

**ESSAYS ON THE POLITICAL ECONOMY OF EQUALITY, DEVELOPMENT, AND
INFLUENCE IN INDONESIA AND SINGAPORE**

by

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Abstract

This dissertation consists of three chapters investigating different questions under the themes of politics, inequality, and development.

Chapter 1 explores whether aid given to regions with greater political accountability is more effective at fostering development. Proposing a novel way to measure political accountability—the distribution of public infrastructure—I account for contextual factors like topography and initial development levels to examine how equitably roads, schools, and health facilities are distributed in Indonesia. I then test if aid generates more economic growth when provided to regions with more equal infrastructure distributions. I find aid has generally inconsequential effects on subsequent development, but greater public infrastructure inequality is associated with higher, not lower, aid efficacy.

Chapter 2 explores a new source of soft power that I call the domestic halo effect, which reflects the perceived developmental success of a given country. Using an online survey experiment in Indonesia, I explore if the domestic success of China and the US increases the desire to emulate their institutional styles. They do. Reminders of China’s economic success enhanced preferences for centralized institutions, while respondents prompted on the US’s cultural achievements leaned most towards decentralization. Causal mediation analysis confirmed that this effect acts independently of previously theorized channels. I also find that whether respondents “like” a foreign power—a ubiquitous measure of soft power—does not correlate with institutional preferences, suggesting that concerns over China’s charm offensive shifting public opinion on foreign policies in their favor are potentially overblown.

Chapter 3 then examines why those who qualify for social assistance choose not to take it up. Leveraging a comprehensive dataset in Singapore, I find there are potentially 4.5

times as many elderly households who qualify for help but do not receive it as those who do. In other words, a significant proportion of potentially eligible recipients in Singapore are not receiving aid. Further analysis of Singapore's social assistance history and potential reasons driving this behavior suggest that past public narratives linger on through perceived social rules even after official positions change, pointing to the efficacy of community- and social network-based solutions in increasing take-up.

Lay Summary

This dissertation consists of three papers that look at how politics, economic growth, and inequality affect one another. The first explores whether aid given to regions where infrastructure is more equally shared (as a sign of greater political accountability) creates more development but I find the opposite. The second looks at whether the success of China and the US enjoy at home makes citizens in other countries want to copy the institutions of the two global superpowers. I find that it does. Finally, I look at if, and why, many older Singaporeans who qualify for welfare might choose not to receive it. I find that even though the government wants to distribute social support more widely, concerns about being judged by their family and friends prevent many elderly people from taking it up. So, reaching this group through their social circles might be a better way to increase assistance uptake.

Preface

All aspects of the research discussed here—including the identification, design of the research program, performance of the research, analysis of the research data— were conducted by the candidate in consultation with their committee.

Chapter One involves expert interviews. Approval was sought from both SMU's Institutional Review Board (Approval Number: IRB-22-005-A007(122)) and UBC's Behavioral Research Ethics Board (UBC BREB Number: H21-03428). An earlier version of this work was presented at the American Political Science Association (APSA) Asia Pacific Workshop in 2021.

Chapter Two relies on an online survey with an embedded experiment. The survey was designed and coded on UBC's Qualtrics Platform and disseminated to participants in Indonesia who were recruited by an international research company, TGM Research. Approval was sought from UBC's Behavioral Research Ethics Board (UBC BREB Number: H21-00973). An earlier version of this work was presented as a conference paper at the Asia Pacific Political Science Research and Publication Conference in 2022, organized by the APSA.

Chapter Three utilize existing data from the Singapore Life Panel, collected by the Centre for Research on Successful Ageing (ROSA) based in SMU, with Professor Paulin Tay Straughan as collaborator. As such, no ethics approval was necessary. An earlier version of this work was presented as a conference paper at the Association for Asian Studies Conference in March 2023.

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List of Abbreviations

2SLS	- Two-stage least squares regressions
ACME	- Average causal mediation effect
ADE	- Average direct effect
ADM	- Administrative regions
ATE	- Average total effect
CDC	- Community Development Councils
ComCare LTA	- ComCare Long Term Assistance
CPF	- Central Provident Fund
DAE	- Digital Atlas of the Earth dataset
DAK	- Dana Alokasi Khusus
DPR	- Dewan Perwakilan Rakyat
GADM	- Global Administrative Areas
GAM	- Free Aceh Movement
GMTED	- Global Multi-Resolution Terrain Elevation Data
gROADS	- Global Roads Open Access Data Set
MGP	- Merdeka Generation Package
NGO	- Non-governmental organization
OECD	- Organization for Economic Co-operation and Development
OLS	- Ordinary least squares
PA	- Public Assistance
PAB	- Public Assistance Board
PAMSIMAS	- Water Supply and Sanitation for Low Income Communities project
PGP	- Pioneer Generation Package
PODES	- Village Potential Statistics
ROSA	- Research on Successful Aging
SLP	- Singapore Life Panel
SMTA	- Short-to-Medium Term Assistance
SRIP	- Strategic Roads Infrastructure Project
SSNet	- Social Service Net
SSO	- Social Service Office
SWD	- Social Welfare Department
TPI	- Topographical Position Index
TRI	- Terrain Ruggedness Index
VRM	- Vector ruggedness measure

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Dedication

This dissertation is dedicated to my boys Elijah and Evan, who made this journey longer than it could have been but a far more meaningful and enjoyable one. May the world be a fairer and more equal place for you. To my wife, Amelie, who put her life on hold to support my dreams. To my parents who gave me the freedom and unflagging support to chase all my rainbows. To my sister, Peng Jia Xin, who keeps me on my toes with her quips about political science not being a real science and always letting me borrow her technical expertise. To Shawn, my best friend of three decades and Godfather to my children, his excellent wife Geri, and their wonderful children/ my lovely godchildren Asher, Alyvia, and Aaron. To my amazing friends and neighbors from Bedok South Avenue Two, who lavished unconditional kindness and hospitality on me during my latch-key days and inspired in me a heart for equality and social justice. To Singapore, my country, that shaped who I am and gave me the opportunities to make this pursuit possible. And finally, to God, who said that pure and undefiled religion means to visit orphans and widows in their trouble.

Introduction

This dissertation adopts a three-paper format where each chapter stands alone with its own introduction, conclusion, and implications. As such, this introduction serves as an overview to clarify what binds the three chapters together, their intended contributions, and the considerations that shaped the approaches to addressing their respective queries.

Like the rest of my research, this dissertation is motivated by two objectives: (i) **to alleviate poverty** and (ii) **mitigate inequality**. These undergird the research questions addressed by each chapter of this three-paper dissertation. The first chapter asks *how to systematically account for local politics in the administration of developmental aid to better foster economic growth* and close the gap in local development levels within nations. Specifically, starting here by measuring the degree to which local elites are accountable to a narrower or broader segment of their constituents. The second chapter then explores *what influences preferences for local developmental strategies* and zooms in on a hitherto unstudied source of soft power: the domestic success of global superpowers like China and the US. Beyond the implications on regime change, such preferences have been known to affect developmental outcomes. The third chapter then examines *why those who qualify for social assistance might choose not to take it up*, increasing inequality and frustrating policy efforts to better the lives of lower income citizens. I pay especial attention to how defunct political narratives and policies might linger on through perceived social stigma to hinder assistance uptake.

A second common thread across the chapters is that they are all essentially the examination of how a **political force** (local political accountability, influence of foreign powers on local politics, and past political narratives and policies) impacts an **economic outcome** (development, institutions, and poverty levels). This reflects my general approach to

tackling problems within the political economy of development field. That ultimately, what explains the divergence in economic outcomes is the ability of societies to galvanize and organize themselves in ways that allow their country to climb the ladder of development, or not.

This primacy of politics in dictating economic destinies is becoming increasingly apparent. Writing in 1994 about the Asian economic miracle (where certain Asian economies had closed the development gap at breakneck speeds), Paul Krugman (1994) compared Asia's growth story to that of the Soviet Unions' early days: that once the growth of "input" factors like labor and capital (such as investments or machinery) were accounted for, the part of economic growth that can be attributed to productivity increases was practically non-existent. Writing specifically about Singapore, Krugman surmised that Singapore's average growth of 8.5% a year from 1966 to 1990 (where per capita income essentially doubled every decade) was achieved through "a mobilization of resources that would have done Stalin proud". In conclusion, he surmised that "Singapore's growth has been based largely on one-time changes in behavior that cannot be repeated" (Krugman, 1994, pp. 70–71). Almost 30 years later, Singapore's GDP per capita in 2022 is almost four times what it was in 1994¹ after weathering several global economic crises and pandemics along the way. Clearly, predicting economic destinies from the factors that constitute GDP growth alone is far from sufficient. But while cases like Singapore's is instructive in demonstrating what cannot explain economic growth, it does not tell us what does. Leaving us with the perennial puzzle of why some nations can reach higher levels of development while other economies languish

¹ According to the World Bank, Singapore's GDP per capita –in constant US dollars– was \$21,600 in 1994 and \$82,800 in 2022.

on earlier rungs of the ladder, remaining in what has become known as the poverty or middle-income traps.

Recent studies of political economy offer some clues. For example, Tom Pepinsky attributed the divergent monetary policy responses of Indonesia and Malaysia during the Asian Financial Crisis to the pressures exerted by different groups supporting the respective regimes. Finding prevailing explanations focusing on institutions, economics, international factors, and ideology to be useful but unsatisfactory, he concluded that for “understanding policy outcomes... it is vital to achieve an accounting of who the regime’s supporters are and what is it that the different groups demand” (Pepinsky, 2008, p. 442). The same logic is adopted by Doner and Schneider to explain why some countries manage to escape the middle-income trap and others do not. They argue that as economies attempt to move towards higher value-added activities, the shift from “quantity to quality” (p. 632) produces inescapable friction with incumbent interest groups (Doner & Schneider, 2016). Advancing to higher levels of development thus requires coalition building to overcome the opposition posed by entrenched interests. As Landell-Mills and his co-authors put it: “many vital reforms are in practice resisted by vested interests benefiting from the perpetuation of the status quo” (Landell-Mills et al., 2007, p. 2) In other words, managing the tensions that arise from development (that is, *politics*) is key for moving up the development ladder.

From this core assumption, this dissertation explored three different but related aspects of how politics might drive developmental outcomes. Outcomes that shape the scale and nature of poverty and inequality both within and between nations. Chapter one looked at how local politics shape economic growth by changing how resources are deployed. Using development aid as an source of external funds to mitigate (imperfectly) the endogeneity of the relationship between politics and growth (C. Burnside & Dollar, 2000; Riker, 1980; Shepsle, 2008), I hoped to dissolve some of the enduring ambiguity over development aid

effectiveness (Bitzer & Gören, 2018; Burke & Ahmadi-Esfahani, 2006; Civelli et al., 2018; Dreher & Lohmann, 2015; Easterly, 2002). It was also an attempt to begin accounting for local politics more rigorously given the almost equally longstanding recognition that recipient politics matter for making aid work (Armon, 2007; Baliamoune-Lutz & Mavrotas, 2009; Besley & Persson, 2011; Hamnett, 1970; World Bank, 2005). The approach here built on the existing scholarly consensus that siting public infrastructure is a highly politicized affair regardless of the political context (Aspinall et al., 2022; Baskaran & da Fonseca, 2017; Do et al., 2017; Hicken et al., 2016; Stasavage, 2005; Tajima et al., 2018), and uses infrastructural distribution as a measure of political accountability to test its impact on aid effectiveness, made possible by the proliferation of satellite and geolocated administrative data.

Chapter two then shifts the focus from internal to external politics, examining international sources of influence on economic development, where the impact of aid on governance have received keen academic interest (Baldwin & Winters, 2018; Blair & Roessler, 2021; Blair & Winters, 2020; Cruz & Schneider, 2017; Dietrich et al., 2018; Dolan, 2020; Guiteras & Mobarak, 2015; Milner et al., 2016a; Milner & Tingley, 2013). Building off this literature, I juxtaposed scholarship examining factors that shift development strategy preferences (Adelman, 2011; Huang & Cao, 2019; McCauley et al., 2022; Ratigan, 2021) with the literature examining on soft power (Blair et al., 2021; Eichenauer et al., 2021; Nye, 1990b) to explore a new source of soft power: domestic success. The intent was to reveal a new dimension of influence on institutional preferences that impact development while also informing debates around the emerging great power competition between China and the US. At its root, this chapter was inspired by the insight that the waves of democratic transition that occurred during and after the Cold War were neither products of adept foreign policy (such as charm offensives or resource transfers) nor ideological superiority. Rather, it was the conspicuous economic success of the Western bloc that triggered hopes of a better life

through mimicking their institutions. Therefore, uncovering this additional source of soft power would not just be theoretically enriching, but help development scholars better understand the forces that shape public opinion on development strategies.

Finally, chapter three looks directly at the solutions aimed at alleviating poverty and inequality to explore the puzzle of why those who qualify for social assistance might choose not to take it up in Singapore (Donaldson et al., 2015). Besides speaking directly to other studies of social policy non-uptake (Anderson & Meyer, 1997; Bargain et al., 2012; Cuesta et al., 2021; Gustafsson, 2002; Hernanz et al., 2004; Hümbelin, 2019; Jo, 2013; Li & Walker, 2017; Riphahn, 2001) and how here, too, politics play a role via past narratives and policies. Here, situating the study in Singapore meant would allow us to gain additional insights into when transitions in political and policy positions might fail to achieve the desired effect. With the puzzle being why, despite governmental efforts to make help more accessible and shift the narrative away from more negative portrayals social assistance, non-uptake remains high. Simply put, the goal for the chapter was to tell us when shifts in formal institutions are more successful and what policymakers could do to ensure this.

In short, each of the three chapters answers questions that aim to contribute new theoretical and empirical understandings of different aspects of how we might alleviate poverty and inequality within and between countries. The choice of methodology for each chapter was driven primarily by the nature of the question being addressed, and then by what information was available or obtainable. While not explicitly discussed in the subsequent text, each chapter is grounded in qualitative analysis: discussions with experts from various fields from civil engineering to public consultancy for chapter one, historical accounts of how different leaders sought to emulate the US during the Cold War contrasted against more recent discussions of rising Chinese soft power for chapter two, and discussions with kindred spirits working in the Singaporean social sector for chapter three. Most qualitative

information gathering was conducted via semi-structured interviews or secondary sources. These were typically done online excepting where resource persons or materials were situated in Singapore to compensate for the inability to conduct fieldwork outside of Canada or Singapore during the COVID-19 pandemic. These discussions and analysis greatly facilitated the theory generation and sharpening process before I embarked on empirical investigations to verify the hypothesis that emerged.

Chapter 1: Recipient Politics and Aid Efficacy

When political elites seek support from a greater proportion of their population to stay in power, they are more likely to use resources in the public interest and generate greater economic growth (Bueno de Mesquita & Smith, 2009; Cox & McCubbins, 2001; Hicken & Simmons, 2008; Olson, 2000). This paper examines if the same logic can be applied to international aid; that is, whether development assistance fosters more economic progress when allocated to regions with greater political equality.

From economic models premised on the importance of national savings and the correct capital-labor ratio (Domar, 1946; Harrod, 1939; Solow, 1956; Swan, 1956) to theories that purport to explain the psychological conditions that make poverty intractable (Mullainathan & Shafir, 2013), practitioners and scholars have long grappled with the question of how to foster economic prosperity. While the current consensus identifies sound institutions and policies as key enablers (Acemoglu et al., 2001; North, 1990; Pande & Udry, 2005), there is equal recognition that these need to be disentangled from their interactions with the sociopolitical contexts that birthed them in the first place (Shepsle, 2008). Understanding local politics is crucial to solving this perennial puzzle (Doner & Schneider, 2016; Pepinsky, 2008) since it is clear that moving up the development ladder requires massive coordination and mobilization, which inevitably creates winners and losers. The losers sometimes include members of the established elite, who thus have incentives to resist the process. Understanding the conditions and political environments that enable growth-stimulating policies and institutions is key to fostering economic growth in countries that seek to close the development gap.

An assessment of the impact of development aid can illuminate how differences in local politics generate divergent economic outcomes. Despite the aid community's long

recognition of the cardinal role of politics over technical considerations in fostering development (Carothers and De Gramont 2013; Hamnett 1970; Jablonski 2014; Williams 2017), there is little consensus over how local politics might be measured or even which aspects are important for growth. This is partly due to the enormous variety of sociopolitical contexts within the developing world, which complicates the task of defining characteristics such that they can travel across societies. This paper focuses on a specific aspect of local politics: constituency breadth. That is, “the proportion of the population to which politicians see themselves as accountable” as proposed by Selway (2011). I argue that constituency breadth can be observed through the spatial distribution of public infrastructure: sub-regions where such facilities are more evenly distributed reflect greater political equality. Existing theories predict that elites beholden to a greater proportion of their constituents for political continuity are more likely to use economic than political rationales as they assess policy options, as opposed to channeling it towards a narrower spectrum of the population. As such, I investigate *whether development aid given to regions with public infrastructure that are more evenly spread across administrative subunits (greater political equality) is more effective at fostering economic growth than aid given to regions with less political equality.*

This hypothesis was inspired by my time working on a poverty alleviation project in Guizhou, China. I was visiting two villages to decide on how best to utilize the limited funds my team had raised to help improve the economic situation when I noticed a puzzle. The first village was less well-off but had a more even distribution of gravel roads connecting most houses. The second was closer to a township and the overall level of development was higher. Yet, it had less connectivity between residents and excepting a handful of well-maintained concrete roads leading to a few local businesses, there were only dirt paths. In subsequent days, I observed that the decision-making processes were much more inclusive in

the first locale. Project discussions and meals with our team involved large groups that gathered to collectively discuss the details. In the second, deliberations were done over dinners with a much smaller ensemble of leaders and administrators. The requests made by both sides reflected this dynamic. Those in the first locale asked us to reinforce an existing road that connected the village to another road that would lead to town. This, they said, would lower the transportation cost of the area's agricultural produce and make it safer for school children during the rainy season. In the second locale, the request was for a second road that would shorten the distance from a nearby town to a specific business owned by relatives of a local leader. An establishment that was already served by an existing roadway only slightly less direct than the proposed connection.

To see if such phenomena is generalizable beyond the context of rural China, I used satellite imagery and geolocated survey data in Indonesia to test my hypothesis. I find that aid allocated to more politically unequal regions is associated with higher subsequent growth rates or has no discernable effects. I posit that the negative relationship is due to politically unequal regions having "suppressed" economic potential, which foreign aid then unlocks. Overall, the results stand in stark contrast from what current literature predicts. Logically, the effects of development aid should be more discernable at higher levels of granularity, with the analysis focused on where aid was specifically channeled. Also, aid was predicted to be more effective when allocated to places where elites are accountable to more constituents since it would put to better use as opposed to being squandered as patronage. Yet not only is there no conclusive evidence that development aid boosts economic growth at the subnational

level², equally surprising is the finding that more political inequality is associated with better development outcomes from aid.

This paper makes three main contributions.

First, it proposes a novel measure of political accountability at the local level that compares public good allocation across administrative units, where more even distributions are taken as signs of political equality. I use two-stage least squares (2SLS) regressions to control for structural factors that “naturally” create inequality, such as landscape characteristics, economic development, and population size. This enables me to isolate local-level variations that might be attributed to political factors. This approach has the added advantage of being applicable across regime types. The idea that local elites allocate more public infrastructure to those whose support they seek is arguably universal and not beholden to a specific political selection process. Instead, the method focuses on the observable results of local political dynamics: whether all regions or only a few shares public resources, which applies to both authoritarian and democratic contexts.

Second, the paper contributes to the sparse literature on aid efficacy at the subnational level. Despite the proliferation of subnational data and the recognition that within-country large-N studies have the advantage of holding more background factors constant for accurate comparisons (Pepinsky, 2019), few studies have examined how aid affects growth at the subnational level while accounting for local political dynamics, with the prevailing consensus being that there is no evidence that development aid consistently fosters economic growth at this level.

² Although this result is aligned with previous studies, including investigations at the subnational level, that find that development aid does not have unambiguously positive impacts on economic growth (Dreher and Lohmann 2015a).

Finally, this paper's empirical locale is Southeast Asia, a region generally understudied by development aid scholars. Beyond its theoretical purchase, Indonesia's almost unmatched sociopolitical diversity coupled with its rapid political decentralization during the past two decades makes it an ideal setting for testing the impact of local politics on a vast array of broader socio-political-economic phenomena.

The next section begins by laying the theoretical foundations for how the spatial distribution of public infrastructure reflects local political dynamics, and why these are important to international donors. It also clarifies the process of aid allocation by the World Bank and discusses why Indonesia is ideal for investigating the proposed theory. Subsequent sections then lay out the methodology, examine the results, and discuss their implications.

1.1 Theoretical framework

1.1.1 Development aid and the importance of understanding recipient politics

Despite its flaws, aid remains a widely used lever in the international community's limited arsenal for closing the development gap. Given the tendency for consequences of underdevelopment to spillover through channels like migration, the developed world increasingly finds itself fostering welfare beyond its borders. For example, "the political crisis around migration in the EU has prompted the foreign policy and security community to renew its focus on development and the relationship with Africa" (Fine et al., 2019, p. 20). Beyond the impact from migration, political and social instability is generally bad for the global economy, shrinking markets and increasing unpredictability.

