Appendices

A Additional Robustness Checks

A.1 Arabic Names

One key alternative interpretation of the baseline results is that the increased prevalence of infrequent names might also reflect the well-documented rise of Islam in both the bureaucracy and public life under Suharto's New Order regime (Kuipers et al., 2017).[40] If the rise in infrequent names is being driven by a rise in Islamic naming practices, the cultural change in Indonesia might be better interpreted as religious change, rather than increasing individualism brought on by the disruption of traditional practices.

To test whether Islamic naming practices drive our results, we recalculate the share of infrequent names after excluding all individuals who have names of Arabic origin. Arabic names are identified using a list compiled from the website *Behind the Name*, a crowd-sourced repository containing over 27,000 names from 149 languages.[41] This gives us a list of 594 male and 443 female Arabic names which we match to individual-level names in the 2010 Indonesian Census. The share of individuals with Arabic names rises steadily (6% in the 1966-1970 birth cohort to 16.4% in the 2006-2010 birth cohort), reflecting the well-documented increases in religious piety and Islamization during the 1970s and 1980s.

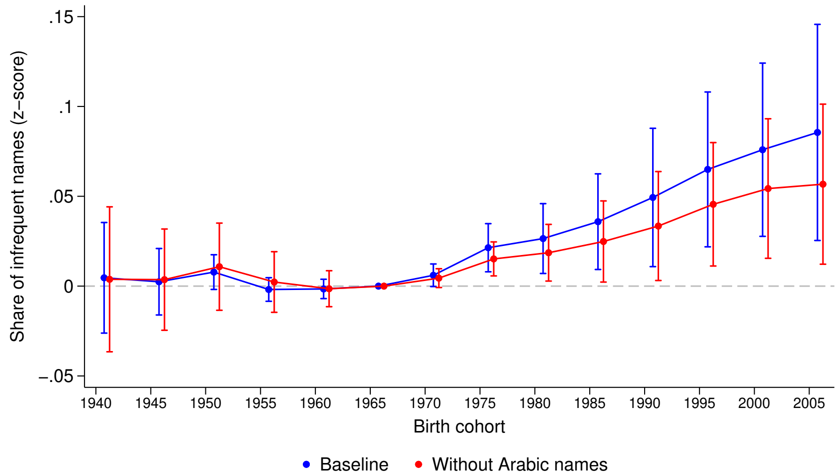
Figure A1 shows the estimates using the share of infrequent names calculated after excluding all individuals with names of Arabic origin. The results are analogous to the baseline findings, suggesting that the rise in Islamization concomitant with the Green Revolution cannot fully account for the positive effects of the Green Revolution on individualism.[42]

[40] Today, Islam is the dominant religion in Indonesia. In the 2010 census, 87.4% of the population report their religious affiliation as Islam.

[41] The website was initiated by compiling names from various historical name dictionaries. It continues to expand its repository through open submissions, which are reviewed by a team of editors. A complete list of initial sources and editors is available at https://www.behindthename.com/info/references.

[42] It is important to note that, while effect sizes excluding Arabic names are smaller than the baseline estimates, this does not necessarily indicate a weaker impact of the Green Revolution among individuals with non-Arabic names. The projection of religious values in names could still be associated with individualism, as the choice of such names may reflect parents' desire for their children to "fit in". Accordingly, the reduced magnitude of the coefficients after excluding Arabic names could result from diminished variation in our individualism measure due to the the exclusion of major common (Arabic) names.

