Ethnic Proximity and Politics:

Evidence from Colonial Resettlement in Malaysia

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Abstract

This paper studies the long-run effects of a colonial-era resettlement program of ethnic minorities, on contemporary economic outcomes and political preferences of ethnic majority individuals in receiving areas. In ethnic Malay-majority Malaysia, the colonial British relocated 500,000 rural ethnic Chinese minorities into fenced-up, isolated, mono-ethnic camps (1948 – 1960) all across rural Malaysia. This brought some pre-existing ethnic Malay-majority areas into closer contact with ethnic Chinese minorities but not others. Site selection criteria were largely military in nature. Using a spatial randomization inference-type approach, we construct counterfactual village locations based on this criteria. Areas located immediately next to Chinese New Villages (0-2km) experienced better economic outcomes and, in turn, had lower vote shares for the ethno-nationalistic coalition, than polling districts located next to similarly suitable, counterfactual locations. We provide suggestive evidence that these lower vote shares were driven by *all* voters, not just the ethnic Chinese. Together, our results suggest that persistent differences in inter-ethnic proximity can have a lasting, negative impact on voter preferences for ethno-nationalistic politics, by improving economic outcomes and creating opportunities for sustained but transient inter-ethnic interactions.

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1 Introduction

The impact of inter-group contact on political preferences of the native majority is central to understanding how policy-makers can mitigate the effects of rising anti-immigration and far-right sentiment. This paper studies the effects of contact in the context of a large-scale, colonial-era, rural-to-rural resettlement program of ethnic minorities in Malaysia. Between 1949-1952, the program relocated 500,000 ethnic Chinese within 5-9km from original squatter locations along rivers and jungles to resettlement sites that could be better supervised by the state. We leverage on the plausibly exogenous nature of site selection criteria, both with respect to pre-existing economic development and political preferences of receiving communities, to provide the first causal estimates of the long-run impact of persistent differences in transient contact on the economic outcomes and political preferences of the native majority in receiving areas.

The end of World War II in British Malaya led to the start of the Malayan Emergency, a drawn-out political struggle between the British colonial authorities and ethnic Chinese communists from 1948 through 1960. To exert political control, the British military forcibly resettled widely dispersed ethnic Chinese to fenced-up, compact resettlement villages (hereafter, the *Chinese New Villages*) to cut off supplies and support to communist factions. An estimated 500,000 ethnic Chinese, which was 25% of total ethnic Chinese and 10% of the population in 1947, were resettled. This campaign resulted in sharply demarcated ethnic Chinese enclaves around existing ethnic Malay villages, dramatically transforming the ethnic geography of the entire peninsular. In this paper, we investigate the long-run consequences of this forced resettlement policy.

Top-down resettlement policies are commonly used to exert control in times of conflict and/or when states are faced with security threats. The effects of these policies, however, are less well-known. Examples abound: When the highly skilled, educated elite (i.e., *enemies* of the people) posed a threat to the Stalin regime, they were forcibly resettled to the Gulag labor camps (Toews and Vézina, 2020). When there was increased urbanization and political mobilization within the Black communities in South Africa, the apartheid regime forcible resettled the Black majority (Abel, 2019; Carrillo et al., 2023).[1] A common thread is that all these policies involved the mass, forcible relocation of populations on a large-scale.

There are three advantages to answering our question in the Malaysian context. First, resettlement criteria has to be plausibly exogenous to underlying locational fundamentals and unobservables. Here, resettlement was extremely rapid due to military exigency:

[1]Other examples: When the colonial Rhodesian government faced revolts from the Zimbabwe African National Union (ZANU) and the Zimbabwe African People's Union (ZAPU) for the country's independence, rebel supporters were identified and moved to dense surveilled areas to deprive rebels of support (Liu, 2023). Similarly, in colonial Kenya (1954-1959), the British created detention camps and interned suspects (the Kikuyu, Embu, and Meru) in response to the Mau Mau revolt (Elkins, 2005).

500,000 ethnic Chinese "squatters" were resettled within 3 years into nearly 450 New Villages. Furthermore, we explicitly observe clear site selection criteria based on British archival military documents that explicitly laid out four key criteria for site selection: proximity to main roads (ease of reinforcing villages in case of communist attacks); sufficiently high elevation (defensibility and visibility of surrounding areas); non-Malay reservation land; distance to pre-existing settler locations and their economic activities (i.e. distance to rubber plantations and tin mines which have not been in use for half a century and the characteristics of which, we argue, have largely ceased to be relevant for modern-day economic activities).

Second, we require data on initial conditions in resettlement locations. Here, we observe the precise location and digitize an unusually rich set of initial characteristics of Chinese New Villages based on a 1958 survey (Malayan Christian Union, 1958).[2] Third, in many historical instances, resettlement camps have often been temporal and hence, there is little chance to evaluate their contemporary effects. Uniquely, nearly all Chinese New Villages still exist today. Freedom of movement was reinstated in 1960, but these villages have persisted due to the award of land titles to the resettled population that comprised largely of squatters with little pre-existing land rights (Nyce, 1973). Taken together, these characteristics allow us to leverage persistent spatial variation in out-group proximity to ethnic minorities in Chinese New Villages as our main treatment variable.

Given the potentially important role of social interactions in driving political outcomes and attitudes, we use novel primary survey data to characterize inter-ethnic interactions between Chinese and Malay villagers across time.[3] We document and provide novel evidence that increases in proximity between ethnic Chinese and Malays resulting from resettlement has not led to any meaningful increases in inter-ethnic friendships. We do find, however, large increases in sustained casual interactions. We hypothesize that this is a possible driver of differences in political attitudes (consistent with (Allport, 1954; Enos, 2014) and we are in the process of exploring this more fully in our ongoing, complementary projects that are in-progress.

Despite explicit top-down military objectives, the location of Chinese New Villages may be endogenous to unobserved factors that are correlated with our outcomes of in-

[2]The broader purpose was to understand the relief needs of resettled villagers and to provide guidance for evangelical work. Interestingly, as part and parcel of the "battle of the hearts and minds", expelled missionaries from China were explicitly recruited and funded to conduct welfare work in Chinese New Villages and evangelize Chinese settlers (Lee, 2013)

[3]This is from a pilot survey of an ongoing, fully-funded primary survey data collection exercise/project that collects a rich individual-level dataset of economic, political and social outcomes in Malaysia.

terest. We circumvent this by using a spatial, randomization inference-style design in the spirit of Borusyak and Hull (2023); Dell and Olken (2020). Specifically, we use site selection criteria (The Briggs Plan) to construct 1,000 counterfactual village sites for each and every Chinese New Village. We then compare the impact of proximity to an actual Chinese New Village to the effect of proximity to counterfactual Chinese New Villages on surrounding areas, averaged across 1,000 alternative spatial configurations. P-values are computed by comparing the actual effect to the distribution of the counterfactual effects. Importantly, this approach yields balanced predetermined geographic, pre-resettlement demographic and economic development variables, bolstering support that our effects are not contaminated by site selection bias or differences in unobservable locational fundamentals.

The key intuition behind this approach is that by differencing out the average effects of distances to 1,000 counterfactual villages, our coefficient estimates would be purged of unobservable characteristics that could vary both with resettlement site criteria itself and distances to locations that are similarly suitable for resettlement. Importantly, we show that the effects of proximity to counterfactual locations on vote shares are small in magnitude across distance bins, which aids us in interpreting our effects as a causal interpretation. Furthermore, we show that results are quantitatively similar if we simply estimate an OLS regression on the distance to the nearest Chinese New Villages.

To estimate contemporary, long-run economic and political effects, we use (i) nightlights; (ii) NDVI (Normalized Difference Vegetation Index), a common proxy for agricultural productivity (Rao et al., 2022); (iii) NHGIS population data at the grid-cell level; and (iv) polling-district level voting data: the most disaggregated measure of vote shares in Malaysia. We elaborate further on voting measures below. Importantly, throughout our analysis, we estimate effects on the native population of surrounding, receiving areas (as opposed to that on and of Chinese New Villages themselves) by employing a "doughnut-hole approach" to exclude all grid-cells or polling districts that contain Chinese New Villages.

To estimate voter preferences for ethno-nationalist policies, we use 2013 vote shares for the National Front (*Barisan Nasional*), an ethno-nationalist coalition that governed Malaysia for nearly 6 decades, from Independence in 1957 until 2018. We interpret positive vote shares as reflecting preferences for ethno-nationalist policies that benefit the ethnic majority given that the National Front played a key role, ever since Independence, in championing for and introducing affirmative race-based policies for ethnic majority Malays

(Jomo, 2017). Elections in Malaysia are conducted once every 5 years. We focus on 2013 vote shares for three reasons. First, it was the first election year in Malaysian history, whereby most had expected the opposition coalition to gain substantial ground against the National Front. Second, it is the first election year whereby we have disaggreated, polling-district level voting results. Third, voting preferences in the 2018 election year were heavily influenced by corruption allegations against the sitting Prime Minister.

In terms of economic effects, we find a long-run positive, hyper-local, effect on areas located immediately around resettlement sites (0-2km). Specifically, in a grid-cell analysis, we find that areas located further away from resettlement sites (in increments of 2km distance bins) have lower nighttime light intensity, population density, and higher agricultural crop productivity. Strikingly, however, turning to a more aggregated, polling district-level, analysis, we find that most of these effects disappear except for large effects in the immediate 2-4km bins. Specifically, we find an immediate dip in nightlights and large spike in NVDI. Taken together, we interpret these effects as consistent with the presence of agglomeration shadows (Hornbeck et al., 2024). The resettlement of Chinese New Villages led to an immediate spike in population density around resettlement sites that have persisted over time but these spikes have led to little, if any, positive spillovers on surrounding areas. Rather, resettlement sites appear to have drawn in higher-value economic activities, resulting in surrounding, more distant areas becoming persistently more agricultural over time.

In terms of political effects, we find a long-run negative effect on vote shares for the ethno-nationalist coalition. Again, effects are highly localized: polling districts within 0-2km have about 3.6 to 6.8 percentage points lower vote shares for the ethno-nationalistic coalition in 2013, in both state- and federal-level elections.

Last, we close by ruling out two key, potential alternative explanation for lower ethno-nationalistic vote shares: (i) differences in aggregate voter turnout and (ii) differences in the ethnic composition of the electorate. As mentioned above, the National Front has consistently advocated for affirmative action policies in favor of ethnic majority Malays. Hence, by the 2013 elections, nearly all ethnic minority Indian and Chinese voters consistently voted against the National Front (Jomo, 2017). It is possible that, despite excluding the resettled Chinese New Villages, negative effects on vote shares could simply be capturing voting patterns of ethnic Chinese offspring of resettled villagers that setup families and homes in areas close to existing Chinese New Villages.

For (i), using the same regression setup, we test and find no differences in voter turnout

and proximity to Chinese New Villages. For (ii), however, we test and find that areas closer to Chinese New Villages have a higher share of registered Chinese voters. In the spirit of Becker and Woessmann (2009); Calderon et al. (2023), we conduct a simple, back-of-the-envelope exercise to understand if results on vote shares can be entirely explained by higher ethnic Chinese voter registration. Reassuringly, under realistic assumptions, our results cannot be entirely explained by a larger share of ethnic Chinese voters. Specifically, it is well documented that ethnic Chinese voters turn-out at a much lower rate than ethnic Malay voters. Data on ethnic-specific voter turnout rates, however, do not exist. Instead, we recalculate coefficient estimates by imposing various plausible ranges of ethnic Chinese voter turnout rates, assuming, in the extreme case that all ethnic Chinese voted against the ethno-nationalistic coalition (a realistic assumption in 2013 (Malay Mail, 2024)). We find that a unrealistically high ethnic Chinese voter turnout rate, would be necessary to explain the entirety of our negative results on vote shares.

Taken together, our results suggest that the resettlement of a large number of ethnic minorities led to a meaningful increase in and relocation of economic activity that has had substantive, positive spillover effects on the voting attitudes of the ethnic majority population. Specifically, ethnic majority individuals who experienced better economic outcomes due to greater proximity to Chinese ethnic minority villages appear to have, in turn, voted less for ethno-nationalist interests. We are in the process of collecting a novel primary survey dataset of political, ethnic, and economic outcomes at the individual-level.

1.1 Related Literature

This paper makes four novel contributions. First, it ties together the literature on the effects of forced emigration/resettlement policies and nation-building/assimilation (Bazzi et al., 2016, 2019; Becker et al., 2020; Peters, 2022). Most papers in the former find long-run positive economic and political (nation-building) effects in aggregate. Yet, the distributional effects on natives in receiving locations are less clear. This paper uses novel, extremely disaggregated data to provide novel evidence that (forced) resettlement can have differential effects on natives depending on the distributional effects of economic changes. Specifically, we document novel quantitative evidence of the interplay between economic and political (backlash) effects: ethnic-majority Malay villages that live close to ethnic-minority Chinese villages, do better economically and are hence, less likely to vote for the ruling ethno-nationalist coalition. This is possibly due to a lower perceived need, on the part of natives, for political power to protect own economic interests. To

that end, our paper complements studies e.g. (Calderon et al., 2023; Fouka et al., 2022) who find that in the US, greater inter-group contact leads to coalition-building, positive transmission of political attitudes, and positive downstream political effects.

Furthermore, we contribute to studies showing that greater, *intra*-neighborhood contact can have positive effects (Bazzi et al., 2019; Billings et al., 2021; Jha, 2013). We go one step further by exploiting hyper-local variation in resettlement patterns to study a setting where, despite the persistently high *inter*-village segregation of minority and majority communities, positive effects can continue to accrue. Using pilot data, we show, on one hand, this segregation hinders meaningful, friendship formation. Yet, on the other, more positive side, we find that sustained transient/casual contact and economic benefits can have long-run positive political effects.