While the need to account for recipient politics when providing aid has been recognized for decades (Hamnett 1970), its actual application to aid delivery is still lacking (Carothers & De Gramont, 2013). One reason is the difficulty in consistently identifying and addressing such dynamics, given their highly context-dependent nature. That said, donors

might have little choice. They are price takers of recipient political environments, and local governments will always retain some discretion over implementation (see next section), including where funds are used (Jablonski, 2014). Even where strict conditions are imposed, misaligned political incentives at the local level might lead to incomplete projects (M. J. Williams, 2017).

While bypassing local government structures to deliver aid through non-state actors is a potential workaround, its feasibility depends on the sector to which aid is delivered and the donors' own economic self-interests (Acht et al., 2015). Even when local elites have minimal impact on the trajectory of aid projects, politicians still claim credit for them (Cruz & Schneider, 2017; Guiteras & Mobarak, 2015). Usually, however, local elites do shape the projects in their areas; international donors generally rely on existing administrative infrastructure and local knowledge to identify and implement projects at the micro level. Furthermore, in developing contexts like Southeast Asia, the non-government sector may not be sufficiently well-developed to replace local government machinery (Bertrand, 2013). As such, while imposing more rigorous project selection criteria and evaluation procedures might narrow the scope for misuse, it could also erect barriers against incorporating local knowledge and fostering other growth-inhibiting political dynamics. Therefore, recognizing regions with healthier politics during project identification is more likely to yield desired results than fine-tuning ways to micromanage projects to overcome negative sociopolitical undercurrents. That said, anticipating the short-run impact of aid provided to politically equal regions involves more complex considerations, as I show.

1.1.2 World Bank financing process

While the exact degree of control differs, recipient countries have significant discretion over the details of developmental aid projects. The World Bank generally leaves “the task of

identifying and proposing projects for World Bank financing ... with borrowing governments.” This includes answering questions like “Who will benefit from the project?” as early as the project identification phase. The World Bank also makes the borrower responsible for “examining the technical, social, and environmental aspects of the project.” This is in large part due to sustainability concerns, where the borrower is expected to be able to ensure a project’s continuity after financing ends (World Bank, n.d.)

The extent of local government participation varies (though Indonesia’s diversity has generally led to the World Bank favoring local-level inputs over central design). For example, in the Water Supply and Sanitation for Low Income Communities project (Penyediaan Air Minum dan Sanitasi Berbasis Masyarakat, or PAMSIMAS) that aimed to improve access to quality water supplies and sanitation, it was recognized that “it would be misguided for Central Government agencies to apply ‘one-size-fits-all’ solutions” and for them to “take responsibility for designing solutions that apply in individual sub-districts and provinces”(World Bank, 2015). For this project, the selection of participating villages was first managed directly by coordination committees staffed by government agency officers at the provincial and district levels, and later by stakeholder committees at the district level that included civil society representatives.

For other projects, the precise degree of local involvement in the decision of project locations is less clear. For example, the selection criteria of sites for new roadways under the Strategic Roads Infrastructure Project (SRIP) is more uncertain. Aimed at easing traffic congestion, Java and Sumatra were selected for having “large populations and significant economic activity” and having “the most congested roads in Indonesia” (World Bank, 2006). While it was certain that government officials at the central and provincial levels were involved, the degree to which local governments could determine where new roadways

would be built was ambiguous. In short, while the specific degree of local government involvement varies by project, the World Bank's overall preference for involving local government actors is clear.

1.1.3 Local politics and the incentive of continuity

To identify outcomes indicative of local politics, I begin with the widely accepted assumption that public resources are directed toward gaining political support regardless of regime type (Corvalan et al., 2018; De Luca et al., 2018). Prevailing theories also explain why some regions receive more services from the state than others (Aspinall et al., 2022; Baskaran & da Fonseca, 2017; Bommera et al., 2019; Bueno de Mesquita & Smith, 2009; Hicken et al., 2016; Hicken & Simmons, 2008; Hodler & Raschky, 2014; Mattos et al., 2021; Stasavage, 2005).

Using an analogy of the state as a stationary bandit to explain the dramatic differences in post-communist versus post-fascist countries, Mancur Olson (2000) suggests that policies maximize the public good when those with coercive capacities have a broad stake in society, or what he calls an “encompassing interest.” Relating to what exactly determines this stake, Bueno de Mesquita and his coauthors (2005) explain differences in state behavior using the selectorate theory, which argues that leaders choose policies that benefit the minimum number of constituents —the “winning coalition”— needed to retain political power.

Regarding the construction of winning coalitions, the literature identifies formal institutional structures as one key source of influence. Cox and McCubbins (2001), who examine the separation of powers in institutional designs, suggest that policies target smaller proportions of the public when there are more veto players (those who can independently overturn policy decisions) and political actors are less unified, because each actor can then demand narrowly targeted policies during the negotiation process. Another way institutions

affect political outcomes is by shaping the nature of competition. Hicken and Simmons (2008) find that when competition revolves around personal as opposed to party votes, greater intra-party competition ensues. And “where party leaders exercise only weak control over access to the party label,” public resources were allocated less efficiently. Hicken, Kollman, and Simmons (2016) also find that public resources are more broadly allocated when parties competing at the national level go beyond representing specific subnational constituencies.

At the subnational level, however, Franzese, Nooruddin and Jusko (2004) came to different conclusions. Disunited political parties compelled political officeholders to respond to everyone in their geographical district rather than only those who support their party within their sub-districts. Beyond parties, Beiser-McGrath, Müller-Crepon, and Pengl (2020) found that more public infrastructure is provided in regions where the ethnicity of those dominating the national government is the local majority. In the locales where the group they represent formed sizable majorities, it became too costly to pursue discriminatory strategies using private goods to exclude minorities, so public infrastructure was provided for all.

All this points towards the logic that elites behave in more publicly oriented ways when they believe the support of a larger proportion of their constituents is required for them to stay in power. Given this paper’s focus on public infrastructure provision, I follow Hicken and Simmons (2008) and Franzese et al. (2004) in assuming that those who receive public infrastructure comprise the constituency to which politicians are accountable and responsive. In other words, *constituency breadth* affects the extent of goods distribution.

1.1.4 Spatial Distribution of public goods as reflection of local politics

While the impact of needing the support of only the few over the many on state building is relatively well studied, few empirical measures of this phenomenon exist and fewer still (if

any) can be used across regime types. Although one of the key theoretical differentiators between democracies and autocracies is the degree to which elites depend on their constituents to stay in power, the reality is messy. Authoritarian regimes might be more publicly oriented, and weak democracies can be coopted by specific interest groups that serve the interests of the few.

While currently used proxies such as electoral rules or legislative voting patterns (Franzese & Nooruddin, 2004; Hicken & Simmons, 2008) undoubtedly reflect political calculations, the relative lack of institutionalization or democratization in developing contexts means that such dynamics may not always be immediately observable to donors. Also, given the varying levels of democratization – even within the same country – and the divergence between law and reality, one cannot rely on differences in legal structures or aggregated voting outcomes alone to reflect constituency breadth. Given these considerations, I leverage satellite and subnational administrative data to examine actual distributional outcomes and use these as benchmarks for the level of political equality across local regions.

1.1.5 Theoretical expectations

Overall, while the impact of political factors (like party unity) differs depending on the level of analysis (local versus national), two clear predictions emerge from the present scholarship (Aspinall et al. 2022; Baskaran and da Fonseca 2017; Bommera, Dreher, and Perez-Alvarez 2019; Bueno de Mesquita and Smith 2009; Hicken, Kollman, and Simmons 2016; Hicken and Simmons 2008; Hodler and Raschky 2014; Mattos, Politi, and Morata 2021). First, the provision of goods becomes less publicly oriented when narrow political interests dominate. Next, implementation efficacy changes with political considerations, regardless of the overall policy being pursued. Applying these insights, the first expectation is that *regions with*

greater constituency breadth are expected to spread public infrastructure more evenly across residents in administrative subunits.

Extending the logic to aid allocation, I similarly expect that development aid allocated to regions with higher constituency breadth would likely be allocated to the locales that need it, rather than passed to a narrower group of the local elite's supporters for political gain. The causal theory is as follows. The World Bank classifies any disbursement³ that aims to promote economic development and welfare as overseas development assistance (ODA), with projects varying from technical assistance to the building of infrastructure. Given this variety of mechanisms, the assumption is that on balance, projects allocated to regions with greater political equality will be sited where it is expected to generate more gains as opposed to being allocated to subregions to serve more particularistic interests. In other words, regardless of the specifics of different kinds of aid projects, it is the correct allocation in regions with more publicly inclined elites that would ensure the aid dollar is put to better use. Also, where local leaders have discretion over implementation, broader political accountability would also increase pressures to deliver on growth outcomes, as found in the literature. As such, *development aid directed to areas with more constituency breadth should foster economic development more efficiently.*

However, given that the highly ambiguous track record of aid in generating development (Bitzer & Gören, 2018; Burke & Ahmadi-Esfahani, 2006; Civelli et al., 2018; Dreher & Langlotz, 2020; Dreher & Lohmann, 2015; Easterly, 2002; Nunn, 2020), the expectation is that potential findings of *aid's impact on subsequent development is unlikely*

³ With a grant element of at least 25%.

to be strong. In other words, while the inclusion of local politics is expected to shift aid effectiveness and sharpen estimates, the track record of aid tempers expectations.

1.1.6 Context of Indonesia

The attributes of Indonesia, the world's third-largest democracy, make it well-suited to test this theory. Decentralization since the fall of the authoritarian Suharto regime in 1999 created intense local political competition, further invigorated by the country's adoption of full open-list proportional representation in 2009. This resulted in ubiquitous vote-buying and patronage (Aspinall & Sukmajati, 2016; Muhtadi, 2019), including through formal budgetary channels (Gonschorek et al., 2018). Indonesia is also the fourth most populous country in the world, with more than 300 million people from over 600 ethnicities speaking 1,400 languages residing on about 6,000 islands, not to mention some 12,000 uninhabited islands (Ananta et al., 2015). This sociopolitical diversity⁴ created immense variation in how decentralization impacts local politics. From the increased use of coalitional politics that stretch beyond party lines to the creation of "little kings" (*raja kecil*) where governors wield enormous influence in what some have described as local capture (Sulistiyanto, 2020), local characteristics have shaped the incentive structures of local elites differently in terms of the breadth of local support needed for regional elites to retain power. For example, where ethnic groups were segregated geographically, public infrastructure was found to be distributed more evenly due to a "sibling rivalry effect," where disparities in provision became grounds for advocacy within the same administrative zone (Tajima et al., 2018).

The spatial distribution of infrastructure is also affected by how government budgets are allocated. Indonesia is divided into four administrative levels (see Figure 1.1). Funds for

⁴ According to the latest 2013 data from Historical Index of Ethnic Fractionalization Dataset (HIEF), Indonesia is the 12th most diverse country among the 155 countries included in the dataset (Drazanova 2020).

infrastructure projects at the local level (ADM2 and below) are channeled through the Special Allocation Fund, or DAK (Dana Alokasi Khusus). Introduced in 1999⁵ to manage budget allocations at the subnational level, the DAK expressly tries to equalize developmental and other outcomes between different regions. Under it, the budget for physical infrastructure is formulaically determined based on factors like population and geographical area, and is not discretionary (Gonschorek et al., 2018; World Bank, 2007, 2012). But while topline budget allocation at the ADM2 level is determined federally, local politicians retain agency over which subregions are prioritized for projects and funding. The next section on roads illustrates this point. In other words, the DAK helps mitigate a source of potential “noise” for my investigation (from federally imposed budgetary inequalities).

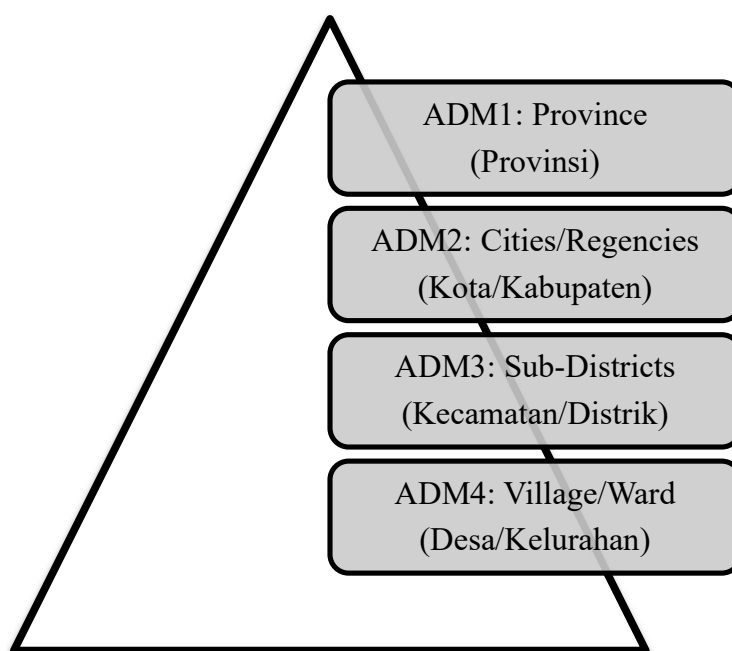


Figure 1.1 Indonesian administrative subdivisions

⁵ I refer to Law No. 25, 1999. It was subsequently updated through Law No. 33 in 2014.

1.1.7 Roads in Indonesia

Indonesia's roads are categorized according to the administrative levels responsible for their construction and upkeep: national, provincial, and city/regency. In 2010, subnational road networks comprised about 90 percent of the total road network, of which about 10 percent were provincial and 72 percent were managed by cities/regencies (Toole, 2013). While the central government finances the infrastructure, local governmental units are responsible for its construction and maintenance (Gertler et al., 2019).

Significant underinvestment in road infrastructure remains, especially in the maintenance of subnational roads (Ray, 2013; World Bank, 2007, 2012). The main reason is that after budget allocation processes were decentralized to local governments, they prioritized social and human resource spending over maintaining infrastructure. In addition, limited local government capacity coupled with monitoring and management issues saw significant increases in spending without commensurate gains in road access, leading supply to fall short of demand. This problem was exacerbated with private investments remaining scarce: toll roads comprising only 0.2 percent of the total road network in 2009 (World Bank, 2012). As a result, there was significant variation between ADM2-level regencies in terms of the level and quality of local roads (World Bank, 2007). From 2001 through 2010, total road coverage actually decreased with greater decentralization of administrative responsibilities despite increased regional spending (Gertler et al., 2019; World Bank, 2007, 2012).

In short, local governments fully controlled fund allocation and management related to roads at the regency level once the central government transferred the allotted funds. Given that demand outstripped supply, and the minimal contribution of private actors in providing

infrastructure, variations in implementation outcomes within regencies⁶ (ADM2)—in terms of how equally road infrastructure was built and maintained across sub-districts (ADM3)—were more likely to be indicative of local political priorities as a form of patronage. This examination at the subregional level is especially pertinent given the variation in the level of technical and administrative capacities regency administrations possessed. As such, given political competition and the general undersupply of roads across Indonesia during the period of analysis, we can be more confident that politicians who are reliant on more constituents across subregions for continuity in office had an incentive to ensure that projects are both allocated and implemented more equitably despite scarce resources.

1.1.8 Scope conditions

As mentioned in the introduction, the idea that politics drive patterns of public infrastructure provision is neither new nor specific to any regime type. Whether democratic, authoritarian, or all the shades in between. As such, the spread of public infrastructure allocation, a measure of the breadth of constituents to which politicians are accountable, can be used in a wide range of contexts. The key theoretical requirement is that the analysis should be limited to the level of government with de facto discretion over the building and maintenance of public infrastructure. A second requirement is that the measurement of public infrastructure should reflect construction and maintenance efforts within decisionmakers' terms of office. Roads are ideal for this. In tropical climates like Indonesia's vegetation would begin to cover the roads from as early as six months if not regularly removed, leading the road to completely disappear from satellite view within one to two years. While other infrastructure like schools and hospitals can be shut down or shifted away, they are typically more "sticky," given the

⁶ These include cities. For brevity, "regencies" denotes all ADM2 administrative units.

relatively higher costs of displacing staff and students and constructing new ones, and lower marginal costs of maintenance.

1.2 Methodology

In building my theory, I first conducted qualitative interviews with regional experts across different disciplines (anthropology, political science, economics, etc.), civil engineers specializing in infrastructure construction and maintenance in tropical climates, civil servants from Indonesia, and consultants working with the Indonesian government at the highest levels. Their insights both helped shape the assumptions that informed the identification strategy adopted here and confirmed their validity. For example, the insight that local governments at the regency level indeed had sway over the allocation of budget towards infrastructure construction/ maintenance and their implementation, and how politicized these processes were. These then informed the overall empirical strategy, which became geared towards answering two questions: (1) how equally is public infrastructure distributed after background factors are accounted for, and (2) how is this distribution, as a proxy for constituency breadth or political equality, associated with aid effectiveness?

These questions are answered in two corresponding parts. The first predicts the level of public infrastructure we would expect to see in each district (ADM3) based on factors like the population, topography, and development levels. This “expected” level of infrastructure is then compared against the actual level of infrastructure provision to calculate the overall level of inequality at the city/regency (ADM2) level. In the second part, I use this to investigate how the effectiveness of development aid changes when allocated to regencies with different levels of inequality using regression analysis.

1.2.1 Main model

The main set of estimations examines the impact of public infrastructure equality on aid effectiveness. The analysis includes eight types of public infrastructure: roads, hospitals (Rumah Sakit), polyclinics (Poliklinik/Balai Pengobatan), community health centers (Puskesmas), community sub-health centers (Puskesmas Pembantu), and three types of schools: elementary, junior high, and senior high (Sekolah Dasar, Sekolah Menengah Pertama, Sekolah Menengah Atas). Each has its strengths and weaknesses in terms of the theoretical leverage it brings as a proxy for constituency breadth and differs in terms of the dynamics of governmental provision in the Indonesian context, so I include them all for completeness. I use roads here as an example to demonstrate the approach. The simplified model is as follows:

$$\Delta Light_{j,t1-t3} = \beta_1 Road_Equal_{j,2010} * Aid_{j,t} + \beta_2 Controls_{j,t} + \gamma_{k,t} + \epsilon$$

Essentially, the model places the measure for road equality within ADM2 (j) regencies' road provision around 2010 (**$Road_Equal_{j,2010}$**) in interaction with aid received per person in regency j in year t (**$Aid_{j,t}$**) as the main IV. The following section on the independent variable details how each is derived. I then estimate its impact on the level of year-on-year variations in development levels, measured in terms of the average percentage change in regional nighttime luminosity, **$Light_j$** over the three years after aid disbursements end in year t (**$\Delta Light_{j,t1-t3}$**). I include controls that are typically used in such estimations (**$Controls_j$**) and ADM1 provincial (k) and yearly fixed effects (**$\gamma_{k,t}$**). The following sections explain these in detail.

1.2.2 Dependent variable

The dependent variable, the change in development level, is measured by the average year-on-year percentage changes in logged nighttime luminosity for ADM2 regency, j , ($Light_j$) in the three years after aid is disbursed. Using a three-year period sidesteps the problem of assessing spurious year-on-year fluctuations. Data is drawn from detailed satellite imagery (30 arc seconds) from the National Oceanic and Atmospheric Administration (National Oceanic and Atmospheric Administration - NOAA, 2014).

$$\Delta Light_{j,t3} = \frac{(Light_{j,t+X} - Light_{j,t+X-1}) + \dots + (Light_{j,t+1} - Light_{j,t})}{X + 1}$$

1.2.3 Independent variable: public goods equality \times aid

The primary independent variable of interest is the interaction term between the public infrastructure equality variable – how evenly public infrastructure is provided within each ADM2 region as a measure of constituency breadth – and the amount of aid received per resident each year ($Aid_{j,t}$).

Given the huge variation in local politics and all the factors that might influence patronage dynamics, I take a “proof in the pudding” approach, focusing on the outcome of political machinations: how evenly public infrastructure is distributed across administrative subregions after accounting for other contextual factors, taking this as a representation of how broad or narrow elite interests are. As discussed, this approach is not new, with present studies already taking final service levels received by constituents as a proxy for how local political dynamics affects how public spending is utilized. As mentioned earlier, where political leaders were less responsive to constituents, public resources were used less efficiently (Hicken & Simmons, 2008; Lake & Baum, 2001).

Given the focus on local patronage patterns, the susceptibility of observed road density to network effects creates problems in terms of spatial correlation (roads need to be connected to other roads). Thus, I exclude nationally run highways from my analysis. Not only is the provision of highways heavily influenced by non-political factors such as proximity to major economic centers and other highways, but it is also managed at the provincial or national level and thus irrelevant to the analysis of local politics here. In contrast, the provision of local roads is less dependent on having major economic centers in the region and much more likely to be the result of localized decision making.

1.2.4 Road equality

Taking the difference in public infrastructure provision levels within ADM2 regions at face value risks ignoring the contextual factors that make the construction of roads more or less likely in the first place. These include differences in geographical features, levels of affluence, and, most importantly, the factors that influence budget allocation from the DAK (development levels, population, and existing levels of infrastructure, etc.), the primary source of funding for public infrastructure for ADM2 governments in Indonesia.

