remaining potential concern about dropping districts that split. We first describe the concern and then discuss how we address it. Suppose that democratic mayor education actually has no impact on manufacturing whatsoever. Also suppose that under college-educated democratic mayors, positive manufacturing growth makes it less likely that the district splits, while negative manufacturing growth makes it more likely. Conversely, assume that under non-college educated democratic mayors, positive manufacturing growth increases the likelihood of a district split, while negative manufacturing growth reduces the likelihood of a split.[18] If this holds true, then we overestimate the difference between high and low democratic mayor education in terms of the effect on manufacturing: we would estimate a positive coefficient, even though (in our extreme and illustrative example) mayor education has no impact. We address this concern in two ways.

Check I (Table OA16; c3; Sample selection). Our first approach is to estimate equation (1) using a different sample: We include the plant-years in our baseline sample and additionally include plant-years of districts that split over 1998-2004, but only include plant-years prior to the district split (within our sample period 2000-2004).[19] If the described pattern is true, then the estimates based on this modified sample should be different compared to the baseline; this is because we now allow the inclusion of plant-years under college-educated democratic mayors in times of negative local manufacturing growth, and plant-years under

[18] Unreported regressions reveal that the likelihood of a district to split after the first democratic mayor election (within our sample period 2000-2004) does not depend on the mayor's education level, but this does not prohibit the conditional correlations described in the main text.

[19] We do not include *Post* × *Suharto mayor has college degree* because we do not have data on Suharto mayor education for multiple districts that split over 1998-2004. Therefore, the results must be compared to those in column *2* of Table 2.

non-college educated mayors in times of positive local manufacturing growth. In particular, these additional plant-years should drive the coefficient on *Post* × *Democratic mayor has college degree* downwards – intuitively because now both the combinations "high mayor education, poor manufacturing" and "low mayor education, prosperous manufacturing" are more strongly (and adequately) represented in the sample. However, the results (see column 3 of Table OA16) show that the coefficient is actually (slightly) *larger*, which speaks against the described concern.

Check II (Table OA17; Sample selection). The above exercise allows us to compare the coefficients to the baseline and thus readily evaluate robustness. However, one might be concerned that due to the somewhat limited number of additional observations in column 3 of Table OA16, the coefficients would not move much relative to column 1 even if the described concern were relevant. We therefore apply a second robustness check which does not have this potential caveat. Specifically, we analyze directly whether in a given year over our sample period, manufacturing trends differ across districts that are about to split and those that do not split, and whether there are heterogeneous effects with respect to democratic mayor education. The specification (which merely tests for associations rather than causal impacts) looks as follows:

$$\begin{aligned}\Delta ln(Employment_{ijkpt}) = {} & \beta_1 SplitNextYear_{kt} + \beta_2 [SplitNextYear_{kt} \times CollegeDegree_k] \\ & + \beta_3 SplitInTwoYears_{kt} + \beta_4 [SplitInTwoYears_{kt} \times CollegeDegree_k] \\ & + \beta_5 ElecYear_{kt} + \mu_i + \omega_{jt} + \delta_{pt} + \epsilon_{ijkpt}\end{aligned}$$

where Δ stands for the change relative to the previous year and for example $SplitNextYear_{kt}$ is a dummy that equals one if the district splits in the following year. In terms of sampling, we only include plant-years in the period *after* the democratic mayor election (within 2000-2004) and plant-years in the election year itself, since the described identification concern relates to a potential relationship between the democratic mayor's education level and the district split likelihood (under certain conditions). In terms of included districts, we allow the inclusion of observations from all 96 districts in our baseline sample, plus districts that split over 2000-2004 *after* the democratic mayor election; we do so because for the remaining

"splitters", the combination of a certain manufacturing trend and the education level of the democratic mayor could not possibly impact the district split likelihood, since the first democratic mayor had not yet been elected. As in the previous robustness check (Table OA16, column 3), for those districts that split over 2000-2004, we only include plant-years prior to the district split. Thus, in a nutshell, for districts that do not split we include all plant-years after the mayor election (until 2004, and including the election year), while for districts that do split, we only include plant-years between the mayor election (including the election year) and the year in which the district splits (excluding that year).

If there are different manufacturing trends in districts that are about to split, then this is picked up by β_1 and/or β_3. If this also depends on whether the elected mayor has a college degree, then this is picked up by β_2 and/or β_4. For example, if under non-college graduates *positive* manufacturing growth is indeed associated with a higher split likelihood (see also further above), then this would be reflected by a positive β_1 and/or β_3; and if under college graduates *negative* manufacturing growth is indeed associated with a higher district split likelihood, then this would be reflected by a negative β_2 and/or β_4. Our results do not support this: the coefficient signs are different (except for a positive but virtually zero $\hat{\beta}_1$) and statistically insignificant. These results again speak against the described identification concern.

Dropping districts without KPPOD data (Table OA16; c4; Sample selection)

In columns 4-7 of Table OA16 we present the results of additional exercises that have various purposes. One potential concern is that the 50 districts that enter our infrastructure and institutions regressions (since for these districts, KPPOD survey data exist for multiple years over 2002-2004) are not representative for the entire population of districts, or the 96 districts in our baseline sample. One way to test the validity of this concern is to restrict the sample underlying our manufacturing results to those districts for which KPPOD data exist, and compare the results. We do this in column 4 of Table OA16: the coefficient estimates are very similar, which speaks against this potential worry.

Dropping districts where Suharto mayor is elected (Table OA16; c5; Strength of democracy)

In column 5 of Table OA16 we drop the nine districts in which the last Suharto mayor is

elected as first democratic mayor, since democratic institutions may be less strong in these districts. The results are highly robust to this modification.

Interacting college dummy also with election year dummy (Table OA16; c6; Model selection)

In column 6 of Table OA16 we include the interaction term *Election Year* × *Democratic mayor has college degree*. The results are highly robust to this modification. The coefficients in this specification on the interaction itself and *Election Year* separately are difficult to interpret; this is because in some districts the mayor election occurs rather early while in others it occurs in the middle or towards the end of the year, such that the coefficients indicate a weighted average across the different democratic mayor incumbency durations (in months) – which is not applicable to any single district in our sample.[20]

Undergraduate versus graduate degree (Table OA16; c7)

In column 7 of Table OA16 we allow for heterogeneous effects across democratic mayors with only an undergraduate degree (which are elected in 52 of the 96 districts in our baseline sample) and mayors with a graduate degree (Master or PhD; 24/96 districts). To do so, we add the interaction term *Post* × *College Degree* × *Graduate Degree* (which is de-facto equivalent to *Post* × *Graduate Degree*) into our specification. The results reveal that mayors with a graduate degree have no significantly different effect on manufacturing employment relative to mayors with only an undergraduate degree.

[20] Note that this conceptual critique also applies to the coefficient on *Election Year* in the other regressions (see for example Table 2), but unlike *Election Year* × *Democratic mayor has college degree*, *Election Year* must always be included to clearly separate the pre- and post-democratization period.

Table OA8: The manufacturing sector across different types of districts (IA1, Sample selection)

Dependent Variable →	Average Employment 1997	Total Employment 1997	Average Employment 1997	Total Employment 1997	Employment Growth 1990-1997	
	(1)	(2)	(3)	(4)	(5)	(6)
Democratic mayor was elected in 2000	-0.724	-0.692				
	(0.489)	(0.668)				
Democratic mayor was elected in 2001	-0.660	-1.161				
	(0.525)	(0.754)				
Democratic mayor was elected in 2002	0.316	0.395				
	(0.654)	(0.773)				
Democratic mayor was elected in 2003	-0.567	-0.711				
	(0.495)	(0.729)				
District split in 1998-2004			0.268*	0.098	-0.176*	-0.285*
			(0.158)	(0.310)	(0.096)	(0.162)
Transitional government appointed first post-Suharto mayor			-0.106	-0.237	-0.066	-0.227
			(0.149)	(0.278)	(0.076)	(0.155)
Unknown if trans-gov or 1999-parl. appointed 1st post-Suh. m.			0.154	0.886	0.110	0.133
			(0.321)	(0.704)	(0.114)	(0.291)
Interim mayor installed between last Suh. m. and first dem. m.			0.303	0.297	0.110	0.211
			(0.215)	(0.398)	(0.069)	(0.260)
Last Suharto mayor stepped down before end of 5-year term			0.305	0.600*	0.120	-0.017
			(0.187)	(0.353)	(0.095)	(0.267)
Democratic mayor stepped down before end of 5-year term			0.183	0.187	-0.039	0.241
			(0.210)	(0.513)	(0.206)	(0.218)
Province FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations (Districts)	87	87	265	265	219	231
P-value of F-Statistic (excluding Province FE)	0.263	0.172	0.075	0.086	0.003	0.059