Second, we contribute to the broader literature on the political effects of immigration (Alesina and Tabellini, 2024). Studies have documented mixed evidence for how immigration affects the voting behavior of natives.[4] Importantly, our results contrast with (Tabellini, 2020) who finds that higher immigration in US cities led to positive economic outcomes but higher political backlash due to persistent cultural differences. One possible reason is that of greater opportunities for inter-ethnic contact in non-segregated, public spaces, in our largely rural setting. This is consistent with the idea of how such shared social spaces and clubs can be important for building social capital through fostering greater contact (Putnam, 2015). Hence, we provide novel evidence of potentially heterogenous effects of contact that varies with the volume and density of shared spaces (in rural vs urban environs). Furthermore, we combine fine-grained electoral roll data, with polling-district level data, to rule out effects on vote shares due to mechanical differences in compositional effects. Together with a quasi-random identification strategy, we provide the first evidence of how sustained exposure and casual interactions, even in the absence of meaningful friendship formation, can lead to lower ethno-nationalist preferences.

Third, we contribute to the literature on the exposure effects of diversity on social and political preferences (Algan et al., 2016; Bursztyn et al., 2024; Enos, 2014; Lowe, 2021; Rao, 2019). We innovate by showing that negative ethnic attitudes towards ethnic minorities can potentially be mitigated by positive economic spillovers to ethnic majority populations. Specifically, the closest paper to ours, Billings et al. (2021), studies the end of race-based busing and shows that greater inter-racial, childhood exposure decreases the

[4]Most of these studies, however, typically focus on the effects of exposure to refugees or immigrants who do not have voting rights (see, for examples, Barone et al. (2016); Dustmann et al. (2019); Halla et al. (2017); Otto and Steinhardt (2014); Steinmayr (2021)).

likelihood of White voters registering as Republican. We contribute by studying the effects of social interaction and exposure to minorities from changes in residential segregation on actual voting patterns. Here, the relocation of the minority ethnic Chinese into the heart of pre-existing Malay settlements provides an opportunity to test whether racial threat can be attenuated by persistently lower inter-ethnic proximity. Hence, our results provide a micro-lens into studies that have provided robust evidence of macro-level effects of ethnic segregation and diversity (Alesina and Zhuravskaya, 2011).

Fourth, we contribute to a small literature on comparative development in Southeast Asia (Bazzi et al., 2019; Dell et al., 2018; Dell and Olken, 2020; Lim, 2022). Due to data limitations, Malaysia, despite its geographical size and pivotal role throughout Southeast Asian history, has been severely understudied.[5] To plug this gap, we create a novel dataset by combining information on Chinese New Villages with granular voting data at the polling district level to study a historical large-scale resettlement program that took place during a pivotal episode in Malaysian economic history, the Malayan Emergency from 1948 through 1960. A rich historical, anthropological, sociological literature has extensively studied the consequences of the Chinese New Villages (dhu Renick, 1965; Nyce, 1973; Strauch, 1981). Our study is the first, to the best of our knowledge, to use multiple statistical sources to study the long-term effects of Chinese New Villages on contemporary political outcomes.

Section 2 outlines the institutional background of resettlement, state-formation and politics in Malaysia. Section 3 describes our data. Section 4 describes our empirical strategy where we motivate our identification strategy using ordinary least squares. Section 5 describes results. Section 6 delves into alternative explanations. Section 7 concludes.

2 Background

2.1 Institutional Setting

British rule of what is today's Peninsular Malaysia started in 1786 and ended in 1957 when the country declared independence. The earliest Chinese migration to Malaysia can be traced back to the 15th century (Kim, 1998; Wang, 1959). Chinese migration occurred in three waves: initially as traders who intermarried locally (known as the *peranakan* community), then spurred by British trade policies in the 1820s, and finally driven by

[5] A notable exception is Miner (2015) which studies the effects of internet broadband roll-out on support for opposition parties in Malaysia.

economic and political upheavals in China from the 1860s to early 1900s. Across Southeast Asia, the ethnic Chinese were largely regarded as unassimilable. They arrived in a foreign land, speaking a distinctive language from the natives, indigeneous people, and having various Chinese institutions such as the dialect associations that were perceived as "clanish" (Ting, 1976). They were also perceived as politically and culturally oriented towards China and sometimes considered to be a security risk (Suryadinata, 1987).[6]

There is substantial ethnic diversity in Peninsular Malaysia, with 64.5 percent of ethnic Malays and indigeneous people (*Bumiputera*), 25.9 percent of ethnic Chinese, 8.9 percent of ethnic Indians, and 0.6 percent of ethnically unidenfitied people in 2010. Ethnic Malays characteristically differ from ethnic Chinese in languages, religious affiliations, appearance, and cultures and traditions. There is limited inter-marriage between the ethnic Malays and ethnic Chinese, making ethnic differences marked. Nagaraj (2009) finds that a mere 0.1 percent of ethnic Malay men married with ethnic Chinese women and 0.3 percent of ethnic Chinese men married with ethnic Malay women in 2000. This low rate of intermarriage indicates the clear and distinct boundaries of ethnic identification between ethnic Malays and ethnic Chinese in Malaysian society.

Inter-ethnic relations were shaped by history of colonial influence and socio-economic disparities that follows. During the British colonial rule, the colonial administration actively pursued a policy of ethnic division of labor, with the Chinese working in the mines and Indians on the estates of Malaya. The native Malay population was restricted to producing rice for the mine and estate workers, which yielded low economic returns (Kratoska, 1982). This had resulted in a significant economic gap between the majority ethnic Malays and the minority ethnic Chinese after independence, with the ethnic Chinese being economically superior as a group than the ethnic Malays.

The economic gap between ethnic Malays and ethnic Chinese culminated in the race-riots in 1969. The violence was a result of economic grievances from the ethnic Malays who were unable to achieve full participation in the modern economic sectors of the newly independent country. In response to the racial riots of 1969, the ruling Alliance (later, the National Front) coalition, which was essentially a coalition of ethnic-based parties led by the United Malays National Organization (UMNO), announced and later implemented the New Economic Policy (NEP) in 1970. The NEP had the twin aims of reducing ethnic inequality and reducing poverty. The regime, through the NEP, was committed to

[6]Malaysia hosted the second largest ethnic Chinese population after Thailand across Southeast Asia. In 1981, there were as many as 4 million ethnic Chinese living in Malaysia (Suryadinata, 1987).

increased ethnic affirmative action on behalf of the ethnic Malays and indigenous people in general (Jomo, 2017).

Under the NEP, the ethnic Malays and indigenous people received preferential access to education, housing, public-sector jobs and corporate share ownership. It is worth mentioning that affirmative action policy in Malaysia is constitutionally sanctioned afforded by Article 153 of the Malaysian Federal Constitution (Guan, 2005).[7][8] These policies have continued to shape Malaysia's political landscape, including the country's contemporary politics, which we discuss in the next section.

2.1.1 Ethnic Politics and General Election 2013

Malaysia is a parliamentary democracy and a constitutional monarchy in which the King plays a largely ceremonial role with some discretionary powers. Since 1963, elections have been at two levels: federal and state level. At the federal level, voters elect the 222-member House of Representatives from single-member constituencies drawn using the first-past-the-post system. At the state-level, voters elect representatives to the State Legislative Assembly, also based on the first-past-the-post system.

We use 2013 vote shares for the National Front as our proxy for voter preferences for ethno-nationalist policies. Politics in Malaysia has long been characterized by ethnic divisions (Ng et al., 2015; Pepinsky, 2015). In the General Election 2013, the two main coalitions contesting were the National Front (*Barisan Nasional*) and People's Alliance (*Pakatan Rakyat*). The campaign of the National Front was centred on good governance, corruption, and the privileges of ethnic Malays and indigenous group. The Malay party, UMNO in the National Front coalition presented itself as the protector of Malay "special rights" and Muslim interests. The opposition coalition, People's Alliance, stressed the importance of clean elections and corruption-free administration and called for an end to the privileges of ethnic Malays and indigenous groups.

[7]Specifically, the article stipulated the Malay ruler to "safeguard the special position of the Malays... and to ensure the reservation for Malays...of such proportion as he may deem reasonable of positions in the public service and of scholarships, exhibitions and other similar educational or training privileges...and...of permits and licenses."

[8]Studies have shown the impact of ethnic redistribution in Malaysia. Ravallion (2020a) shows that after the NEP, all three main ethnic groups (the ethnic Malays, Chinese, and Indians) had rising mean incomes, but the ethnic Malays and indigeneous groups had the highest growth rate. In a subsequent paper, Ravallion (2020b) also shows that ethnic redistribution helped reduce poverty, but the impact was large in 1970, the time the NEP was introduced, but declined considerably after.

2.2 A Historical Natural Experiment: Colonial Resettlement of the Ethnic Chinese

To study the impact of geographic proximity to ethnic Chinese on electoral support of the National Front of ethnic Malays, we exploit a unique historical natural experiment which is the top-down colonial resettlement program implemented by the British military during the Malayan Emergency from 1948 through 1960. The program resulted in the forced resettlement of at least 500,000 rural ethnic Chinese (approximately 10 percent of the entire population and 25 percent of the entire ethnic Chinese population of Peninsular Malaysia in 1947) to fenced-up Chinese New Villages across Peninsular Malaysia.

2.2.1 Military Origins of the Colonial Resettlement

The colonial resettlement program was a consequence of the political struggle between the British military and ethnic Chinese communists. After the Japanese surrender in 1945, the Malayan Communist Party (M.C.P) gained widespread support, especially among ethnic Chinese communities for waging a war against the Japanese. The M.C.P shifted its focus to an anti-British movement and retreated into the jungle. The communist insurgents targeted rubber estates and tin mines for attacks. A military plan was necessary to maintain political stability.[9]

In response, the British military implemented the resettlement program to weaken the influence of communist insurgents. The resettlement was rapid and often unexpected to the resettled people. According to Humphrey (1971), the resettlement "*provided an opportunity to examine a system of communities which have not evolved...in response to normal locational and economic factors, but which have been created in a manner similar to...a laboratory experiment*"

According to historical records, rural ethnic Chinese were resettled to the Chinese New Villages about 3.2 to 9.6 kilometers from widely dispersed ethnic Chinese squatter settlements (Nyce, 1973). The resettled ethnic Chinese were largely rural farmers engaged in food and pig production, tin mining, rubber growing, and other crop production. The resettlement created tightly controlled villages. The villages were heavily surveilled, often enclosed by barbed wire. They were isolated from neighbouring communities.

[9]It is worth noting that political stability was important to the British because Malaya was an important cash cow to the British Empire due to the high international prices of tin and rubber, the main exports of Malaya during the early 20th century.

By the 1960s, as the British deemed the communist threat to be in retreat, freedom of movement was gradually reinstated. However, there has been a strong persistence of Chinese New Villages, many of which continue to exist in the same location. Qualitative evidence suggests that this is due to high moving costs, increased security and amenities, and most importantly, incomplete land titles (Nyce, 1973). As discussed, many of the resettled Chinese were squatters on government-owned land and had no legal rights nor titles to the land that their houses and crops were grown on. Hence, the award of land titles gave, for the first time, Chinese settlers a stake in their New Villages and a large incentive to stay in these areas despite any potential out-migration opportunities.

The result? Nearly half a century later, we find a stark pattern of bifurcation across much of West Peninsular Malaysia. On one hand, we see that a large number of Malay villages are located close to demarcated, densely population Chinese villages. On the other hand, another group are located far from these Chinese villages (Figure 1). We exploit the plausibly exogenous variation in ethnic diversity, contact, and segregation, resulting from this natural experiment, throughout our analysis.

[FIGURE 1 ABOUT HERE]

2.3 Inter-Ethnic Contact

Here, we use novel primary survey data to characterize the nature of contact resulting from Chinese New Village resettlement.[10] This is important given the possibility that both our economic and political effects could have resulted from differences in inter-ethnic interactions across places located closer to Chinese New Villages/Resettlement Sites. For example, ethnic Malays located in receiving locations that were more proximate to Chinese resettlement locations could have experienced greater and more sustained long-term contact with the ethnic Chinese minority. In turn, contact might have reduced negative stereotypes and prejudices towards the ethnic minority (Allport, 1954) leading to downstream effects on inter-ethnic complementarities and ethnic/political attitudes.

Our primary survey data comprises of outcome measures on inter-ethnic contact, collected in December 2023, from a representative pilot sample of six villages.[11] Table 1 compares Malays located within 0-2km to a Chinese New Villages *(treated)* to Malays located within 0-2km to a counterfactual New Village location *(control)*. Treated Malays

[10] There are no existing data sources for measuring micro-level measures of inter-ethnic contact.

[11] This data is obtained from a pilot study for a fully funded survey for a separate work-in-progress by the co-authors.

report a higher frequency of transient interactions with the ethnic Chinese in public spaces. In contrast, however, this contact does not appear to have led to the formation of deeper inter-ethnic friendships.

[TABLE 1 ABOUT HERE]

Shared Public Spaces Panel A shows that treated Malays report a higher frequency of interactions with out-group members and these interactions mainly take place in shared public spaces. Importantly, they are more likely to report ever having visited a Chinese Village.

Workplaces Panel D finds no differences in the likelihood of treated Malays being more likely to have a Chinese colleague, employee, nor employer. Strikingly, even for Malays who report a Chinese presence in their workplaces, treated Malays are not more likely to report having made Chinese friends at work.

Schools: Early-life interactions Panel C shows that treated Malays are more likely to have Chinese schoolmates. Again, however, we find no differences in the likelihood of treated Malays having made more Chinese friends at schools nor a higher likelihood of having had Chinese childhood playmates.

Friendship Formation Panel B finds no differences between treated and control Malays in the likelihood of Chinese friends; inviting Chinese during festivals; nor offering food when Chinese visit their homes.

Taken together, these results suggest that, despite the co-location of Chinese New Villages and Malay villages that lead to increased presence of the Chinese at workplaces and schools, Malays and Chinese continue to lead extremely segregated lives. Most interactions, if any, take place in shared public spaces and these sustained interactions rarely, if any, lead to longer-term friendships. This provides novel evidence, extending the results of Enos (2014), that casual interactions, even in the long-run do not appear to be able to lead to stronger friendship formation and more meaningful contact.