We first estimated the “natural” level of public infrastructure expected to exist based on these factors at the ADM3 level, i , by running a regression with road density ($\widehat{Road_Density}_{i,2010}$) —the length of roads in kilometers per person per square kilometer— as the outcome variable. The main predictors for road density were drawn from the budget allocation criteria for the DAK (levels of existing roads, population, etc.) and interviews with infrastructural experts. The contextual variables⁷ used were (1) the total

⁷ The approach is also used to predict the levels of the other public goods, with the same variables used except topography. I also use the number of health/education facilities at the per person level.

length of road within the ADM2 region (*Road_length_{j,2004}*), (2) the degree of elevation changes in the terrain, or topographical heterogeneity⁸ (*Terrain_i*), (3) the relative development levels of the ADM3 region relative to the average ADM3 development level in each ADM2 region (*Night_{i,2004}/Night_{j,2004}*), the total number of ADM3 sub-districts in the ADM2 region *n(i)*, and the age of the ADM2 region (*Age_j*). The last accounts for the “creation” of new ADM2 regions in the Indonesian context for administrative and political reasons. The process often sees inexperienced administrative teams being placed at the helm or existing capabilities spread too thin. This initial estimate also controls for population levels and total geographical area to account for how the budget is allocated to the region as calculated from the DAK formula⁹ (World Bank, 2012).

I take 2010 as the year of reference here for two reasons. First, it reflects the culmination of building and maintenance efforts up until the swearing-in of new leadership after the 2009 People’s Representative Council (Dewan Perwakilan Rakyat or DPR) elections in October 2009. Second is data availability. I use the licensed Digital Atlas of the Earth dataset (Garmin, 2021), or DAE, arguably the most accurate information on geocoded

⁸ I use the vector ruggedness measure (VRM). VRM was chosen over other available indicators of topographical variation, such as the Terrain Ruggedness Index (TRI) – the “mean of the absolute differences in elevation between a focal cell and its 8 surrounding cells,” the Topographical Position Index (TPI) – “the difference between the elevation of a focal cell and the mean of its 8 surrounding cells,” and Roughness – “the largest inter-cell difference of a focal cell and its 8 surrounding cells” (Amatulli et al., 2018). I rejected these as I am interested in the total variability of terrain elevation in each area, not just the average differences between a reference point and its surrounding areas.

Data was drawn from the dataset developed by Amatulli et al. (2018) using the Global Multi-Resolution Terrain Elevation Data (GMTED) dataset (Danielson & Gesch, 2011). For a more detailed explanation of VRM, see Hobson (1972).

⁹ It does not matter if regency governments follow this formula when allocating road construction/maintenance funds per se. Including it enables us to account for the volume of resources regional governments start with and increases the confidence that remaining variations in road density are due to political factors.

satellite road coverage available to researchers. I chose this over the more commonly used open access Global Roads Open Access Data Set (gROADS) as gROADS draws from Vector Map Level 0 and Vector Map Level 1 data for Indonesia collected between 1996 and 2005. The DAE dataset is more current, reflecting Indonesian road conditions around 2010 using Landsat 7 data and subsequently updated with imagery from Landsat 8 and Maxar imagery from 2010 to 2021. Another advantage of DAE is that it distinguishes highways from local/rural roads (Strano et al., 2017), enabling sharper analysis by differentiating between the kinds of political and administrative dynamics mentioned earlier.

Another theoretical advantage roads have is their need for constant maintenance to avoid degradations that would cause them to disappear from the data. Given that the data represents building and maintenance efforts between 2005 and 2009, the political priorities reflected by the data are likely those after the 2004 General Elections. This period is also pertinent for the intended analysis because it follows the promulgation of Law No.32/2004, which further clarified the role of local governments in regional administration. As such, I begin my analysis starting from 2005 up to 2010. The reduced-form empirical model for estimating the road density, as predicted by geographical, economic, and budgetary factors, is as follows:

$$\begin{aligned} \widehat{Road_Density}_{i,2010} = & \alpha + \delta_1 Road_length_{j,2005} + \delta_2 Terrain_{i,2005} \\ & + \delta_3 Night_{i,2005} + \delta_4 Night_{j,2005} + \delta_5 \frac{Night_{i,2005}}{Night_{j,2005}} + \delta_6 n(i) + \delta_7 Age_j + \epsilon \end{aligned}$$

After estimating this “natural” level of roads, I use the difference between the predicted and actual level of road provision for each ADM3 region (***Road_Var_i***) to calculate the average level of this difference for each ADM2 region.

$$Road_Var_{i,2010} = Road_Density_{i,2010} - \widehat{Road_Density}_{i,2010}$$

$$\overline{Road_Var}_{j,2010} = \frac{\sum (Road_Density_{i,2010} - \widehat{Road_Density}_{i,2010})}{n(i)}$$

Finally, to derive the Road Equality variable (***Road_Equal_j***) at the ADM2 level, I apply the formula for population standard deviation¹⁰ to measure the average variation in road density within each ADM2 region beyond what is predicted by the factors mentioned above. To recap, I am interested in whether public infrastructure is more or less equally allocated *within* ADM2 regions across their constituent ADM3 administrative subregions, not whether the absolute level of road provision is higher or lower. Higher values here signal substantial variation within a regency, suggesting that road coverage is highly unequal even after accounting for differences in geography, budget, and development levels. In contrast, a value of zero would generally mean all ADM3 subregions have the exact predicted levels of roads, signaling perfect equality of road provision.

$$Road_Equal_j = \sqrt{\frac{\sum (Road_Var_i - \overline{Road_Var}_j)^2}{n(i)}}$$

To illustrate, suppose there are two ADM2 regions, A and B, with four ADM3 subregions each. Comparing the predicted levels of road provision against actual levels of road densities (total length of road per km² per resident), we see the following results:

¹⁰ The formula I used does not apply Bessel's correction for population standard deviation here, since the data is not from a sample.

	Regency A		Regency B	
	<i>Predicted</i>	<i>Actual</i>	<i>Predicted</i>	<i>Actual</i>
ADM3 Region 1	40	10	5	20
ADM3 Region 2	30	20	5	30
ADM3 Region 3	60	30	25	40
ADM3 Region 4	50	40	25	50

Table 1.1 Method illustration – Part 1

Calculating the difference between the two, we see that on average, subregions in Regency A perform worse than predicted, seeing an average of 20 km of road per person per square kilometer less than predicted. Regency B performs above expectations, with road density 20 km higher than expected.

	Regency A	Regency B
	<i>Actual - Predicted</i>	<i>Actual - Predicted</i>
ADM3 Region 1	-30	15
ADM3 Region 2	-10	25
ADM3 Region 3	-30	15
ADM3 Region 4	-10	25
Average	-20	20

Table 1.2 Method illustration – Part 2

Applying the formulation for population standard deviation to the results above, I find that on average, road provisions in subregions from Regency A vary by 10 km from predictions while for Regency B this was 5 km. As such, the results suggest that political inequality among subregions is higher for Regency A than Regency B. It is important to note if I had used only the actual results without the two-stage method, the average deviation in ADM3 road levels within the two regencies would have been the same.

	Regency A	Regency B
Road Equality*	10	5

*Standard Deviation of Difference - Mean Difference

Table 1.3 Method illustration – Part 3

1.2.5 Aid

The second part of the main independent variable – the amount of World Bank aid disbursed to an ADM2 region (*Aid_j*) between 2005 to 2010 – is drawn from Aiddata’s World Bank Geocoded Aid Data (version 1.4.2). World Bank data, as opposed to aid from other sources, is used because the larger number of World Bank projects provide more statistical power and, given that there is no comprehensive information on all sources of aid, this minimizes the impact from the “noise” generated from omitting other sources of aid. Finally, the stricter project selection process enforced by the World Bank means less variation in the qualitative differences of regions selected. Where a project spanned multiple regencies, I split disbursements across all regions evenly. Any observations that were not geocoded were dropped.

1.2.6 Road equality × aid

The main independent variable (*Road_Equal_j × Aid_j*) is then constructed by interacting the equality measure and levels of aid disbursed at the regency level to test the extent to which, for every million US dollars of aid disbursed, more unequal patronage patterns affect developmental outcomes.

1.2.7 Controls:

The control term (***Controls_j***) for the second-stage estimations at the ADM2 level includes the following variables. Unless stated otherwise, measures are taken at the start of the period of examination in 2005.

- ***Initial development levels***: This is represented by log nighttime luminosities in 2005. It is meant to control for differing starting points after the 2004 local elections;
- ***Population levels***: Each regency's population size: calculated from the Gridded Population of the World data set, Version 4, Revision 11 (Center for International Earth Science Information Network - CIESIN - Columbia University, 2018);
- ***Capital***: Whether a regency contains the provincial capital;
- ***Geographical area (logged)***: Calculated, in square kilometers, from the administrative boundaries data from GADM, logged (*GADM Data Version 4.0*, 2018),
- ***Presence of mining (logged)***: Number of mines in a region, logged (Labay, K et al., 2017);
- ***Presence of oil or gas fields***: Dummy variables taking a value of 1 if an oil or gas field is present in the region. Data from Petrodata, version 1.2 (Lujala et al., 2007);
- ***Presence of ports***: Dummy variable indicating the presence of ports in an area (National Geospatial-Intelligence Agency (NGA), 2011);
- ***Number of ADM3 sub-districts***: also taken from GADM boundaries data; and
- ***Age of Kabupaten (Regency)***: Dataset of dates of establishment of ADM2 regions compiled from Indonesian legislation data.

1.2.8 Robustness checks

To ensure the robustness of my findings, I undertake several measures.

First, I examine the inequality for seven other kinds of public infrastructure in Indonesia, on top of roads: hospitals, polyclinics, community health centers, sub-community health centers, as well as elementary, junior high, and senior high schools. For these, I relied on the Village Potential Statistics (PODES) dataset for 2008.

Beyond the measures I had already taken to mitigate the issue where roads suffer from network effects (excluding highways from my analysis), I chose public works that are less reliant on connections to other public infrastructure. I employed the same 2SLS logic as that of an instrumental variable analysis with similar controls (except topography) to weed out the influence of contextual effects and thus ensure the remaining variation would again be most likely attributable to local politics.

Next, to minimize selection issues where aid-receiving regencies might have some other qualities not accounted for, I excluded all ADM2 regions that did not receive any World Bank Aid and reran the regressions. In other words, I compared outcomes within aid-receiving regions only. In total, I ran eight sets of first-stage regressions to estimate the predicted level of each public good for every ADM3 region based on the contextual factors mentioned above (See Appendix A.1). In the second stage, four sets of regressions (See

Table 1.4) were run: two using estimates of aid impact on a per million-dollar basis (all ADM2 regions; aid-receiving regions) and two using estimates on a per-project basis (all ADM2 regions; aid-receiving regions).

1.3 Results

1.3.1 First stage estimations

The first-stage regression results are shown in Appendix A.1. In interpreting these results, one must recognize that although I leverage the 2SLS logic, the goal is not to have a strong instrument per se, but to generate residuals where contextual factors influencing public infrastructure provision have been “removed.” Put another way, public infrastructure provision is influenced by both economic (budget levels, development levels, cost of road building due to terrain, population utilizing the goods, etc.) and political (constituency breadth) considerations. The first-stage estimations predict the level of public infrastructure provision based on economic factors alone. After subtracting these values from the actual data, what is left is likely to be the influence of political factors.

The R-Squared values across the eight estimations range from 0.015 (health sub-centers) to 0.416 (elementary schools). As mentioned, rather than take these as the strength of an instrumental variable, these figures reflect what proportion of the variation in the provision of these public amenities can be predicted by non-political, contextual factors. While the influence of economically driven factors such as population, and initial development levels (both ADM2 and ADM3 region) are almost all highly significant, they explain only a small portion of how public infrastructure is distributed in Indonesia. These findings are supported by estimations of what motivated road provision in Isabela province (2010) in the Philippines, where it was found that road provision had “little to do with objective needs of the community” and was driven by “clear political motivations” (Cruz & Matsuda, 2013)

1.3.2 Second-stage estimations

	Per Dollar	Per Project	Per Dollar	Per Project
	<i>All regions</i>	<i>All regions</i>	<i>Aid Receiving Regions Only</i>	<i>Aid Receiving Regions Only</i>
Roads	1a*	1b	1c	1d
Community Health Centers	2a	2b	2c	2d
Health Sub-Centers	3a	3b	3c	3d
Hospitals	4a	4b	4c	4d
Polyclinics	5a	5b	5c	5d
School - Elementary	6a	6b	6c	6d
School - Junior High	7a	7b	7c	7d
School - Senior High	8a	8b	8c	8d

*Regression numbers used in subsequent tables

Table 1.4 Overview of second-stage regressions

Table 1.5 below summarizes key results. Of the 32 specifications, development aid's impact on subsequent nighttime luminosity growth reaches the 0.05 level of statistical significance in only two specifications: when the distribution of roads is accounted for and when comparing aid-receiving ADM2 regions at both the per-dollar and per-project level. The main variable of interest –road inequality at the per-project level– improved aid effectiveness at the 0.1 level of significance, but only when comparing within aid-receiving regions. Here, an increase of road inequality by one standard deviation from the predicted values in the first stage was associated with a 332 percent increase in nighttime luminosity growth per year three years after aid disbursements ended.

	Public Good Equality		Aid		Public Good Equality × Aid	
	<i>Estimate</i>	<i>Standard Error</i>	<i>Estimate</i>	<i>Standard Error</i>	<i>Estimate</i>	<i>Standard Error</i>
1. Per Million Dollars (US), All regions						
a. Roads	6.85	(8.6)	-1.66	(4.79)	54.8	(199)
b. Comm Health Centers	-113	(936)	0.771	(2.00)	-235	(1360)
c. Health Sub-Centers	-141	(879)	0.731	(2.07)	-207	(1590)
d. Hospitals	-181	(850)	0.743	(1.99)	-214	(1300)
e. Polyclinics	-120	(959)	0.737	(2.00)	-192	(1300)
f. School-Elementary	-508	(794)	1.68	(2.01)	-2120	(2070)
g. School–Junior High	-6410	(5280)	1.44	(2.14)	-7970	(10900)
h. School–Senior High	-12700	(10400)	1.31	(2.11)	-10800	(17100)
2. Per Project, All regions						
a. Roads	6.74	(8.73)	1.08	(2.01)	-2.41	(44.1)
b. Comm Health Centers	350	(1210)	1.95	(1.43)	-537	(944)
c. Health Sub-Centers	360	(1200)	1.96	(1.44)	-593	(1030)
d. Hospitals	244	(1120)	1.92	(1.42)	-489	(891)
e. Polyclinics	326	(1210)	1.93	(1.43)	-504	(915)
f. School-Elementary	-163	(1280)	1.86	(1.37)	-695	(1170)
g. School–Junior High	-5020	(7650)	1.75	(1.44)	-2530	(6900)
h. School–Senior High	-9170	(14100)	1.88	(1.44)	-5650	(11500)

Note: p-values: * < .1, ** - .05, *** - .01, standard errors in parathesis

Table 1.5a Summary of second-stage results - Part 1

To examine how the effectiveness of aid changes at different levels of public infrastructure equality, I visualize the results in interaction plots (See Appendix A.2). In most specifications, greater public infrastructure inequality led to less aid efficacy (see results for interaction term in the two rightmost columns). However, most of these results are not statistically significant at the .05 level. The one exception (using road equality in aid-receiving regions at the per-project level) shows how aid efficacy increases with more inequality.

	Public Good Equality		Aid		Public Good Equality × Aid	
	<i>Estimate</i>	<i>Standard Error</i>	<i>Estimate</i>	<i>Standard Error</i>	<i>Estimate</i>	<i>Standard Error</i>
3. Per Million Dollars (US), Aid Receiving Regions Only						
a. Roads	-8.68	(67.5)	13.5***	(6.75)	389	(298)
b. Comm Health Centers	-137	(1090)	-1.7	(0. 196)	109	(129)
c. Health Sub-Centers	125	(1020)	-1.79	(2.02)	241	(1530)
d. Hospitals	-198	(987)	-1.71	(1.95)	108	(1240)
e. Polyclinics	-173	(1130)	-1.75	(1.95)	158	(1230)
f. School-Elementary	-69.6	(873)	0. 168	(1.98)	-3200	(2070)
g. School–Junior High	-3710	(5950)	-0. 621	(-2.10)	-7810	(10700)
h. School–Senior High	-7880	(11800)	-0.552	(-2.10)	-12900	(16800)
4. Per Project, Aid Receiving Regions Only						
a. Roads	-294	(199)	-10.3***	(4.96)	332**	(193)
b. Comm Health Centers	150	(1560)	-0.35	(1.53)	-32.7	(1110)
c. Health Sub-Centers	107	(1660)	-0.38	(1.58)	7.69	(1320)
d. Hospitals	57.7	(1450)	-0.361	(1.52)	-24.7	(1060)
e. Polyclinics	136	(1559)	-0.36	(1.53)	-17.1	(1060)
f. School-Elementary	1770	(2050)	0.643	(1.54)	-2139	(1747)
g. School–Junior High	1118	(1110)	0.144	(1.6)	-5180	(9160)
h. School–Senior High	-177	(18600)	0.173	(1.59)	-8260	(13800)

Note: p-values: * < .1, ** - .05, *** - .01, standard errors in parenthesis

Table 1.5b Summary of second-stage results - Part 2

1.4 Discussion

The results present a starkly different picture from what the rich literature on constituency breadth and winning coalitions would lead us to expect. If aid dollars behaved like government funds, they should then be more efficiently used when allocated to places that need them most, as opposed to being squandered as political pork. Yet that is not what we observe. Though it was expected that the impact of aid on subsequent economic growth would be generally inconclusive, what is unexpected is the finding that more politically

unequal regions are associated with higher growth rates after aid is disbursed. This section discusses potential explanations and implications.

1.4.1 Uncertain impact of aid

The general uncertainty around the impact of aid, as found by most of the specifications, is consistent with existing studies that find inconclusive effects of aid on growth. This is similar to the mixed results found at the cross-national level, where results vary according to the analysts' estimation strategies, choice of countries, and time periods (A. C. Burnside & Dollar, 2004; Dreher & Langlotz, 2020). More comparably, one of the few studies of aid effectiveness in Southeast Asia (Burke and Ahmadi-Esfahani 2006) found no significant effect both before and during the Asian Financial Crisis, concluding that exports and investments are far more pertinent factors in the Asian growth story.

One reason for this could be selection effects. The steadily growing Indonesian economy between 2005 and 2013 (excepting minor dips in 2008–2009 and 2012–2013) meant provinces, on average, advanced their developmental levels. Those that did not might have had lower prospects for economic growth, relatively speaking. Since aid is given to “struggling” regions, the virtuous effects of aid and a region's lower development potential might have canceled each other out. Although Briggs (2017) finds that aid does not necessarily flow to regions with the most need, this dynamic does not apply for between-project comparisons. That is, while projects may not always be sited in the neediest regions, the *amount* of aid disbursed once locations have been decided could still be contingent on the level of local needs. The association of lower growth with higher aid amounts and more projects would then be simply the outcome of these selection mechanisms.

This general insignificance of aid here concurs with the findings of studies done at the ADM2 level by Dreher and Lohmann (2015b) after regional fixed effects were accounted for.

In fact, they found that aid could also have a negative association with growth and attributed this potentially adverse impact to short-term “Dutch Disease effects” and “deteriorating governance” (among others). This also aligns with what the political equality literature predicts: access to unearned sources of finance like aid incentivizes the government to lower public infrastructure provision by enabling it to stave off revolutionary threats (Bueno de Mesquita & Smith, 2009, 2010) or redirect spending to other politically beneficial areas (Stasavage, 2005).

1.4.2 Higher aid effectiveness with more public infrastructure inequality

The growth potential logic can also explain the interaction effect between aid and road equality, where aid becomes more effective at increasing nighttime luminosity at higher levels of political inequality. If the relationship between aid and growth is driven by differences in economic potential (aid being given to regions with lower economic potential), greater aid effectiveness in more politically unequal regions can be similarly explained by how a locale’s “true” economic potential was suppressed by narrower constituency breadth. Development aid to these regions could then have mitigated the deleterious effects from the more unequal allocation of public infrastructure in these regions. This would also explain why the effect is most significant when comparing between aid-receiving regions; limiting the variation in economic potential allows for a “cleaner” comparison of how political inequality impacts aid effectiveness. In other words, aid helps unlock economic potential that had been suppressed by negative local politics.

An added observation here is that why aid does not behave like public funds is likely due to the oversight the World Bank retains over the project selection and implementation process. As mentioned in the earlier section on the World Bank financing process, recipient governments have some discretion over the siting of the projects at the local level, with the

degree of this varying depending on the nature of the project. In other words, while local politics can affect aid effectiveness via their influence over the specific locations of projects, they must first obtain approval from the World Bank and adhere to its standards.

What these findings point to is complex. First, while the general insignificance of aid can be interpreted as its lack of efficacy, another way to understand it is that resources are directed to areas that need it more. The same level of resources would generate more aggregate growth when directed to regions that can use them more efficiently. But doing so would not much help the people who might be struggling most in poorer regions. It would also exacerbate inter-regional inequalities in ways that complicate national governance. Hence, outcomes that at first appear to be economically sub-optimal might in fact represent genuine progress.