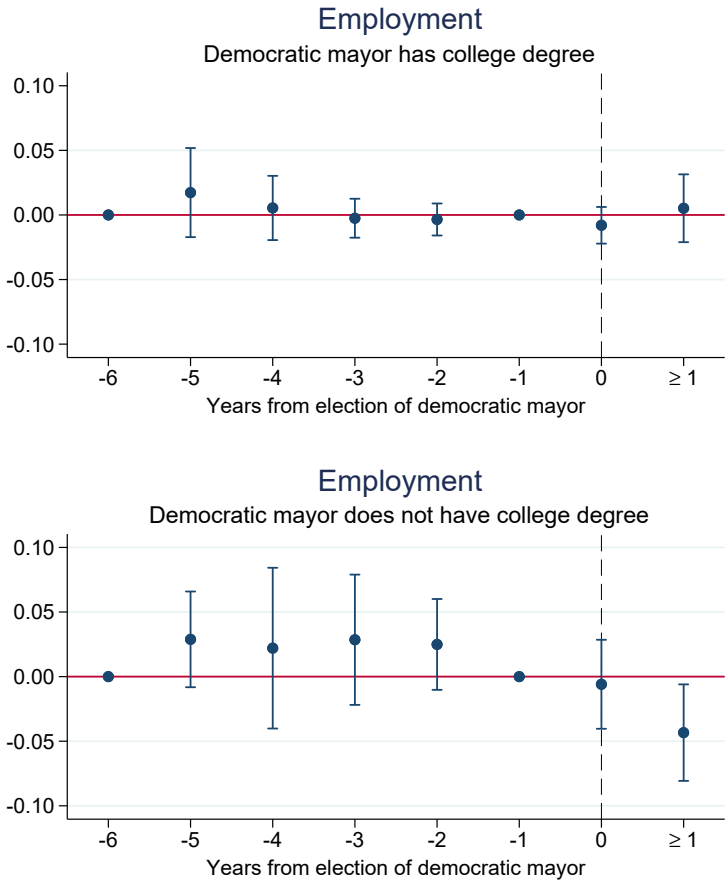
Notes: In this table we analyze correlations between a district's manufacturing sector and other characteristics. In columns 1-2 the included characteristics are dummies for the election years of the first democratic mayor, with election in 1999 as omitted baseline. We allow all districts that existed in 1997 and feature in our baseline sample (see e.g. Table 2) to be included (some are dropped due to the fixed effect structure). In columns 3-6 we include all districts that existed in 1997 and distinguish them based on our sample selection criteria that we describe in Section 3. The dependent variable in columns 1 and 3 is the average log employment across plants in the district. The dependent variable in columns 2 and 4 is the log of total manufacturing employment in the district. In columns 5-6 the dependent variable is the growth rate of employment between 1990 and 1997. In column 5 this is computed as the average across all available plant-level differences between log employment 1997 and log employment 1990 in a given district. In column 6 we compute the growth rate as the change in log total district-level employment between 1990 and 1997. We only compute and include the growth rates for districts that did not split over 1990-1997, which results in dropping 21 of the 292 districts. The actual sample sizes in columns 3-6 are reduced by the fact that not all 1997-districts host manufacturing plants with 20 or more employees in 1997 (columns 3-4) or both in 1990 and 1997 for the same plant (column 5) or both in 1990 and 1997 in general (column 6). Standard errors in parentheses are clustered at the district level. ***Significant at 1% level; **Significant at 5% level; *Significant at 10% level.

Table OA9: Pre-democratization trends across different types of districts (IA1, IA2)

Dependent Variable →	Δln(# Employees)			
Sample is observations *before* elections. Sample years → (baseline is Election will take place in 2003)	00-02	99-02	98-02	97-02
	(1)	(2)	(3)	(4)
Democratic mayor has college degree	-0.008	-0.001	-0.003	0.001
	(0.014)	(0.009)	(0.007)	(0.006)
Election will take place in 2002	-0.009	0.002	-0.011	0.002
	(0.020)	(0.016)	(0.012)	(0.009)
Election will take place in 2001	-0.004	-0.001	-0.009	-0.006
	(0.024)	(0.016)	(0.009)	(0.009)
Election will take place in 2000		0.008	0.007	0.001
		(0.013)	(0.008)	(0.007)
Election will take place in 1999			0.007	-0.005
			(0.024)	(0.014)
Industry-Year FE	Yes	Yes	Yes	Yes
Province-Year FE	Yes	Yes	Yes	Yes
P-value of F-Statistic (excluding FE)	0.905	0.868	0.097	0.936
Observations	4,665	10,790	15,054	20,005
#Districts	39	90	93	92

Notes: In this table we analyze whether pre-democratization trends in manufacturing employment differ across districts with different democratization timing and democratic mayor education. The dependent variable equals the annual change in the log number of employees at the plant level. We include a dummy for each year of democratization, with *Election will take place in 2003* as omitted baseline. We only include observations before elections take place, thus plant-years (which now reflect changes in employment compared to the previous year) for which both $PostElec_{kt}$ and $ElecYear_{kt}$ in equation (1) equal zero. We start with a short pre-democratization period and then gradually extend the period of analysis. In column 1 we focus on pre-democratization trends that occur within our baseline sample period, 2000-2004. This means that for districts that democratize in 1999 or 2000 no pre-trends are included because they occur prior to 2000; for districts that democratize in 2001 we include employment changes between 1999 and 2000; for districts that democratize in 2002 we include employment changes between 1999-2000 and 2000-2001; and for districts that democratize in 2003 we include employment changes between 1999-2000, 2000-2001 and 2000-2002. This results in a sample period of 2000-2002 for column 1. In column 2 we additionally include employment changes between 1998 and 1999 (for all types of districts); in column 3 we also include 1997-1998 employment changes; and in column 4 we also include 1996-1997 changes. In column 3 we restrict the sample to districts that do not split over 1997-2004 rather than 1998-2004 (as in our baseline analysis), and in column 4 to districts that do not split between 1996-2004. The dummy variable *Suharto mayor has college degree* is always included but not shown. Standard errors in parentheses are clustered at the district level. ***Significant at 1% level; **Significant at 5% level; *Significant at 10% level.

Figure OA1: Pre-democratization trends (IA2)



Notes: The graphs are based on event study regressions. We estimate the following specification for the sample of districts with a college-educated mayor (top graph) and the sample of districts without (bottom graph): $ln(Y_{ijkpt}) = \beta_0 + \beta_1 ElecYear_{k,-5} + \beta_2 ElecYear_{k,-4} + \beta_3 ElecYear_{k,-3} + \beta_4 ElecYear_{k,-2} + \beta_5 ElecYear_{k,0} + \beta_6 ElecYear_{k,\geq 1} + \mu_i + \omega_{jt} + \delta_{pt} + \epsilon_{ijkpt}$, where e.g. $ElecYear_{k,-5}$ is a dummy that equals one if in district k the democratic mayor election occurs five years later. Dots indicate point estimates and lines indicate 90% confidence intervals based on standard errors clustered at the district level. The sample period starts in 1997 (paralleling column 4 of Table OA9) and ends in 2004, as in our baseline analysis. We restrict the sample to districts that do not split over 1996-2004, as in column 4 of Table OA9. Since there are no never-treated units in the sample, we need to drop *two* relative time indicators to avoid multicollinearity (Borusyak and Jaravel, 2017). We follow Baker et al. (2022) and drop the earliest possible indicator (*Election in 6 years*) and the indicator of one period prior to treatment (*Election in 1 year*).

Table OA10: Additional robustness checks addressing IA1 and IA2

Dependent Variable →	ln(# Employees)						
Sample / Specification →	Baseline	de Chaisem. & D'Haultf. estimator	Include leads	Drop if mayor elec delay	Only College =0	Only College =1	Drop if split 1990-97
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Post Election Year	-0.052***		-0.069*	-0.042***	-0.056***	-0.007	-0.059***
	(0.013)		(0.037)	(0.013)	(0.016)	(0.013)	(0.015)
Post × Democratic mayor has college degree	0.048***	0.051***	0.050***	0.035***			0.049***
	(0.013)	(0.025)	(0.014)	(0.012)			(0.015)
Election in 1 year			-0.024				
			(0.028)				
Election in 2 years			-0.017				
			(0.031)				
Election in 1 year × Democratic mayor has college degree			0.015				
			(0.012)				
Election in 2 years × Democratic mayor has college degree			0.001				
			(0.021)				
Observations	29,994	30,038	29,994	25,646	6,774	23,132	28,542
#Districts	96	96	96	79	20	76	89
p-value F-Stat *Elec in 1y=Elec in 2y*			0.62				
p-value F-Stat *Elec 1y×c-d=Elec 2y×c-d*			0.45				
Marginal Effects:							
Democratic mayor has no college degree	-0.052***		-0.069*	-0.042***	-0.056***		-0.059***
	(0.013)		(0.037)	(0.013)	(0.016)		(0.015)
Democratic mayor has college degree	-0.004		-0.019	-0.007		-0.007	-0.010
	(0.012)		(0.037)	(0.012)		(0.013)	(0.012)

Notes: This table presents the results of several robustness checks addressing our first identification assumption (columns 2-4) and our second identification assumption (columns 5-7). In column 1 we show the results of column 3 of Table 2 for comparison. In column 2 we apply the estimator proposed by De Chaisemartin and d'Haultfœuille (2020) (footnote 5 explains why there is no coefficient on *Post Election Year*). In column 3 we include lead variables. In column 4 we drop districts in which it took six rather than five calendar years to elect the first democratic mayor after the appointment of the last Suharto mayor. In column 5 we estimate the baseline specification of column 1 based on the sample of districts that elect a mayor without college education; in column 6 we do the same for the sample of districts that elect a college-educated mayor. In both columns, *Post × Democratic mayor has college degree* thus drops from the model, and the coefficients on *Post Election Year* therefore have different interpretations across columns 5 and 6. In column 7 we drop districts that are involved in a district split over 1990-1997. All specifications contain plant, industry-times-year and province-times-year fixed effects, same as our main specification. The variables *Post × Suharto mayor has college degree* (where *Suharto mayor has college degree* is demeaned based on the column-specific sample) and *Election Year* are always included but not shown. Standard errors in parentheses are clustered at the district level. ***Significant at 1% level; **Significant at 5% level; *Significant at 10% level.