Despite this lack of friendship formation, however, is it possible that sustained casual interactions might have long-run economic and political effects? This is plausible given a rich literature that suggests that the mere presence of the Other, can have substantive effects on voting behavior (Dustmann et al., 2019; Steinmayr, 2021) and experimental evidence on short-run casual contact (Enos, 2014). Next, we describe and analyze our results on economic and political effects through this lens.

3 Data

3.1 Sampling Frame

Our unit of analysis is at the polling district level that covers seven states in Peninsular Malaysia, Johor, Kedah, Melaka, Negeri Sembilan, Perak, Selangor, and Pahang. We exclude polling districts in eastern coast states (Kelantan, Terengganu) as well as polling districts in a Chinese-majority state (Pulau Pinang) due to vastly different histories and politics. Polling-district level data are highly disaggregated and allow us to exploit very fine variation.[12]

We focus on rural or semi-urban polling districts because the rates of in- and out-migration are lower in rural areas. Since the average distance involved in the resettlement was 3.2 to 9.6 kilometers, we restrict the sample to polling districts that are 10 kilometers from a Chinese New Village to ensure that we compare similar polling districts. We further exclude polling districts where the Pan-Malaysian Islamic Party contested in 2013 and polling districts that have Chinese New Villages to avoid picking up the effects of religious politics and the effects of Chinese New Villagers, respectively.

We reconstruct the entire universe of roads and plantations in 1947 (pre-resettlement) by digitizing historical road maps across the entire Peninsular Malaysia using the HIND series of maps from Australian National Libraries archives.

3.2 Outcomes

We measure contemporary economic development using best available contemporary economic data. Contemporary censuses do not contain data at a disaggregated enough level for our analysis. Since data on income per capita is not available at the very local level, we use luminosity data from satellite images at night as a proxy for local economic activity (Hodler and Raschky, 2014; Michalopoulos and Papaioannou, 2013) as well as Normalized Difference Vegetation Index (NDVI) (Rao et al., 2022) as a proxy for agricultural productivity. These data are from NASA's Visible Infrared Imaging Radiometer Suite (VIIRS) and Landsat. We also use population data from Global Human Settlement Layer (GHSL). These data are aggregated up to obtain the average values at grid cell level and polling district level, respectively.

[12] On average, the geographical size of a polling district in our estimation sample is $10.9 km^2$ and the average number of registered voters is 1,282.

In terms of political outcomes, we use the vote share of the longest-ruling ethnonationalist coalition, the National Front, in the state and federal elections of 2013. We also use data on turnout rates, number of registered voters by ethnic groups at the polling district level. The data are obtained from the Malaysian Electoral Commission and are observed at the polling district level.

Last, we measure ethnic shares at the polling-district level, the smallest-possible administrative unit, using data from voter registration records.

3.3 The Chinese New Villages

We use a dataset on Chinese New Villages that we digitized from the Malayan Christian Union (1958) that has information on the type, initial population, population in 1958, prevailing Chinese dialect of Chinese New Villages as well as whether there was any evangelistic work and medical services in the Chinese New Villages. We use maps published by the Ministry of Housing and Government in 2012 to identify the exact location of Chinese New Villages that persist in the same location. We display selected summary statistics in Table A.1.

To measure inter-ethnic proximity, we match Chinese New Villages with the boundaries of polling districts. We then compute fly-by-crow distances from the centroid of each polling district to the nearest Chinese New Village. Figure 2 presents maps of the geographical distribution of Chinese New Villages and illustrates that here is a lot of variation in distances to the nearest Chinese New Villages at the polling-district level. We rely on this variation in our empirical analysis.

[FIGURE 2 ABOUT HERE]

4 Empirical Strategy

4.1 Ordinary Least Squares

We estimate the effects of distances to the nearest Chinese New Villages on ethnonationalist coalition vote share in 2013. The estimating equation takes the following form:

$$Y_{d,p} = \alpha + \sum_{k=1}^{4} \beta_k distNV_d^k + \gamma_2 X_d + \gamma_p + \epsilon_{d,p} \tag{1}$$

where $Y_{d,p}$ is an outcome of interest in polling district d of parliamentary constituency p, and the $distNV_d^k$ are indicators equal to 1 if the geodesic distance from the centroid of polling district d to the nearest Chinese New Village is 2-4km (k=1), 4-6km (k=2), 6-8km (k=3), and 8-10km (k=4). The omitted bin is 0-2km.

X_d includes slope, elevation, percentage of east-facing grids, percentage of topsoil organic carbon, percentage of topsoil sodicity, an indicator for drainage is very poor, an indicator for soil is coarse, an indicator for soil is medium, distance to the nearest urban centre, distance to the nearest coast, share of ethnic Chinese in 1947, and the natural logarithm of population density in 1947. γ_p is a vector of parliamentary-constituency fixed effects. We cluster standard errors at the parliamentary constituency level.

Table 2 shows that polling districts that are within 2-4 kilometers of Chinese New Villages have worse economic outcomes compared to those within 0-2 kilometers. They have lower nightlight luminosity and population density but higher NVDI. In terms of political effects, Table 3 shows that polling districts located in 2-4 kilometers of the Chinese New Villages have significantly higher ethno-nationalist vote share, compared to those in 0-2 kilometers. This finding is consistent for vote shares in both the state and federal elections.

[TABLE 2 AND TABLE 3 ABOUT HERE]

The potentially endogenous location choices of Chinese New Villages, however, suggests that the OLS estimates of β_k in Equation 1 could be upward biased. For example, β_k might be picking up the effects of proximity to roads given that a key British criteria (discussed) for site selection was proximity to roads to facilitate rapid military reinforcements. Proximity to roads might, in and of itself, lead to these sites experiencing higher economic growth over time due to higher market access. Similarly, if the British had chosen sites where the existing native population had more positive attitudes towards ethnic Chinese/minorities, β_k might be picking up these effects that have little to do with that of contact.

In short, the OLS coefficients on economic development and voting patterns in Equation 1 might be picking up effects that have little to do with proximity to Chinese resettlement sites if receiving locations and resettlement sites were endogenously chosen by the British based on their economic potential or pre-existing attitudes of natives. Hence, we turn to a counterfactual exercise (Borusyak and Hull, 2023; Dell et al., 2018) that leverages plausibly exogenous British site criteria to further estimate these coefficients of interest.

4.2 Counterfactual Site Selection: British Military Criteria

In the spirit of Borusyak and Hull (2023); Dell and Olken (2020), we exploit the fact that there were potentially multiple possible equilibria for New Village resettlement locations, to reconstruct the universe of possible counterfactuals for New Village resettlement sites. We do so by strictly following a set of British military criteria in classified documents, that were plausibly exogenous to pre-existing political and economic conditions given the exogeneity of fighting an all-out anti-communist war, as evidenced by the rapid resettlement of 500,000 individuals into around 500 villages within 3 years (the Briggs' Plan).

To this end, we identify and construct 1,000 sets of feasible, counterfactual New Village sites by imposing the following four requirements based on British military archival documents.[13] In particular, the fourth condition outlined below, imposes the requirement that the distance between each and every other counterfactual site is similar to the distance between each and every other actual New Village site. This is important given pre-existing logistical constraints and Chinese squatter locations.

1. Since Chinese New Villages were located along the main roads to allow accessibility by the British military, We only consider sites that can be reached by moving 2.5 to 10 kilometers via pre-resettlement road network from the actual New Village.

2. We infer site suitability by observing the pre-determined component of where New Village was built historically. Specifically, we compute the 90th percentile of slope and elevation of actual New Villages and assign anywhere with slope or elevation less than these cutoffs as suitable. The point must have at least as much NV suitable land within a 2.5 kilometer radius (the average size of a New Village (Nyce, 1973)) as the 10th percentile of the actual New Village distribution.

3. We make sure that counterfactual sites are not within the Malay reservation land since these lands were reserved for the ethnic Malays and cannot plausibly be chosen as a suitable site for ethnic Chinese (Kratoska, 1982, 1983).

4. To create 1,000 sets of counterfactual New Villages, we shift actual New Villages randomly while ensuring that each set of counterfactual New Villages must be approximately balanced North/South and East/West around actual New Villages.[14]

[13] See Appendix A: Site Selection Criteria for details.

[14] Following Dell and Olken (2020), we perform a simulated annealing procedure that minimizes the average distance between the counterfactual coordinates and the actual New Village coordinates.

This approach is illustrated in Figure 3 and Figures 4. Panel A shows an actual Chinese New Village, Buloh Kasap, represented in purple dot with site suitability (in green polygon), pre-resettlement roads (in red lines), and polling district boundaries (in polygons bordered by black lines) in the background. Panel B shows a suitable counterfactual Chinese New Village location, which has a sufficient amount of nearby suitable site land, as compared to the distribution of actual Chinese New Villages. Panel C zooms out to show a larger set of counterfactual New Villages.

[FIGURE 3 AND 4 ABOUT HERE]

The estimating equation takes the following form:

$$Y_{d,p} = \alpha + \sum_{k=1}^{4} \gamma_{k,real(fake)} distNV_d^{k,real(fake)} + \gamma_2 X_d + \gamma_p + \epsilon_{d,p} \quad (2)$$

The key difference here is that, for every outcome, Equation 2 is estimated twice. Once for the actual Chinese New Villages and once for the 1,000 sets of counterfactual New Villages. Hence, the point estimate of the effect of being distance k away from a Chinese New Village is given by the difference between the coefficient of $distNV_d^{k,real}$ and the average of the coefficients of 1,000 $distNV_d^{k,fake}$ from 1,000 sets of counterfactual regressions. The key advantage over the simple OLS in Equation 1 is that here, we explicitly purge the effects of any unobserved factors correlated with the combination of British military site suitability criteria.

To compute statistical significance, we follow the randomized inference literature to compare the position of the actual coefficients in Equation 1 to the empirical distribution of the coefficients of our 1,000 counterfactual regressions. Specifically, we compute p-values by comparing the position of the $distNV_d^{k,real}$ coefficient to that of the distribution of absolute values of the 1,000 counterfactual $distNV_d^{k,fake}$ coefficients. A small p-value implies that patterns near the actual Chinese New Villages would have been unlikely to arise in the absence of resettlement.

To illustrate this, consider a stylized example with only one criteria: proximity to roads. Given this criteria and hence, the fact that nearly all Chinese NVs are located along main roads (Figure 1), the coefficients in our Equation 1 implicitly compare outcomes of places that are progressively located further away from main roads to that of Chinese NVs sites located right next to a main road. In contrast, the estimation of the coefficients in Equation 2 is analogous to taking a double difference. Specifically, the subtraction allows

us to compare the effects of a real NV, located next to a main road, on surrounding areas located 0-2km away vis-a-vis the effects of a fake site, that is similarly located next to a main road, on surrounding areas located 0-2km away: allowing us to directly purge the effects of proximity to roads (i.e. any pre-existing locational advantages).

4.3 Geographic, Soil, and Pre-resettlement Balance

We begin by examining balance in geographic, soil, and pre-resettlement characteristics. If the counterfactual locations are plausible, we should expect the differences to be similar between actual and counterfactual Chinese New Villages.

We illustrate the patterns in the data by plotting the difference between $distNV_d^{k,real}$ coefficients for the proximity to the actual New Villages and the mean of each of the $distNV_d^{k,fake}$ coefficients for proximity to the counterfactual New Villages. We denote the significance of each of the $distNV_d^{k,real}$ coefficients relative to the counterfactual $distNV_d^{k,fake}$ distributions. Crosses indicate coefficients that are above 95th percentile of the counterfactual distributions, solid dots denote coefficients above the 90th percentile, and hollow dots indicate coefficients below the 90th percentile.

Figure 5 documents balance checks. The geographic and soil characteristics we consider are slope, elevation, percentage of east-facing grids, percentage of topsoil organic carbon, percentage of topsoil sodicity, an indicator for drainage is very poor, an indicator for soil is coarse, an indicator for soil is medium. We also examine important pre-resettlement variables: distance to the nearest urban centre, distance to the nearest coast, share of ethnic Chinese in 1947, and the natural logarithm of population density in 1947. We do not find any statistically significant differences on a wide range of characteristics and distances to the nearest Chinese New Villages, except for elevation and slope. We control for differences in elevation and slope in our analyses.

Importantly, throughout all our analyses, unless otherwise noted, we conduct a doughnut hole analysis whereby we always exclude polling districts containing a Chinese New Village (resettlement site). We next turn to our main results.

[FIGURE 5 ABOUT HERE]

5 Effects of Inter-ethnic Proximity

5.1 Main Results: Economics Effects

Figure 6 shows our results for economic effects. We begin with our grid-cell level analysis. Results show that communities located in 2-4km grid-cells compared to those in 0-2km, experience worse economic outcomes. They have lower nightlight luminosity and population density, but higher NVDI. This suggests that these effects potentially work through structural transformation, surrounding places remain more agricultural and less urbanized.

We next turn to results at a higher level of aggregation: the polling-district level (Figure 7). These results are especially informative because (i) they are at the same level of aggregation as our political effects and voting results; (ii) aggregating outcomes at a higher unit of analysis allows us to potentially test for spillover effects. Specifically, if positive economic effects were entirely driven by a reallocation of activity (i.e. no spillovers), then we should see little to no effects once we run our estimation at a more aggregated level.

[FIGURE 6 AND FIGURE 7 ABOUT HERE]

Strikingly, effects on nightlights, NVDI, and population largely disappear once we aggregate outcomes to the polling-district-level. This suggests that, in line with earlier discussions on the hyper-local nature of resettlement, the economic effects at the grid-cell level are extremely local and, might possibly be a result of inter-spatial reallocation of economic activity, instead of any real aggregate increases in economic growth and development that would have happened in the absence of resettlement and re-concentration of Chinese settlers.

5.2 Main Results: Political Outcomes: Ethno-Nationalist Vote Shares

Figure 8 shows our results for political outcomes. The results are broadly consistent with OLS regressions in Table 3. Notably, however, our estimates throughout are *smaller* than that of our OLS estimates. This suggests that OLS results are likely upward biased due to unobservables such as better market access, economic fundamentals or pre-existing

political attitudes for areas that are located further away from (remote) Chinese New Villages.