Secondly, if greater inequality is indeed associated with more aid effectiveness because aid helps override adverse political effects on growth, then targeting the most politically unequal regions means that aid can do more to unlock economic potential and relieve the marginalized groups there. However, it might also mean donors inadvertently support politically repressive leaders whose attentions are tied to a narrower proportion of the population. While this might be a good thing if it lays the foundation for their eventual removal by economically empowering the politically marginalized, the relationship between economic growth and political representation has been demonstrated to be far from linear.

Finally, while aid might unlock the economic potential of sub-national administrative regions, such an outcome is by no means guaranteed. Aid's overall impact is still ambiguous. Previous investigations have uncovered negative effects on local political dynamics, suggesting that using aid resources to mitigate the impact of political inequality does not fundamentally change the considerations of local political elites. Overall, more needs to be

done to answer the elusive question of whether aid actually helps or harms but the findings here point to an additional way to account for the priorities of local elites and thereby help to sharpen future investigations.

1.5 Conclusion

To conclude, this paper proposes a novel measure of political equality using the distribution of public infrastructure to account for how public-oriented local political elites are. I use this measure of political equality to examine its impact on aid efficacy at the subnational level. On the whole, aid's ability to generate economic growth at the subnational level is found to be inconclusive, affirming other studies of aid effectiveness at the subnational level in Southeast Asia and elsewhere.

Comparing only within aid-receiving regions, I found a positive relationship between greater political inequality and aid's association with subsequent economic development. In other words, aid provided to more unequal regions saw greater economic growth. This is possibly due to the economic potential of politically unequal regions being more repressed, where lower political accountability suppressed the latent potential for economic growth and providing development aid to such regions "unlocks" this capacity by overturning past political inequities. This logic also affirms the World Bank's preference to engage with local elites, even illiberal ones, which suggests that the inconclusive impact of aid might be due to aid being directed towards regions that need it the most because they have lower economic potential in the first place, but also suggest that aid fails to fundamentally change economic growth trajectories at the sub-national level.

Overall, these results suggest a potential conundrum for donors, where giving to more politically unequal regions might generate more economic development in the short term, but with the potential downside of solidifying the positions of more repressive political elites.

What is clear, however, is that measuring the proportion of constituents elites believe to be required for maintaining power will help us make more precise estimates of how development aid fosters economic growth.

Chapter 2: The Halo of Winners and Passive Power

Until the late 1950s, the success of the early Soviet economic model led many observers to conclude that it was not a matter of if, but when the Soviet Union would “catch up with and overtake the U.S.” (Ofer, 1987). Shortly after, however, USSR’s economy began stagnating with its GDP per capita around half that of the US (Ofer, 1987; Statista Research Department, 2006). By 1989, productivity in the Eastern Bloc a mere fraction of its Western counterparts (Giustiniani et al., 1992).

Looking back, it is intuitive to many that the Western bloc’s triumph in the Cold War and the waves of democracy that followed were owed not to doctrinal differences, strategic foreign policy calculations, or inducements from unfettered resource transfers. Instead, the plain and conspicuous prosperity Western bloc nations enjoyed relative to the scarcities imposed by the Soviet system spoke more loudly to foreign elites and citizens than perhaps anything else. This paper projects this “for-all-to-see” logic, which fomented an end to the competition of ideologies that defined the twentieth century and drove the subsequent wave of institutional emulation, onto the emerging great power rivalry of today.

Much attention has been given to the intensifying soft power contest between China and the US. This includes concerns over whether China’s growing profile as an aid donor will undermine international norms and the established order. These concerns make it timely to examine whether success on the home front fosters emulation abroad, and if so, how efficacious this ‘soft power’ channel is relative to other foreign policy instruments. Few (if any) studies have systematically examined the impact of this passive form of power, which I call the “domestic halo effect”. Thus, this paper asks: *how does a global power’s domestic success shape the institutional preferences of foreign citizens?*

I ask this question in the context of Indonesia, a large Southeast Asian country that has been a strategic target of both China and the United States. I use a survey experiment that cued on institutional characteristics of China and the US to assess their impact on preferences for different institutional arrangements in Indonesia. I find that reminding respondents of China's centralized institutions and economic success is associated with the greatest preference for centralization, while priming them on the US's decentralized institutions and successful cultural preservation goes the other way. The other two combinations —effective cultural preservation in centralized China and economic success in the decentralized US— has weaker effects in moving respondents towards their respective institutional styles. Using causal mediation analysis, I find that the foreign policy tools emphasized in the current literature —such as general perceptions towards donors, development aid effectiveness, whether respondents feel they have personally benefitted from this aid, and inherent preferences for democratic systems— do not significantly mediate the impact of the treatments.

In sum, the findings suggest that the domestic halo effect is an important source of soft power that passively shapes institutional preferences in foreign contexts, while current soft power representations like general affection do not. Further study is needed to assess comprehensively how information about global powers is transmitted to foreign publics and how they impact policy choices. So, if imitation is the sincerest form of flattery, then getting one's own house in order might well be the most effective way to convince others that one's ways are best.

2.1 Theoretical framework

Joseph Nye coined the term “soft power” in 1990 as a response to predictions of American decline in a post-Cold War world. He argued that greater interdependence and higher costs of pursuing geopolitical goals by force favored more intangible forms of influence. One of these was soft power: “getting other countries to want what you want” by voluntary attraction. Such appeals, he theorized, could emanate from one’s culture, ideology, values, policies and aid (Nye, 1990a, 1990b, 2008, 2019, 2021).

Subsequent literature falls mostly into two camps. The first examines how foreign nations win the hearts and minds of local citizens and change policy preferences while the second looks at how provision of aid affects local political dynamics.

The first camp looks at issues like whether increasing (and more effective) economic assistance or investments increases the source country’s favorability among recipient citizens, which includes testing popular hypotheses like whether recent increases in Chinese aid changes values in receiving countries (Blair et al., 2021; Böhnke & Zürcher, 2013; Dietrich et al., 2018; Eichenauer et al., 2021; Goldsmith et al., 2014; McCauley et al., 2022; Ratigan, 2021). Within this camp, foreign powers might exert their influence directly, by imposing conditions on a target nation in return for some form of transfer, such as requiring them to liberalize parts of their economy for more favorable trading terms or to cut down on government spending in return for development aid. Alternatively, the effort might be indirect; seeking to change public opinion and letting public pressures push policymakers in the desired direction.

While the precise causal process is not always laid out, the direct channel incentivizes local political elites to adopt specific policies or institutions and avoid others (more oversight over certain financial processes, promulgating free and fair elections, etc.). These typically operate through agreements and rely on future rewards/punishments to ensure compliance.

With indirect channels, foreign nations are presumed to predispose recipient citizens to support specific foreign policies by creating goodwill, usually through some form of assistance. For these channels to work, some conditions need to be met. First, there must be correct attribution. Blair, Marty, and Roessler (2021) find that citizens not only need to be exposed to the aid projects, but they must also be able to correctly identify the source country. This is not always the case. Second, recipients must view the efforts positively or believe they have benefitted from them; both help recipients view donors more positively (ibid). Finally, the positive feeling must be sufficiently strong before it become non-transient and translate to concrete policy preferences (Goldsmith et al., 2014).

The second camp examines the impact of foreign assistance on perceptions of local governance, asking whether and how foreign assistance influences local politics by favoring particular groups, or how it undermines state legitimacy by becoming an alternative source of services (Baldwin & Winters, 2018; Blair & Roessler, 2021; Blair & Winters, 2020; Ciorciari & Krasner, 2018; Cruz & Schneider, 2017; Dietrich & Winters, 2015; Dolan, 2020; Guiteras & Mobarak, 2015; Jones & Tarp, 2016; Milner et al., 2013, 2016b; Ratigan, 2021; Sacks, 2012). This literature highlights scenarios where recipient country citizens may view foreign countries *less* favorably, despite good intentions. For example, foreign assistance might be seen as fueling corruption, in that lowering the need for political elites to seek constituents' cooperation for taxation purposes can reduce accountability. Generally, scholars in this camp expect "unearned" revenues like aid to remove incentives for elites to improve institutions and drive reform (Blair & Winters, 2020; Bräutigam, 2000, 2008; Carothers & De Gramont, 2013; Eubank, 2012; Moore, 2008; G. Williams et al., 2011).

Both camps examine how foreign interventions change voting and elite behavior (Briggs, 2012, 2014, 2015; Cruz & Schneider, 2017; Guiteras & Mobarak, 2015), and whether the interventions might foster regime transitions towards or away from democratic

systems (Bermeo, 2011; Carothers, 2011; Dunning, 2004; Knack, 2004; Niño-Zarazúa et al., 2022; Resnick, 2016; Wright, 2009).

2.1.1 Emulation by choice

This paper contributes to these discussions by investigating how a hitherto understudied source of passive influence—a country’s own success— induces foreign citizens to want to mimic that country’s institutions. I call this potential influence the *domestic halo effect*.

Drawing from Nye’s (2021) conceptualization of soft power, I define this as *the ability of a country to attract foreign citizens to emulate aspects of itself based on demonstrated achievements or qualities on the domestic front*.

Perception takes center stage. Few institutional qualities are universally appealing or objectively good, and views about how one’s country should be governed are heavily dependent on the social context, historical experiences, and prevailing beliefs. As such, I focus on whether the domestic success of a *Country A*—defined in different ways— compels the citizens of a *Country B* to prefer *Country A*’s institutional styles. The core assumption is that foreign nationals attribute the economic success enjoyed by global powers to their political institutions. As such, when respondents are provided information on the institutions of successful global powers, they may update their beliefs about what such institutions can achieve, and in the process update their preferences for which institutions their own country should adopt.

This domestic halo effect differs from existing channels of influence in three important ways. First, shifts in public opinion are not the result of material inducements that trigger gratitude or reciprocity for some perceived benefit. Next, respondents are assumed to separate personal affections for a foreign state (whether they like them) from considerations of whether copying their ways would be beneficial. Finally, this explanation does not presume specific regime types or ideologies are inherently more attractive. Instead, foreign

publics are assumed to be agnostic or ignorant about political systems and see them essentially as means rather than ends. As such, those with a demonstrated ability to achieve desired outcomes would be preferred over those without.

Such micro-level institutional preferences matter because they influence the degree of compliance with developmental policies at the local level. Citizen compliance contributes significantly to efficacy in developing nations with lower state capacities (Berliner et al., 2015; Besley & Persson, 2011; Geloso & Salter, 2020). It also matters for international aid projects, which can be characterized as either “top-down” or “bottom-up” in orientation (Huang & Cao, 2019), and public support for the mode of implementation increases the odds of the project’s success. Leanings toward various institutional styles also influence preferences for regime type, which has further foreign policy implications. Democracies generally do not invade one another, and public support for troop commitments and other military interventions among democracies are also higher (Tomz & Weeks, 2013). Complementarity of regime type also affects support for international institutions and voting patterns at the United Nations General Assembly (Goldsmith & Horiuchi, 2012; Tomz & Weeks, 2021). Finally, the quality or extent of democracy in developing nations also affects democratic donors’ willingness to give aid (Askarov et al., 2021).

2.1.2 Possible mediating mechanisms

Current scholarship proposes several mechanisms that could mediate how respondents interpret foreign powers’ domestic success. Reminders of Chinese or US domestic success could trigger memories or associations that shape considerations of whether institutional mimicry would produce economic success. To confirm that the domestic halo effect is an independent source of influence and not just an offshoot of previously theorized channels, I conduct mediation analysis.

First, I look at whether domestic success might shift preferences by changing how much respondents like China or the US. General sentiment is among the most used benchmarks of soft power today. The theoretical expectation here is that *overarching sentiments* towards a country should have limited influence over how citizens choose their institutions, given that people are capable of learning from successes, even if they are from those they despise. I expect respondents to differentiate between their general feelings about a country and their assessments of its institutions.

A second commonly discussed mechanism is *aid effectiveness*. Reminders of Chinese/US domestic success might trigger recollections of positive experiences with their aid. The ability to deliver effective aid might then be associated with the capability of Chinese/US institutions to generate successful domestic outcomes, and thus inspire interest in emulating them (Ciorciari & Krasner, 2018; Goldsmith et al., 2014). Related studies show that *personally benefiting from aid* shifted perceptions (Dietrich et al., 2018; Eichenauer et al., 2021). Specific to preferences for development models, there is evidence that living in or near the site of a Chinese aid project is associated with a greater preference for top-down economic management styles (Huang & Cao, 2019). But the specific kind of aid and the sociopolitical context to which it is disbursed also change how such assistance is perceived (McCauley et al., 2022). Even if aid was effective and respondents felt they had benefitted from it personally, perceptions of *donor intent* could still color how such successes are perceived (Goldsmith et al., 2014).

A final potential mediator is the respondents' own preferences. When reminded about Chinese/US success, respondents might simply be reminded of their preexisting inclinations and express their preferences accordingly. For example, suppose *democratic ideals* are seen as desirable in and of themselves and the US is believed to represent these ideals. When the US is made salient, respondents simply equate US institutions with democracy and choose

those. Other values-based preferences include a country's *human rights record* and its *treatment of minorities*. The latter is particularly salient in ethnolinguistically diverse Indonesia, where the Javanese have traditionally played dominant roles in both political and economic domains. The Methodology section (2.2) describes the causal mediation analysis I conducted to assess the influence of these potential mediators.

2.1.3 Why China and the US

There are three reasons to test for the extent of the China and US domestic halo effects. First, the prominence of the US on the world stage over the last century and China's rise in recent decades have given them high mindshare among foreign citizens. Second, China and the US are familiar faces for Southeast Asia, which has been buffeted by the winds of great power competition for the last few centuries. Finally, and most importantly, this dynamic has led to growing concerns about great power conflict, since it does not appear that economic development will liberalize the Chinese political system and move it closer to established Western democracies. Moreover, China's increased prominence in the global economy, coupled with its non-interference policy and willingness to work with all regime types, has also fed speculation that it could "win hearts and minds" and split the world into two blocs.

2.1.4 Why Indonesia

The clash of East and West is a familiar story to Southeast Asia. Indonesia is particularly sensitized to the influence of great powers, given its history of early and violent colonization, domestic conflict between ideological factions during the Cold War, and its increasing exposure to South China Sea disputes.

Indonesia is also home to one of the most socio-politically diverse populations in the world. Its archipelagic geography enabled a variety of peoples to understand themselves as both distinct and integral to the larger imagined community of Indonesia. Nation-building in this context included support for a panoply of languages, faiths, cultures and, most

importantly, political beliefs. Geographical separation thus created a range of contexts that varied on their degree of exposure to China and the US, helping offset potential biases that may arise from overexposure to specific trends or events. Also, Indonesia's rapid democratization and decentralization in the last two decades contrasts sharply with its preceding 33 years under Suharto's authoritarian New Order regime. Decentralization has had decidedly mixed results, but it has allowed for greater degrees of cultural preservation and the rise to prominence of political outsiders, of which president Joko Widodo is a prime example (Aspinall & Mietzner, 2019; Ostwald et al., 2016).

Coupled with a common institutional backdrop to facilitate comparability, Indonesia offers conditions that enable both internal validity and external generalizability and is thus an ideal testbed for theories of international influence. The next section lays out the scope conditions for the theory of the domestic halo effect tested here before the methodology section details how I do this.

2.1.5 Scope conditions

All the mediators discussed above operate on the level of perception. While it is highly unlikely (and historically unprecedented) that a country can mask its failures as successes to a degree that others would seek to mimic it, empirical realities are perceived through subjective lenses. For example, Böhnke and Zürcher (2013) find that perceptions mattered more than objective performance indicators in predicting attitudinal shifts regarding how aid impacts recipient-government legitimacy. Given this, while objective measures of success undoubtedly matter, achievement is ultimately based on individual values and contexts, so the domestic halo effect applies to any outcome deemed desirable by foreign publics.

For the kinds of perception shifts that constitute the domestic halo effect to occur, the necessary information must first reach foreign publics. This implies that the generalizability of the proposed framework is limited to countries whose domestic success can travel far

enough to shift preferences. Countries that fail to occupy the minds of foreign publics cannot leverage their domestic success as soft power. For the same reason, the domestic halo effect cannot promote the emulation of specific policies, which are less likely to become sufficiently well known. The impact of the domestic halo effect in a country is therefore highly dependent on the context of that country. For example, the British might feature disproportionately in the minds of commonwealth countries given its colonial legacy, as might the Belgians for the Congolese. History and context matter; for the domestic halo effect to become a source of power, being known is a necessary but not sufficient condition. Countries must also be known for reasons that make the halo-producing nation desirable for mimicry.

Finally, the domestic halo effect can manifest in a range of political systems. In democracies, citizen views shape policies and other outcomes through channels like voting and other democratic fora. In non-democracies, if citizens see value in mimicking an aspect of the source country and subsequently advocate for it (or simply signal their receptivity to it), then the halo effect can likewise shape outcomes. In short, the domestic halo effect matters in non-democracies because citizens' preferences matter there too. For example, when Hanoi sought to impose collective farming in southern Vietnam in the late 1970s, widespread resistance to policies that neglected prevailing farming practices caused the policy to fail, despite opposition efforts being uncoordinated (Kerkvliet, 2005). Closer to the theory here, different beliefs about the state and what was expected from it led rural Burmese to be selective about when to join their urban counterparts in protesting the Tatmadaw in Myanmar (Thawngmung, 2006).

2.2 Methodology

To test these theories, I (i) used an online survey experiment to examine how information about China or the US's domestic success (economic or cultural) changed Indonesian respondents' preferred level of institutional centralization for achieving economic growth; and (ii) conducted causal mediation analysis to ensure this treatment effect stands on its own and does not work through mechanisms already explored in the literature.

I test the following propositions. First, I seek evidence of a domestic halo effect: are citizens more willing to adopt a foreign country's institutions when those countries are perceived to have been domestically successful? Next, I try to understand how the effect "works." Specifically, could factors orthogonal to the specific institutions (rather than the institutions themselves) influence perceptions? Perhaps, for example, people's perceptions of how much aid their countries receive and how effectively it is used, affect their considerations about whether a country's institutions are worth adopting. As part of this, I investigate how respondents' general sentiments towards a foreign country correlate with how helpful they find that country's institutions.

2.2.1 Methodological considerations

My methodological approach addresses issues flagged by previous studies on the influence of foreign nations on citizens' preferences. As mentioned, since soft power is a matter of perception, we must account for how citizens take in information about foreign countries. In other words, we must consider how foreign countries' actions are communicated, who communicates them, and how such communications are framed.

Second, it is clear that larger powers are often (at least perceived as) Janus-faced entities whose complex array of actions simultaneously earn praise and criticism, pulling members of foreign publics in different directions. Therefore, a general measure of how the public feels towards a foreign power might yield misleading conclusions when trying to

assess the influence these powers wield in specific areas. Comparing across contexts compounds this problem, given variation in levels of exposure and positioning to these global powers. As such, any cross-national comparisons of the impact of any single policy issue (like unilateral naval intrusions) on citizen perceptions of any country are likely to be tepid, given that the average result is the embattled outcome of a myriad of incoherent influences. Even within the same country, citizens are exposed to foreign powers differently, with some groups benefitting more from engagement than others.

Third, the measurement of public opinion of larger powers in developing contexts has been concentrated primarily in Africa, South America, and South Asia. Few, if any, have examined how global powers are perceived in the Southeast Asian context, home to almost ten percent of the global population and a region that, historically and currently, has had to navigate issues of cooperation and contestation with both China and the US.

Finally, as highlighted earlier, a country's soft power tends to be operationalized as single, catch-all measures like general sentiments felt towards it. If local actors respond to specific actions of world powers on an issue-by-issue basis, such simplifications cannot accurately reflect the degree of influence such international players have. Instead, scholars should choose specific outcomes that reflect exactly what soft power is meant to influence.

2.2.2 Overview of online survey experiment

Building on these considerations, this study used a large-N, within-country, online survey experiment in Indonesia to investigate how the domestic achievements of global powers influence the choice of political institutions. There were a total of 1440 respondents;¹¹ who

¹¹ This is after removing potentially errant responses from speedsters, repeat takers, those who choose the same response for all questions, and those who left all questions blank, etc. Respondents were recruited with the help of a research company, TGM Research. Potential respondents that met demographic requirements were sent a letter of contact. If interested, a link seeking consent was sent and respondents were directed to the questionnaire upon agreement. Respondents were paid about US\$1 for completing the survey.

were randomly allocated to one of four treatment conditions, leaving approximately 360 in each group. Respondents were presented with varying information on the country (China or the US) and the type of success (economic or cultural preservation). The survey was conducted in Bahasa Indonesia, with minimal wording differences between treatments to ensure comparability and attribution of any differences in outcomes to these variations (see Appendix B.1 for treatment vignettes and diagrams in Bahasa). Generally, survey questions not related to collecting demographic information adopted a Likert scale format.