Figure A1: Robustness to Excluding Arabic Names



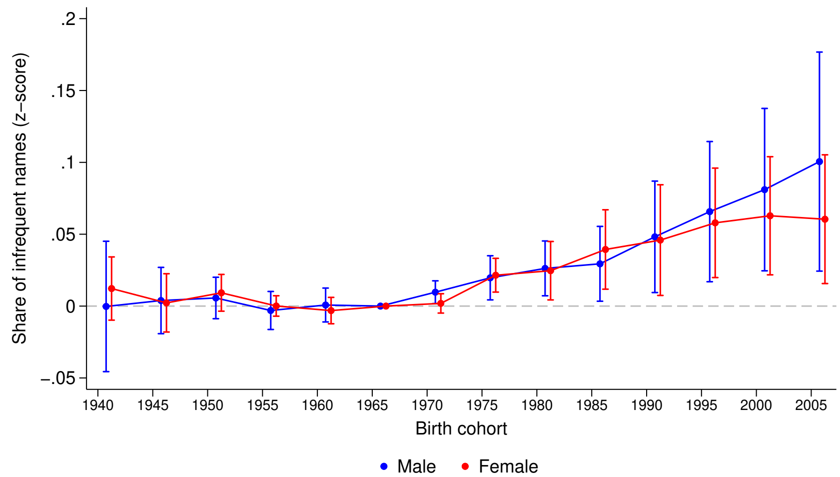
Notes: The plot reports estimates of β_t from Equation 4 for changes in residual rice growth between 1963 and 1983, with 95% confidence intervals. The blue dots indicate the baseline estimates, and the red dots show the results using the share of infrequent names calculated after excluding names of Arabic origin as the outcome variable.

A.2 Estimation by Gender

In contexts like Indonesia, where paternalistic and masculine cultural norms prevail (Ford and Lyons, 2012), the name-based measure of individualism may vary by gender. Parents could be more inclined to embed their cultural values in boys' names. Moreover, naming practices for girls in some parts of Indonesia often emphasize familial or religious conformity over individuality, as reflected in the use of specific suffixes in female names (e.g.,"-wan" and "-wati"). In this case, estimations that include names of both males and females may underestimate the cultural impact of the Green Revolution.

In this view, Figure A2 replicates the baseline specification using the share of infrequent names calculated separately for males and females as outcome variables. The results remain robust, with both individualism measures demonstrating a positive relationship with local exposure to the Green Revolution, which is not explained by pre-trends. The effect sizes are smaller for women, consistent with the earlier discussion that naming practices may be a less effective proxy for individualistic culture in the case of female names.

Figure A2: The Green Revolution and Individualism: Estimation by Gender

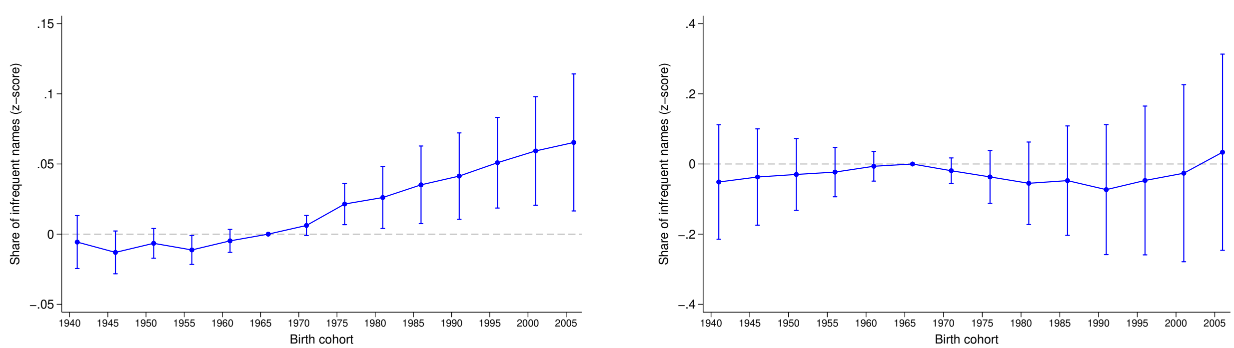


Notes: This plot shows the gender-specific estimates. The blue and red dots present the results using the share of infrequent names calculated within the male and female population, respectively.

A.3 Excluding Outliers

To test if our findings are sensitive to variation among outliers, we replicate the estimation of Equation 4 and exclude districts where changes in the rice acreage shares fall within the top 5%. As shown in Figure A3, the results remain consistent, confirming that our findings are not affected by outlier observations.