In Panel A, the key dependent variable is ethno-nationalist vote share in the 2013 state elections. The omitted group throughout are polling districts in the 0-2km distance bin, excluding Chinese New Villages themselves. Here, we observe that polling districts in the 2-4km distance bins have a 6.8p.p. lower vote share compared to polling districts located in the immediate vicinity of Chinese resettlement sites (0-2km). Effects become smaller but remain statistically significant as we progressively look at more distant distance bins (4-6km, 3.8p.p.; 6-8km, 4.3p.p.), eventually becoming statistically insignificant in the 8-10km distance bins.[15] Taken together, these results attest to the strong and persistently positive effect of proximity to ethnic-Chinese (New Villages) on contemporary voting preferences. Nearly 6 decades since resettlement, we find that ethnic majority Malays living in close proximity to ethnic minority Chinese living in segregated, mono-ethnic villages continue to exhibit lower ethno-nationalistic voter preferences.

[FIGURE 8 ABOUT HERE]

6 Alternative Explanations

6.1 Compositional Effects

Higher proximity to Chinese New Villages significantly increases the share of registered ethnic Chinese voters (Figure 9A), but not the share of registered ethnic Malay voters (Figure 9B). Polling districts that are beyond 2 kilometers of Chinese New Villages have significantly lower share of registered ethnic Chinese voters. Polling districts that more than 2 kilometers of Chinese New Villages have about 6 to 8 percentage points lower share of registered ethnic Chinese voters.[16]

[FIGURE 9 ABOUT HERE]

The ethno-nationalist coalition had long pledged to advocate for Malays' rights, ethnic Chinese are less likely to support the coalition (Jomo, 2017). The results reported in

[15] Results are similar when we use *federal-level* vote shares in 2013 (Figure 8B).

[16] These changes in ethnic composition could be either a result of in-migration of ethnic Chinese and/or out-migration of the (offspring of) Chinese New Villagers but we currently lack data to differentiate between the two cases. We plan to explore and supplement this with our fully-funded primary survey data measures.

Figure 8 indicates that, for polling districts that are within 0-2 kilometers of Chinese New Villages, ethnic Chinese decreased ethno-nationalist vote share by more than one for one. However, it is unlikely that *all* ethnic Chinese voters who registered would cast a vote. Even if we assume that all ethnic Chinese voters casted a vote, it is unlikely that all of them would vote *against* the ethno-nationalist coalition in 2013.

To quantify the role of ethnic Chinese voters in driving the decreased ethno-nationalist vote share, one would need disaggregated data on vote share by ethnic group. To the best of our knowledge, such data does not exist. Instead, in the spirit of Becker and Woessmann (2009); Calderon et al. (2023), we perform a back-of-the-envelope calculation to estimate the number of votes that would have to be received by the opposition coalition to explain away the effects, assuming that all ethnic Chinese voters who turned out to vote voted for the opposition coalition.

We estimate the following equation:

$$VotebyNonBN_{d,p} - ChiVoters_{d,p} = \alpha + \sum_{k=1}^{4} \beta_k distNV_d^k + \gamma_2 X_d + \gamma_d + \epsilon_d \qquad (3)$$

Equation 3 is similar to Equation 1, except that the outcome variable is $VotebyNonBN - ChiVoters_d$ which is the difference between number of votes received by the opposition coalition and the estimated number of ethnic Chinese voters based on different turnout rates in a polling district d of parliamentary constituency p. The estimated number of ethnic Chinese voters who cast their votes is the product of the number of registered Chinese voters and turnout rates that range from 0 to 1. Figure 10 plots our estimates based on differential turnout rates. To illustrate this, the first subfigure (on the top left), shows that a clear decrease in $(VotebyNonBN - ChiVoters_d)$ in bins beyond 2 kilometers of Chinese New Villages when the Chinese turnout rate is assumed to be 0.

Figure 10 demonstrates that negative results on BN vote shares persist up until the point where ethnic Chinese voter turnout rates exceed 0.6. Given typical ethnic Chinese turnout rates of roughly 0.5 (Malay Mail, 2024), this exercise shows that lower ethnic Chinese vote shares for BN are insufficient for explaining the entire decrease in the ethno-nationalistic, BN vote share estimated above (or, conversely, increases in the vote share of opposition coalition) (Figure 3). These results strongly suggest that a non-negligible number of non-ethnic Chinese voters that lived in closer proximity to Chinese New Villages, voted against the ethno-nationalistic coalition as compared to those that lived further away.

[FIGURE 10 ABOUT HERE]

6.2 Turnout

We also examine the effects of distances to Chinese New Villages on turnout. In Figure 11, we find that the effects of distances to Chinese New Villages are quantitatively small and imprecisely estimated. This suggests that our voting results are not driven by differential turnout rates.

[FIGURE 11 ABOUT HERE]

7 Conclusion

This paper uses disaggregated grid-cell data, and novel, polling district level data to study the long-run economic and political effects of a mass forced resettlement program. Between 1949 and 1952, about 500,000 ethnic Chinese were forcibly resettled to New Villages, resulting in sharp differences in inter-proximity all across Peninsular Malaysia. Nearly all Chinese New Villages still exist today, allowing us to leverage persistent spatial variation in out-group proximity to Chinese New Villages to study contemporary economic and political effects on receiving areas.

We find positive economic and political effects. We find a positive, hyper-local economic effect on areas located immediately around resettlement sites at the grid-cell level. Null effects at the polling-district level suggest, however, minimal spillover effects and, instead, a reallocation of economic activity. Turning to political effects, we find that, even nearly half a century later, polling districts in greater proximity to resettlement sites exhibit lower vote shares for the ethno-nationalistic coalition (2013). These effects are similarly hyper-local and line up well with those on economic impacts. Polling districts within 0-2km have 3.6- 6.8p.p. lower ethno-nationalistic vote shares. We provide supporting evidence that these effects are unlikely to be driven by differences in turnout and the ethnic composition of voters.

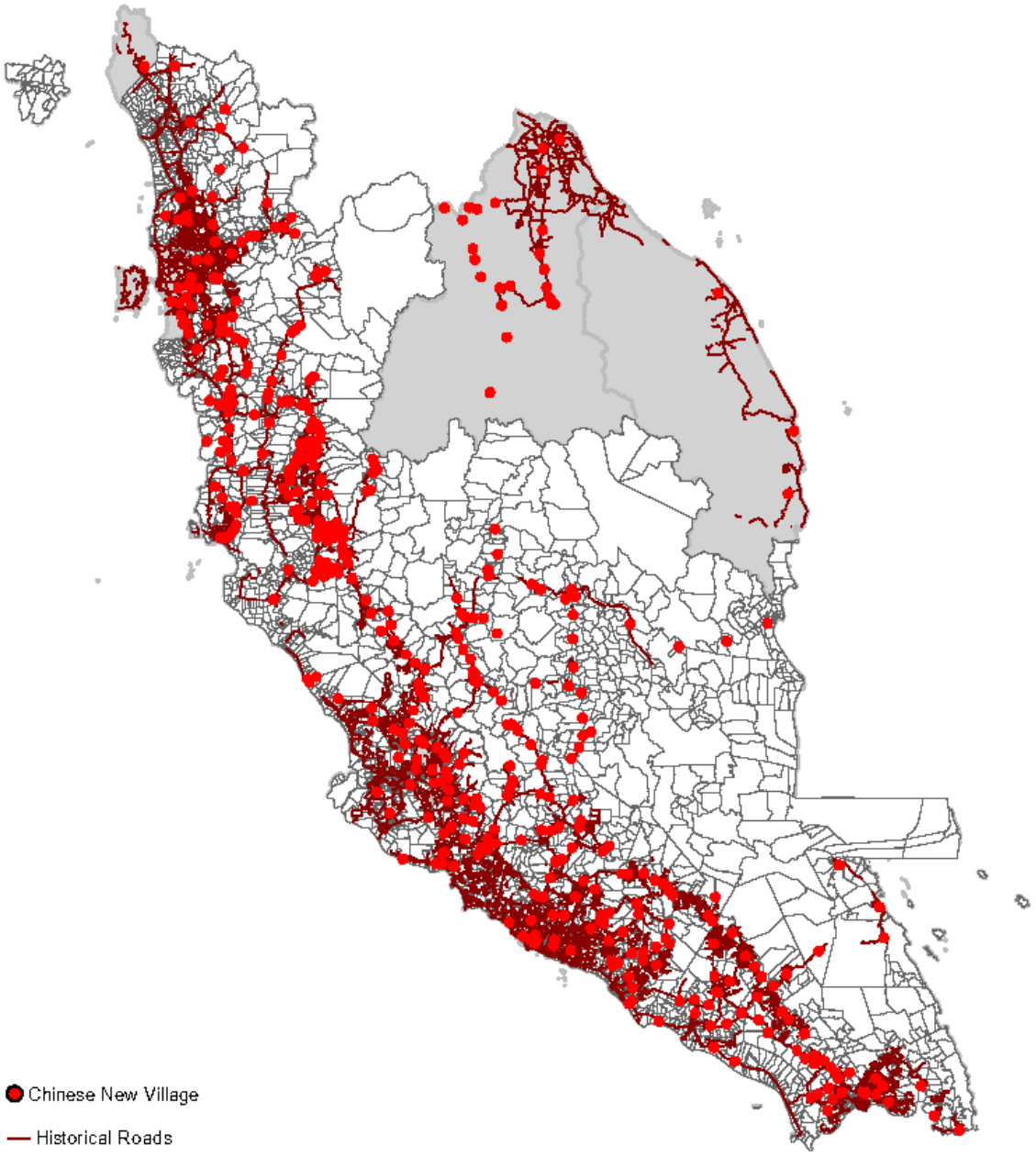
Our results have important implications for understanding the conditions under which mass resettlement policies can promote positive economic and social change. Specifically, population resettlement is a potentially important policy tool given large-scale population displacements from ongoing conflicts and the impending possibility of large-scale climate disasters. To that end, we provide, to the best of our knowledge, the first causal estimates

of long-run resettlement and inter-group proximity on economic and political outcomes. We show that the relocation of ethnic groups, even across distinct, segregated communities, can nonetheless spur positive economic and political outcomes in the presence of positive economic outcomes for natives and sustained, casual interactions in shared public spaces.

To further measure precise micro-level economic outcomes; effects on social and political attitudes; and understand the precise mechanisms of, for example, inter-ethnic competitions or complementarities, we have fielded an ongoing, fully-funded, in-person, novel primary survey, to collect rich measures of individual-level political, ethnic, and economic outcomes. Besides survey measures, we are also using revealed preference measures such as incentivized measures and lab-in-the-field games.[17]

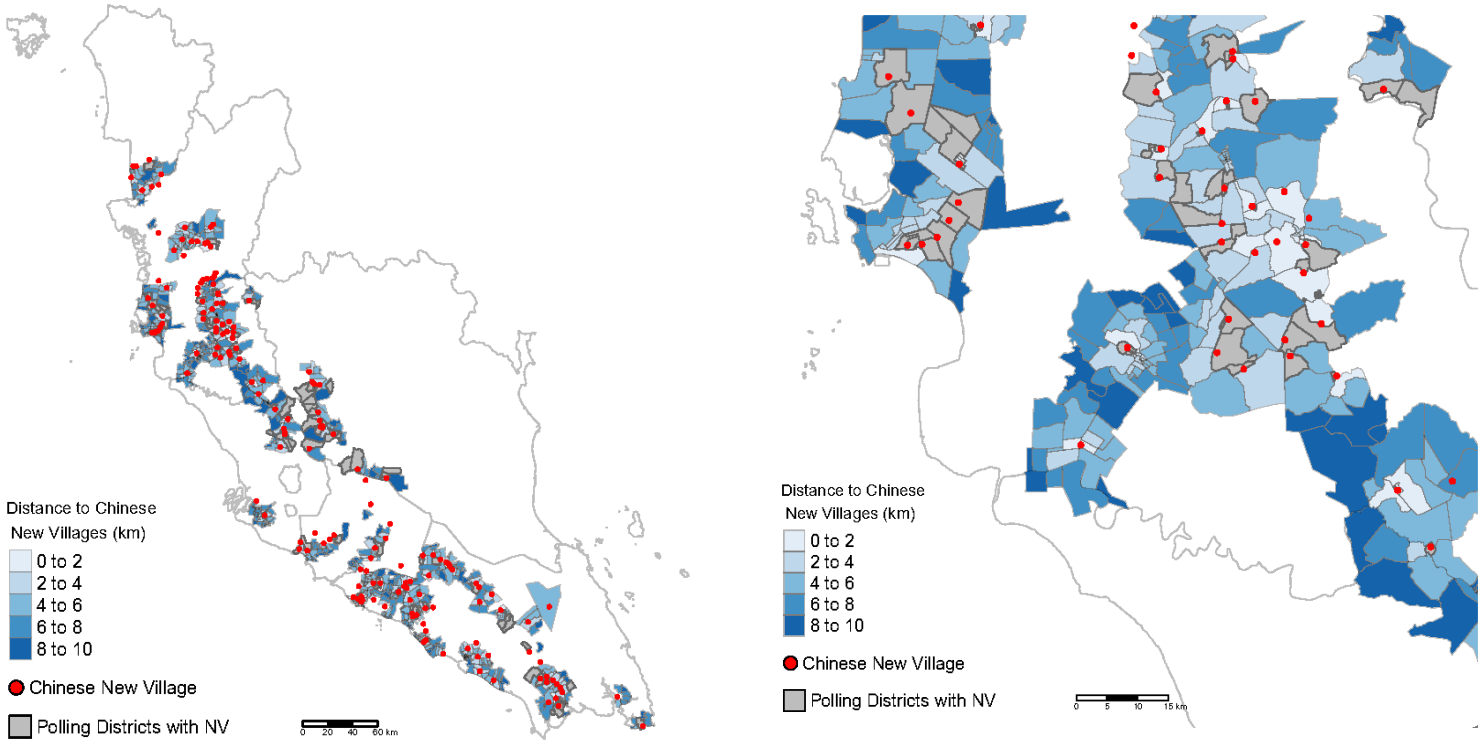
[17]Pilot surveys commenced in December 2023 - January 2024. Main surveys are ongoing.