Table OA11: Robustness checks: Closeness of second democratic mayor elections (IA2, IA3)

Dependent Variable →	ln(# Employees)		
Definition of *Close election* →		=1 if Δ_{WS} <2%	Δ_{WS}
	(1)	(2)	(3)
Post Election of 2nd democratic mayor	-0.020	-0.029	-0.022
	(0.024)	(0.025)	(0.040)
Post 2nd × 2nd democratic mayor has college degree	0.014	0.018	0.017
	(0.023)	(0.025)	(0.040)
Post Election of 2nd democratic mayor × Close election		0.131	0.007
		(0.092)	(0.074)
Post 2nd × 2nd dem. m. has college degree × Close election		-0.086	-0.015
		(0.099)	(0.079)
Plant FE	Yes	Yes	Yes
Industry-Year FE	Yes	Yes	Yes
Province-Year FE	Yes	Yes	Yes
Sample Period	04-09	04-09	04-09
Observations	40,632	40,632	40,632
#Districts	73	73	73
#Plants	9,484	9,484	9,484

Notes: In this table we exploit data on vote shares of the second democratic mayor elections. The sample is equal to the sample in Table OA6, minus three districts for which vote share data are not available. In column 1 we re-estimate the specification of column 2 of Table OA6 using this slightly smaller sample. In column 2 we define *Close election* as a dummy that equals one if the difference in the vote share of the winning mayor (pair) and the vote share of the runner-up (pair) (Δ_{WS}, where W stands for winner and S for second) is less than two percentage points. In column 3, we simply define *Close election* as the difference in the vote share of the winning mayor and the vote share of the runner-up, where *Close election* ranges between 0 (no difference) and 1 (winner gains 100% of votes, runner-up 0%). The variable *Election year of 2nd democratic mayor* is always included but not shown. Standard errors in parentheses are clustered at the district level. ***Significant at 1% level; **Significant at 5% level; *Significant at 10% level.

Table OA12: Determinants of democratic mayors' education level (IA3)

Dependent Variable →	Democratic mayor has college degree			
	(1) (univar.)	(2)	(3)	(4)
Female democratic mayor	0.322***	0.185**		0.158
	(0.088)	(0.091)		(0.161)
Democratic mayor age in election year	-0.018**	-0.015*		-0.013
	(0.007)	(0.009)		(0.008)
Democratic mayor born in district	-0.013	-0.046		-0.079
	(0.096)	(0.109)		(0.096)
Democratic mayor worked in private sector pre-election	-0.128	-0.163		-0.252*
	(0.150)	(0.145)		(0.147)
Suharto mayor has college degree	0.209*	0.241**		0.357**
	(0.109)	(0.109)		(0.135)
Democratic mayor is member of Golkar	0.002			
	(0.125)			
Golkar wins 1999-elections	-0.040		-0.135	-0.055
	(0.160)		(0.238)	(0.297)
1999-election vote share HHI	-0.069		-0.057	-0.172
	(0.097)		(0.107)	(0.134)
ln(GDP per capita 2000)	-0.142		-0.019	-0.113
	(0.120)		(0.153)	(0.144)
Education of working age population 2000	-0.296		0.256	0.206
	(0.228)		(0.484)	(0.507)
ln(Population 2000)	0.094		0.060	0.363***
	(0.075)		(0.105)	(0.114)
ln(Population density 2000)	-0.056		-0.036	-0.058
	(0.038)		(0.150)	(0.154)
City	-0.170		-0.025	0.687
	(0.120)		(0.400)	(0.416)
Religious fractionalization 2000 (HHI)	0.213***		0.216**	0.231
	(0.080)		(0.107)	(0.154)
Province FE	Yes	Yes	Yes	Yes
Observations	{69,92}	63	84	57

Notes: In this table we analyze potential determinants of whether the first democratic mayor has a college degree. The dependent variable takes one if this is the case and zero otherwise. The unit of observation is a district; see Section 3 for a description of our sample selection. In all columns we estimate Linear Probability Models. *1999-election vote share HHI* equals the Herfindahl-Hirschmann Index (HHI) based on vote shares in the 1999 local legislative elections, and is scaled by its standard deviation. *Education of working age population* is the district average across the entire population with age 15-65 and ranges from 0 (less than primary education) to 3 (college degree) at the individual level. *Religious fractionalization* is the HHI based on religion membership shares (Muslim, Hindu, Buddhist, Christian, Other), scaled by its standard deviation. See Section OA4 in the Online Appendix for details on these and the other controls. Whenever an explanatory variable that is measured in the year 2000 enters the specification, we exclude districts in which the first democratic mayor is elected in 1999 to avoid potential reverse causality. The coefficients in column 1 derive from separate univariate regressions with the indicated variable as sole regressor. In regressions that include *Suharto mayor has college degree* we exclude districts in which the Suharto mayor is elected as democratic mayor, to avoid a mechanical correlation between the two variables. We do not include *Democratic mayor is member of Golkar* in columns 2 and 4 due to comparatively low data availability and quality; see Sections OA2 and OA4.3 in the Online Appendix. In all columns we drop districts that do not feature in any of our main manufacturing plant-level regressions (see Tables 2-4) to ensure sample consistency. Robust standard errors are in parentheses. ***Significant at 1% level; **Significant at 5% level; *Significant at 10% level.

Table OA13: Robustness checks: including all additional variables separately (IA3)

Dependent Variable →	ln(# Employees)												
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Post Election Year	-0.052***	-0.052***	-0.061***	-0.057***	-0.064***	-0.052***	-0.051***	-0.054***	-0.050***	-0.048***	-0.052***	-0.051***	-0.051***
	(0.013)	(0.014)	(0.014)	(0.015)	(0.018)	(0.014)	(0.014)	(0.013)	(0.015)	(0.014)	(0.014)	(0.014)	(0.014)
Post × Democratic mayor has college degree	0.048***	0.051***	0.051***	0.052***	0.053***	0.047***	0.048***	0.047***	0.047***	0.050***	0.046***	0.051***	0.049***
	(0.013)	(0.014)	(0.015)	(0.015)	(0.016)	(0.013)	(0.013)	(0.013)	(0.014)	(0.014)	(0.013)	(0.014)	(0.013)
Post × Democratic mayor is female		-0.021											
		(0.025)											
Post × Democratic mayor born in district			0.026**										
			(0.012)										
Post × Democratic mayor age in election year				0.002									
				(0.001)									
Post × D. m. worked in private sector pre-elec.					-0.017								
					(0.019)								
Post × Golkar wins 1999-elections						0.006							
						(0.024)							
Post × City							0.009						
							(0.016)						
Post × 1999-election vote share HHI (sd)								0.000					
								(0.012)					
Post × GDP per capita 2000									0.009				
									(0.011)				
Post × Work-age population education 2000										0.043*			
										(0.023)			
Post × ln(Population 2000)											0.004		
											(0.010)		
Post × ln(Population density 2000)												0.011	
												(0.008)	
Post × Religious fractionalization 2000 (sd)													-0.005
													(0.009)
Observations	29,994	29,994	26,644	26,456	25,952	29,994	29,994	29,728	29,067	29,067	29,067	29,067	29,067
#Districts	96	96	83	81	81	96	96	94	91	91	91	91	91
Marginal Effects:													
Democratic mayor has no college degree	-0.052***	-0.052***	-0.061***	-0.057***	-0.064***	-0.052***	-0.051***	-0.054***	-0.050***	-0.048***	-0.052***	-0.051***	-0.051***
	(0.013)	(0.014)	(0.014)	(0.015)	(0.018)	(0.014)	(0.014)	(0.013)	(0.015)	(0.014)	(0.014)	(0.014)	(0.014)
Democratic mayor has college degree	-0.005	-0.001	-0.010	-0.005	-0.011	-0.005	-0.003	-0.007	-0.003	0.002	-0.005	-0.001	-0.003
	(0.011)	(0.011)	(0.012)	(0.012)	(0.013)	(0.011)	(0.011)	(0.011)	(0.012)	(0.012)	(0.011)	(0.011)	(0.012)

Notes: This table presents robustness checks on the results displayed in column 2 of Table 2, which are shown again in column 1 of this table for comparison. We separately introduce the control variables, none of which appears very relevant based on the results of Table OA12. (*sd*) indicates that the variable that is interacted with *Post Election Year* is scaled by its standard deviation. See Section 3 for a description of our sample selection and Section OA4 for detailed information on the included control variables. With the exception of *Democratic mayor has college degree*, we demean all variables that are interacted with *Post Election Year* based on the column-specific sample before computing the interaction. This implies that we can compare the coefficient estimate in the top row across all columns. In columns 9-13 we drop the districts in which the first democratic mayor election occurred in 1999 to avoid the potential problem that the included variables are influenced by the democratic mayor's education level and are thus "bad controls" (see Angrist and Pischke, 2008). All specifications contain plant, industry-times-year and province-times-year fixed effects, same as our main specification. The variable *Election Year* is always included but not shown. Standard errors in parentheses are clustered at the district level. ***Significant at 1% level; **Significant at 5% level; *Significant at 10% level.