Figure A3: Estimates Excluding Extremes



(a) Residual rice growth

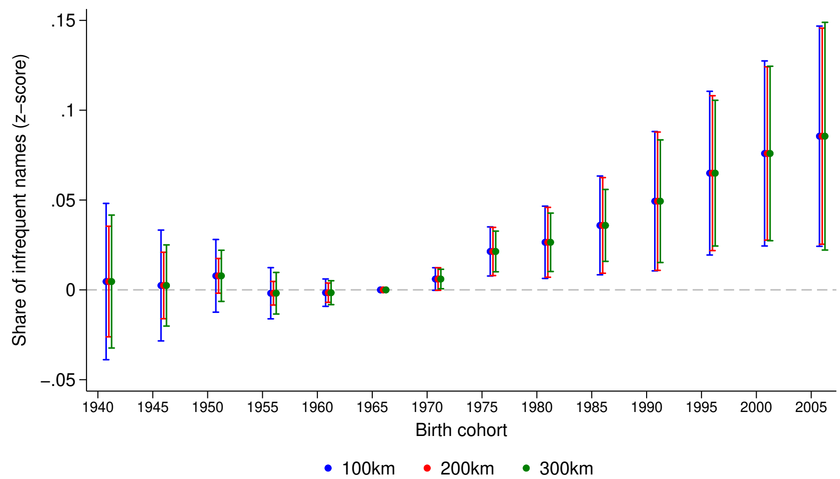
(b) Potential rice growth

Notes: The sample excludes districts in the top 5% of changes in rice acreage share All estimates control for district fixed effects and province-period fixed effects.

A.4 Alternative Distance Cutoffs for Conley Standard Errors

Our baseline estimates use Conley standard errors with a distance cutoff of 200km. To assess sensitivity to the choice of cutoff, Figure A4 shows the estimates using alternative cutoff values of 100, 200, and 300 km. The results change little, confirming robustness to different thresholds for spatial autocorrelation.

Figure A4: Alternative Distance Cutoffs for Conley Standard Errors



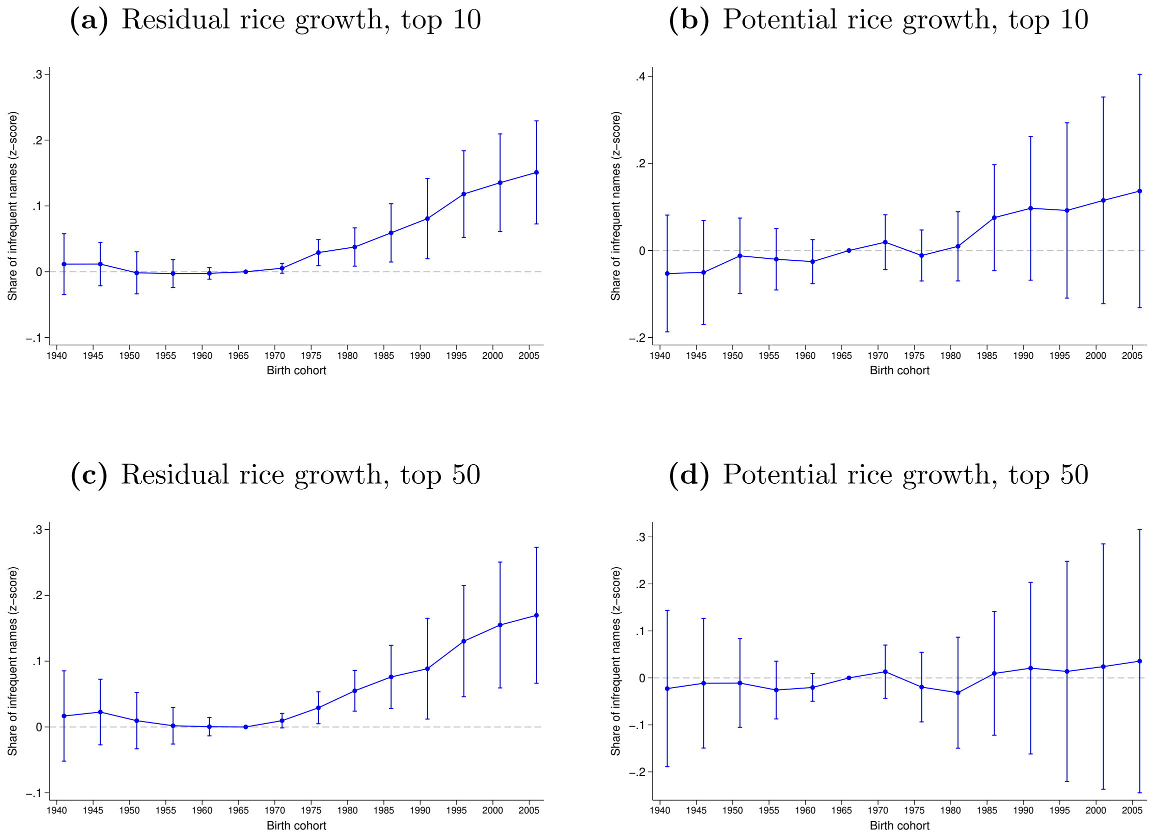
Notes: Estimates in blue, red, and green use distance cutoffs of 100km, 200km, and 300km for Conley standard errors, respectively.