2.2.3 Respondent recruitment and profile

Respondents were recruited from six provinces – Aceh, Bali, Kalimantan Barat, Kepulauan Riau, Riau, and Yogyakarta – to ensure a diversity of cultures, languages, and religions to maximize the generalizability of potential findings; and where there are a comparable number of Chinese aid projects to offset China’s relatively nascent status as a donor.¹² While there may be selection effects among respondents from regions where China directed aid for reasons not investigated here, these would not affect the comparison of outcomes across treatment conditions, given randomized assignments. Quotas were also placed to make gender and provincial representation as natural as possible.

The sociopolitical diversity of the selected provinces further ameliorates concerns about selection effects. Aceh, located on the island of Sumatra, is a province with special autonomous powers under the 2006 Aceh Law, an outcome negotiated with the prominent Free Aceh Movement (GAM) that began following the fall of the New Order regime. Aceh has been known as the “Veranda of Mecca” for being the gateway through which Islam arrived in the rest of the archipelago. Aceh is dominated by the Acehnese (about 71 percent);

¹² The concentration of Chinese aid projects is drawn from AidData’s geocoded dataset of Chinese aid projects, Version 1.1.1, covering Chinese aid flows from 2000 to 2014. The information was coded according to procedures detailed in Strange et al. (2017) and AidData Research and Evaluation Unit (2017).

about 98 percent of the population identify as Muslim. Islam plays a prominent role in structuring public life: Aceh's special status enables it to be the only province where Shariah law is officially implemented. Bali, a province that needs no introduction, is majority Balinese (85.5 percent) and 83.4 percent Hindu by faith, owing to its past as a refuge for the Hindu-Buddhists from the Majapahit empire fleeing the victory of the Islamic Sultanates.

Kalimantan Barat (or West Kalimantan) is ethnically more diverse, with roughly equal numbers of Dayaks and Malays (35 percent and 45 percent), followed by Javanese and Chinese (about 10 percent and 8 percent). While it has a Muslim majority (about 60 percent), sizable Christian Protestant and Catholic minorities comprise around 11 and 23 percent of the populace, respectively. Riau and Kepulauan Riau (Riau Islands) were one province until the latter branched off in 2002. They are geographically and historically closer to Singapore and Malaysia, with extensive economic ties fostered by the Growth Triangle cooperation strategy that began in the 1990s. Together, Malays and Javanese form the majority (each between 25–30 percent for both regions) with Islam as the dominant religion (80 percent Muslim). Finally, the special region of Yogyakarta is the cultural heart of Java, which has dominated the archipelago politically and economically. Ninety-two percent of its population is Muslim, and 96.5 percent are Javanese. Here, the governorship and vice-governorship are reserved by law for the Sultan and the Duke of Pakualaman, a unique, institutionalized thank-you for their support during the Indonesian independence movement.

Characteristic	Respondent Statistics (2021)	Indonesia
Province	Aceh – 20% Bali – 14% Yogyakarta – 22% Kalimantan Barat – 18% Kepulauan Riau – 13% Riau – 12%	NA
Age	Min – 18 Max – 70 Mean – 30.22 Median – 28 Standard Deviation – 9.019	Median 29.7
Gender	Male – 51% Female – 49%	Male – 50.35% Female – 49.65%
Income	< 1 million Rupiah/Month – 22% 1-3 million Rupiah/Month – 32% 4-5 million Rupiah/Month – 20% 6-10 million Rupiah/Month – 16% 11-20 million Rupiah/Month – 7% 21-40 million Rupiah/Month – 2% >40 million Rupiah/Month – 1%	3.3 million Rupiah/Month
Assets	No Assets – 31% < 10 million Rupiah – 23% 11-25 million Rupiah – 10% 26-50 million Rupiah – 8% 51-100 million Rupiah – 9% 101-250 million Rupiah – 9% 251-500 million Rupiah – 6% >500 million Rupiah – 5%	Median Wealth: 76 million Rupiah

Population parameters are taken from different sources, with years being as close to the survey date (2021) as possible. Age and Gender numbers are taken from statista.com for 2020, while month per capita income is from the World Bank's latest estimates for 2019. Wealth estimates for 2021 are from the Credit Suisse Global Wealth Databook 2022 (Credit Suisse, 2022; Statista Research Department, 2023; World Bank, n.d.-a).

Table 2.1 Respondent characteristics

Table 2.1 summarizes respondent characteristics in terms of their province, age, gender, education, income, and assets. As shown, most demographics of the respondents reflect national averages; asset levels are lower among respondent, potentially due to how the term “assets” was defined.

2.2.4 Dependent variable

The outcome of interest is the shift in institutional preference arising from the treatments. Since reasonable people can disagree about how centralized institutions are, I measured respondents’ preferred degree of change rather than the level of centralization they want. The *dependent variable (Delta) is the difference between how centralized respondents think Indonesian institutions are now, and how centralized they think the institutions should be for successful economic development.*¹³

One potential downside of this approach is that the treatment affects both how respondents view (i) Indonesia’s current level of centralization *and* (ii) its ideal level of centralization. I might have asked the first question (how centralized Indonesian institutions are) pre-treatment and the second post-treatment (how centralized do respondents think they need to be for more economic growth). However, doing so would have run the risk of respondents’ initial conceptions (of how centralized Indonesian institutions are) changing after treatment. In other words, reminders of China/US institutional centralization/decentralization might shift respondents’ conceptualization of how centralized Indonesian institutions are, despite having already indicated a score for this pre-treatment. Imperfect recall could then create systematic biases. Balancing these concerns, I adopted the

¹³ To do this I first asked, “How centralized do you think are the political institutions of Indonesia?” followed by “How centralized do you think Indonesia’s institutions should be for the economy to successfully develop?” Both questions were measured on a scale from 1 to 7. Respondents were given a scale with the following intervals: 1 – Very decentralized, 4 – Neither centralized nor decentralized, and 7 – Very centralized.

current approach, which focuses on the difference between what “is” and what “should be” for each treatment group, measuring both after the treatment.¹⁴

2.2.5 Treatment

The four treatments are as follows:

- Treatment one (T1) primes respondents to Chinese economic success and the centralized nature of its political system.
- Treatment two (T2) points respondents to Chinese institutional success in cultural preservation, also with information on China’s centralized institutions, similar to that of T1.
- Treatment three (T3) follows the same logic and highlights US economic success and the decentralized nature of its political system.
- Finally, treatment four (T4) highlights US success at cultural preservation and its decentralized system.

To facilitate understanding and reinforce the message, simple diagrams were provided to emphasize the centralized/decentralized systems (See Figure 2.1, Figure 2.2 and Figure 2.3). An understanding check was also included to ensure the validity of results (see “Robustness Checks” below).

¹⁴ Regression analysis shows that differences in treatment were associated in different responses to the second question and not the first, affirming this decision. In other words, treatment changed respondents’ preferred level of centralization and not how they gauged how centralized institutions currently were.

China's Economic Success (Treatment 1) <u>The US's Economic Success</u> (Treatment 3)	China's Success Preserving Culture (Treatment 2) <u>The US's Success Preserving Culture</u> (Treatment 4)
<p>Over the last few decades, China/<u>the US</u> produced spectacular results for their economy.</p> <p>When asked why they succeeded in developing their economy, some attributed it to how their institutions contribute to making sound economic policies.</p>	<p>Over the last few decades, China/<u>the US</u> produced spectacular results for culture preservation.</p> <p>When asked why they succeeded in preserving cultural heritage, some attributed it to how they consistently emphasize preserving sites of cultural significance.</p>

Figure 2.1 Economic and cultural preservation success primes

China's Political System	The US's Political System
<p><u>China's</u> political system has been described as <u>centralized</u>.</p> <p>One reason is that leaders in <u>China</u> are generally elected by <u>other leaders</u>.*</p> <p>Citizens choose leaders at local levels, and leaders at the national and state (provincial) levels** are elected <u>by other leaders</u>.</p> <p>Essentially, citizens <u>cannot</u> influence policies through the selection of their leaders.</p>	<p><u>The US's</u> political system has been described as <u>decentralized</u>.</p> <p>One reason is that leaders in the <u>US</u> are generally elected <u>by citizens</u>.</p> <p>Citizens choose leaders at local levels, and leaders at the national and state (provincial) levels*** are elected <u>by citizens, too</u>.</p> <p>Essentially, citizens <u>can</u> influence policies through the selection of their leaders.</p>

* Members of the Chinese Communist Party

** Like the President, members of the State Council and National People's Congress

*** Like the President and members of Congress

Figure 2.2 Political system primes

China's Institutions

The US's Institutions

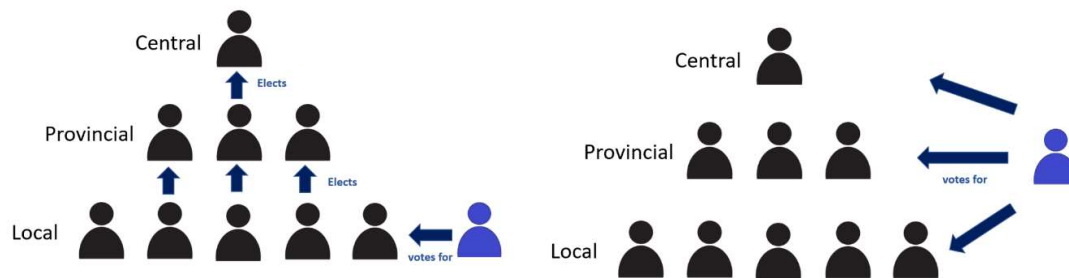


Figure 2.3 Diagrams for political system primes

2.2.6 Absence of control group

A traditional “control group” where respondents either receive no treatment or a placebo was deliberately forgone. Through these treatments, information respondents receive about China or the US makes these countries salient; they read about institutions, are exposed to ideas about what makes for decentralized or centralized institutions and learn about different meanings and measures of national success. It would be extremely difficult (if not impossible) to control for all these dimensions and effectively isolate the factors of theoretical interest.

Given the difficulty in designing such a control group, I intended the cultural preservation treatments (T2 and T4) to be de facto controls for contrast against the economic success treatments (T1 and T3) since, theoretically, awareness a foreign country’s ability to preserve its culture should have no impact on preferences for institutions that achieve economic growth. As mentioned in the discussion section, this assumption proved to be wrong. Fortunately, the two-by-two design allows us to differentiate not just the effects of economic *versus* cultural preservation treatments but also their interactions (China *and* economic success *versus* US *and* cultural success etc.).

2.2.7 Covariates

To sharpen the treatment results, I account for respondents' (i) demographic profile, (ii) their knowledge of development aid, (iii) how local information sources portrayed the aid, (iv) how they perceived local governance and corruption, (v) their support for parties associated with bringing in the aid projects from the donors, and (vi) their perceived quality of interactions with persons from China/US. These were all collected pre-treatment with the order of questions within each section randomized where the sequence was irrelevant.

Demographic characteristics potentially correlate with differences in public opinion. So, I collected information on *age, gender, education, and income*. I also asked about *assets and province*, because politics can vary significantly across locales and owning more assets potentially means a larger stake in the local region and might change how respondents see foreign institutions.

Next, the subjective and objective assessment of foreign powers' presence at the local level might diverge. Politicians have been found to claim credit for foreign aid projects, causing misattribution (Cruz & Schneider, 2017; Guiteras & Mobarak, 2015). As such, I checked for knowledge of development aid in terms of *respondents' reported number of aid projects in their city or regency* (Kotas/Kabupaten) to measure their aid awareness or, at least, their beliefs about its existence. I also asked respondents to identify their *top sources of news* (mainstream media, social network platforms, etc.) on US and China (including aid projects), and to rate *how positively both countries were portrayed by those sources*.

Local political dynamics also can color how foreign powers are viewed. Economic and other flows to corrupt and unpopular regimes systems might create frustration against foreign nations (Lindsay, 2011). Conversely, poorer perceptions of the local government might also cast foreign nations in a better light if they are seen to serve long-deprived needs (Milner et al., 2016a). Thus, I included how respondents view *the Indonesian government*

and its *level of corruption*. We also know perceptions of foreign countries depend on elite cues (Berinsky, 2007), so respondents' political affiliations and the parties they associate with a foreign power matter. Here, I asked respondents to choose the *political party most responsible for bringing in Chinese or US aid* and *to rate their perception of those parties*. Finally, given that conflicts have been known to occur between residents and expatriates from donor countries for cultural and other reasons, I asked respondents to *rate their interactions, if any, with persons from China or the US*, both from donor countries and aid projects. These variables were included in an ordinary least squares (OLS) regression that tested for the treatment effect (See Appendix B.2)

2.2.8 Mediating mechanisms

I investigate several mechanisms that might mediate the post-treatment preference shift. As mentioned, the literature indicates that these mechanisms might operate through changing respondents' (i) level of general affection towards China and the US, (ii) perceived effectiveness of development aid from these countries, (iii) assessments of their own benefits from the aid, and (iv) preferences for political systems (democratic, or not). I also test whether the treatments change how respondents perceive Chinese and US intentions behind providing the aid, and their perceived treatment of minorities. Responses to these questions were collected post-treatment. To calculate the contribution of each mediator on the shift in institutions caused by T1 and T4, I use the product of coefficients method (Baron and Kenny 1986) and the potential outcomes framework of causal mediation analysis (Imai et al. 2011).

The product of coefficients method first estimates the difference in each mediator between T4 and T1 and multiplies this by the mediators' impact on the dependent variable Delta to give the average causal mediation effect (ACME). The ACME is the portion of the treatment effect that can be attributed to the mediator, which is then divided by the total difference in institutional preferences associated with receiving T4 versus T1 (average total

effect) to estimate the percentage contribution of the mediator to the total effect for easy comparison. P-values and confidence intervals for these mediation effects are then estimated using the Sobel test (Sobel 1982).

For example, respondents receiving T4 rated preferences for democracy 0.13 points lower, on average, than those in T1 (all measures on a seven-point scale). This difference was also associated with a lower Delta of -0.02 points (positive numbers indicate preferences for more centralization). Given that the difference in Delta between T4 and T1 respondents was about -0.369 points (the former preferring more decentralized institutions), this meant that the change in institutional preferences from shifting respondents' predilection for democracy accounted for 0.725% of the treatment effect ($0.725\% = 0.13 \times -0.02 / -0.369$).

For the potential outcomes framework for causal analysis, I started by estimating the value of the mediator under the treatment and control conditions together with the relevant pre-treatment covariates. These estimated mediator values were then used to predict the value of Delta under both conditions. The ACME in this case would be the difference between the value of Delta under the treatment condition and the control condition. The ACME was then divided by the average total effect (ATE), which is the sum of the ACME and the impact mediators have on the outcome variable (also known as the average direct effect, or ADE). I use the R package "Mediation" (Tingley et al. 2014).

The next section discusses the findings.

2.3 Findings

I find that the treatments shift institutional preferences independently of existing explanations.

2.3.1 Summary statistics

On average, respondents believed that Indonesia's current institutions lean towards being centralized (4.53) and needed to be more centralized (4.86) for the economy to develop successfully. Of the 1440 respondents, 351 were unsure of either how centralized Indonesian institutions are or how much centralization would be ideal.¹⁵ Table 2.2 shows the average response to these two questions and the difference between them, Delta.¹⁶

	Average	T1 (China × Economic)	T2 (China × Culture)	T3 (US × Economic)	T4 (US × Culture)
<i>(1) Centralization of Indonesian institutions – current*</i>	4.53	4.42	4.55	4.62	4.54
<i>(2) Centralization of Indonesian Institutions – preferred*</i>	4.86	4.93	4.88	4.85	4.77
<i>(3) Delta: (2) – (1)</i>	0.324	0.496	0.333	0.233	0.227
<i>Number of Respondents</i>	1089**	276	282	262	269

*Measured on a scale from 1 to 7: 1 = very decentralized, 7 = very centralized

** Excluded 351 respondents that gave null responses to Delta

Table 2.2 Change in institutional preferences for economic growth by treatment group

¹⁵ The proportions of those who were unsure across different treatment groups were not statistically different at the .05 level.

¹⁶ These are descriptive statistics, not the result of regression analysis with covariates.

A significant proportion of the respondents who answered both questions (1,089) thought that Indonesian institutions were already at the optimal level of centralization for economic growth (466 respondents, or 42.8 percent; See Figure 2.4). The other 57.2 percent believed some shift in either direction was necessary. On average, respondents indicated that more centralization (by 0.324 points) would improve Indonesia’s economic prospects. Figure 2.5 compares these topline results, excluding controls and covariates. The p-values for the difference in Delta for T3 and T4 respondents relative to those from T1 is around 0.07 for both, just short of the conventional level of 0.05.

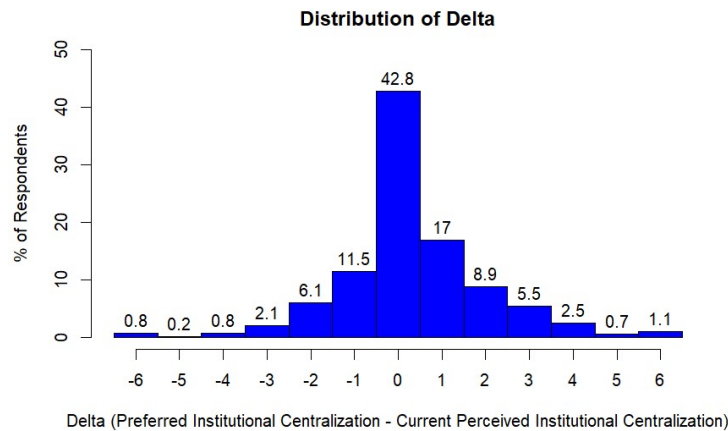


Figure 2.4 Distribution of Delta – Change in institutional centralization for further economic growth

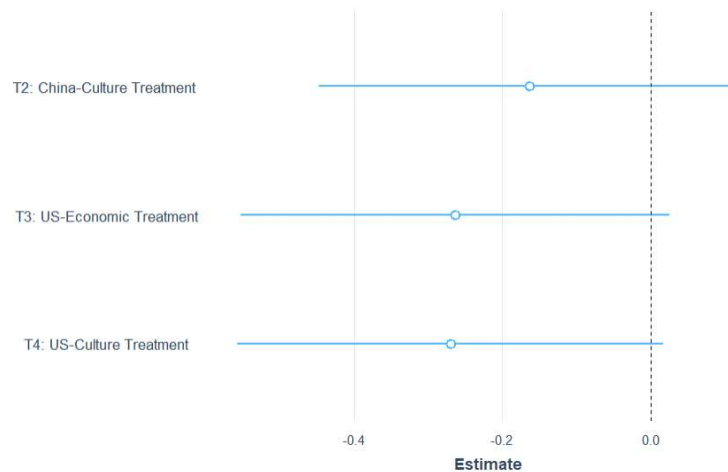


Figure 2.5 Estimate of 95 percent confidence intervals for the impact of T1 to T3 on Delta, excluding covariates; results are compared to T1 (China-Economic)

2.3.2 Treatment effects

Including the covariates sharpens estimates of the treatment impact, with the OLS analysis showing greater statistical significance for the differences in Delta between some treatment groups (see Appendix B.2 for full model estimation results).¹⁷ Figure 2.6 shows the effect of different treatments on Delta with T1 as the reference group. The greatest difference is between T1 (China-Economic) and T4 (US-Cultural), with T4 respondents preferring (by 0.37 points) more decentralized institutions for fostering economic growth. This result is significant at the 0.05 level with a p-value of 0.02. If this magnitude seems modest, it should be noted that the modal preference for how much Indonesian institutions needs to shift to achieve economic growth is none, likely a reflection of Indonesia's recent history (discussed below).

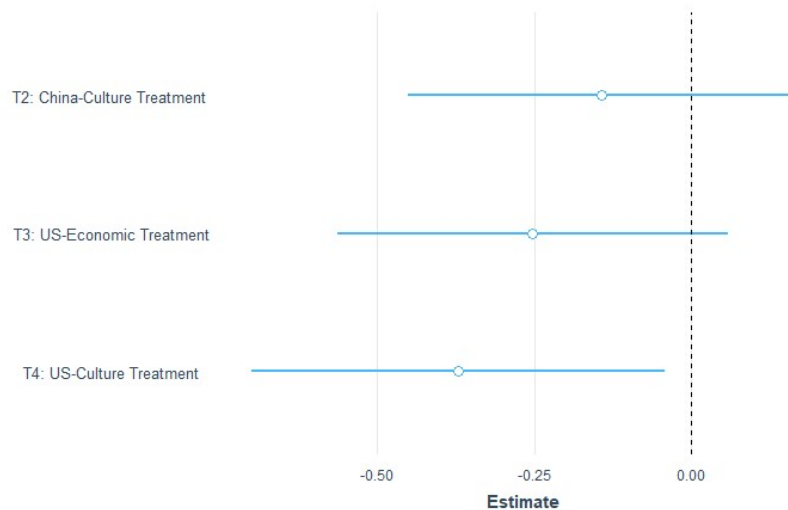


Figure 2.6 Estimate of 95 percent confidence intervals for the impact of T1 to T3 on Delta, including covariates; results are compared to T1 (China-Economic)

¹⁷ Essentially, the logic is like that of a difference-in-difference analysis, where the divergence in preferences across the different treatment groups is measured.