Table OA14: Robustness checks: including all additional mayor-level variables sequentially (IA3)

Dependent Variable →	ln(# Employees)					
	(1)	(2)	(3)	(4)	(5)	(6)
Post Election Year	-0.052***	-0.052***	-0.052***	-0.061***	-0.062***	-0.071***
	(0.013)	(0.013)	(0.013)	(0.014)	(0.013)	(0.017)
Post × Democratic mayor has college degree	0.048***	0.048***	0.051***	0.056***	0.063***	0.066***
	(0.013)	(0.013)	(0.014)	(0.016)	(0.015)	(0.017)
Post × Suharto mayor has college degree		-0.002	-0.003	-0.002	-0.014	-0.016
		(0.013)	(0.013)	(0.014)	(0.014)	(0.015)
Post × Female democratic mayor			-0.021	-0.031	-0.022	-0.021
			(0.025)	(0.031)	(0.023)	(0.024)
Post × Democratic mayor born in district				0.030**	0.035***	0.035**
				(0.012)	(0.013)	(0.013)
Post × Democratic mayor age in election year					0.003**	0.003**
					(0.001)	(0.001)
Post × Dem. m. worked in private sector pre-elec.						-0.016
						(0.020)
Observations	29,994	29,994	29,994	26,644	26,318	24,925
#Districts	96	96	96	83	80	74
Marginal Effects:						
Democratic mayor has no college degree	-0.052***	-0.052***	-0.052***	-0.061***	-0.062***	-0.071***
	(0.013)	(0.013)	(0.013)	(0.014)	(0.013)	(0.017)
Democratic mayor has college degree	-0.005	-0.004	-0.000	-0.005	0.001	-0.005
	(0.011)	(0.012)	(0.011)	(0.012)	(0.012)	(0.013)

Notes: This table presents the results of additional robustness checks, in which we add mayor-level controls sequentially. We choose the order of variables based on the number of districts for which data on the variable are available. In column 1 we repeat the results of column 2 of Table 2, and in column 2 we repeat the results of column 3 of Table 2. See Section 3 for a description of our sample selection and Section OA4 for detailed information on the included control variables. With the exception of *Democratic mayor has college degree*, we demean all variables that are interacted with *Post Election Year* based on the column-specific sample before computing the interaction. This implies that we can compare the coefficient estimate in the top row across all columns. All specifications contain plant, industry-times-year and province-times-year fixed effects, same as our main specification. The variable *Election Year* is always included but not shown. Standard errors in parentheses are clustered at the district level. ***Significant at 1% level; **Significant at 5% level; *Significant at 10% level.

Table OA15: Robustness checks: including all district-level variables sequentially and adding all controls (IA3)

Dependent Variable →	ln(# Employees)									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Post Election Year	-0.052***	-0.052***	-0.051***	-0.052***	-0.052***	-0.050***	-0.050***	-0.056***	-0.056***	-0.074***
	(0.013)	(0.014)	(0.014)	(0.014)	(0.015)	(0.015)	(0.015)	(0.016)	(0.016)	(0.017)
Election Year	-0.011	-0.011	-0.010	-0.011	-0.011	-0.009	-0.008	-0.010	-0.010	-0.023*
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Post × Democratic mayor has college degree	0.048***	0.047***	0.048***	0.047***	0.047***	0.050***	0.050***	0.054***	0.052***	0.051***
	(0.013)	(0.013)	(0.013)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.015)
Post × Golkar wins 1999-elections		0.006	0.010	0.019	0.019	0.021	0.021	0.040	0.039	0.020
		(0.024)	(0.024)	(0.025)	(0.026)	(0.024)	(0.024)	(0.026)	(0.026)	(0.027)
Post × City			0.011	0.012	0.009	-0.011	-0.009	-0.036	-0.024	-0.014
			(0.016)	(0.017)	(0.022)	(0.024)	(0.027)	(0.023)	(0.029)	(0.043)
Post × 1999-election vote share HHI(sd)				0.002	0.001	0.001	0.002	0.005	0.006	0.021**
				(0.012)	(0.012)	(0.011)	(0.011)	(0.011)	(0.011)	(0.008)
Post × ln(GDP per capita 2000)					0.004	-0.013	-0.013	-0.016	-0.016	-0.008
					(0.015)	(0.013)	(0.013)	(0.013)	(0.013)	(0.017)
Post × Work-age population education 2000						0.076**	0.074**	0.021	0.041	0.055
						(0.035)	(0.036)	(0.043)	(0.041)	(0.043)
Post × ln(Population 2000)							0.003	0.001	0.001	0.009
							(0.010)	(0.009)	(0.009)	(0.013)
Post × ln(Population density 2000)								0.029*	0.026*	0.038**
								(0.016)	(0.014)	(0.016)
Post × Religious fractionalisation 2000 (sd)									0.013	0.043**
									(0.019)	(0.018)
Post × Democratic mayor born in district										0.034**
										(0.013)
Post × Democratic mayor age in election year										0.002
										(0.001)
Observations	29,994	29,994	29,994	29,728	28,801	28,801	28,801	28,801	28,801	23,734
#Districts	96	96	96	94	89	89	89	89	89	67
Marginal Effects:										
Democratic mayor has no college degree	-0.052***	-0.052***	-0.051***	-0.052***	-0.052***	-0.050***	-0.050***	-0.056***	-0.056***	-0.074***
	(0.013)	(0.014)	(0.014)	(0.014)	(0.015)	(0.015)	(0.015)	(0.016)	(0.016)	(0.017)
Democratic mayor has college degree	-0.005	-0.005	-0.003	-0.005	-0.005	0.000	0.000	-0.002	-0.004	-0.023*
	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.012)	(0.012)	(0.012)	(0.012)	(0.013)

Notes: This table presents the results of additional robustness checks, in which we first add district-level controls sequentially (columns 2-9) and then include *all* (both mayor- and district-level) controls in one regression (column 10; due to lack of space, only mayor controls with statistically significant coefficients in Table OA14 are reported). In column 1 we repeat the results of column 2 of Table 2 for comparison. (*sd*) indicates that the variable that is interacted with *Post Election Year* is scaled by its standard deviation. See Section 3 for a description of our sample selection and Section OA4 for detailed information on the included control variables. In columns 5-10 we drop the districts in which the first democratic mayor election occurred in 1999 to avoid the potential problem that the included variables are affected by democratic mayor education and are thus "bad controls" (see Angrist and Pischke, 2008). With the exception of *Democratic mayor has college degree*, we demean all variables that are interacted with *Post Election Year* based on the column-specific sample before computing the interaction. This implies that we can compare the coefficient estimate in the top row across all columns. All specifications contain plant, industry-times-year and province-times-year fixed effects, same as our main specification. The variable *Election Year* is always included but not shown. Standard errors in parentheses are clustered at the district level. ***Significant at 1% level; **Significant at 5% level; *Significant at 10% level.

Table OA16: Additional robustness checks addressing IA3 and other potential identification concerns

Dependent Variable →	ln(# Employees)						
Sample / Specification →	Baseline	Control for party membership	Include splitting districts	Drop if not in KPPOD sample	Drop if Suh. mayor elected	Control for ElecYear × Coll-degree	Undergrad vs grad degree
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Post Election Year	-0.052***	-0.026**	-0.054***	-0.056***	-0.052***	-0.066***	-0.053***
	(0.013)	(0.011)	(0.013)	(0.016)	(0.013)	(0.016)	(0.014)
Post × Democratic mayor has college degree	0.048***	0.039***	0.051***	0.058***	0.044***	0.066***	0.047***
	(0.013)	(0.013)	(0.013)	(0.016)	(0.014)	(0.021)	(0.014)
Post × Democratic mayor is member of Golkar		-0.017					
		(0.017)					
Election Year	-0.011	-0.000	-0.011	-0.010	-0.013	-0.030**	-0.011
	(0.011)	(0.011)	(0.012)	(0.014)	(0.011)	(0.014)	(0.012)
Election Year × Democratic mayor has college degree						0.025	
						(0.019)	
Post × Democratic mayor has master or PhD							0.005
							(0.015)
Observations	29,994	24,574	30,612	23,057	28,508	29,994	29,994
#Districts	96	72	122	50	87	96	96
Marginal Effects:							
Democratic mayor has no college degree	-0.052***	-0.026**	-0.054***	-0.056***	-0.052***	-0.066***	-0.053***
	(0.013)	(0.011)	(0.013)	(0.016)	(0.013)	(0.016)	(0.014)
Democratic mayor has college degree	-0.004	0.013	-0.004	0.002	-0.008	0.000	
	(0.012)	(0.012)	(0.011)	(0.014)	(0.011)	(0.013)	

Notes: This table presents the results of further robustness checks. In column 1 we show the results of column 3 of Table 2 for comparison. In column 2 we control for party membership of the first democratic mayor. In column 3 we add plant-years from districts that split over 1998-2004 *after the election of the first democratic mayor*. For plants in those splitting districts, we only include the years leading up to the district split, but not the split year and following years. In column 4 we restrict the sample to the set of districts that feature in our KPPOD regressions (see e.g. columns 3-6 of Table 4). In column 5 we drop districts in which the last Suharto mayor is elected as the first democratic mayor. In column 6 we include the interaction term *Election Year* × *Democratic mayor has college degree*. In column 7 we allow for heterogeneous effects across mayors with an undergraduate versus graduate college degree. All specifications contain plant, industry-times-year and province-times-year fixed effects, same as our main specification. *Post* × *Suharto mayor has college degree* (where *Suharto mayor has college degree* is demeaned based on the column-specific sample) is always included (but not shown), except for column 3 due to data availability. Standard errors in parentheses are clustered at the district level. ***Significant at 1% level; **Significant at 5% level; *Significant at 10% level.

Table OA17: Democratic mayor education, district splits & sample selection

Dependent Variable →	Δln(# Employees)
Sample of districts →	All 96 baseline districts, plus districts that split over 2000-2004 *after* first d.m. election
Sample of plant-years →	D.m. elec year and beyond, over 00-04, until district (potentially) splits
	(1)
District splits next year	0.002
	(0.075)
District splits next year × Democratic mayor has college degree	0.001
	(0.085)
District splits in two years	-0.099
	(0.093)
District splits in two years × Democratic mayor has college degree	0.262
	(0.187)
Observations	27,771
# Districts	114

Notes: In this table we analyze whether in a given year over our sample period, manufacturing trends differ across districts that are about to split and those that do not split, and whether there are heterogeneous effects with respect to democratic mayor education. We only include plant-years in the period *after* the democratic mayor election (within 2000-2004) and plant-years in the election year itself. In terms of included districts, we allow the inclusion of observations from all 96 districts in our baseline sample, plus districts that split over 2000-2004 *after* the democratic mayor election; we do so because for the remaining "splitters", the combination of a certain manufacturing trend and the education level of the democratic mayor could not possibly impact the likelihood of the district to split, since the first democratic mayor had not yet been elected. As in column 3 of Table OA16, for those districts that split over 2000-2004, we only include plant-years prior to the district split. All specifications contain plant, industry-times-year and province-times-year fixed effects, same as our main specification. *Election Year* is included but not shown. Standard errors in parentheses are clustered at the district level. ***Significant at 1% level; **Significant at 5% level; *Significant at 10% level.