A.5 Alternative Definitions of Name Measures

Our baseline specification defines infrequent names as those outside the top 25 most frequent names at the province level. To examine whether the results are sensitive to the definition of infrequent names, we assess the robustness to alternative definitions of name frequency.

First, to examine if different thresholds for infrequent names affect the results, we use the top 10 and top 50 most frequent names as alternative cutoffs to calculate the share of infrequent names. The results are presented in Figure A5. We find minimal change from our main result: increased exposure to the Green Revolution leads to greater individualism over time, with the effects driven by residual rice growth.

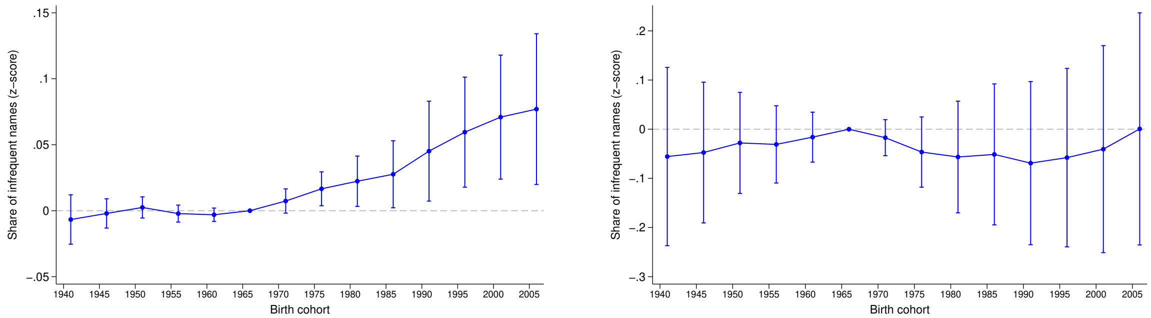
Figure A5: Alternative Cutoffs for Infrequent Names



Notes: The outcome variable in the first row is the share of infrequent names, calculated as the share of names outside the top 10 most frequent names. In the second row, the outcome variable uses names outside the top 50 most frequent names.

Second, we examine robustness to the choice of geographical unit used to calculate name frequency, considering that different geographical units may affect the interpretation of name-based measures through variation in reference groups. To this end, we replicate the estimations by calculating name frequency at the island level rather than the province level, which allows for a broader geographic reference group when defining infrequent names. The results are presented in Figure A6 and show no significant differences from the baseline estimates.

Figure A6: Name Frequency at the Birth-Island Level

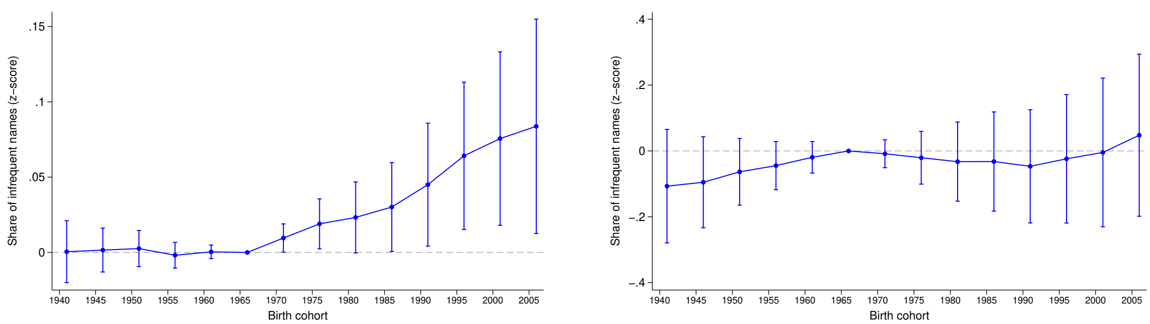


(a) Residual rice growth **(b)** Potential rice growth

Notes: The outcome variable is the share of infrequent names, calculated as the share of names outside the top 25 most frequent names. The frequency of names are calculated at the (broader) island level, as opposed to at the (granular) province level in our baseline specification.