Comparing the preferences of those receiving the China (T1, T2) versus the US (T3, T4) treatments, there is a 0.24-point difference (significant at the 0.05 level) with those receiving the US treatments preferring more decentralized institutions (see Figure 2.7 Estimate of economic versus cultural preservation and China versus US priming on preferences for centralization/decentralization). However, there were no significant differences between the economic success (T1 and T3) and cultural preservation treatments (T2 and T4). None of the covariates had a significant impact on Delta at the 0.05 level, except the income category for those earning 21–40 million Rupiah per month (around US\$ 1500 to 2800). This group preferred more decentralized institutions (by 1.1 points) than those earning less than one million Rupiah monthly.

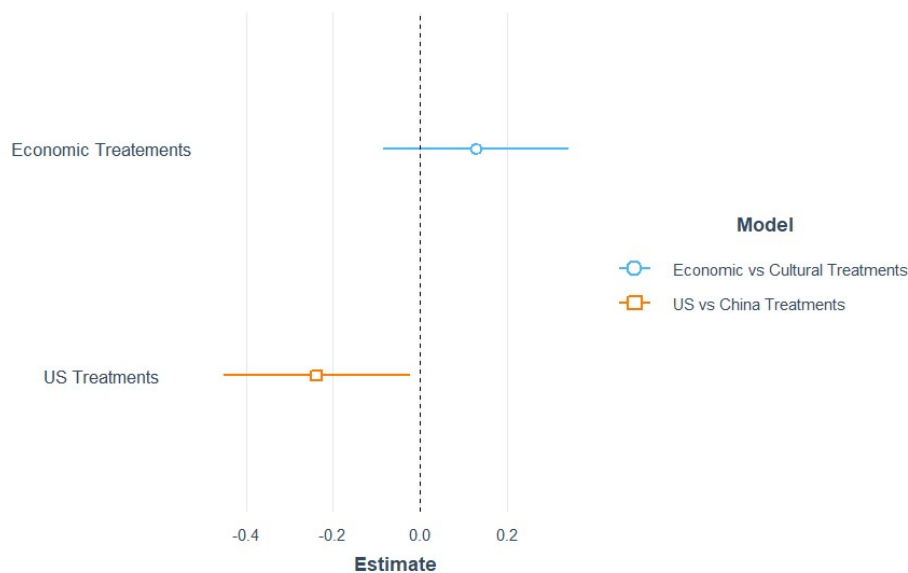


Figure 2.7 Estimate of economic versus cultural preservation and China versus US priming on preferences for centralization/decentralization

2.3.3 Causal mediation analysis: why does domestic success shift institutional preferences?

Mediation analysis confirms that the treatment effects are essentially independent of previously theorized mechanisms.

Table 2.3 compares the impacts of different mediators under the product of coefficients and potential outcomes framework methods. The second and fifth columns, or the “Average Total Effect,” present the total associated change in Delta comparing respondent preferences for T1 versus T4 (sum of ADE and ACME). The third and sixth columns present the estimates of how each mediator affects the outcome variable, the ACME. Using these two values, the fourth and seventh columns then convey the percentage of the difference between T4 and T1 attributable to the mediator. Here, we see that the mediators’ contribution to the treatment effect ranges from -3.79 percent to 6.36 percent. Negative values indicate that inconsistent mediation is at work where the ATE and ACME impact the dependent variable in different directions. For such cases, it is recommended to calculate the percentage contribution of the mediator using the absolute values of the direct and indirect effects (Alwin & Hauser, 1975; MacKinnon et al., 2007). For example, under the product-of-coefficients method, a one-point increase in how positively respondents viewed China increased Delta by 0.00332 points, contributing just under 1 percent of the treatment effect, which is not very substantial. Overall, while the sign and magnitude of each mediator’s estimated contribution to the total effect from the treatments differ across the two estimation methods, what is consistent is that the mediators play minor roles in terms of their magnitude.

	Product of Coefficients			Potential Outcomes Framework		
	<i>Average Total Effect</i>	<i>Impact of mediator on Delta</i>	<i>Percentage Contribution to Delta</i>	<i>Average Total Effect</i>	<i>Impact of mediator on Delta</i>	<i>Percentage Contribution to Delta</i>
	<i>(ATE: ACME + ADE)</i>	<i>(ACME)</i>	<i>(ACME/ATE)</i>	<i>(ATE: ACME + ADE)</i>	<i>(ACME)</i>	<i>(ACME/ATE)</i>
General Perception of China	-0.369	0.00332	-0.90%	-0.36	-0.012	3.33%
General Perception of the US	-0.369	-0.00134	0.36%	-0.352	0.000106	-0.03%
Chinese aid effectiveness	-0.369	-0.0215	5.84%	-0.338	-0.0215	6.36%
US aid effectiveness	-0.369	-0.00958	2.60%	-0.339	-0.0033	0.97%
Personal benefits from Chinese aid	-0.369	-0.01245	3.39%	-0.299	-0.011	3.68%
Personal benefits from US aid	-0.369	0.004301	-1.17%	-0.299	0.0138	-4.61%
Chinese donor intentions	-0.369	0.0104	-2.83%	-0.36	-0.0135	3.75%
US donor intentions	-0.369	0.014	-3.79%	-0.374	-0.01045	2.79%
Preference for democratic systems	-0.369	0.002678	-0.73%	-0.405	-0.00318	0.78%
Chinese human rights record	-0.369	-0.0116	3.14%	-0.353	-0.0119	3.37%
US human rights record	-0.369	0.006478	-1.76%	-0.382	0.00666	-1.74%
Treatment of Minorities – China	-0.369	0.008234	-2.23%	-0.349	0.00144	-0.41%
Treatment of Minorities – US	-0.369	-0.00969	2.63%	-0.37	0.000545	-0.15%

Table 2.3 Impact of mediators

2.3.4 Robustness checks

To confirm the robustness of the findings, I check the balance of respondent characteristics (province, age, gender, income, education, and assets) across treatment groups. Using a balance table, I find the level of unadjusted correlation between the treatment and respondent characteristics to be lower than 0.1 across all variables (See Appendix B.3), the level recommended by Zhu, Coffman, and Ghosh (2015).

I also rerun the analysis using a rescaled dependent variable that only considers the direction of the preferred institutional shift, not the magnitude. Specifically, those who prefer no shift in institutional centrality ($\Delta = 0$) remain coded as “0,” while those who favor greater centralization are re-coded as “1” and those who wanted more decentralization as “-1”. This had no substantial impact on the results (See Appendix B.2).

I repeat the procedure on a subsample including only those who passed the understanding check, which asked respondents to select the option (four options were presented) that best described what the treatment vignette was about. For example, the correct option for those receiving T1 (China’s economic success) is “China has centralized institutions and has successfully grown its economy.” For this subsample, the treatment effect (difference between T1 and T4) more than doubled from -0.369 in the main estimates to -0.749 in the subsample. The result’s statistical significance also increased from the 0.05 level to the .001 level (See Appendix B.2 for full results).

I conduct a second subsample analysis to check if the treatment effect is stronger among those with greater knowledge of aid projects. If aid increases residents’ knowledge of China/US prosperity, we might expect that more aid awareness before the treatment would lead to weaker treatment effects. In other words, greater knowledge of US/Chinese aid activity might be associated with a smaller shift in preferences for decentralization/centralization attributed to the treatment conditions, since they would already

have been somewhat “convinced” of China/the US’s success, relative to those with less knowledge. To do this, I split respondents into three categories: those with no knowledge of either Chinese or US aid projects (‘no knowledge’), those who were aware of at least one aid project from either China or the US but not both (“low knowledge”), and those who knew of at least one project from each country (“high knowledge”).¹⁸

Analysis supports the hypothesis to an extent. There is no significant difference in Delta between T1 and T4 for those with no knowledge of aid projects. Comparing the treatment effects for this “no knowledge” group with those who knew of aid projects from either China or the US (“low knowledge”), the difference in Delta between T1 and T4 almost triples and becomes significant at the 0.05 level. However, this effect shrinks to almost nothing for those with knowledge of both kinds of aid projects (“high knowledge”); the least significant result compares across the three groups (those with no, low and high knowledge of aid projects). Sample size differences do not affect the results, as the “high knowledge” group of respondents was the largest of the three subgroups, with the “low knowledge” group being the smallest (See Appendix B.4).¹⁹

¹⁸ An earlier iteration defined the level of knowledge purely using how many projects the respondent knew of (0 as no knowledge, 0 to 6 as low knowledge, and more than 6 as high knowledge). Results were similar but sample size distribution was much more uneven, so the current definitions were chosen to eliminate the impact of low statistical power on the results.

¹⁹ The no-knowledge group contained 387 members, the low-knowledge group 255, and the high-knowledge group 447.

2.4 Discussion

2.4.1 Overall preference for centralization among Indonesian respondents

First, recent experiences with decentralization in Indonesia might have led respondents to prefer more centralization on average. While the US treatments (T3 and T4) did shift preferences towards decentralization, the average preference among even these two groups was for more centralization. It is important to note that while respondents might implicitly associate China's regime with authoritarianism and the US system as democratic, the question explicitly ask respondents about "institutional centralization"; which takes on specific connotations in the present Indonesian context.

The Indonesian decentralization experiment have had mixed results in terms of public service delivery and economic outcomes (Ostwald et al., 2016). Adverse impacts range from local governments having more opportunities to use civil service positions for patronage, elite capture of the local budget, increased incentives to undertake deforestation and other forms of natural resource extraction, to the general inability of some local governments (especially in newly formed regions) to administer services effectively. Furthermore, increased pressure to secure votes in local elections shortened the time horizon for infrastructure projects, worsening Indonesia's already considerable public works deficit (Ostwald et al., 2016; World Bank, 2012). Unsurprisingly, studies also showed how central intervention to be associated with better local outcomes (Lewis, 2016).

2.4.2 Significance of preference shifts from the domestic halo effect

Second, the findings suggest that the domestic halo effect does shift political preferences. While a difference of perceptions by 0.37 points (0.75 among those who passed the understanding checks) on a seven-point scale might not seem overly impactful, it should be noted that the shift came about from a brief reminder of another country's success. Global powers' domestic successes tend to receive extensive media coverage. Scholars of

communication, psychology and criminology have shown that such repeated exposure increases the learning effect and the extent of shifts in political attitudes²⁰ (Balmas, 2014; Montoya et al., 2017; Roche et al., 2016; Romer et al., 2003; Singh & Cole, 1993). Also, in highly competitive political settings like Indonesia's, small differences in preferences can have a significant impact on outcomes at the voting booth. Even in more authoritarian settings, such effects could shift perceptions of what is desirable like what happened during the Cold War. In other words, such mechanisms could have outsized impacts on historical trajectories, especially if they influence elite preferences when the form of new institutions are being decided.

Further study is needed to determine the longevity of such changes in preference; even if the domestic halo effect is primarily short-term, it remains important to understand its dynamics. In democratic and other contexts, public opinion at critical junctures take on outsized importance. Knowing “how” and “when” this source of soft power might have influence is at least as important as how long that influence persists.

2.4.3 Statistical insignificance between cultural vs. economic treatment results

Third, respondents could differentiate between countries (China vs US), but not between different kinds of success (economic vs cultural preservation). The results do not support the initial expectation that cultural treatments would serve as a control group. If the cultural treatments were effective controls, respondents primed on cultural successes would have different institutional preferences than those receiving economic success treatments. However, differences in Delta across the two groups were not statistically significant. Conversely, differences between respondents assigned the China and US treatments were.

²⁰ Though the relationship between repetition and learning/attitudinal change is generally a positive one, it is also complex, with saturation or even reversals happening at higher frequencies of exposure.

While one interpretation is that respondents differentiate between countries but not specific types of success, more in-depth analysis of the results suggests that this is not the case.

2.4.4 Strong Interaction effect

The biggest differences between respondents were not driven by either country or the economic/ cultural outcome, but by specific combinations of these. Respondents receiving the US cultural success treatment (T4) expressed the strongest preference for decentralized institutions; more centralized institutions were most strongly preferred by those receiving the Chinese economic success priming (T1). If the type of success did not matter, T1 and T2 (China's success) should yield the same results as T3 and T4 (US success). This result shows that some combinations of narratives are more convincing than others. Here, the Chinese economic success story was more convincing than the Chinese cultural one, and the US's reported success at cultural preservation trumped narrative of US economic success. I suggest two reasons why this might be.

The first is that US and China might simply have had different degrees of success in growing their economies and preserving their cultures. Even if this was objectively untrue, certain narratives might be more congruent with prior expectations and stereotypes of the two countries, driven by the kinds of information participants received in their daily lives. China's recent economic success and the US's image as being culturally dominant could have made these portrayals more convincing. Secondly, it could also be an issue of perceived imitability. The economic situation of China, a middle-income economy, might have been seen as being closer to Indonesia's present context. As such, China's economic story could be perceived as more applicable to Indonesia, while the US experience of having reached its current state over a longer period from an earlier starting point might have been deemed less relevant. The data here cannot distinguish between these explanations, so this is an area for further research.

2.4.5 The domestic halo effect does not work through previously theorized channels

Finally, we also saw that the domestic halo effect is not mediated by previously examined causes. Causal mediation analysis showed the direct effects of the treatments to be much stronger than the indirect effects that work through mediators. This means that the impact on institutional preferences from being exposed to Chinese and American domestic success is not just an offshoot of existing channels. What this also suggests is that while the specific cognitive processes that explain its impact bear further study, the evidence presented here supports the notion that respondents do discern between their personal affections, values, and potential gains from deliberations of whether to adopt certain institutions or policies in their local context. For the latter, the deciding factor we have established here are the demonstrated successes of those institutions and policies.

2.5 Implications

These insights address several puzzles.

First, they help to explain why while countries receiving aid from democratic countries are more likely to experience democratization, the opposite is not true: aid from authoritarian sources is not associated with transitions from democracy (Bermeo, 2011)²¹. This is especially puzzling because aid has generally not shown clear impacts on economic growth (Horowitz et al., 2021). The alternative explanation offered by the results here is that while aid might not markedly bolster economic growth, it might have increased the awareness of donors' domestic success, spurring institutional mimicry. The reason democratic countries have been more successful at inspiring imitation could then be a function of their perceived domestic success relative to authoritarian states. In other words,

²¹ This sample for this result is excludes China, which some have argued is not seeking to replicate itself, and whose systems might not be replicable anyway (Babones, 2020; Girard, 2018). It is also uncertain if the results will continue to hold true.

providing aid in and of itself does not necessarily increase institutional mimicry unless the donor country is also deemed to be successful. This also means that if China is increasingly seen as domestically successful, citizens of countries receiving Chinese aid may come to find China's institutions and policies more worthy of emulation.

Another puzzle is posed by Ratigan's (2021) finding that citizens of aid-receiving countries did not want to emulate donor institutions despite high trust in the donor government. Conversely, local citizens supported promulgating the institutions of countries whose entities had come into direct conflict with their personal interests. A simple explanation underpinned by the results here is that people can and do distinguish their personal sentiments towards a foreign nation from the wisdom they gain by learning about that nation's institutions.

This relates to a key implication for future work on soft power: general affection towards a foreign country —probably the most-used measure of soft power— does not necessarily translate to policy influence. As shown here, the cost-benefit calculations regarding a specific policy were not swayed by whether Indonesians “like” a foreign country. As such, general goodwill among foreign publics —while undoubtedly beneficial in many respects— would not qualify as soft power under the original definition of “getting other countries to want what it wants” (Nye, 1990b, p. 166). As such, future scholarship on soft power needs to consider more issue-specific measures that reflect the precise outcomes that a particular form of influence is meant to induce.

Another implication from the result showing certain narratives of global powers to be more convincing than others is that preexisting perceptions matter. How new information is received and what opinions are formed depends on past assessments, which means that a country's domestic image, not just its international one, needs to be carefully curated. But, as seen from the case of the Cold War, this is not simply a matter of rhetoric or brand-building.

To effectively leverage the “passive” source of power that I call the domestic halo effect, countries need to ensure that their actions and narratives across disparate policy issues are congruent.

Another question is whether the informational cues provided in the treatments are representative of everyday phenomena. As mentioned in the section on scope conditions, the domestic halo effect requires information from the source nation to reach foreign publics *and* compel the formation of impressions strong enough to provoke a shift in preferences. This information transmission already occurs through various media sources, with the way information is packaged in televised news segments not unlike the vignettes employed here. Newspapers, social media, and other print media rely on similar strategies to quickly convey volumes of information.

Finally, a question not addressed here is whether global powers might want institutional mimicry. As mentioned earlier, regime type homophily carries tangible benefits like public support of military aid/alliances and aligned voting preferences in international fora. Also, the amounts spent on democratic aid and facilitating democratic transitions (like the United Nations Transitional Authority in Cambodia) would suggest there exists significant interest in wanting foreign institutions to resemble one’s own, at least in the case of the former Western Bloc nations. This assumption might not hold for China. Chinese officials have openly stated that China does not seek the replication of its institutions or development model by other countries because differing circumstances make replication both untenable and unadvisable (Rolland, 2020; Shambaugh, 2014; Xu, 2022). While this is the case, China should remain aware of whether, why and when other nations might choose to emulate its institutions and the implications of these choices, which might affect its ability to project soft power in other areas.

2.6 Conclusion

To conclude, this study used an original survey experiment in Indonesia to adjudicate between different sources of international influence on institutional preferences. The results showed how reminders of Chinese and US domestic success shifted respondents' preferences for their respective institutional styles. Using the product of coefficients method and the potential outcomes framework for causal mediation analysis, I find that previously discussed mechanisms such as general affection, aid effectiveness, personal preferences for democracy, and perceived personal benefits played minor roles in mediating this change of preferences. In other words, the domestic halo effect works independently of previously theorized channels. Another key implication is that the current practice of gauging soft power among foreign publics by measuring general sentiments might not correlate with actual policy preferences. Instead, scholars should consider employing measures with more precisely defined outcomes-of-interest to identify evidence of influence in specific issue areas.

To emphasize what was said in the beginning: if imitation is the sincerest form of flattery, then getting one's own house in order might well be the most effective way to convince others that one's ways are best.

Chapter 3: Lingering Detachments: A Short History of Social Assistance in Singapore and Understanding Non-Uptake Among Older Singaporeans

Aging sharpens inequalities (Abramson & Portacolone, 2017; Chandola et al., 2007; Edvinsson & Broström, 2012). Social assistance directly intervenes in this process in ways that benefit the next generation (Saraceno, 2010). Why, then, do those who qualify for social assistance choose not to take it up and what can policymakers do to ensure help reaches intended recipients? Studies that examine how citizens view welfare policies are typically premised on self-interest or the circumstances that condition political attitudes. Few, however, have investigated what drives non-uptake behavior. This study enters that territory in the context of the fully developed Southeast Asian city-state of Singapore.

This work is motivated by discussions with practitioners from Singapore's social sector who work tirelessly to tackle the problems created by aging and poverty. Within their circle, the existence of a significant number of the elderly who qualify for help but choose not to take it up is common knowledge. Within aid agencies, this group is often spoken of with a mix of admiration, sadness, and (sometimes) exasperation. Innumerable stories are told of successful aid applicants returning to social service agencies to request for their assistance to be cut off because they had tided over one crisis and no longer felt deserving of help. But more often than not, they choose to never come forward at all. And this is despite the well-intentioned nudging of outreach volunteers, grassroots leaders, and social workers.

What is not known, however, is how many elderly persons fall into this group and which reasons contribute most to their decision to not take up support despite doing so being in their best economic interest. This chapter sets out to gain insights into both questions. In the process, I also ask how the Singaporean elderly perceive receiving social assistance; when

and under what circumstances the elderly deem it reasonable to seek financial assistance and how past (and present) political narratives influence that decision. Answering these will adjudicate between existing explanations for why the vulnerable do not seek help (Donaldson et al., 2015), which includes the lack of awareness, the inaccessibility of assistance (distance from application center, time constraints, etc.), the perceived inadequacy of benefits, and high barriers to application, among others. These questions have immediate policy relevance in the Singaporean context and provide insights into broader questions of how to effectively tackle rapidly rising inequality in developed economies.

Singapore is well-situated for this investigation, given that redistribution is (relatively) politically uncontentious with government narratives repeatedly emphasizing the state's increasing role in helping the needy. I use data from the Singapore Life Panel (SLP), a rich longitudinal dataset with comprehensive information on Singapore's elderly population, to estimate how many potentially qualify for social assistance (the ComCare Long Term Assistance Scheme, or ComCare LTA) but do not take it up. I find that among those who meet the stringent policy requirements, there are approximately 4.5 times as many respondents not receiving aid as those who do, which potentially translates to 18,000 households²² that might need help but do not receive it. Stated differently, only a minority of the households that need and qualify for support actually take up that support.

Among the numerous reasons that could account for this outcome, the findings suggest that individual notions of deservingness play an outsized role in influencing non-uptake, over other more "logistical" factors like the ease of application and proximity to community touchpoints (which also matter). In short, a sizeable group of elderly do not seek

²² There were about 4,100 households assisted under the ComCare LTA scheme in FY2020 (MSF, 2021), around the period when the used SLP data was collected.

social assistance out of fear of being negatively judged by their peers, despite shifts in official positions to provide such support. This concern has roots in an earlier era of Singapore's public policy approach, where an emphasis on self-reliance at the household level created stigma around receiving assistance from the state. We see here that such sentiments, now entrenched among the elderly population, is not so easily undone even in the face of efforts to change the narrative on social support and make it more accessible. But the findings here also suggest that there may be opportunities to strengthen uptake through more relational and community-based approaches.