OA3 Additional Summary Statistics (Table OA18)

Table OA18: Additional summary statistics

	Mean	Median	Min	Max	sdev	N
Panel I: District-level variables						
Dem. mayor election year = 1999	0.052	0	0	1	0.223	96
Dem. mayor election year = 2000	0.510	1	0	1	0.503	96
Dem. mayor election year = 2001	0.177	0	0	1	0.384	96
Dem. mayor election year = 2002	0.073	0	0	1	0.261	96
Dem. mayor election year = 2003	0.188	0	0	1	0.392	96
Democratic mayor has undergraduate degree	0.542	1	0	1	0.501	96
Democratic mayor has graduate degree	0.250	0	0	1	0.435	96
Democratic mayor has Economics/Management/Finance degree	0.389	0	0	1	0.492	54
D. m. has Political science/Administration/Government studies deg.	0.204	0	0	1	0.407	54
Democratic mayor has Law degree	0.222	0	0	1	0.420	54
Democratic mayor has other degree	0.222	0	0	1	0.420	54
Second democratic mayor has college degree	0.861	1	0	1	0.348	79
ln(Average employment across plants 1997) (districts in sample)	4.669	4.501	3.207	7.005	0.885	87
ln(Total employment 1997) (districts in sample)	8.016	8.266	3.497	11.827	1.682	87
ln(Average employment across plants 1997) (all districts)	4.728	4.656	2.996	7.005	0.948	265
ln(Total employment 1997) (all districts)	7.553	7.668	2.996	12.240	2.022	265
Average across plants of: ln(Empl. 1997) – ln(Empl. 1990) (all distr.)	0.071	0.094	-2.147	1.709	0.392	219
ln(Total employment 1997) – ln(Total employment 1990) (all distr.)	-0.010	0.035	-3.116	4.769	0.956	231
Panel II: District-year-level variables						
Total expenditure	12.041	12.162	4.685	13.934	0.860	292
Development expenditure / Total expenditure	0.280	0.276	0.034	0.672	0.107	292
ln(1+Expenditure on...)						
Industry	4.914	5.112	0	10.114	1.772	292
Agriculture	7.081	7.345	0	9.490	1.613	292
Water	5.788	6.830	0	10.130	2.997	292
Labor	4.113	4.689	0	8.858	2.174	292
Transport	9.214	9.329	0	11.108	1.197	292
Mining & Energy	3.619	4.606	0	8.658	2.699	292
Tourism & Telecom	5.366	5.753	0	11.247	1.920	292
Regional development & settlement	7.864	8.166	0	11.292	1.910	292
Environment	6.800	6.925	0	10.392	1.499	292
Education, culture etc.	8.158	8.296	0	10.683	1.563	292
Population & Family welfare	3.888	4.394	0	8.294	2.264	292
Health & Social welfare	7.643	7.779	0	10.294	1.509	292
Housing	7.306	7.652	0	11.395	2.096	292
Religion	5.683	5.980	0	10.260	2.122	292
Science & Technology	5.943	6.219	0	9.303	1.670	292
Legal sector	4.598	4.829	0	7.633	1.627	292
Government apparatus & supervision	8.452	8.676	0	10.882	1.612	292
Politics, Information, Communication & Mass media	4.981	5.237	0	9.175	1.835	292
Security	4.388	4.862	0	11.334	2.346	292
Trade, Business development & Finance	7.504	7.662	0	11.289	1.656	292

Table continues on following page.

Additional summary statistics (continued)

	Mean	Median	Min	Max	sdev	N
Panel II: District-year-level variables (continued)						
Infrastructure						
ln(Availability: Streets)	3.438	3.689	1.609	4.190	0.703	129
ln(Availability: Seaport)	3.355	3.497	1.792	3.932	0.523	129
ln(Availability: Airport)	2.556	2.833	1.099	2.833	0.537	129
ln(Availability: Telephone Service)	3.554	3.784	1.609	4.263	0.713	129
ln(Availability: Electricity Service)	3.329	3.367	1.609	4.263	0.724	129
ln(Subtotal Availability of infrastructure)	5.021	5.069	3.829	5.617	0.356	129
ln(Quality: Streets)	3.079	3.555	1.099	3.555	0.647	129
ln(Quality: Seaport)	2.783	2.639	1.099	3.555	0.614	129
ln(Quality: Airport)	2.904	3.091	1.099	3.258	0.425	129
ln(Quality: Telephone Service)	3.477	3.497	1.386	4.304	0.616	129
ln(Quality: Electricity Service)	3.374	3.497	1.386	4.304	0.695	129
ln(Subtotal Quality Infrastructure)	4.867	4.868	3.784	5.403	0.354	129
Institutional quality						
ln(Service procedure)	4.033	4.127	2.773	5.513	0.691	129
ln(Absence of abuse of authority)	3.373	3.401	2.079	4.787	0.786	129
ln(Subtotal apparatus & service)	4.507	4.522	3.178	5.908	0.646	129
ln(Consistency of regulations)	3.959	3.989	2.485	5.106	0.721	129
ln(Law enforcement)	4.163	4.248	2.890	5.525	0.684	129
ln(Absence of illegal levies outside bureaucracy)	3.058	3.219	1.792	4.595	0.765	129
ln(Executive-legislative relations)	3.440	3.401	1.946	4.277	0.282	129
ln(Subtotal law certainty)	5.221	5.187	4.190	6.209	0.477	129
ln(Retribution / Taxes)	4.071	3.932	2.996	4.883	0.455	129
ln(Development budget / Total budget)	3.039	3.135	2.197	4.078	0.581	129
ln(Subtotal regional finance)	4.412	4.477	3.367	5.252	0.407	129
ln(Regional policy & regulations)	4.766	4.990	3.829	5.380	0.532	129

Notes: This table provides summary statistics on the variables that are only used in the Online Appendix, with the exception of additional controls for the vector X_k which are reported in Table 1 for illustrative purposes. Descriptive statistics on specific college degree types are based on the sample of 96 districts that are included in our baseline sample, in which the democratic mayor has a college degree, and for which we have degree-specific information. "Other degree" includes the following degrees: Engineering, Medicine, Education Studies, Biology, Mathematics and Islamic Studies. Note that some democratic mayors have multiple degrees: for such mayors more than one of the four indicated degree dummies equals one. Descriptive statistics on *Second democratic mayor has college degree* are based on the sample of districts that both meet our baseline sample selection criteria and the additional criteria described in Section OA1. The variable *Development expenditure / Total expenditure* is winsorized from above at the 1% level. For illustrative purposes, the raw scores of all Infrastructure and Institutional quality scores are multiplied by 10,000 before taking the log such that all numbers are larger one and the log is thus non-negative.

OA4 Online Data Appendix

OA4.1 Manufacturing plant-level data

Data cleaning

We drop plant-years in which production worker employment is larger than total employment, as well as plant-years in which the reported number of employees is below 20.[21] Furthermore, we drop the few plants that have a district ID that does not correspond to any district ID we observe in our BPS list of district IDs. As mentioned in footnote 16 of our paper, around 4% of plants that operate in the period 1998-2004 report two or more districts as their location over this time period. We cannot be sure if these events are real or due to measurement error. This is because districts split and proliferated over time in which district codes were reused and reassigned from time to time, and while we track these changes, some errors may remain. We drop these plants from our sample in order to address the mentioned measurement concerns, the potential worry that certain plants self-selected into districts that democratize early, and to ensure that plant fixed effects absorb district fixed effects in our empirical specification.

Variables used in the analysis

We use the following variables from the manufacturing plant census in our analysis: number of employees; revenue; total factor productivity (TFP); total investment; total wage bill divided by number of employees; share of revenue generated through exports; district location; four-digit ISIC Rev.3.1 sector[22]; expenditure on indirect taxes ("for example: sales tax, establishment license, building and land tax (PBB), road user tax (SWP3D), import duty, custom fee, etc. except income tax and personal taxes")[23]; and expenditure on "gifts, donations and the like" to non-employees, which is a proxy for bribe payments. We scale ex-

[21] The fact that only few plants had less than 20 employees made clear to us that indeed, if a plant that had been registered the year before went below the threshold of 20 employees, it was not registered in the following year. We conclude that realizations of employees below 20 must be typos.

[22] The census reports the four-digit sector in terms of an Indonesian classification: the 2000 version of the *Klasifikasi Baku Lapangan Usaha* (KBLI 2000). This nearly corresponds to Revision 3.1 of the *International Standard Industry Classification* (ISIC Rev.3.1) but not one-to-one. Therefore, we first use KBLI 2000 and ISIC Rev.3.1 documentation files to assign to each KBLI 2000 industry code its corresponding ISIC Rev.3.1 code.