Figure 1
Location of Chinese New Villages and Historical Roads



Notes: This plot shows the location of Chinese New Villages in red dots and historical roads in dark red lines. The white polygons indicate the polling district boundaries in 2013. Source: (Lee, 2011), author's own geo-referencing and archival maps (described in-text).

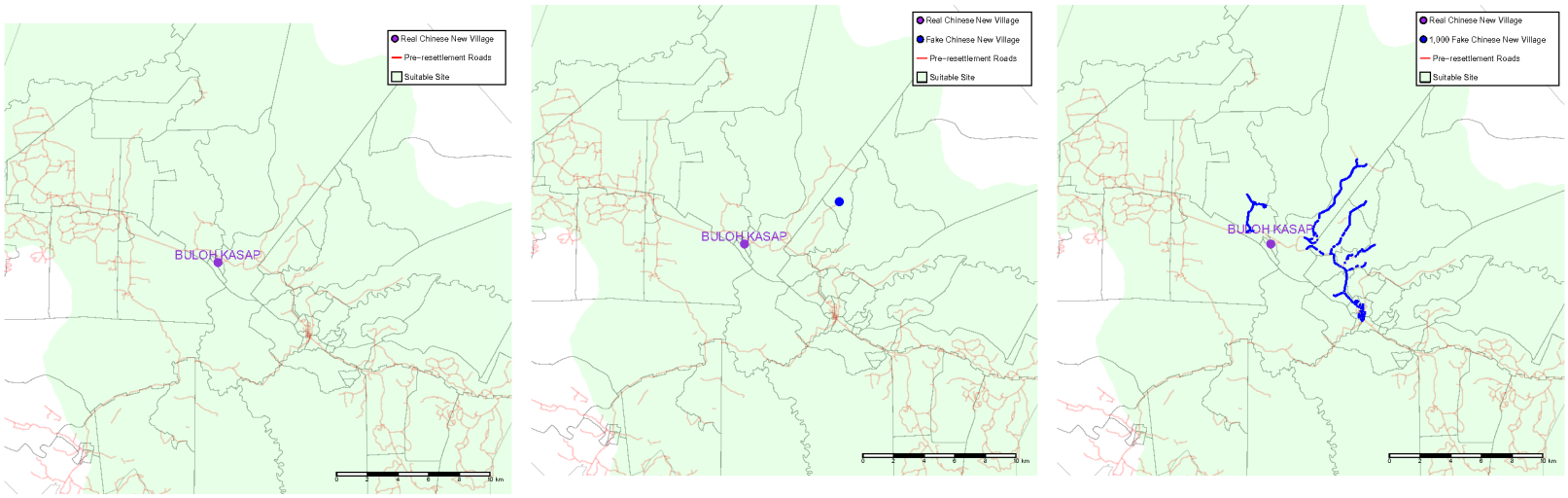
Figure 2
Distances to the nearest Chinese New Villages Across Polling Districts



Panel A **Panel B**

Notes: Panel A shows the location of Chinese New Villages in red dots and the distances to the nearest Chinese New Villages in the estimating sample. Panel B is an example of an enlarged area for illustrative purposes. The darker the blue of the polygon, the greater the distance to the nearest Chinese New Villages.

Figure 3
Counterfactual Chinese New Villages Example



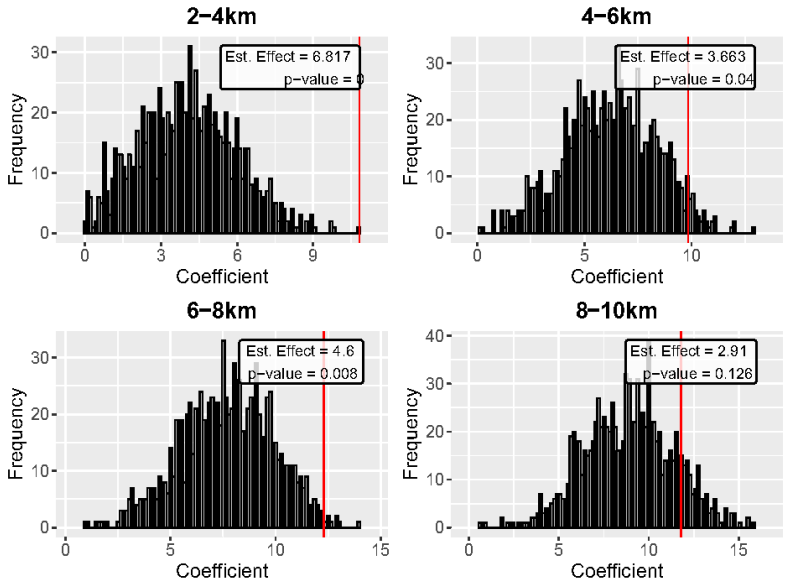
Panel A: A Real New Village

Panel B: A Counterfactual New Village

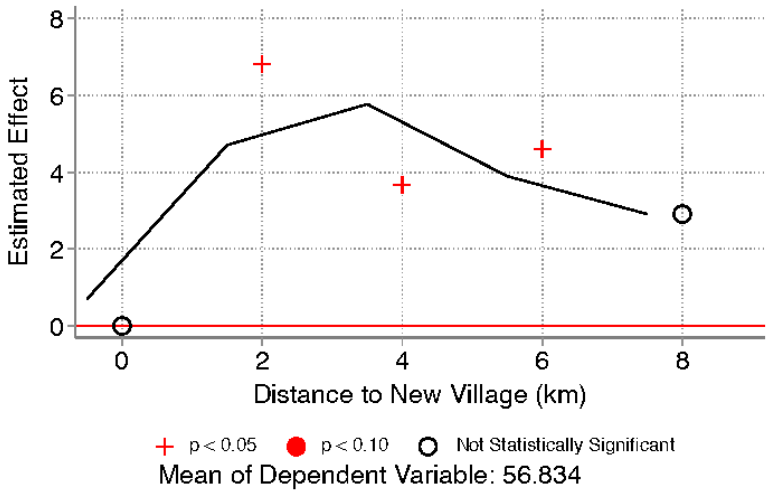
Panel C: 1,000 Counterfactual New Villages

Notes: This figure illustrates the construction of the counterfactual Chinese New Villages, as described in Section 4.2.

Figure 4
Illustration of Methodology: Ethno-nationalistic Coalition Vote Share 2013



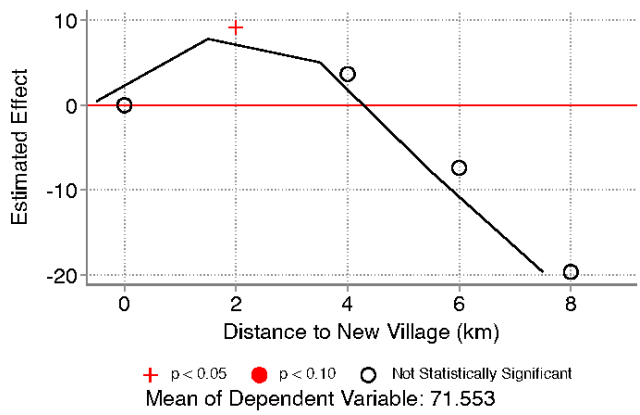
Panel A: Independent Shifts: Counterfactuals



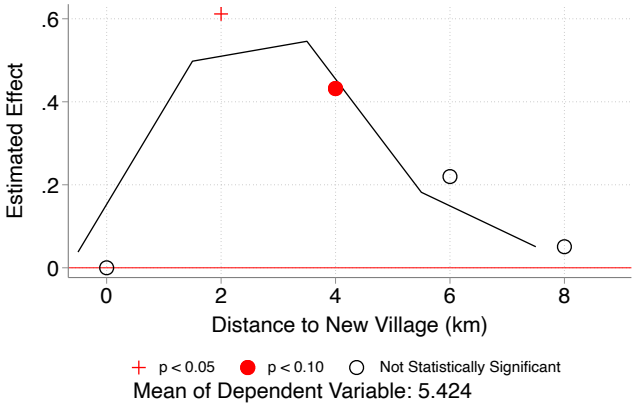
Panel B: Independent Shifts: Plotted Coefficients

Notes: Panel (A) plots histogram of absolute coefficients from a regression of the outcome variable on bins in distance to counterfactual Chinese New Villages, controlling for parliamentary constituency fixed effects, geographic, soil, and pre-resettlement controls. For each New Village, a counterfactual was selected at random from the region of the road network that was suitable and within 2.5 to 10 kilometers via historical road from the real New Village. This procedure was repeated to construct a 1,000 sets of counterfactual New Villages. The coefficients for distance to the real New Villages are shown as vertical lines. Panel (B) plots differences between real coefficients for each bin and mean counterfactual coefficients, with the symbols indicating the real coefficients' position in the distribution of counterfactual coefficients shown in Panel (A).

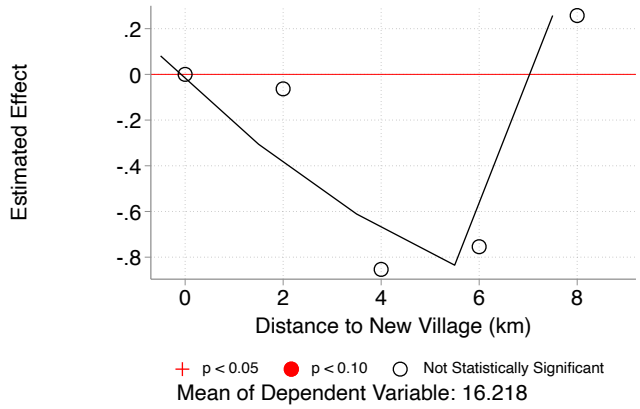
Figure 5
Geographic, Soil, and Pre-Resettlement Balance



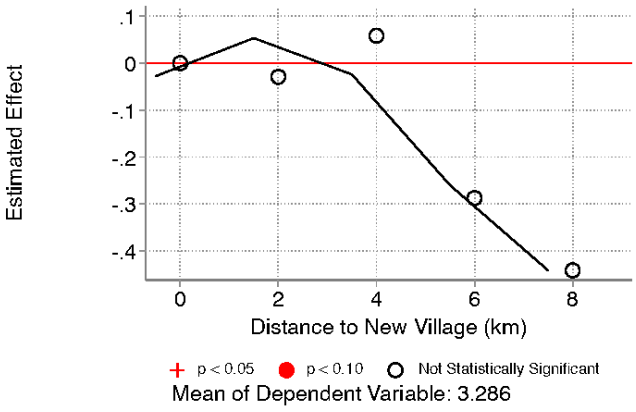
(A) Elevation



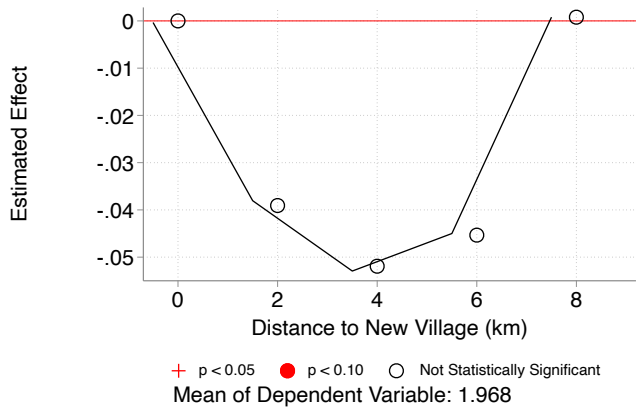
(B) Slope



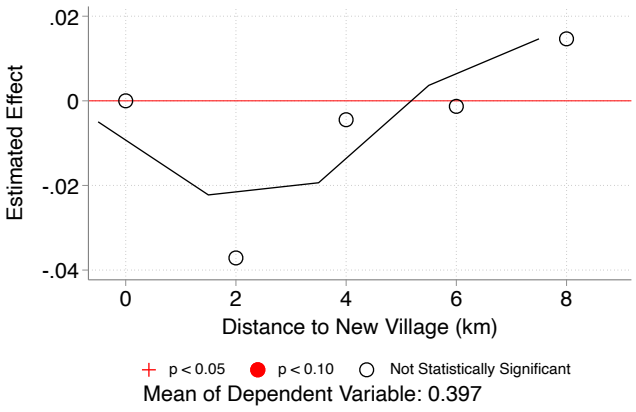
(C) % of East-facing Grids



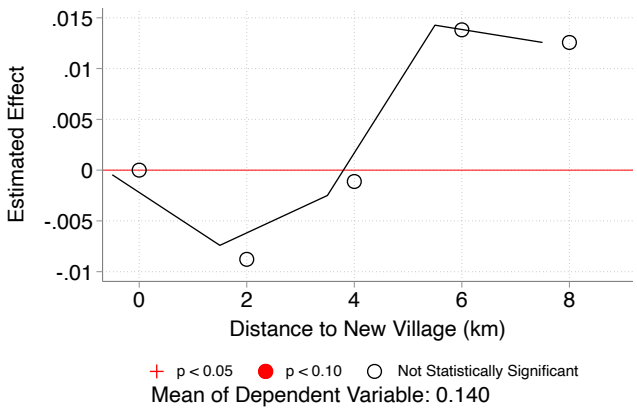
(D) % of Topsoil Organic Carbon



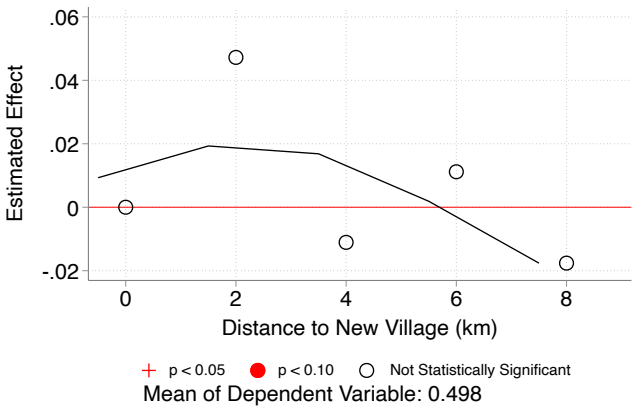
(E) % of Topsoil Sodicity



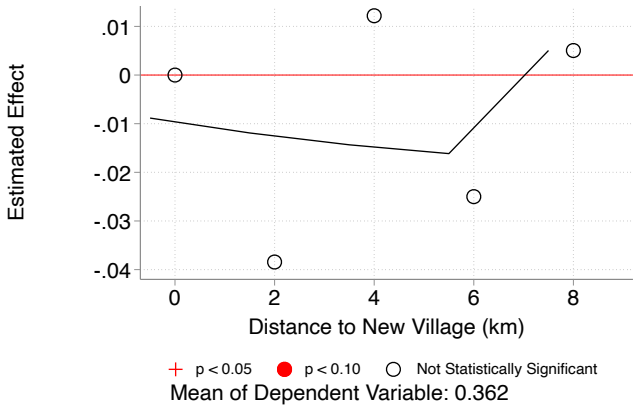
(F) Drainage is very poor (=1)