Lastly, to address the possibility that different naming practices across ethnic groups confound the results, we use the share of infrequent names based on name frequency calculated within each ethnic group. Following Bazzi et al. (2019), the 1,330 ethnic groups self-reported in the census are aggregated into 44 broader ethnic groups when calculating name frequency. Figure A7 shows the results with little change from the baseline estimates, confirming that shifts in ethnic identities do not confound our interpretation in the individualism–collectivism dimension.

Figure A7: Name Frequency at the Ethnicity Level



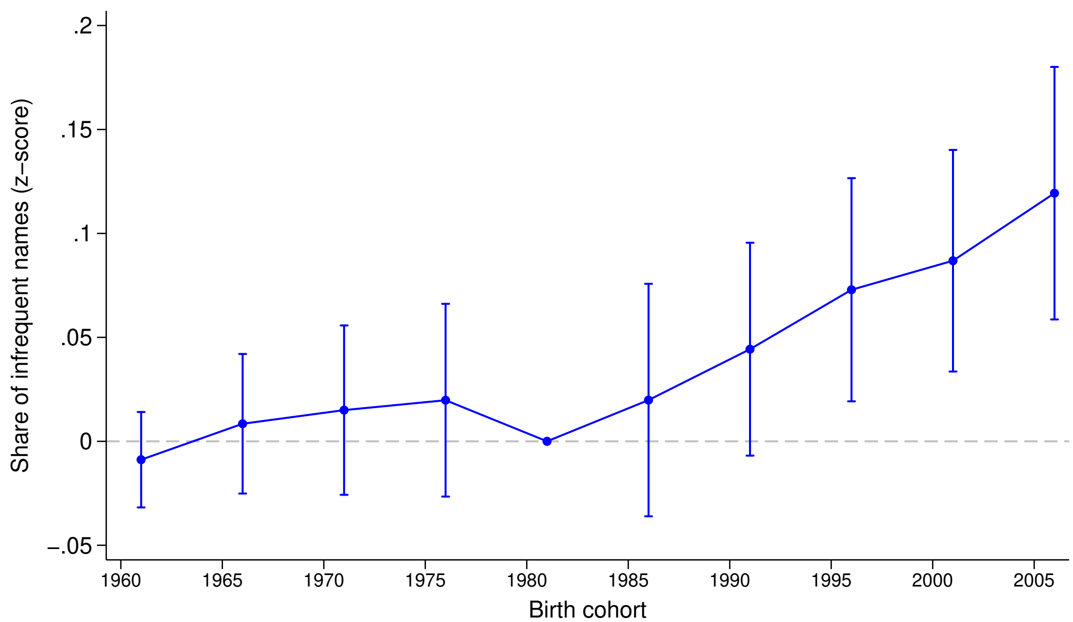
(a) Residual rice growth **(b)** Potential rice growth

Notes: The outcome variable is the share of infrequent names, calculated as the share of names outside the top 25 most frequent names. The frequency of names is calculated at the ethnicity-level, where 1,330 self-reported ethnicities are aggregated into 44 groups following Bazzi et al. (2019).

B BIMAS-Based Treatment

As shown in Section 3.1, residual rice growth is strongly correlated with the number of households enrolled in the BIMAS program per hectare. While BIMAS enrollment might more directly capture local exposure to the Green Revolution, the baseline specification does not utilize it because data are available only for 1983, which prevents capturing policy changes from the 1960s to the 1980s.

Figure A8: Alternative measure of treatment: exposure to the BIMAS program



Notes: The plot shows standardized coefficients estimated using the number of BIMAS households per hectare as the outcome variable. Given that data on BIMAS households are available only for 1983, we use 1981 as the reference period.