Overall, the Singaporean case demonstrates the “stickiness” of socialization around values promulgated by formal institutions. Despite changes to policy and public narratives, negative portrayals of social assistance live on in the form of perceived social stigma to continue preventing uptake of assistance. In other words, informal institutions might echo the policies of formal institutions past, impacting policy change.

This chapter begins by reviewing the literature on potential factors driving social assistance attitudes. It then makes the case for why Singapore is well-situated for investigating non-uptake of social assistance. Next, it details the methodological approach adopted here to estimate the scale of non-uptake and the reasons behind it, before reviewing the findings. Finally, I discuss the potential for designing more effective policy mechanisms and the relevance of these behavioral insights to broader issues of inequality.

3.1 Theoretical framework

Social assistance is defined here as the direct provision of financial resources by the state for the purposes of meeting basic needs. Current theories around how it is perceived fall into two camps. The first takes a “self-oriented” perspective founded on assumptions of self-interest. Here, an individual's attitude is determined by their personal circumstances —what they

stand to gain or lose—and the factors that change those calculations (Grimalda et al., 2020; Hanewald et al., 2021; Hays et al., 2005; Sumino, 2014; Walter, 2017). The second approach is more “other-oriented,” examining respondents’ beliefs about society and the nature of politics (García-Sánchez et al., 2020; Margalit, 2013; Naumann et al., 2016), and how attitudes towards redistribution are shaped by factors like the characteristics of those positioned to benefit from transfers (Hansen, 2019; Jensen & Petersen, 2017; Linardi & Rudra, 2020; Petersen, 2012; Petersen et al., 2011) and their adherence to norms (Fong et al., 2006). Within the second camp are notable works on how scarcity during the formative years of one’s development leads to lasting preferences that are resilient to contextual changes, such as improvements to their economic condition (Inglehart, 2000; Inglehart & Baker, 2000; Kiley & Vaisey, 2020).

While these claims are backed by evidence, most conclusions are drawn from attitudinal surveys or experimental games. Albeit useful for adjudicating between competing theories in a broad sense, they are bereft of real, lasting consequences for participants. This also makes it difficult to determine if professed values are merely performative, obscuring investigations into how such self- and other-oriented attitudes interact. As such, studying those who choose not to take up social assistance despite qualifying is ideal for bridging these methodological gaps.

Studies have also shown that the perceived desirability of social assistance depends on whether one’s needs are seen as “valence” or “hard” issues—where deservingness is immediately clear and overrides other considerations—versus being a “soft” issue, where circumstances are weighed and considered against other factors (Jensen & Petersen, 2017; Petersen, 2012; Petersen et al., 2011). Relevant to this study are the findings from this literature which show that whether potential applicants think they deserve assistance depends partly on the narratives they receive from their social environment (government, friends,

family, etc.) and how they perceive their own circumstances. This points to the possibility that personal paradigms do not align with official narratives.

3.2 Why Singapore?

Singapore is well-situated for such an investigation because it removes from consideration the kinds of factors that policymakers have less leverage over, allowing us to focus on comparing individual drivers of non-uptake.

First, Singapore's political climate makes partisan preferences a non-factor in the decision to take up social assistance. Not only are major parties presently aligned on the issue, the level of government debt and the size of the public sector are not politically divisive issues in Singapore. The consistently balanced public budget and high levels of national savings mean that citizens who support additional transfers in principle need not worry about national coffers being stretched by overspending, burdening future generations with debt. Other factors that are non-issues in Singapore's context include the geographical distance from assistance centers (which can increase the cost of applying for help in other contexts) and rural-urban dynamics, where diverging values and levels of community integration add additional layers of complication for understanding non-uptake behavior.

Recent shifts in governmental narratives have deemphasized the role of the individual and highlighted the increased responsibility of the state, which further facilitates distinguishing self- versus other-oriented factors that motivate non-uptake. This chapter focuses its analysis on the earliest and most enduring of Singapore's assistance efforts: the ComCare LTA, previously (and still popularly) known as the Public Assistance scheme, which targets those unable to achieve self-sufficiency via employment and who are unlikely to leave that category. As such, most recipients are either of retirement age or unable to work due to disabilities. Through the years, the ComCare LTA policy has been consistently couched as targeting those with the greatest needs. While the nature of the policy has not

changed significantly, the government has shifted away from its previously more austere approach on a broader level. Elsewhere, it has introduced more universalistic programs that increase healthcare coverage and other forms of welfare for larger segments of the elderly. For example, The Pioneer Generation Package (PGP) was framed as a national expression of gratitude for the contributions of the “pioneer generation” that helped build the nation. This combination of more compassionate narratives and other forms of welfare while social assistance schemes themselves remain largely unchanged sets Singapore up as an excellent case to test the stickiness of the past paradigm for those who were conditioned by it.

Singapore is therefore a “hard” case for finding anti-redistribution attitudes among the elderly since both material concerns and present state pressures should push them towards accepting assistance. It also means that preferences for austerity are more likely the result of personal values and/or (perceived) social influences than broader political or economic conditions. Furthermore, the retirees in our sample saw vastly different developmental contexts during Singapore’s rapid economic transformation that started from the 1950s. From the seminal theory by Inglehart (1990), this should result in sharper differences in formative values across age cohorts, facilitating comparison.

Finally, Singapore’s traditionally productivist approach towards welfare —where commitments to social assistance are welded to principles of active participation in the labor market to boost (or at least not undermine) economic productivity (Esping-Andersen, 2013; Holliday, 2000)— increases generalizability to societies with similar individualistic dispositions, such as the United States or the United Kingdom. To illustrate some of these points, the next section outlines the evolution of social assistance policies in Singapore.

3.3 The history and perceptions of social assistance in Singapore

To understand non-uptake of social assistance in Singapore, I first examine how the state's approach to social policy has evolved through the years.

When Singapore's first prime minister, Lee Kuan Yew, passed away in 2015, the BBC ran an article on what they saw as key elements of Singapore's governance model. They quoted Lee as saying about the welfare state: "The principle is that you must work. We are not going to pay you for lying around." They concluded that Lee had "a strong aversion to the welfare state and thought it encouraged laziness," and that Singaporeans are expected to shoulder much of the burden of taking care of themselves and their families (Wong, 2015). Writing around the same time, John Goodman labeled Singapore's welfare system as "an alternative to the welfare state that works," and styled Singapore's approach as based on the principle that "[e]ach generation should pay its own way. Each family should pay its own way. Each individual should pay his own way," and "only after passing through these three filters should anyone turn to the government for help" (Goodman, 2015). While accurate, both characterizations were already dated, missing the major changes to Singapore's social assistance landscape occurring around that time.

This section highlights relevant aspects of Singapore's social assistance history that potentially impact non-uptake behavior. The principles that dominated for most of Singapore's modern history are clear: first, one is expected to work so long as one is physically able. Next, other sources of help should be completely exhausted before approaching the government, which begins with the family and then extends to the community. Finally, receiving social support is associated with non-economic costs, including stigmatization. Recent shifts in the Singapore government's narrative and approach have been marked departures from each of these. The extent of that departure created a stark

contrast between the new governmental position and its past narratives, and it is uncertain which prevails in the minds of elderly Singaporeans.

3.3.1 Social assistance after World War II

Many principles underpinning Singapore's social policy today have roots in the immediate period after the Second World War. Social assistance as a permanent feature of the state arguably began in 1946, when the Social Welfare Department (SWD) took over the administration of public welfare from the British Military Government as the first multi-service agency (*Functions of the Social Welfare Department*, 1952). Prior to this, social assistance was largely devolved to religious and ethnic-based organizations (Maisharah, 2008). Britain's town plan for Singapore facilitated this: by segregating the population according to their ethnic and dialect groups, colonial administrators could take a more "hands off" approach to a myriad of issues by making community leaders responsible for the organization of community support and service provision instead (ibid).

Key among functions inherited by the SWD was the administration of the Public Assistance (PA) scheme, which provided monetary assistance to those in need. At its immediate post-war peak, there were 20 locations around Singapore administering the scheme assisting 40,000 families. By Jun 1946, this was down to 7,500 families served from 6 locations. SWD took over from the British military in the following month to (i) provide emergency relief for war victims, (ii) find homes for the homeless, (iii) ensure a supply of affordable meals, and (iv) eradicate juvenile delinquency and prostitution (*Public Assistance Board – Singapore Outdoor Social Assistance Services*, 1953).

The monthly assistance rates in 1946 (SG\$5 for males, and SG\$4 for females over 16, with a cap of SG\$20) would remain unchanged until 1951. Rising prices and increasing awareness of the insufficiency of the pay-outs' led to comments that PA rates were "derisory" and "a cruel joke," making it "a mystery" how anyone could survive on them ("Starvation

Relief,” 1951). This precipitated the establishment of the Public Assistance Board (PAB) to “advise on the administration of outdoor public assistance” and review the rates within pre-set financial limits. Within five months of PAB beginning operations in August 1951, assistance rates had doubled or even tripled, depending on beneficiaries’ profiles (“Wider Power for Assistance Board,” 1952). Even though benefits were already significantly more generous than previous relief measures (“635 Families Had Cause to Be Glad,” 1951).

The PA scheme operated alongside other colonial relief efforts such as the Silver Jubilee Fund, set up in memorial of the silver jubilee (25th year) of the United Kingdom’s King George V for the “relief of distress in the settlement of Singapore”. Some, like the Far Eastern Relief Fund, were specifically created to help families rendered destitute by the Japanese Occupation (*Public Assistance Board – Singapore Outdoor Social Assistance Services*, 1953; *Silver Jubilee Fund*, 1947). In time, however, the PA scheme would become the most enduring and iconic social assistance policy in Singapore, with many recipients and help organizations still referring to the ComCare LTA as “PA”.

Though nascent, these early forms of social assistance demonstrated principles that continue to characterize Singapore’s social policy today. First, there was rigorous means-testing for those who applied, with the inability to work being a key condition for qualifying. Under this requirement, widows, children, elderly, the permanently or partially disabled, as well as those who were temporarily employed but still not making ends meet, were recognized as target beneficiaries. Even for those with extenuating circumstances, such as those receiving the relatively generous Tuberculosis Treatment Allowance, it was made clear that assistance amounts should not exceed what one might earn in the labor market to avoid disincentives for work. Next, assistance was provided at the family and not at the individual level (excepting single-member households). Assistance rates were therefore customized to household characteristics: the amount of aid varied based on the number of members, with

additional provisions given to the seriously sick (“Allowances Only for the Seriously Sick,” 1951; “Board to Study Relief System,” 1952; “Terms of Public Aid Should Be Wider,” 1951). Two takeaways from this period stand out: that one should work so long as one could, and that families were the first and preferred line of support to address needs.

3.3.2 1950s to 1980s – Emphasis on employment and self-reliance

After this initial period of helping families recover from hardships imposed by the war, the mantra of social assistance in Singapore became that of self-reliance. In 1959, the PA scheme was revised so that unemployed persons without any dependents were no longer eligible for assistance. A few years later in 1965, a Special Unit was set up to sieve out PA recipients who had become ineligible as their circumstances improved (Melissa Especkerman, 2005). As the economy rapidly expanded and unemployment rates dropped to near zero, the principle of individual responsibility was taken even further. After assistance rates had stagnated for almost ten years beginning from 1962, in 1971 the government *reduced* the quantum of assistance for this already highly selective scheme. The head of the household would receive 24 percent less—from SG\$21 to SG\$16 per month (“Social Welfare Aid Cut by \$2 Mil for 1971,” 1971)—even though prices had increased by 12.55 percent during the same period.

Even more striking was how welfare recipients were portrayed during this period despite being arguably the most impoverished group and deserving of help. For example, the Straits Times ran a story in 1977 of Mdm Chua Chwee Neo, a fifty-year-old mother of four whose husband had abandoned the family, leaving her without any means of support. The article described how she had “her first bitter taste of humiliation of going on the dole” and that she “drank this bitter cup of humiliation to its dregs, accepting assistance from the Social Welfare Department.” It went on to talk about how she was able to set up a stall selling sweets and cigarettes thanks to the new Self-Employment Assistance Scheme that provided

loans to public assistance recipients for the purpose of becoming self-reliant. Sharing her experience participating in the scheme, Madam Chua was quoted as saying “now I can walk proud in the knowledge that I have achieved self-respect for myself and my children and need no longer depend on others to feed me” (Ng, 1977). Here, it is apparent that the association of negative values with receiving assistance was anything but subtle. Families were expected to become self-reliant despite their dire situations being the result of factors beyond their control. Such narratives were enforced by the remarkable economic progress experienced by most Singaporeans at the time, leaving little space for empathizing with the plight of assistance recipients and making it easier to attribute the circumstances of assistance recipients to individual rather than structural failings. Thus, these tenets of social assistance remained relatively unchanged for several decades. During this period, the number of households receiving social assistance also remained relatively small.

3.3.3 1990s to 2000s - Bringing the community back in (strengthening self-reliance)

This situation began to change in the 1990s, when the “many helping hands” approach was added to the principles of individual self-reliance and family as the first line of support. But taken another way, this simply reiterated the idea of private responsibility with the inclusion of the community as an added source of assistance, harkening back to the approach taken during the prewar period. The basic notion was that voluntary welfare organizations (NGOs focused on philanthropic works) and other grassroots bodies would work alongside the government to support the poor and vulnerable in Singapore.

As part of this, five Community Development Councils corresponding to five geographical districts were set up. Led by a Mayor and other members of parliament, they were meant as platforms to get Singaporeans to contribute more to their communities (Haskins, 2011; Singapore’s Social Compact, 2019). Specifically, they would “foster cross-sectoral collaboration between the public, private and social service sectors in support of the

poor and vulnerable in Singapore.” (Supporting Singaporeans and Ensuring No One Is Left Behind, 2015). Overall, the logic of self-sufficiency was extended during this period via attempts to reinclude the community in providing help to needier segments of society.

3.3.4 2010s to present: Making assistance accessible and celebrating the elderly

Unsurprisingly, this approach became increasingly untenable as inflationary pressures and mounting inequality in the first decade after 2000 led many Singaporeans to feel like they were falling behind. These sentiments came to a head during the 2011 general elections, exacerbated by the government’s expansionary economic ambitions and policies that were seen as trying to increase immigration during a period when overcrowded public infrastructure and perceived competition from immigrants had become sources of discontent (Kevin Lim & Walter Sim, 2011). The result was the lowest vote share the People’s Action Party had received since independence at 60.1 percent.

Two years after this watershed, Prime Minister Lee Hsien Loong announced a “strategic shift” in Singapore’s approach to nation building during his 2013 National Day Rally speech. Although there would still be a place for self-reliance, he was unequivocal that the government “must shift the balance” and “do more to support individuals and the community”. Because if society relied “too heavily on the individual, their efforts alone will not be enough, especially among the vulnerable like the low-income families, like the elderly” (Lee, 2014). This was a welcome, if not possibly belated step, with Singapore’s economic structure beginning to stabilize and with it a decrease in the kinds of new opportunities that came with structural upheavals. Evidence would later emerge that class rather than race or religion would become “Singapore’s most divisive fault line” (Low, 2018), and that the social mobility enjoyed during Singapore’s earlier years could no longer be taken for granted (Ministry of Finance, 2015).

Around the same time, the first Social Service Office (SSOs) would be launched with the aim of bringing social assistance closer to those who needed it. From the five CDCs that served as application centers for social assistance, the government began planning for 20 SSOs in 2013, with 24 eventually coming into operation. Specific sites were chosen based on a “geospatial system” that prioritized proximity to “homes of needy residents” and accessibility to public transport (Kok, 2014; Ministry of Social and Family Development, 2013). To complement this new approach, the Singapore government invested in the Social Service Net (SSNet) to integrate case management systems between different government and community organizations such as Family Service Centers, which provided familial counselling and other social services. This was so applicants did not have to recount their plight every time they sought help from a different agency (Ministry of Social and Family Development, 2017), a process that had been described as “degrading” (Teo, 2018).

Besides shifting narratives and efforts to make accessing assistance easier and more dignified, there was a concurrent move towards semi-universalistic forms of assistance targeting the elderly. For example, the Silver Support scheme was introduced in 2016 to provide automated cash supplements to assist with the living expenses of up to a third of the poorest Singaporeans above 65. Targeted at those “who had low incomes during their working years and now have less in their retirement,” the scheme stood out from other social assistance policies for its automatic qualification process. It triangulated information using their registered residential address (housing type), total household per capita income, and the balance in their CPF pension account to identify potential recipients (Walter Sim, 2016; *What Is the Silver Support Scheme*, n.d.).

Another major departure from past practices was the Pioneer Generation Package (PGP) and Merdeka Generation Package (MGP), introduced in 2014 and 2019 respectively. Both included benefits such as additional subsidies for outpatient care and medical insurance

premiums, as well as top-ups to the medical savings accounts of Singaporeans born before 1949 (the “Pioneer Generation”) and those born between 1950 and 1959 (the “Merdeka Generation”). What is striking about these measures is their framing. Both were explicitly communicated as expressions of gratitude for a group “who helped lay the foundations for modern-day Singapore,” thanking them for their “hard work and dedication in making Singapore what it is today” (*Pioneer Generation Package*, n.d.; Toh, Yong Chuan, 2014).

In other words, not only did the state attempt to destigmatize receiving social assistance by changing narratives, but it installed new infrastructure to make accessing help more convenient. On top of this, elderly Singaporeans were publicly honored for their contributions via additional forms of assistance, affirming their right to savor the fruits of their earlier labor. All this marked a stark shift from how social assistance was administered and portrayed in Singapore’s earlier years

3.3.5 Social Assistance through the years

To summarize, social assistance in Singapore had always been targeted towards the neediest segments of society. Even then, strict measures were put in place to ensure recipients did not get too comfortable “on the dough,” so assistance amounts generally fell below what a low wage worker would otherwise earn in the labor market. Many of these measures preceded the PAP government and were present since colonial times. Despite the paltry benefits that public drew criticism from some corners of society, negative stereotypes about recipients would persist past the 1990s. These factors —coupled with the rigorous means testing and perceived indignities of having to “prove” one’s plight” via the application process— would ensure none but the most serious of cases would even come forward. The last ten years saw a pivoting away from this approach, shifting the burden from the individual, their families, and the community back to the state. More importantly, new measures would make assistance

more accessible and the application process more dignifying. These more compassionate accounts should, in theory, have eased some of the stigma against recipients.

The current cohorts of elderly experienced all these events. With the combined impact of these divergent approaches remaining largely unknown, it becomes important to understand if and how many still live by the old mantras and choose —either by deliberate choice or through quiet resignation— to suffer in silence despite qualifying for help. Even if they cannot be nudged towards receiving the help they are entitled to and clearly deserve, then we should at least be aware of their existence and understand their rationales. The next section estimates the extent of non-uptake and the reasons behind it.

3.4 Methodology

To estimate the number of elderly Singaporeans who qualify but are not receiving assistance, I proxied for ComCare LTA’s qualifying criteria using comparable individualized data. To understand the reasons behind such behavior, I conduct a series of regression analysis with qualifying for ComCare LTA and not taking it up as the dependent variable (DV) and variables such as age, social contact frequency, and reported barriers to assistance.

3.4.1 Estimating the number of qualified non-receivers

For my analysis, I leverage the comprehensive SLP dataset managed by the Singapore Management University’s Center for Research on Successful Aging (ROSA). Based on a representative sample of more than 12,000 Singaporean citizens between the ages of 50 and 70, ROSA have been collecting about 7,500 responses monthly (in ‘waves’) starting from July 2015 (wave 1). These include a battery of wellbeing indicators, ranging from social interactions to health and financial outcomes. This makes SLP the most comprehensive platform for understanding the state of the elderly in Singapore.

The administrative data used here was collected was collected in August 2018 (wave 37). The timings of different waves are reflected in Appendix C.1. Not all indicators are

collected with equal frequency. Many are recorded monthly but others quarterly, annually, or just once for specific research needs. Generally, variables that are more susceptible to change (income and consumption) are collected more frequently while more stable ones are measured at longer intervals, such as the number of living children or housing type. Due to these differences, the main analysis draws mainly from Wave 67 (Feb 2021).

The waves were chosen with the following considerations: (i) where information is as updated as possible, (ii) variables from different waves being as close in timing of data collection as possible, and with (iii) related variables preferably being from the same wave. Collection times for variables used in the analysis are detailed in Appendix C.2. In total, after removing observations due to missing responses in the variables used to identify social assistance recipients and potential qualification, the total number of respondents in the sample was 7326.