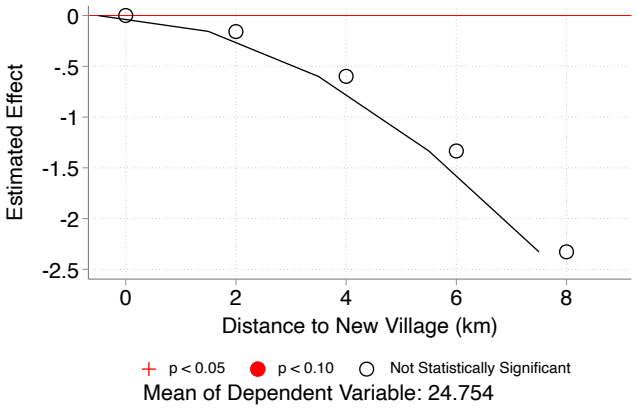
(G) Soil is Coarse (=1)



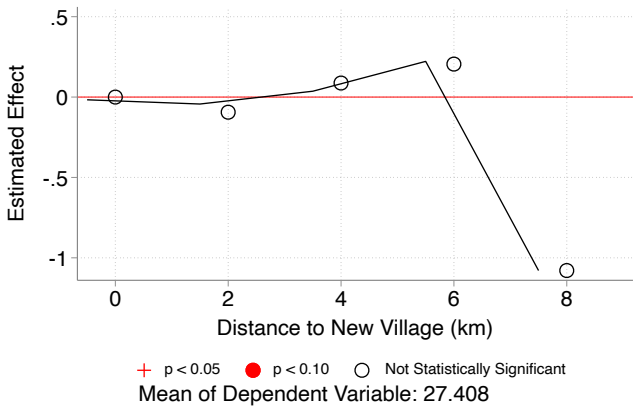
(H) Soil is Medium (=1)



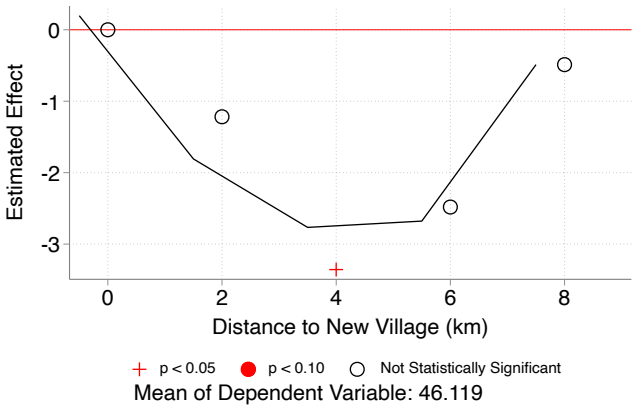
(I) Soil is Fine (=1)



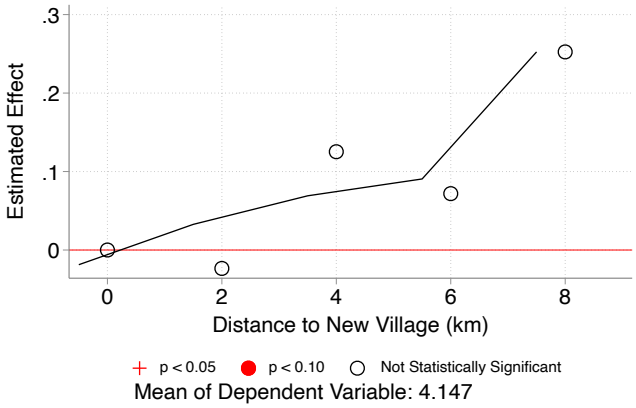
(J) Distance to urban centre in 1947 (km)



(K) Distance to coast (km)



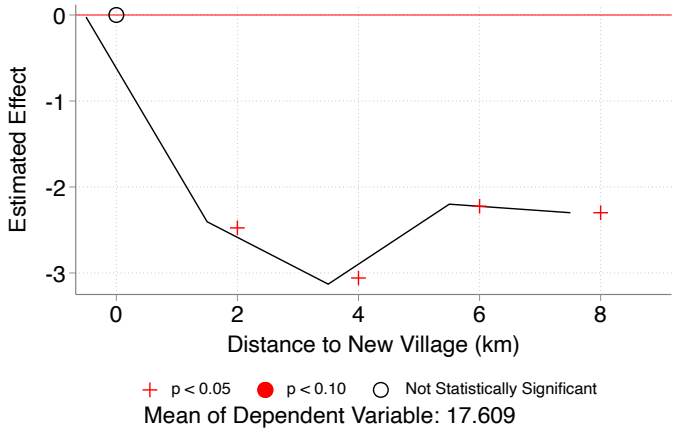
(L) Share of Chinese in 1947



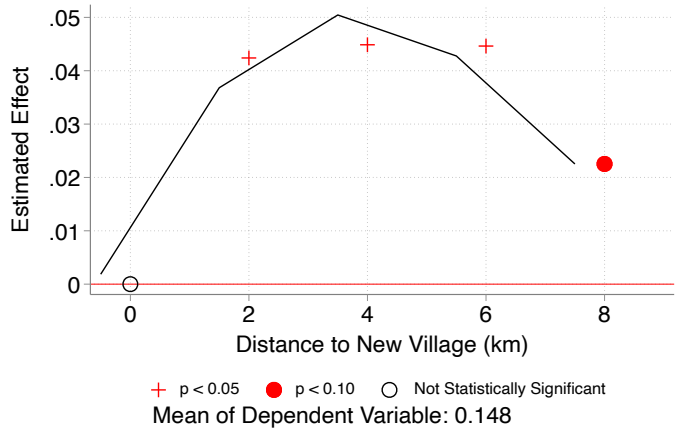
(M) Log Population Density in 1947

Notes: Points plot coefficients estimated from regression the outcome variable on 2-km bins of distance to the nearest New Village, controlling for parliamentary constituency fixed effects. The means of analogous estimates computed from 1,000 counterfactual New Village configurations are subtracted from each coefficient. The points are fit with a linear spline. p-values compare the effect of proximity to the nearest actual New Village to the effects of proximity to the nearest counterfactual New Village, computed from 1,000 counterfactual New Village configurations.

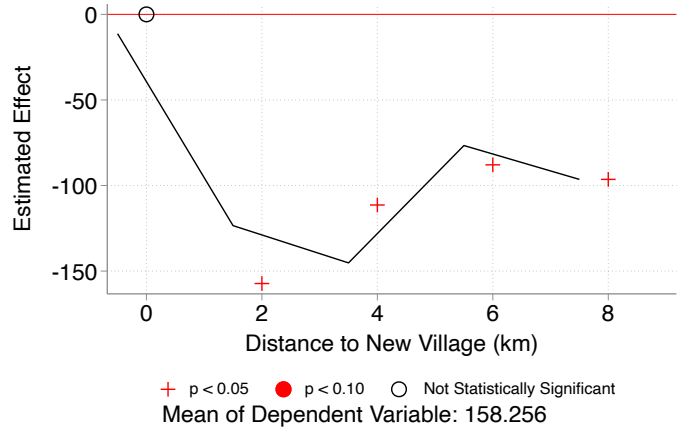
Figure 6
Grid-level Economic Outcomes



(A) Nightlight Luminosity



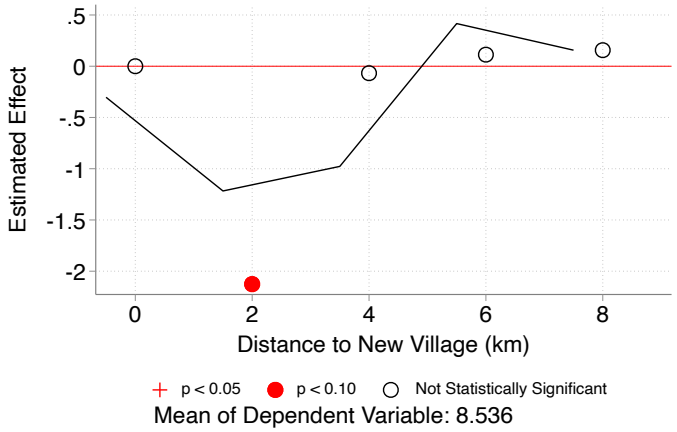
(B) NDVI



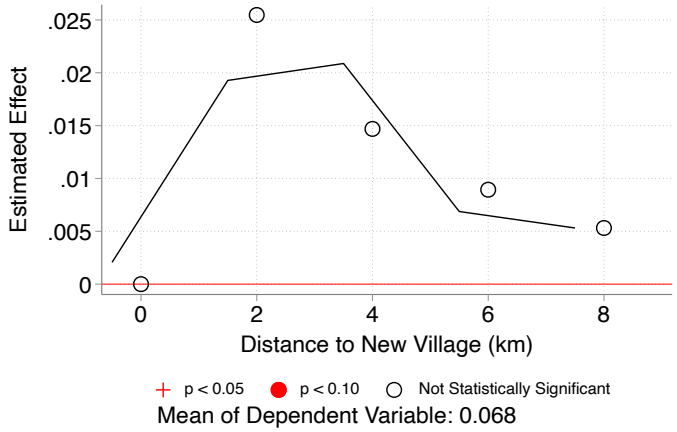
(C) Population Density

Notes: These figures plot coefficients estimated from regressing the outcome variable on 2-km bins of distance to the nearest Chinese New Village, controlling for parliamentary constituency fixed effects and geographical and pre-treatment controls. As always, we exclude Chinese New Villages and the omitted distance bin is 0-2km. The means of analogous estimates computed from 1,000 counterfactual New Village configurations are subtracted from each actual coefficient. The points are fit with a linear spline. P-values compare the effect of distance to the nearest actual New Village to the effects of distance to the nearest counterfactual New Village, computed from 1,000 counterfactual New Village configurations.

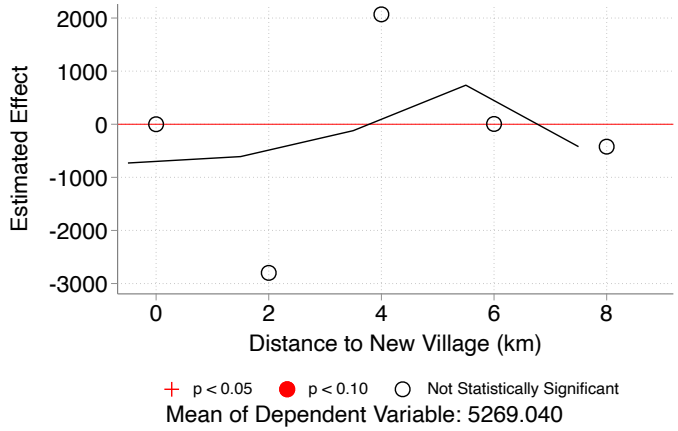
Figure 7
Polling District-Level: Economic Outcomes



(A) Nightlight Luminosity



(B) NDVI

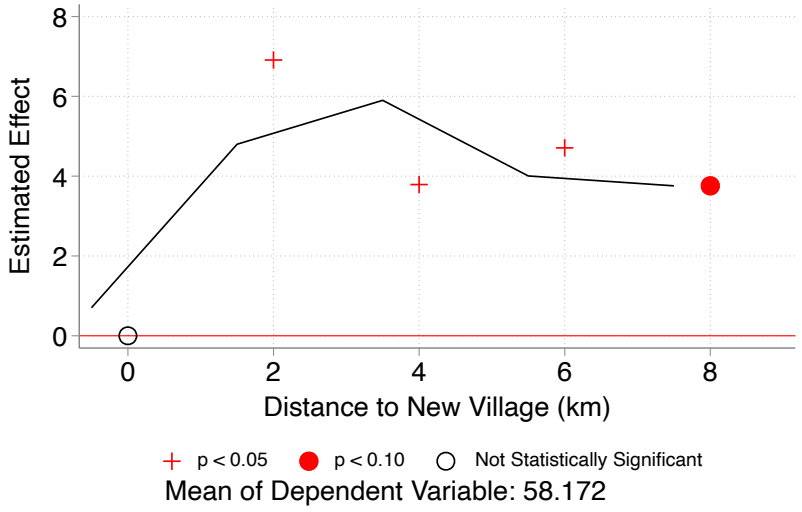


(C) Population Density

Notes: These figures plot coefficients estimated from regressing the outcome variable on 2-km bins of distance to the nearest Chinese New Village, controlling for parliamentary constituency fixed effects and geographical and pre-treatment controls. As always, we exclude Chinese New Villages and the omitted distance bin is 0-2km. The means of analogous estimates computed from 1,000 counterfactual New Village configurations are subtracted from each actual coefficient. The points are fit with a linear spline. P-values compare the effect of distance to the nearest actual New Village to the effects of distance to the nearest counterfactual New Village, computed from 1,000 counterfactual New Village configurations.