Nevertheless, the results based on BIMAS are consistent with the baseline findings. Figure A8 shows estimates using the 1983 number of households enrolled in BIMAS per hectare as the treatment variable. Given the period of data availability, we use 1981 as the reference year. Consistent with the baseline results, the estimates indicate a stronger increase in individualism in the post–Green Revolution period in districts with higher BIMAS enrollment, supporting a positive impact of the Green Revolution on individualism.

C Green Revolution Technology Adoption

In Section 3.1, we show a positive correlation between residual rice growth and the principal component of the three measures—the number of households using HYVs per hectare; average usage of fertilizer per hectare; and share of irrigated land—of Green Revolution technology adoption in 1983, while this association is not evident for potential rice growth. As shown in Tables A1, A2, and A3, using each measure of technology adoption as an outcome variable yields a similar pattern. Although statistical significance is lower than when using their principal component, the three measures show a positive correlation with residual rice growth, which is not evidence for potential rice growth.

Table A1: Residual Rice Growth and HYVs

Dep. var.: no. of households using HYVs per ha of land using HYVs				
	(1)	(2)	(3)	(4)
Observed rice growth	0.196*			
	(0.110)			
Residual rice growth		0.131**		0.145*
		(0.064)		(0.078)
Potential rice growth			-0.049	0.081
			(0.097)	(0.131)
Observations	173	173	173	173
R-squared	0.34	0.34	0.30	0.34
Geoclimatic controls	Y	Y	Y	Y
Initial socioeconomic controls	Y	Y	Y	Y
Province fixed effects	Y	Y	Y	Y

Notes: This table reports standardized coefficients estimated from Equation 2. The outcome variable is the number of households using HYVs per hectare of agricultural area. The explanatory variable in Column 1 is the observed change in rice acreage share between 1963 and 1983. Columns 2 and 3 use residual and potential rice growth, respectively, based on the decomposition method presented in Section 3.1. Column 4 employs both residual and potential rice growth as explanatory variables. Standard errors are adjusted following the Conley (1999) method, with a distance cutoff of 200km.

Table A2: Residual Rice Growth and Fertilizer

Dep. var.: total kg of fertilizer used per ha				
	(1)	(2)	(3)	(4)
Observed rice growth	0.096			
	(0.062)			
Residual rice growth		0.083*		0.076*
		(0.045)		(0.045)
Potential rice growth			-0.115	-0.047
			(0.131)	(0.139)
Observations	173	173	173	173
R-squared	0.37	0.37	0.36	0.37
Geoclimatic controls	Y	Y	Y	Y
Initial socioeconomic controls	Y	Y	Y	Y
Province fixed effects	Y	Y	Y	Y

Notes: This table reports standardized coefficients estimated from Equation 2. The outcome variable is the amount of fertilizers used per hectare of agricultural area. The explanatory variable in Column 1 is the observed change in rice acreage share between 1963 and 1983. Columns 2 and 3 use residual and potential rice growth, respectively, based on the decomposition method presented in Section 3.1. Column 4 employs both residual and potential rice growth as explanatory variables. Standard errors are adjusted following the Conley (1999) method, with a distance cutoff of 200km.

Table A3: Residual Rice Growth and Irrigation

Dep. var.: share of wetland that is irrigated	(1)	(2)	(3)	(4)
Observed rice growth	0.225*			
	(0.127)			
Residual rice growth		0.132		0.162*
		(0.081)		(0.091)
Potential rice growth			0.035	0.181
			(0.144)	(0.181)
Observations	173	173	173	173
R-squared	0.35	0.35	0.32	0.35
Geoclimatic controls	Y	Y	Y	Y
Initial socioeconomic controls	Y	Y	Y	Y
Province fixed effects	Y	Y	Y	Y

Notes: This table reports standardized coefficients estimated from Equation 2. The outcome variable is the share of irrigated land. The explanatory variable in Column 1 is the observed change in rice acreage share between 1963 and 1983. Columns 2 and 3 use residual and potential rice growth, respectively, based on the decomposition method presented in Section 3.1. Column 4 employs both residual and potential rice growth as explanatory variables. Standard errors are adjusted following the Conley (1999) method, with a distance cutoff of 200km.