[23] See *https* : *//mikrodata.bps.go.id/mikrodata/index.php/catalog/*465*/download/*1696

penditure on indirect taxes and the bribe proxy by value added following Vial and Hanoteau (2010) and winsorize the resulting ratios at the 1% level. The calulation of TFP is based on the method by De Loecker and Warzynski (2012) and Ackerberg et al. (2006). First, a separate translog production function for each two-digit ISIC sector is estimated, relating the log value added to (the log of) capital, labor, and materials (including squared terms and all interactions) and year and four-digit-ISIC-industry fixed effects. Input coefficients are allowed to vary by exporter and foreign ownership status. Demand for materials proxies for unobservable productivity shocks. This yields expected industry-level output, which then results in plant-year level deviations from expected output. In the second step, these are regressed using GMM on its lag, capital and labor input where current labor is instrumented with lagged labor as suggested by Ackerberg et al. (2006). Finally, the innovations of this regression capture TFP. Value added equals output net of inputs of material and energy. Capital is proxied with fixed assets, labor with the number of employees. All variables are expressed in Indonesian rupiahs, deflated using five-digit industry producer price indices.

OA4.2 Data on mayor appointment timing

We infer information on the election timing of the first democratic mayor of all districts in our sample from Martinez-Bravo and Stegmann (2018).[24] The same data source is used for the election timing of the *second* democratic mayors. Furthermore, we need information on the year in which the last Suharto mayor was appointed, in order to understand whether the last Suharto mayor stepped down prematurely or stayed in power for longer than five calendar years without actually being elected by the local 1999-parliament to stay in power (we exclude districts with premature Suharto mayor resignation to arrive at our baseline sample and further exclude districts with delayed Suharto mayor resignation in a robustness check, see column 2 of Table OA16). For around 40% of districts, information on the last Suharto mayor appointment year is missing in the Martinez-Bravo and Stegmann (2018)

[24] This repository does not indicate the election timing of the first democratic mayor, but of the last mayor before the first directly elected mayor (recall that direct mayor elections were introduced starting from 2005). For a few districts in which the democratic mayor election occurred in 1999, the mayor in the data repository therefore does not correspond to the first but instead the second democratic mayor, such that we do not have data on the first democratic mayor and have to omit the district from the sample. This does not apply to *all* districts in which the first democratic mayor was elected in 1999 because for some, the next election was delayed to early 2005.

data.[25] We are able to fill these data for all districts in our sample using the district-specific *Wikipedia* page. If the Wikipedia page and the data of Martinez-Bravo and Stegmann (2018) indicate the same election year of the first democratic mayor and the difference between the last Suharto and first democratic mayor appointment is five years, or Wikipedia indicates five calendar years between the two events, then we conclude that the last Suharto mayor adhered to his or her term.[26]

OA4.3 Mayor-level variables

In the following we describe the data sources of mayor-level variables. Unless stated otherwise, "democratic mayor" refers to the *first* democratic mayor.

Education level of democratic mayor

Data on democratic mayor education are obtained from Martinez-Bravo and Stegmann (2018), and is available for all districts included in our baseline sample. The dataset distinguishes between "Less than Bachelor Degree", "Bachelor Degree", "Master Degree" and "PhD Degree".

Democratic mayor gender

Data on the gender of the democratic mayor are obtained from Martinez-Bravo and Stegmann (2018), and is available for all districts included in our baseline sample.

Democratic mayor age at time of election

We compute democratic mayor age as the difference in calendar years between the election year and the birth year. We do so because we do not know the exact date of birth and/or date of election for some mayors. We have information on mayor age for 87 of the

[25] Note that the Martinez-Bravo and Stegmann (2018) dataset does not indicate the appointment date or year of the last Suharto mayor, but of the last mayor appointed before 1999. For all districts in which the pre-1999 mayor was appointed in 1997 or earlier, the two are equivalent. For the 1998-appointments, for some districts we are able to determine whether the appointment was done by the Suharto regime or the transitional government through consulting the district-specific *Wikipedia* page, while the other few we have to omit from our sample, as mentioned in Section 3.

[26] In practice it turns out that there are no districts in which data are missing in the Martinez-Bravo and Stegmann (2018) data and the Wikipedia page indicates that the time difference between the last Suharto and first democratic mayor appointment is not equal to five years.

103 districts that meet our baseline sample selection criteria; for 36 mayors, we obtain the mayor's birth year from Martinez-Bravo and Stegmann (2018), while for the remaining 51, we were able to identify the birth year via online search using the name of the mayor.

Birth district of democratic mayor

We use information on the mayor's birth district to distinguish native versus non-native mayors. For 90 of the 103 districts that meet our baseline sample selection criteria, we have information on the birth district. Data on 36 districts come from Martinez-Bravo and Stegmann (2018), while data for the remaining 54 districts are obtained via online search.

Previous occupation of democratic mayor

We construct a dummy variable *Democratic mayor worked in private sector pre-election* which equals one if the occupation before becoming democratic mayor as indicated by Martinez-Bravo and Stegmann (2018) is "Businessman/Private Employee" (as opposed to "Civil Servant", "Politician", "Military", "Lecturer/Teacher", "Celebrity" or "Other"). This way we obtain information for 32 of the 103 districts that meet our baseline sample selection criteria. For the remaining districts, we attempted to fill the gaps via online search based on the same distinction as in the data repository, and were successful for 55 districts (mayors).

Party affiliation of democratic mayor

We construct a dummy variable that equals one if the first democratic mayor is member of the Golkar party. The information we have on party membership does not always correspond to the period in which the person served as first democratic mayor. Party membership data from Martinez-Bravo and Stegmann (2018), which is our data source for eight mayors, are as of 2009. Additional data that we are able to retrieve via online search for 58 mayors correspond to the first democratic mayorship period whenever possible, and otherwise to later years. For three districts we infer that the mayor is not member of Golkar because another party won 50 or more percent of votes in the 1999 legislative elections and thus did not need to rely on support from other parties in the mayor election. This information is thus as of the mayorship period. Finally, for eight districts in our sample for which the above sources do not provide information on party membership, we infer that the democratic mayor is

member of Golkar because the last Suharto mayor was elected as first democratic mayor.

Direction of college degree of democratic mayor

In order to identify the study direction of democratic mayors with college degree, we first use the title(s) indicated in the mayor name variable. Thereby we obtain information on 40 mayors and the following directions: Business Administration (name contains title "MBA"), Management ("MM"), Engineering ("Ir."), Medicine ("Dr."), Law ("SH"), Economics ("SE"), Education ("S.Pd."), Islamic Studies ("KH"). As a quality check we randomly picked five districts in which the mayor name includes the title MBA or MM and investigated through online search which specific degree the mayor obtained. In all five cases, the obtained direction was Business/Management. For the remaining 42 mayors in our sample who have a college degree but none of the above titles is reported, the mayor name includes the titles "M.Si", "M.Sc", "MS", "B.Sc" or no title besides "Drs.". Therefore it is not possible to identify the specific study direction of these mayors using the mayor name variable. We therefore performed an online search on these mayors and identified the study direction of 19 of them. We then compute four more generic dummy variables indicating the broad study direction: "Economics, Business, Finance", "Politics" (including political science, public administration and related degrees), "Law" and "Other", which serves as baseline category in the specification of Table OA7.

Education level of last Suharto mayor

Martinez-Bravo and Stegmann (2018) provide information on the years of schooling of the last Suharto mayor for most districts; this gives us information for 91 districts in our main sample. Based on Indonesia's education system, we use this information to infer the mayor's level of education in terms of degrees as follows: < 16 years of schooling $\rightarrow$ no college degree; 16 years of schooling $\rightarrow$ bachelor degree; 18 or more years of schooling $\rightarrow$ master or PhD degree.[27] Finally, for three districts with missing data we infer that the last Suharto mayor has a college degree because the mayor name includes the title "Drs.". In five districts with

[27] The highest number of school years in the data is 18, thus de-facto none of the last Suharto mayors in our sample has a PhD degree. The path to a master degree in Indonesia is as follows: 6 years primary school, 3 years elementary school, 3 years highschool, 4 years bachelor degree, 2 years master degree.

missing data the last Suharto mayor has no academic title, thus we infer that the mayor has no college degree.

Education level of second democratic mayor

While Martinez-Bravo and Stegmann (2018) do not provide explicit information on the second democratic mayors' education level, we can infer these data points in two different ways. First, in 39 of the 76 districts in the relevant sample (see Table OA6), the first democratic mayor is re-elected as second democratic mayor, which implies that we know the latter's education level. For the remaining mayors, we infer the education level from the title (if any) in the name variable on the second democratic mayor, in the Martinez-Bravo and Stegmann (2018) data. Whenever the name variable includes either "DRS", "Drs", "DR ", "DR.", or any of the degree-specific titles listed above (e.g. "MBA"), then we infer that the mayor has a college degree. Comparing the mayor name variable and the college degree variable on the first democratic mayor reveals that this inference method is valid.

Mayors cited in corruption cases

In this section we describe the creation of a dataset on corruption cases at the mayor level. In order to understand the institutional context we start with a brief discussion of Indonesia's recent history of corruption reduction efforts; see Butt (2017) for more details. During the Suharto era corruption was legally regarded as a criminal act through Law 3/1971, but in practice government officials were permitted – and perhaps even encouraged – to extort bribes. After Suharto's fall the more comprehensive and ambitious Law 31/1999 was passed, but its enforcement suffered from strong resistance by government officials.[28] Furthermore, the Indonesian justice system – consisting of police, prosecutors and courts – frequently accepted bribes in return for dropping investigations, sloppy prosecutions and issuing light sentences and acquittals.[29] The situation improved somewhat in 2003 with the formation of the Corruption Eradication Commission (*Komisi Pemberantasan Korupsi*, or *KPK*) as well as an anti-corruption court (*Pengadilan Tindak Pidana Korupsi*) on the basis of Law

[28] Makarim & Taira S. (2012) provide a detailed overview of the differences between Law 3/1971 and Law 31/1999 and an elaborate discussion of other Indonesian anti-corruption laws.