Figure 8
Effects of Chinese New Villages on Ethno-nationalist Electoral Support

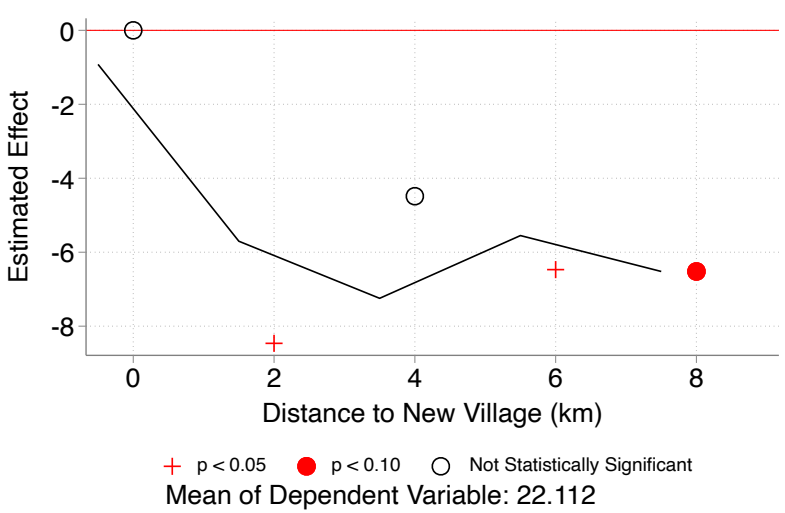
(A) Ethno-nationalist Vote Share, 2013 (State election)



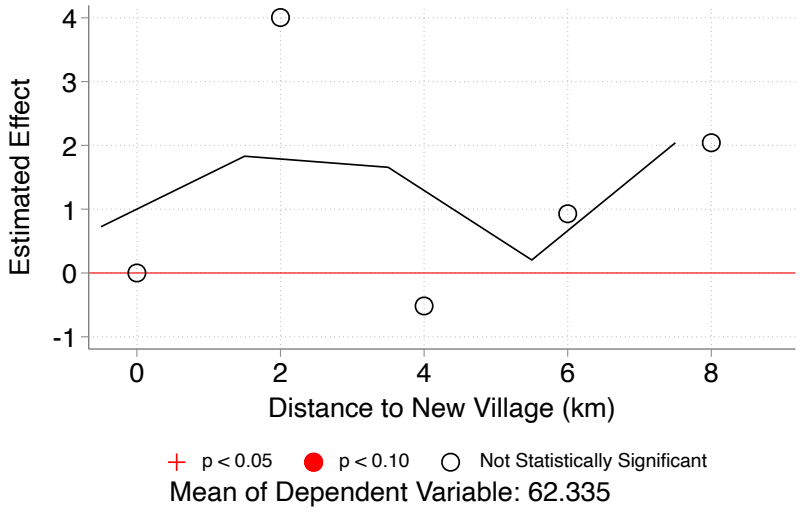
(B) Ethno-nationalist Vote Share, 2013 (Federal election)

Notes: These figures plot coefficients estimated from regressing the outcome variable on 2-km bins of distance to the nearest Chinese New Village, controlling for parliamentary constituency fixed effects and geographical and pre-treatment controls. The means of analogous estimates computed from 1,000 counterfactual New Village configurations are subtracted from each actual coefficient. The points are fit with a linear spline. P-values compare the effect of distance to the nearest actual New Village to the effects of distance to the nearest counterfactual New Village, computed from 1,000 counterfactual New Village configurations.

Figure 9
Effects of Chinese New Villages on Ethnic Composition



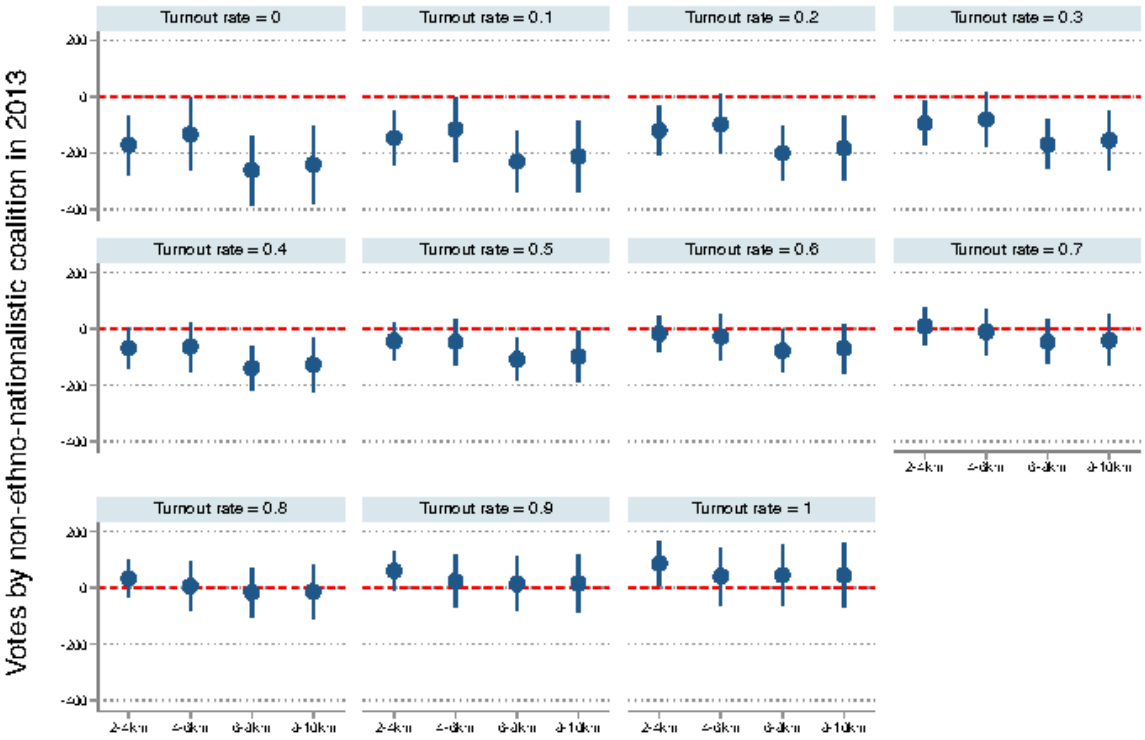
(A) Share of Registered Ethnic Chinese Voters, 2013



(B) Share of Registered Ethnic Malay Voters, 2013

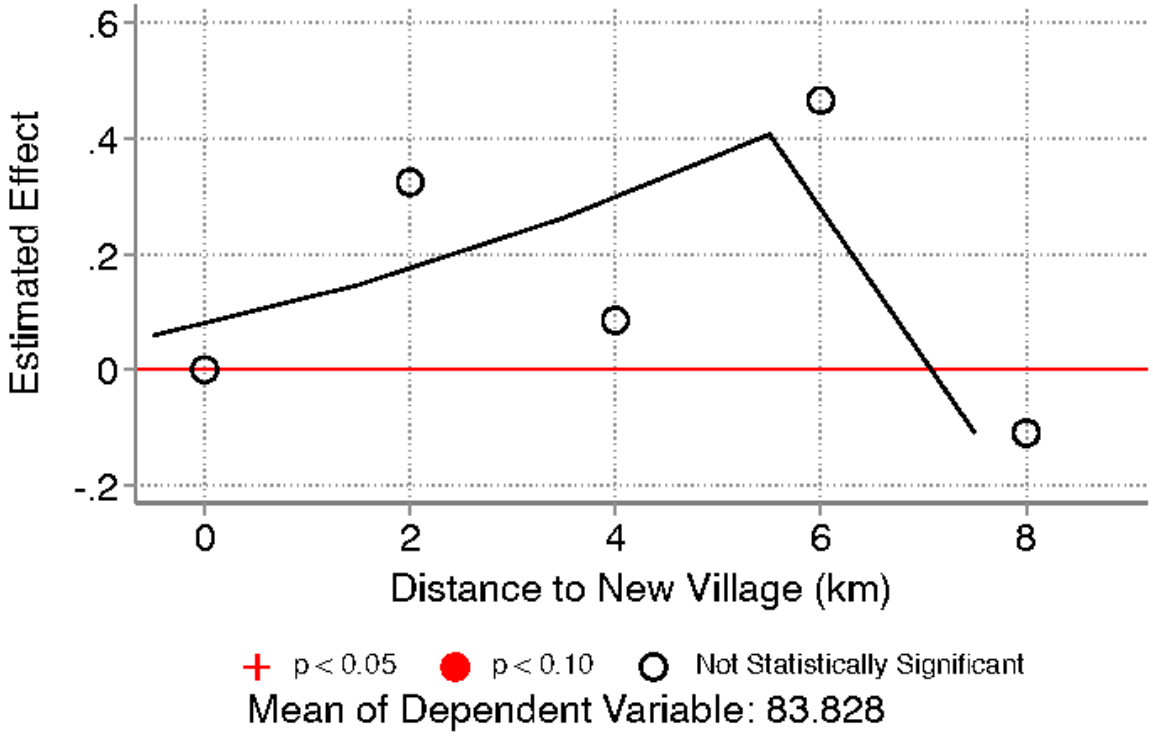
Notes: These figures plot coefficients estimated from regressing the outcome variable on 2-km bins of distance to the nearest Chinese New Village, controlling for parliamentary constituency fixed effects and geographical and pre-treatment controls. The means of analogous estimates computed from 1,000 counterfactual New Village configurations are subtracted from each actual coefficient. The points are fit with a linear spline. P-values compare the effect of distance to the nearest actual New Village to the effects of distance to the nearest counterfactual New Village, computed from 1,000 counterfactual New Village configurations.

Figure 10
Counterfactual Exercise: The Effects of Varying Ethnic Chinese Voter Turnout Rates on Aggregate Vote Shares against the National Front



Notes: These figures plot coefficients estimated from regressing the outcome variable on 2-km bins of distance to the nearest Chinese New Village, controlling for parliamentary constituency fixed effects and geographical and pre-treatment controls, based on Equation 3. Each subfigure represents different turnout rates applied to estimate the number of ethnic Chinese who cast their votes, ranging from 0 to 1. The sample comprises polling districts in Johor, Kedah, Melaka, Negeri Sembilan, Perak, Selangor, and Pahang, after excluding polling districts that contain New Village population, polling districts where Pan-Malaysian Islamic Party contested in 2013, polling districts in urban areas and polling districts beyond 10km of a New Village.

Figure 11
Effects of Chinese New Villages on Turnout in 2013



Turnout in 2013

Notes: This figure plots coefficients estimated from regressing the outcome variable on 2-km bins of distance to the nearest Chinese New Village, controlling for parliamentary constituency fixed effects and geographical and pre-treatment controls. The means of analogous estimates computed from 1,000 counterfactual New Village configurations are subtracted from each actual coefficient. The points are fit with a linear spline. P-values compare the effect of distance to the nearest actual New Village to the effects of distance to the nearest counterfactual New Village, computed from 1,000 counterfactual New Village configurations.

Table 1
Inter-Ethnic Contact: T=1 if Malay communities $<= 2km$ Chinese Village

	(1) Control		(2) Treated		(2)-(1) Pairwise t-test	
	N	Mean/(SE)	N	Mean/(SE)	N	Mean Difference
Panel A: Interactions with Chinese						
Frequency of Interactions (z-score)	46	-0.297	52	0.105	98	0.402*
		(0.177)		(0.119)		
Transient Interactions (= 1)	49	0.653	55	0.891	104	0.238***
		(0.069)		(0.042)		
Three Villages Visited Include Chinese NV (= 1)	46	0.065	51	0.431	97	0.366***
		(0.037)		(0.070)		
Interactions in Other Villages (= 1)	49	0.204	55	0.273	104	0.069
		(0.058)		(0.061)		
Panel B: Friendship Formation with Chinese						
Chinese Friend (= 1)	50	0.460	56	0.357	106	-0.103
		(0.071)		(0.065)		
Share of 5 Best Chinese Friends	46	0.086	54	0.085	100	-0.001
		(0.021)		(0.023)		
Invited Chinese During Festivals (=1)	49	0.571	56	0.679	105	0.107
		(0.071)		(0.063)		
Invited by Chinese During Festivals (=1)	49	0.592	55	0.618	104	0.026
		(0.071)		(0.066)		
Offered Chinese Food When They Visit Your Home (=1)	50	0.600	56	0.732	106	0.132
		(0.070)		(0.060)		
Being Offered Food by Chinese When You Visit Their Home (=1)	50	0.540	56	0.679	106	0.139
		(0.071)		(0.063)		
Panel C: Interactions with Chinese When Young						
Ethnic Chinese Schoolmates (=1)	50	0.100	54	0.222	104	0.122*
		(0.043)		(0.057)		
Chinese Friend at School (=1)	23	0.217	20	0.050	43	-0.167
		(0.088)		(0.050)		
Childhood Chinese Playmates (=1)	50	0.080	56	0.179	106	0.099
		(0.039)		(0.052)		
Top 3 Languages Include Chinese When Young (=1)	50	0.040	56	0.089	106	0.049
		(0.028)		(0.038)		
Panel D: Interactions with Chinese at Work						
Worked with Chinese (= 1)	42	0.381	48	0.250	90	-0.131
		(0.076)		(0.063)		
Had Chinese Employees (= 1)	10	0.200	11	0.000	21	-0.200
		(0.133)		(0.000)		
Worked for Chinese Employer (= 1)	36	0.222	37	0.108	73	-0.114
		(0.070)		(0.052)		
Chinese Friend at Work (= 1)	23	0.565	20	0.450	43	-0.115
		(0.106)		(0.114)		

Notes: Data was collected in Perak, Pahang, and Johor in December 2023. The variables in the table are based on the survey questions. (1) **Frequency of Interactions:** How often do you interact with people who are not of your ethnicity? (2) **Transient Interactions:** In which places does this interaction usually take place? (3) **Interactions in Other Villages:** Where did interaction usually occur? (4) **Chinese Friend:** Now, do you have a close Chinese friend (whom you can sit and chat with)? (5) **Share of 5 Best Chinese Friends:** Name your five best friends. (6) **Ever Invite Chinese During Festivals:** Do you invite to non-coethnics during festivals? (7) **Ever Invited by Chinese During Festivals:** Do non-coethnics invite you during festivals? (8) **Ever Offer Chinese Food When They Visit Your Home:** Do you offer food to non-coethnics when they visit you/your home? (9) **Ever Being Offered Food by Chinese When You Visit Their Home:** Do non-coethnics offer food to you when you visit them/their home? (10) **Ethnic Chinese Schoolmates:** At school, what is the main ethnicity of your schoolmates? (11) **Chinese Friend at School:** At school, what is the main ethnicity of your friends? (12) **Childhood Chinese Playmates:** In your neighborhood, when you were a child, what race or ethnic group were your playmates? (13) **Top 3 Languages Include Chinese When Young:** In your neighborhood, when you were a child, what language did you use when chatting with friends or neighbors? (14) **Ever Worked with Chinese**: At workplaces, what is the main ethnicity of your colleagues? (15) **Ever had Chinese Employees**: At workplaces, what is the main ethnicity of your employees? (16) **Ever Worked for Chinese Employer**: At the workplace, what is the main ethnicity of your employer? (17): **Chinese Friend at Work**: At the workplace, what is the main ethnicity of your friends?
* p<0.1, ** p<0.05, *** p<0.01.