[29] The justice system has therefore often been described as "mafia" (*mafia peradilan*) (Butt and Lindsey, 2010).

30/2002, which in turn follows Article 43 of Law 31/1999. The KPK and the anti-corruption court were designed to take over corruption cases from the justice system under particular circumstances, which are lied out in Law 30/2002. The KPK is institutionally independent of government and has more investigative rights than the police, while the corruption court is a branch of the general court that only tries cases the KPK prosecutes (Butt, 2017).

There are different stages in a corruption case, which we assign different numbers in the process of our data collection. First, the relevant body performs research to collect information ($corr\_status = 1$). This process may lead to the start of official investigations (2). If these result in sufficient evidence, the person is declared an official suspect and thereby becomes a defendant at court (3).[30] The defendant may then be convicted (4) or acquitted (5). We use different data sources to determine a democratic mayor's corruption status, which we describe below. For a given corruption case, we always use the most recent result across all sources: for example, we double-check whether a suspected mayor is convicted or acquitted later. If a mayor is involved in more than one corruption case, the most advanced case applies for $corr\_status$. We exclusively focus on action taken by the prosecution service (consisting of one Attorney General's Office, High Prosecution Offices at the province level and District Prosecution Offices), the KPK, official courts and/or or the police. If none of our sources indicates any status described above, we assign $corr\_status = 0$. We do not restrict the timing to the period in which the mayor serves as first democratic mayor.

One data source we use are detailed lists on corruption cases provided by the watchdog *Indonesia Corruption Watch* (ICW), which are available for the period 2005-2007.[31] We also use similar data from the KPK, which are available for the period 2006-2019.[32] We then complement the obtained information with a Google search on each mayor using the words "[Mayor's full name] korupsi". This search was carried out in October 2020. We study the relevant page results and assign the relevant corruption status between $corr\_status = 1$ and

[30] Once this stage is reached, the defendant must (at least temporarily) resign from the mayor position.

[31] Indonesia Corruption Watch (2008) lists all corruption cases examined and decided by (general) courts during 2007 (see Appendix 8 in the source), 2006 (Appendix 9), and 2005 (Appendix 10). We complement these data with additional information from ICW for 2007 which also lists cases that had not been taken to court yet, thus also cases with $corr\_status = 1$ or $corr\_status = 2$. This information was published by several newspapers, for example *Detik*: see $https://news.detik.com/berita/d-832658/41-bupati-terkait-kasus-korupsi$.

[32] The KPK documents the cases it handles. See $https://www.kpk.go.id/$.

$corr\_status = 5$ to the mayor if applicable, and assign $corr\_status = 0$ if the search yielded no result and our other sources do not indicate any status between 1 and 5. In the process of the Google search, we source all information from newspaper reports rather than blogs or similar pages.[33] To make the search process manageable and due to the fact that the pages describing a corruption case are typically on top of the Google results list, we only focus on results on the first page of Google results (which typically contains around 10 results). Given our exclusive focus on action taken by the prosecution service, the KPK, official courts and/or or the police, we disregard news articles reporting that a mayor was merely consulted as witness in a corruption case or was solely accused of corruption from individuals or groups outside the bodies listed above. Unless the ICW or KPK indicate otherwise, such mayors thus have $corr\_status = 0$. We make sure the person reported in a news article is the mayor and not someone else with the same name; in some cases this necessitated a second search round in which we added the name of the district which the mayor governed to the Google search for verification.

Finally, for all mayors with $corr\_status < 4$ as of the described data sources, we search for the full mayor name in the archive of publications of electronic documents on decisions of all courts in Indonesia.[34] This yields a change of $corr\_status$ from 0 to 4 in only one district (see also footnote 33), which makes us confident that the above-described data collection process yielded very accurate results at least for mayor convictions.

Among the 103 districts that meet our baseline sample selection criteria, there are 51 mayors with $corr\_status = 0$, three with status research ($corr\_status = 1$), two with status investigations (2), 15 with status official suspect (3), 27 convicted mayors (4) and five acquitted mayors (5). All convicted mayors were sentenced to prison, with an average sentence duration of 4.3 years and frequently an additional monetary fine in place of further prison time.

[33] The five most common sources are *news.detik.com* (10 cases), *kompas.com* (9), *tempo.co* (8), *tribunnews.com* (4) and *liputan6.com* (3). For one district we only find information on a corruption case in a journalist's blog rather than on official news portals. For this district we use the information from another data source of higher quality which we describe further below (see footnote 34).

[34] The archive can be accessed at *https* : *//putusan3.mahkamahagung.go.id/*.

OA4.4 District-level variables

1999 election outcome variables

Our primary data source for the results of the 1999 local legislative elections is the website *pemilu.asia* by Kevin Evans from *The Australia-Indonesia Centre*. The website provides pie charts on the election outcomes of nearly all districts that then existed. We use these data to compute the dummy variable *Golkar wins 1999-elections*, which equals one if Golkar obtains the largest vote share. For two districts in our sample, data are missing. For these districts, we infer the Golkar vote share from Sevin (2001).[35] We also use the election outcome data to compute the variable *1999-election vote share HHI*, which is a Herfindahl-Hirschmann Index based on the vote share of participating parties.

Population

We compute population based on the population census of 2000. Data are provided by *IPUMS International* (Minnesota Population Center, 2018).

Population density

We compute population density as the ratio of population and surface area in square miles, both measured in 2000. We use shapefiles provided by the BPS to compute the surface area.

GDP per capita

Data on GDP are obtained from The World Bank's *Indonesia Database for Policy and Economic Research* (INDO DAPOER). We use the data for 2000 and compute GDP per capita by dividing total GDP by population as of 2000.

Education of working age population

We compute this variable using educational attainment data at the individual level from the 2000 population census, via IPUMS International. At the individual level, the variable takes either 0 (less than primary education), 1 (primary education completed), 2 (secondary

[35] For both of these districts, Sevin (2001) indicates that Golkar received more than 50% of votes, thus *Golkar wins 1999-elections*=1.

education completed) or 3 (college degree obtained). We define the working age population as the subset of inhabitants between the age of 15 and 65.

Religious fractionalization

Using the results of the 2000 population census via IPUMS International, we compute religious fractionalization as a Herfindahl-Hirschmann Index (HHI) based on the district-specific shares of each religion. The shares are computed based on the micro-data of individuals. The census distinguishes between Muslims, Buddhists, Hindus, Christians and "Other".

Public Expenditure data

Public expenditure data are provided by the Directorate General of Financial Considerations within the Indonesian Ministry of Finance.[36] Development Expenditure consists of expenditure on the following sectors (see the original name in brackets): Industry (*Sektor Industri*); Agriculture and Forestry (*Sektor Pertanian Dan Kehutanan*); Water Resources and Irrigation (*Sektor Sumber Daya Air Dan Irigasi*); Labor (*Sektor Tenaga Kerja*); Transport (*Sektor Transportasi*); Mining and Energy (*Sektor Pertambangan Dan Energi*); Tourism and Regional Telecommunication (*Sektor Pariwisata Dan Telekomunikasi Daerah*); Regional Development and Settlement (*Sektor Pembangunan Daerah Dan Pemukiman*); Environmental and Spatial (*Sektor Lingkungan Hidup Dan Tata Ruang*); Education, National Culture, Trust, Sustainable God, Youth and Sports (*Sektor Pendidikan, Kebudayaan Nasional, Kepercayaan, Terhadap Tuhan Yang Maha Esa, Pemuda Dan Olah Raga*); Population and Family Welfare (*Sektor Kependudukan Dan Keluarga Sejahtera*); Health, Social Welfare, the Role of Women, Children And Youth (*Sektor Kesehatan, Kesejahteraan Sosial, Peranan Wanita, Anak Dan Remaja*); Housing and Settlements (*Sektor Perumahan Dan Pemukiman*); Religion (*Sektor Agama*); Science And Technology (*Sektor Ilmu Pengetahuan Dan Teknologi*); Legal Sector (*Sektor Hukum*); Government Apparatus Sector and Supervision (*Sektor Aparatur Pemerintah Dan Pengawasan*); Politics, Information, Communication Mass Media Sector (*Sektor Politik, Penerangan, Komunikasi Media Massa*); Security and Public Order (*Sektor Keamanan Dan Ketertiban Umum*); Trade, Regional Business Development, Regional Finance and Cooperative (*Sektor Perdagangan, Pengembangan Usaha*

[36] see $http://www.djpk.kemenkeu.go.id/?page_id = 321$

Daerah, Keuangan Daerah Dan Koperasi).

KPPOD data

KPPOD collected data for 134 districts in 2002, 200 districts in 2003 and 214 districts in 2004. For 121 districts we have data for all three years, for six districts we only have data for 2002 and 2003 and for 65 districts we only have data for 2003 and 2004. We use the panel as much as possible in our analysis (thus also include districts for which only two years are available), conditional on imposing the same sample selection criteria as in our main analysis and further dropping two districts that have no medium-sized or large manufacturing over 2000-2004. No matter the nature of a specific KPPOD variable, a larger reported score always represents an improvement rather than simply an increase in the variable. Therefore, in Table OA3 we change the names of the variables "Abuse of authority" and "Illegal levies outside bureaucracy" to "Absence of abuse of authority" and "Absence of illegal levies outside bureaucracy", respectively. Regarding the latter, we note that the KPPOD surveys include separate questions on the severity of illegal levies charged by a) local government officials and b) non-governmental agents such as security officers, community groups and gangsters. However, only the results on illegal levies charged by non-governmental agents are published at the district level (thus the addition *outside bureaucracy* in Table OA3.) The summary of the 2003 survey results mentions that illegal fees charged by local government officials were perceived to be most onerous. Below we copy the variable descriptions from the original KPPOD (2002) description.

KPPOD data: Infrastructure. The score on every infrastructure sub-component is in part measured through a survey on local business actors and the consultation of a panel of experts. Furthermore, the score is co-determined by other, variable-specific data, which we report in the following (see KPPOD, 2003, p.110, for all below variables).

Availability of Streets. "Ratio of the length of the streets in the city/regency over region's area"

Availability of Sea Ports. "Availability or distance to sea port in kilometers"

Availability of Airport. "Availability or distance to airport in kilometers"

Availability of Telephone Service. "Number of telephone lines per capita"
Availability of Electricity Service. "Production of electricity/KWh of available electricity"
Quality of Streets. "Ratio of the length of streets with good quality over total length of streets"
Quality of Sea Ports. "Type and capacity of sea port and average departure per week"
Quality of Airport. "Type of airport and average flights per week"
Quality of Telephone Service. Data source: "Regency/city and province in figures by BPS"
Quality of Electricity Service. Data source: "Regency/city and province in figures by BPS"

KPPOD data: Institutional Quality. Except for *Retribution / Taxes* and *Development Budget / Total Budget* (for which local budget data are used), the score on every subcomponent of institutional quality is identified through a survey on local business actors and the consultation of a panel of experts. Below we list KPPOD's original variable descriptions.
Service procedure. "Measures the quality of government service and professionalism of government apparatus in providing service to business community" (KPPOD, 2003, p.108).
Abuse of authority. "Measures the distortion of regional government apparatus in providing service to business community" (p.108; larger score $\leftrightarrow$ less distortion)
Consistency of regulations. "Measures the certainty, clarity, and consistency in enforcement of regional regulations and other policies regulating business" (p.108)
Law enforcement. "Measures law certainty such as protection on work contract and ownership right, consistency of court decisions especially those related to business" (p.108)
Illegal levies outside bureaucracy. "Portrays regional government's settlement of illegal practice in levy conducted by people or group of people outside bureaucracy that disturbs business" (p.108; larger score $\leftrightarrow$ less distortion)
Executive-Legislative relations. "Captures problems caused by poor relations between DPRD and Regional Government" (p.108)
Retribution / Taxes. "Analyzes the structure of levies applicable in the region, especially regional tax and regional retribution" (p.108)
Development Budget / Total Budget. "Measures the commitment of regional government in developing physical infrastructure needed to support business activities manifested in fund

allocation in development budget" (p.108)

Regional policy and regulation. "Assesses the quality of policies/legal products made by regional government (regional regulations, Decision of regent/mayor, etc.) especially those related to business community. Several aspects are examined from those regulations such as juridical aspect, philosophy, substance, principles, and effects that might produce by said legal products. Regulations related to service, levy, pricing, labor, and so on are the focus." (p.108)

OA4.5 Details on the selection of districts

In 20 of the 103 districts in our sample the first democratic mayor was elected six instead of five calendar years after the appointment of the last Suharto mayor.[37] In 11 of these districts the last Suharto mayor was appointed in 1994, in four districts the appointment occurred in 1995 and in five districts the appointment happened in 1997. We choose to keep these districts in our sample but also show in column 2 of Table OA16 that the results are robust to dropping these 20 districts. For the districts that appointed the last Suharto mayor in 1994 and elected the first democratic mayor in 2000, a comment by Hofman and Kaiser (2006) and the large share of "1994-2000 districts" (11/20) suggests that the reason is not district-specific. Specifically, in their discussion of the 2004 legislative and presidential elections Hofman and Kaiser (2006) state that "the Ministry of Home Affairs (...) extended the tenures of regional heads during the 2004 elections (...), believing that the absence of local elections and ongoing tenure of incumbent regional heads will enhance stability during the election season." Since the 1999 elections arguably occurred in an even less stable environment, it appears likely that the same decision was made during those elections.

[37] We have to use the difference in calender years as our criterion for whether the election of the first democratic mayor was delayed, because for some districts we do not know the exact date of the last Suharto mayor appointment.

References

Ackerberg, D., K. Caves, and G. Frazer (2006). Structural identification of production functions. Working Paper, UCLA.

Altonji, J. G., T. E. Elder, and C. R. Taber (2005). An evaluation of instrumental variable strategies for estimating the effects of Catholic schooling. *Journal of Human Resources 40*(4), 791–821.

Angrist, J. D. and J.-S. Pischke (2008). *Mostly harmless econometrics: An empiricist's companion*. Princeton University Press.

Athey, S. and G. W. Imbens (2022). Design-based analysis in difference-in-differences settings with staggered adoption. *Journal of Econometrics 226*(1), 62–79.

Baker, A. C., D. F. Larcker, and C. C. Wang (2022). How much should we trust staggered difference-in-differences estimates? *Journal of Financial Economics 144*(2), 370–395.

Bazzi, S. and M. Gudgeon (2021). The political boundaries of ethnic divisions. *American Economic Journal: Applied Economics 13*(1), 235–266.

Borusyak, K. and X. Jaravel (2017). Revisiting event study designs, with an application to the estimation of the marginal propensity to consume. Working Paper, Harvard University.

Butt, S. (2017). *Corruption and law in Indonesia*. Routledge.

Butt, S. and T. Lindsey (2010). Judicial mafia: the courts and state illegality in Indonesia. In *The state and illegality in Indonesia*, pp. 189–213. Brill.

De Chaisemartin, C. and X. d'Haultfœuille (2020). Two-way fixed effects estimators with heterogeneous treatment effects. *American Economic Review 110*(9), 2964–2996.

De Loecker, J. and F. Warzynski (2012). Markups and firm-level export status. *American Economic Review 102*(6), 2437–2471.

Hadiz, V. (2010). *Localising power in post-authoritarian Indonesia: A Southeast Asia perspective*. Stanford University Press.

Hodler, R. and P. A. Raschky (2014). Regional favoritism. *The Quarterly Journal of Economics 129*(2), 995–1033.

Hofman, B. and K. Kaiser (2006). Decentralization, democratic transition, and local governance in Indonesia. In P. Bardhan and D. Mookherjee (Eds.), *Decentralization and Local Governance in Developing Countries: A Comparative Perspective*, pp. 81–124. Cambridge, MA: MIT Press.

Hofman, B., K. Kaiser, and G. G. Schulze (2009). Corruption and decentralization. In C. J. Holtzappel and M. Ramstedt (Eds.), *Decentralization and Regional Autonomy in Indonesia: Implementation and Challenges*, pp. 99–113. Institute of Southeast Asian Studies.

Horrace, W. C. and R. L. Oaxaca (2006). Results on the bias and inconsistency of Ordinary Least Squares for the linear probability model. *Economics Letters 90*(3), 321–327.

Imbens, G. W. (2003). Sensitivity to exogeneity assumptions in program evaluation. *American Economic Review 93*(2), 126–132.

Indonesia Corruption Watch (2008). Independent Report. Corruption Assessment and Compliance United Nation Convention Against Corruption (UNCAC)-2003 in Indonesian Law. `https://antikorupsi.org/sites/default/files/dokumen/Independent%2520Report%2520Corruption%2520Assessment%2520and%2520UNCAC-compliance%2520in%2520Indonesian%2520Law.pdf`.

KPPOD (2003). Regional investment attractiveness: business perception. Rating to 134 regencies/cities in Indonesia & problems on business environment. Komite Pemantauan Pelaksanaan Otonomi Daerah (Regional Autonomy Watch).

Lee, D. S. (2008). Randomized experiments from non-random selection in US House elections. *Journal of Econometrics 142*(2), 675–697.

Makarim & Taira S. (2012). Indonesia's Anti-Corruption Laws. `https://www.mondaq.com/white-collar-crime-anti-corruption-fraud/160720/indonesias-anti-corruption-laws`.

Martinez-Bravo, M. (2017). The local political economy effects of school construction in Indonesia. *American Economic Journal: Applied Economics 9*(2), 256–289.

Martinez-Bravo, M., P. Mukherjee, and A. Stegmann (2017). The non-democratic roots of elite capture: evidence from Soeharto mayors in Indonesia. *Econometrica 85*(6), 1991–2010.

Martinez-Bravo, M. and A. Stegmann (2018). Indonesia data repository. http://www.cemfi.es/ martinez-bravo/mmb/data.html.

Minnesota Population Center (2018). Integrated Public Use Microdata Series, International: Version 7.3 [dataset]. Minneapolis, MN: IPUMS, 2020. https://doi.org/10.18128/d020.v7.3.

Oster, E. (2019). Unobservable selection and coefficient stability: theory and evidence. *Journal of Business & Economic Statistics 37*(2), 187–204.

Pierskalla, J. H. (2016). Splitting the difference? The politics of district creation in Indonesia. *Comparative Politics 48*(2), 249–268.

Ray, D. (2009). Decentralization, regulatory reform, and the business climate. In C. J. Holtzappel and M. Ramstedt (Eds.), *Decentralization and Regional Autonomy in Indonesia: Implementation and Challenges*, pp. 150–182. Institute of Southeast Asian Studies.

Sevin, O. (2001). Les élections Indonésiennes de juin 1999: une analyse géographique / Indonesian election in June 1999: a geographical analysis. *Annales de géographie 110*(621), 527–549.

Vial, V. and J. Hanoteau (2010). Corruption, manufacturing plant growth, and the Asian paradox: Indonesian evidence. *World Development 38*(5), 693–705.

World Bank (2003). Indonesia Development Policy Report: Beyond Macroeconomic Stability. Report No. 27374-IND, Jakarta: World Bank. `https://openknowledge.worldbank.org/bitstream/handle/10986/14664/273740IND.pdf`.