Table 2
OLS: Chinese New Villages and Economic Effects

	Luminosity	Population	NDVI
	Panel A: Grid-cell level		
	(1)	(2)	(3)
2-4km	-4.51***	-274.36***	0.06***
	(0.52)	(42.33)	(0.01)
4-6km	-7.69***	-279.43***	0.08***
	(1.00)	(51.66)	(0.02)
6-8km	-8.06***	-253.96***	0.09***
	(1.33)	(57.55)	(0.02)
8-10km	-8.30***	-238.63***	0.07***
	(1.56)	(61.76)	(0.02)
Observations	17,570	17,570	17,570
Dep. Var. Mean	17.609	158.256	0.148
Dep. Var. SD	15.26	578.03	0.30
Clusters	210	210	210
Nearest Chinese Village FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes
	Panel B: Polling District level		
	(1)	(2)	(3)
2-4km	-4.54***	-4306.54***	0.05**
	(1.34)	(1286.27)	(0.03)
4-6km	-4.51**	-491.70	0.07**
	(1.78)	(3703.69)	(0.03)
6-8km	-4.90**	-2741.33	0.08**
	(2.19)	(2381.29)	(0.03)
8-10km	-4.85**	-3107.37	0.09***
	(2.09)	(2370.15)	(0.03)
Observations	812	812	812
Dep. Var. Mean	8.536	5,269.039	0.068
Dep. Var. SD	11.20	16,122.04	0.19
Clusters	39	39	39
Parliamentary Constituency FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes

Notes: The table displays coefficient estimates from OLS estimations. The sample comprises grid cells in Johor, Kedah, Melaka, Negeri Semiblan, Perak, Selangor, and Pahang, after excluding grid cells that contain New Village population, grid cells where Pan-Malaysian Islamic Party contested in 2013, grid cells in urban areas and grid cells beyond 10km of a New Village. In Panel A, all regressions include nearest Chinese village fixed effects and controls. In Panel B, all regressions include parliamentary constituency fixed effects and controls. The controls are mentioned in the main text. Standard errors are clustered at the nearest Chinese Village-level in Panel A and at the parliamentary constituency level in Panel B. * p<0.1, ** p<0.05, *** p<0.01.

Table 3
OLS: Chinese New Villages and Ethno-Nationalist Support

	Dep. Var.: Ethno-nationalistic Coalition Vote Share, 2013					
	State Election			Federal Election		
	(1)	(2)	(3)	(4)	(5)	(6)
2-4km	11.27***	12.75***	10.83***	11.57***	13.00***	10.99***
	(2.86)	(3.21)	(2.67)	(2.95)	(3.29)	(2.75)
4-6km	10.18***	11.95***	9.85***	11.16***	12.40***	10.13***
	(3.59)	(3.75)	(2.90)	(3.73)	(3.99)	(3.09)
6-8km	14.65***	15.55***	12.31***	15.21***	16.24***	12.72***
	(3.81)	(3.85)	(3.20)	(3.81)	(4.04)	(3.33)
8-10km	14.03***	14.43***	11.80***	15.39***	15.77***	12.84***
	(3.63)	(3.93)	(3.23)	(3.52)	(4.03)	(3.23)
Observations	812	812	812	812	812	812
Dep. Var. Mean	56.83	56.83	56.83	58.17	58.17	58.17
Dep. Var. SD	17.81	17.81	17.81	17.99	17.99	17.99
Clusters	39	39	39	39	39	39
Parliamentary Constituency FE	No	Yes	Yes	No	Yes	Yes
Controls	No	No	Yes	No	No	Yes

Notes: This table reports OLS estimates of Equation 1. The dependent variables are ethno-nationalist coalition vote share in the state elections of 2013 (columns 1-3) and ethno-nationalist coalition vote share in the federal elections of 2013 (columns 4-6). The sample comprises polling districts in Johor, Kedah, Melaka, Negeri Semiblan, Perak, Selangor, and Pahang, after excluding polling districts that contain New Village population, polling districts where Pan-Malaysian Islamic Party contested in 2013, polling districts in urban areas and polling districts beyond 10km of a New Village. In columns 2 and 5, parliamentary constituency fixed effects are included. In columns 3 and 6, parliamentary fixed effects and controls are included. Controls are mentioned in the main text. Standard errors are clustered at the parliamentary constituency level. * p<0.1, ** p<0.05, *** p<0.01.

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APPENDIX

A Site Selection Criteria

Based on the Report on Squatter Resettlement in Various States, File No: B.A. Selangor 119/50, the British produced a set of plans and procedures for site selection. These criteria are:

1. Resettlement villages were to be located on a main road or other major transportation artery.

2. Villages were to be relocated, wherever possible, on rolling terrain to promote drainage.

3. Squatters were to be concentrated into compact villages that were fenced in and protected by a police post capable of commanding the entire village, most importantly the village gate.

4. Villages were to be sited in such a manner as to minimize squatter dislocation.

5. Sufficient water was to be supplied, either from adjacent towns or from wells within the village. Health and fire regulations were expected to be observed.

6. Amenities such as schools, dispensaries, and community centers had to be provided as quickly as possible.

7. Sufficient agricultural land of good quality was to be provided for all agriculturalists forced to abandon their previous holdings.

The site selection criteria were driven primarily by military expediency rather than the economic and social well-being of the resettled population. Hence, some criteria were followed through completely but not all. The criteria that were followed through are the following. Chinese New Villages were located close to a main road or transportation artery to increase accessibility by the British military to these villages in case of communist attacks.[18] Second, Chinese New Villages were on high ground to improve defensibility

[18]In Figure 1, we plot the location of Chinese New Villages and historical roads. We observe that there is a high correlation between the location of 452 Chinese New Villages and historical roads in our sample.

from the communists. The resettled often lived under the surveillance regime during the Malayan Emergency.[19] According to the site selection criteria, a New Village should possess basic amenities and sufficient agricultural land, however, the rapid strategic demands meant that criteria that did not concern the military objectives were not complied with in practice (Phee, 2012).

B Data Appendix

In this section, we summarizes the main datasets used in the paper. We describe each of these sources in the following sections.

B.1 Chinese New Villages

The main source of information on the location of Chinese New Villages is *A Survey of the New Villages in Malaya* published by the Malayan Christian Union (1958). The census contains information on the names of the New Villages, their prevailing Chinese dialect spoken, their estimated population, whether there was evangelistic work performed in the village, whether medical facilities and amenities were available. To identify the exact location of these New Villages, we manually matched the village names listed by the Malayan Christian Union (1958) with the maps produced and published by the Ministry of Housing and Local Government, Malaysia in 2012. We identified a total of 452 New Villages. This paper therefore analyzes New Villages that persisted at least until 2012.

B.2 Voting Variables

We use data from the Malaysian General Election in 2013. We employ the following variables at the polling district level in our analysis:

1. Vote count of *Barisan Nasional*, vote count of *Pakatan Rakyat*, and vote count of other coalition.

2. Number of registered voters by ethnic groups.

[19] This entailed curfews, body searches at checkpoints, communal kitchen arrangements, food restrictions, and identity certificate registration. There were fortified sentry boxes and watch towers with floodlights to "guard" the Chinese New Villages. A police station was located either near the main gate of the village or placed at a high point for surveillance.

3. Names of politicians who contested in each parliamentary constituency.

For our analysis, we construct the vote share of Barisan Nasional, which is the total votes received by Barisan Nasional over the total number of votes cast in each polling district. We construct ethnic share by dividing the number of registered Chinese or Malay voters over the total number of registered voters in each polling district. We construct voter turnout, which is the total number of votes cast over the total number of registered voters in each polling district.

B.3 Spatial, Topographical, and Agroclimatic Variables

We include geographical characteristics as controls in our regressions. These include measures of (i) topography (elevation, slope, and aspect), (ii) soil quality (% of topsoil carbon, % of topsoil sodicity, type of soil, class of drainage), and (iii) climatic variables (temperature and precipitation).

B.3.1 Elevation, slope, aspect

Topographical variables were created using raster data from the *Harmonized World Soil Database* (HWSD). The raster files are compiled from high-resolution source data and aggregated to 30-arc-second grids. We compute elevation for each polling district as the average elevation over the entire polling district polygon, using raster data from HWSD. Slope and aspect data were also computed for each polling district similarly. For aspect data, the variables equal to the average share of 30-arc-second grids that are north-, south-, east-, and west-facing grids of each polling district.

B.3.2 Soil quality measures

We make use of the FAO GAEZ V4 data for soil quality measures. HWSD provides detailed information on different soil types across the world. For each polling district, we created the following measures of soil types: percentage of land covered by coarse, medium, and fine soils respectively. We use the HWSD to compute indicators for each polling district that equal one if majority of grids of a polling district is covered by soils with very poor, imperfect, moderately good, or excessive drainage.

B.3.3 Rainfall and temperature

The rainfall and temperature data are based on WorldClim version 2.1 climate data for 1970-2000 (Fick and Hijmans, 2017). There are monthly climate data for minimum, mean, and maximum temperature, precipitation, solar radiation, wind speed, water vapor pressure, and for total precipitation. There are also 19 "bioclimatic" variables. The data is available at the four spatial resolutions, between 30 seconds (approximately 1 km^2) to 10 minutes (approximately 340 km^2). We used the most granular raster files (i.e., 30 seconds (1 km^2)). For the polling districts in the dataset, we averaged annual temperature and annual precipitation.

B.4 Pre-treatment Demographic Variables in 1947

We use the population census in 1947 to construct pre-treatment demographic variables. We digitized the list of urban centers with at least 10,000 inhabitants and geolocated each of them. We compute fly-by-crow distances from the polling district centroids to the nearest urban centers. We digitized the count of population by ethnic groups at the sub-district level (*mukim*). We then assign population statistics of subdistricts to the polling districts (which are more disaggregated than subdistricts) based on the share of intersected areas between a subdistrict and a polling district.

Appendix Tables and Figures

Table A.1
Summary Statistics of 452 Chinese New Villages (1950-1958)

	Mean	S.D	Min	Max	N
Distance to Urban Center					
Distance within 5miles (=1)	0.12	0.32	0.00	1.00	452
Distance within 10miles (=1)	0.15	0.35	0.00	1.00	452
Distance within 15miles (=1)	0.13	0.33	0.00	1.00	452
Distance within 30miles (=1)	0.24	0.43	0.00	1.00	452
Distance more than 30miles (=1)	0.18	0.39	0.00	1.00	452
Missing data (=1)	0.19	0.39	0.00	1.00	452
Transportation Access					
Main Highway (=1)	0.76	0.43	0.00	1.00	452
Railroad (=1)	0.02	0.15	0.00	1.00	452
River (=1)	0.03	0.17	0.00	1.00	452
Missing data (=1)	0.19	0.39	0.00	1.00	452
Type of Government					
City Council (=1)	0.01	0.08	0.00	1.00	452
District Council (=1)	0.45	0.50	0.00	1.00	452
Municipal Council (=1)	0.47	0.50	0.00	1.00	452
Self Governance (=1)	0.05	0.21	0.00	1.00	452
Missing data (=1)	0.03	0.17	0.00	1.00	452
Medical Facilities					
None (=1)	0.08	0.28	0.00	1.00	452
Provided by adjacent towns (=1)	0.02	0.12	0.00	1.00	452
Static or mobile clinic (=1)	0.71	0.45	0.00	1.00	452
Missing data (=1)	0.19	0.39	0.00	1.00	452
Settlement Type					
Assimilated to existing settlement (=1)	0.12	0.33	0.00	1.00	452
Attached to existing settlement (=1)	0.29	0.45	0.00	1.00	452
New settlement (=1)	0.40	0.49	0.00	1.00	452
Nucleation (=1)	0.01	0.08	0.00	1.00	452
Missing data (=1)	0.18	0.39	0.00	1.00	452
Population Statistics from LWY					
Population 1954	1460.20	1540.82	132.00	13000.00	305
Population 1970	2290.91	2610.49	190.00	27436.00	347
Population 1980	2789.67	3072.14	184.00	29191.00	254
Population 1995	3724.00	5505.79	100.00	45000.00	443
Population Statistics from MCC					
Population 1958	1863.54	2027.71	109.00	16700.00	342
Chinese population 1958	1439.77	1879.61	0.00	13912.00	128
Indian population 1958	0.16	1.98	0.00	24.00	147
Malay population 1958	45.07	215.27	0.00	2260.00	165
Other population 1958	1.42	20.65	0.00	300.00	211
Languages spoken					
Chinese dialects only (=1)	0.70	0.46	0.00	1.00	452
Malay and Javanese (=1)	0.07	0.25	0.00	1.00	452
Tamil and Sikh (=1)	0.00	0.05	0.00	1.00	452
Thai (=1)	0.00	0.07	0.00	1.00	452
Malay, Javanese, and Chinese dialects (=1)	0.01	0.09	0.00	1.00	452
Tamil, Sikh, and Chinese dialects (=1)	0.02	0.15	0.00	1.00	452
Missing (=1)	0.19	0.39	0.00	1.00	452

Notes: The table shows the descriptive statistics of the Chinese New Villages from 1950 through 1959.