For the main variable of interest—whether one received social assistance—respondents were asked if they had received help in the form of ComCare LTA, ComCare Short-to-Medium Term Assistance (SMTA)²³, the Straits Times Pocket Money Fund, Workfare, or “similar government or non-government” welfare assistance schemes. These have differing policy objectives and criteria, but ComCare LTA stands out for targeting those with the greatest need (no prospect of earning income, with no other means of support), many of whom are elderly and/or unable to work due to disabilities. The assessment process for receiving ComCare LTA is extremely rigorous. So stringent are the requirements that receiving it is taken by many NGOs as a proxy for having the greatest level of need. Some have even called ComCare LTA the “gold standard” of social assistance as the only

²³ Specifically, the question asks if they have received assistance from “ComCare or Public Assistance”. These names are what ComCare SMTA and LTA is more commonly known by amongst the elderly in Singapore.

effectively permanent source of public financial assistance. Unlike policies such as the Silver Support and Workfare schemes, ComCare LTA still require potential beneficiaries to come forward and apply. However, as highlighted earlier, it also carries with it negative connotations from its time as PA in the early decades after Singapore's independence. For these reasons, ComCare LTA is used as the litmus test for establishing when deserving elderly might fail to take up assistance due to past stigma. Given that social assistance in Singapore is targeted at the household level, I operationalize those that qualify for social assistance as described in Table 3.1 ComCare LTA criteria and operationalization using SLP data.

Given that there are no specific eligibility criteria that “guarantee” qualification for assistance (all cases are assessed on a case-by-case basis), I take a conservative approach when operationalizing the publicly available criteria to ensure that the estimated number of qualified non-receivers —those that meet all the criteria for assistance but do not receive any of the assistance schemes listed above— is not overstated.

Qualifying criteria for ComCare LTA	Operationalization in SLP data
unable to work because of old age, illness, or disability	of retirement age (63 and above), or indicated themselves as disabled and unable to work
have little or no family support, savings, or assets to rely on for your daily needs	own only one property and stays in HDB 1, 2, or 3 room flats
are elderly persons who receive only a small monthly payout from other sources such as CPF Retirement Sum /CPF Life, Pension, ElderShield, Lease Buyback Scheme, and the monthly payout is lower than the prevailing LTA rates	all income from CPF, Pension, and assets must be lower than prevailing ComCare LTA assistance rates ²⁴
are elderly persons whose children are low-income themselves, (i.e., have a household income of SG\$1,900/month and below, or per capita household income of SG\$650/month and below) and unable to support their parents	per capita Household Income of SG\$650 and below (monthly) ALL children all staying in HDB 1,2, or 3-room flats Other transfers from outside household must be less than SG\$500 a month
are a Singapore Citizen or a Permanent Resident	SLP respondents are Singaporeans

Table 3.1 ComCare LTA criteria and operationalization using SLP data

²⁴ In Feb 2021, this was SGD \$600 for a one-person household, \$1,000 for a two-persons, \$1,400 for three-persons, and \$1,750 for four-persons, with an additional \$150 for school going children. For five-person households and above, I continued adding \$350 for each additional household member on top of the four-person rates.

3.4.2 Understanding the reasons behind welfare non-uptake

I now examine potential reasons behind non-uptake. Reasons reflected by the elderly include, among others²⁵: the fear that they are not “unfortunate enough” to require assistance (i.e. they believe they fail to meet criteria, either in practice or in principle); that there is stigma in receiving assistance; that the outcome is uncertain; and that the application process is onerous (that it involves submitting many documents, etc.) (Donaldson et al., 2015; King, 2017; Teo, 2018). There is currently no data available on specific attitudes towards ComCare LTA, so I use tests for policy awareness and potential barriers to social assistance more broadly as a proxy²⁶. While the coverage of this data goes beyond ComCare LTA, what respondents perceive to be the main barriers to accessing other forms of government assistance and their assessment of the relative importance of these barriers should be generalizable to ComCare LTA.

Specifically, respondents were asked: “in the last six years, which of the following programs have you either considered participating in but eventually decided not to apply, or wanted to know more about but failed to find the information you were looking for? Please pick the one you considered most recently.” They were then told to rate seven barriers on the

²⁵ Other reasons that I am unable to examine here with the present data include the perceived loss of dignity that applicants undergo when having to share their plight to justify being “good enough” to receive social assistance.

²⁶ This module focuses on six specific social policies. The (i) Medishield and (ii) Eldersshield schemes providing health insurance; the (iii) GST Voucher (GSTV) scheme which offsets lower income household expenditure on the Goods and Services tax via cash payments and top-ups to their government medical savings account (Medisave), among other benefits; the (iv) Enhancement for Active Seniors (EASE) scheme, which provides subsidies for home improvement projects to make homes more elder-friendly (anti-slip floors etc.); (v) the Community Health Assist Scheme (CHAS) that provides outpatient subsidies to lower income workers; and the (vi) Pioneer Generation scheme that provides healthcare and other benefits.

degree to which they contributed to their failure to take up the assistance.²⁷ These barriers were: (i) “family or friends would have judged them if (they) applied,” (ii) “finding information about the program,” (iii) “understanding eligibility criteria of the program,” (iv) “understanding the benefits of the program,” (v) “understanding the program itself, since it was reformed or about to be reformed,” (vi) “the time to learn about eligibility, application, or benefits,” and (vii) “applying to the program”. I estimate their impact on non-uptake using an ordinary least squares (OLS) regression, in which the DV is the respondent’s decision (limited only to qualifying respondents) on whether to take up assistance.²⁸ The variables above and a series of controls act as IVs.

In total, I estimate four different regression models. *Model 1* examines the effects of age and other control variables such as gender, education, and household income on non-uptake among those who qualify. *Model 2* adds social contact frequency to this to test if more social interaction leads to less take-up. *Model 3* then includes the seven barriers as well as controls and social contact frequency. Response rates to several of the barrier questions were low. For this model, I assume that a respondent skipped a particular barrier because they did not see it as a relevant factor; consequently, I imputed the value (“1”) that corresponds to “not at all” for the missing values. Given the population inequation and the nature of the barriers, this is a reasonable assumption. *Model 4* then reruns the estimates for the barriers without the imputed values. Due to the resulting small sample size, I include only age as a control.

²⁷ These were measured on a scale from 1 to 6, with 1 being “Not at all,” 2 “A little,” 3 “Moderately,” 4 “Considerably,” 5 “Completely” and 6 “Not Applicable”.

²⁸ This is a dichotomous variable where a value “1” denotes the respondents met the proxy ComCare LTA criteria AND indicated “No” to the question of whether having received assistance, and “0” to denote that they met the criteria and received assistance.

3.5 Results and discussion

This section reports and discusses the findings from the above-described analysis. Overall, the results suggest that there is a substantial number of elderly persons in Singapore who qualify for social assistance, but do not take it up for fear of social reprisal and the associated shame.

3.5.1 Estimated number of qualified non-receivers

Based on the operationalization of policy criteria, I group respondents from SLP's 67th wave by whether they are (1) *Qualified non-receivers*, who potentially qualify for but do not receive social assistance; (2) *ComCare receivers*, who qualify and receive it; (3) *Non-qualifiers*, who neither qualify nor receive; and (4) *non-ComCare receivers*, who do not qualify for ComCare LTA but reported receiving some form of assistance. Results from the analysis is reported in Table 3.2.

	Does not receive assistance	Receives assistance
Meet policy criteria	Qualified non-receivers: 206	ComCare receivers: 46
Does not meet policy criteria	Non-qualifiers: 5882	Non-ComCare receivers: 1192

Table 3.2 SLP respondents by assistance and qualification status

We see that the number of qualified non-receivers is **206, which is about 4.5 times the number of ComCare Receivers**. These numbers are likely to be underestimates. The data used was from early 2021, during the worst of the Covid pandemic. During this period, income and employment declined while social assistance from both private and public sources increased (Chok, 2021; Gov.sg, 2020). This means it was more likely that

respondents would have received one of the other forms of assistance other than ComCare LTA during this time, and thus responded yes when asked if they received assistance²⁹. This effect would be further augmented by more families qualifying for some form of assistance due to their drop in income. Finally, during the pandemic when unemployment was higher and more households were receiving help, the stigma around government assistance would also have decreased.

From a comparative perspective, this result is not surprising. In Sweden (1985 and 1997), surveys showed that about 9% of respondents indicated being eligible for social assistance, but only 2.3% reported receiving it (Gustafsson, 2002); in other words, that there were about 4 times as many respondents who were eligible but did not receive help relative those who did. In Germany from 1963 to 1995, the same ratio was between 0.33 and 0.61 (Riphahn, 2001), and between 0.82 to 6.14 for Switzerland in 1992, depending on how social assistance is defined (Hümbelin, 2019; Leu et al., 1997). These studies, conducted primarily in Europe and the United States, point to a very disparate picture, with estimates in OECD countries varying between 0.06 and 3.2 (Hernanz et al., 2004).

Generally, direct comparisons are difficult because estimates vary according to the methodology adopted by researchers and the socio-economic contexts of the specific time periods. While there are some commonalities across these studies such as higher assistance amounts and ease of application increasing take-ups, the influence of other variables is less consistent. In the European context, it was found that non-uptake is generally lower in urban compared to rural areas but this could also be higher when measured during periods with

²⁹ Did you or your spouse receive any cash income from Workfare, ComCare, or Public Assistance, Straits Times Pocket Money Fund, or other similar government or non-government welfare assistance schemes in the year 2020.

consistently lower unemployment (Hümbelin, 2019; Riphahn, 2001). What most of these studies agree on, however, is the consistent role of social stigma in lowering uptake.

3.5.2 Reasons for welfare non-uptake

For the reasons behind non-uptake, I use data collected on barriers to take-up of six social policies (MediShield, ElderShield, PGP, GSTV, CHAS, and EASE) in April 2019, focusing on seven barriers: (i) feeling judged by friends or family, (ii) faced difficulties obtaining information, (iii) understanding the eligibility criteria, (iv) understanding program benefits, or (v) the program itself, (vi) didn't have time to learn more about the program or (vii) applying to the program. Given that we are trying to understand why some qualified potential recipients of support do not receive that support, we limit the sample to those who meet the ComCare LTA criteria I operationalized earlier. Unsurprisingly, the number of respondents who qualify within the sample is small (252).

Despite this, fear of judgement from friends and family consistently increases the likelihood of non-uptake for both models 3 and 4, with both results being statistically significant at the 0.05 level. Even for model 4 with its small sample size of 36, we see that a one-point increase in their response to whether fear of being judged by family and friends were a barrier to take-up³⁰ increased the likelihood of non-uptake by 0.118 with a p-value of 0.0272 (see Table 3.3 Regression results for impact of different barriers).

³⁰ The options were 1: Not at all; 2: A little; 3: Moderately; 4: Considerably and 5: Completely to the question "I felt family or friends would have judged me if I applied".

	Model 1	Model 2	Model 3	Model 4
Barriers				
Fear of friend/family judgement			0.154** (0.0771)	.118** (.0508)
Getting information about program			-0.180 (0.231)	-0.108 (.129)
Understanding eligibility criteria			-0.0422 (0.177)	-0.130 (.123)
Understanding program benefits			-0.259 (0.178)	-.0905 (.191)
Understanding the program itself			0.0936 (0.240)	.0772 (.185)
Time taken to learn about program			0.196 (0.224)	.0536 (.184)
Applying to the program			0.127 (-0.175)	-.260 (.121)
Social Contact				
Social Contact Frequency		0.0385 (0.0277)	0.0483* (0.0279)	
Controls				
Age	0.00531 (0.00482)	0.00375 (.00556)	0.00588 (0.00561)	0.0151 (0.0109)
Gender (Female)	-0.0672 (0.0505)	-0.0561 (0.0604)	-0.0572 (0.0616)	
Education	-0.000378 (0.0319)	0.0287 (0.0359)	0.0367 (0.0363)	
Household Income (SG\$1000)	-139*** (35.6)	-115*** (40.1)	-111*** (39.9)	
Observations	252	202	202	36
Multiple R-Squared	0.0781	0.0604	0.128	0.404
Adjusted R-Squared	0.0633	0.0364	0.0724	0.234

Note: p-values: * < .1, ** - .05, *** - .01, standard errors in parathesis

Table 3.3 Regression results for impact of different barriers

The statistically insignificant impact of the other barriers should not be taken as evidence that these impediments are inconsequential. On the contrary, qualitative evidence from practitioners make clear that these factors are relevant for respondents and should be addressed as well. That said, there are considerations unique to the nature of ComCare LTA that should be noted. Given that Singapore's public housing policy matches larger housing types with higher income families, potential recipients are mostly situated in neighborhoods where they can be triangulated using housing type, facilitating community outreach efforts. Also, the essentially permanent nature of ComCare LTA makes it such that the cost incurred via short-term "logistical" factors should matter less in the consideration of whether to apply.

For models 2 and 3, the direction of the coefficient for social contact frequency is positive and, for model 3, statistically significant at the conventional 95% confidence level. This supports the notion that those who are more socially active have more to fear from potential reprisals and therefore choose not to take up assistance. Put differently, social capital could become an inhibitor if it increases the (real or perceived) 'cost' of stigma. A potential counter-explanation holds that greater access to alternative forms of support that come from having a more tightly woven social network may lower the need for public forms of assistance. It should be noted, however, that when I determined who qualifies for assistance, transfers from non-family sources was set to be less than SG\$500 a month. As such, if assistance from social networks did indeed inhibit uptake, such help would presumably be non-monetary in nature.

As expected, age also increases the likelihood of non-uptake across all models, although the effect does not cross conventional levels of statistical significance. There are, in any case, potentially countervailing forces at play. Older retirees might have especially pronounced needs for more support, given that they may have depleted their resources over years of non-earning. Simultaneously, they would presumably be the most socialized to how

state assistance was perceived in the earlier phases and thus more likely to have internalized the idea that social assistance carries stigma.

Taken together, these results suggest that the fear of stigma from receiving social assistance is likely to be a substantial reason for non-uptake among the elderly in Singapore. While data constraints limit the robustness of the statistical evidence, the SLP is presently the best dataset available for testing the questions addressed by this chapter: how many are eligible for assistance but not taking it up, and what are the reasons behind it. Despite the large sample size of (over 7,000), the nature of social assistance targeting in Singapore means those who qualify will be a small minority. In other words, because social assistance is meant for the neediest segment of society —coupled with stringent application processes and the attached stigma— the proportion of elderly who qualify and receive assistance in any representative sample is unlikely to be large enough to provide strong statistical power.

3.6 Conclusion

There are two key conclusions from this study. First, even by conservative estimates, there may be 4.5 times as many elderly households who qualify for ComCare LTA and choose not to come forward than those who receive it. Given that there were 4,078 unique households served by ComCare LTA in the 2020 financial year, this translates to around 18,000 households³¹ that may be deserving of help but not taking it up. Second, from an examination of Singapore's social assistance history and quantitative testing using a comprehensive dataset, I find that non-uptake behavior is likely driven by fear of stigma, which is rooted in practices stemming from when Singapore was still a British colony. Among those who

³¹ This is the upper limit, as not all ComCare LTA recipient households have elderly above fifty.

qualify, the results show non-uptake to be associated with both greater concerns about being stigmatized by friends and family as well as more frequent social interactions.

All this suggests that while social capital might be a helpful resource for certain situations, it can also become a barrier for lower income groups to achieving greater wellbeing. If those who are more socially connected feels more beholden to informal institutions and believe they would be “punished” for getting help, more social contact can become a disincentive to seek assistance. In this case, what the evidence suggests is that even when formal institutions have moved on from past narratives, individuals’ own beliefs and their fear of how others might perceive them could still hold them back from getting the help they need.

An implication for efforts that seek to mitigate inequality more broadly is that the overall social “atmosphere” in which narratives are promulgated matter. In Singapore’s case, we see that when overall economic conditions are good, the public might be much less likely to relate to those left behind and internalize beliefs that have durable effects on attitudes and behaviors. Specifically, citizens socialized under those conditions may continue to resist policy change despite concerted effort by government institutions to change perceptions. In other words, public efforts to reach the most needy citizens must contend not only with the logistical challenges of identifying those in need and how to distribute assistance most effectively but must also overcome the legacy of past politics and policies.

Conclusion

To conclude, I want to highlight the broader implications of the three chapters on the two overarching research objectives of my research: to alleviate poverty and mitigate inequality.

The first chapter proposed a novel way to operationalize the degree of political accountability using the distribution of infrastructure within administrative subunits and assessed the impact of this on aid effectiveness in Indonesia. In line with previous studies, the results showed the impact of aid on economic development as generally ambiguous but also that aid given to regions where roads were distributed more unequally was associated with greater subsequent development. An explanation for this is that regions with higher political inequality have their economic potentials “suppressed” and what aid does is to “unlock” this latent capacity to grow.

The chapter presents three major implications for policymakers and those studying the political economy of development: First, its results support the assumption that politics affects economic potential. Secondly, that we can account for local politics by understanding governance in terms of outcomes, an approach that can be applied across a wide range of political contexts. Finally, the results present a conundrum to aid donors. They could generate more development by directing projects to regions where politicians are less accountable, since they would essentially be mitigating the deleterious effects past political inequality on economic growth. On the other hand, they might also be inadvertently rewarding problematic political leaders who could then leverage the development funds to extend their political tenures, potentially setting the region back in the longer terms by incurring additional social and political costs.

These findings raise additional questions I hope to address in future work. First is what are the long-term effects of aid being provided to regions with different levels of

political equality. Second, are there other aspects of politics that are important for the developmental process and how might we measure these in comparable ways. Another is how to predict underlying economic growth potentials of local regions if we take politics out from the equation. This is important for understanding why certain regions lag others in growth, and how we might mitigate such factors. Finally, how might we develop a more comprehensive theory of how national and local level politics interact to produce different economic outcomes. This chapter points at some dynamics which needs to be tested against alternative theories in future research.

The second chapter then showed how reminders of the domestic success enjoyed by global superpowers inspired emulation in terms of institutional preferences, revealing a source of soft power which would help us understand how public opinion is shaped by international forces more accurately. Breaking this effect down further showed that knowledge about aid projects from a superpower in their local region fostered greater desires for mimicry if respondents only knew about projects from one superpower but not both. This suggests that foreign publics might be more inclined to emulate a superpower when they do not hear about the achievements of other superpowers with different institutions and policies. The results also showed how members of foreign publics were able to differentiate their personal sentiments towards a country from considerations of whether that country is worth emulating.

The first implication from this is that to convince foreign publics of the superiority of one's system, domestic success can be translated into a source of influence if those successes are perceived as such. However, if other systems that take a different approach are deemed equally successful, the influence of what I called the domestic halo effect is diminished. Another implication is that to utilize this source of power effectively, countries need to manage the news about one's domestic affairs that reach foreign publics. Finally,

conventional measures of soft power measuring how much foreign publics “like” a foreign state might not translate to actual influence in terms of policy preferences. Future measures of soft power therefore should be more specific, asking “soft power to do what?”.

Additional questions posed by this research include what else might make narratives of success—and therefore their influence—more convincing to foreign publics. Also, how does the way this information is transmitted affect their impact, and what happens when conflicting messages are received. For example, if a foreign citizen gets information about US’s relatively slower economic growth but also that its influence over the global economy has not changed or is growing, what conclusions might they draw about their policies and institutions.

Finally, the third chapter estimated that there were potentially more than 4.5 times as many elderly households who qualified for help but were not receiving it. And that this was despite efforts to make assistance more accessible and more compassionate narratives towards the elderly. An examination of the history of social assistance in Singapore indicate that this might have been due to the fear of social judgement from perceptions formed during Singapore’s earlier stages of growth where social assistance was portrayed more negatively. The results confirmed this; that fear of judgement from friends and family was most strongly associated with non-uptake behavior relative to other potential barriers such as the inability to obtain information about social policies or the application process itself. Further supporting this notion was the evidence that among the qualified, those with more frequent social interactions were less likely to receive help even after accounting for transfers from friends and family.

There are four direct implications for policy and literature. Most immediately, the study confirms previous speculations that there is a sizable group of elderly Singaporeans who might need help but are potentially choosing not to get it. A second implication is then

that simplifying the application process further or even increasing the benefits of social assistance schemes —worthwhile to do in their own right— might not significantly change non-uptake behavior rates if what is keeping potential recipients away is the fear of stigma and not any logistical or economic considerations. Relatedly, a third implication is that outreach efforts which work through other elderly persons or family members (social networks) to reach vulnerable groups might be more effective than working through NGOs or governmental bodies. Finally, it tells us that defunct formal institutions might persist past their tenure if they get transformed into informal ones and there could be natural “stickiness” to such institutions.

These conclusions provoke several questions. First is how we might differentiate the influence of pre-existing beliefs, economic context, and formal institutions on shaping the perceptions that impede successful policy transitions. In the Singapore case presented here, the eventual outcome —stigma around receiving social assistance— and how it was publicly portrayed and discussed was clear. It is less clear if this was the result of Singaporeans from that era naturally being more conservative about social transfers, or if rapid economic growth and the resulting high social mobility during that period stoked such perspectives. Or, if the public was simply convinced by the official narratives that were put out and had their values shaped by those. Another question is how we could more effectively deal with situations when informal institutions and formal institutions clash, where citizens choose to oppose a policy due to personal values or perceived community norms. In Singapore’s case, we saw that reversals of public narratives and efforts to make policies more accessible have had limited efficacy in getting those who hold contrary values to come forward and receive help, although the former is still undoubtedly important for shaping the perspectives of future generations. Finally, a broader question is when do formal institutions become “sticky” and live on via informal institutions even after policies have changed and when it does not.

I hope to address these and other questions in future endeavors, and that this dissertation will go on to contribute towards the alleviation of poverty and the mitigation of inequality beyond the contexts in which the chapters are situated.

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Appendices

Appendix A

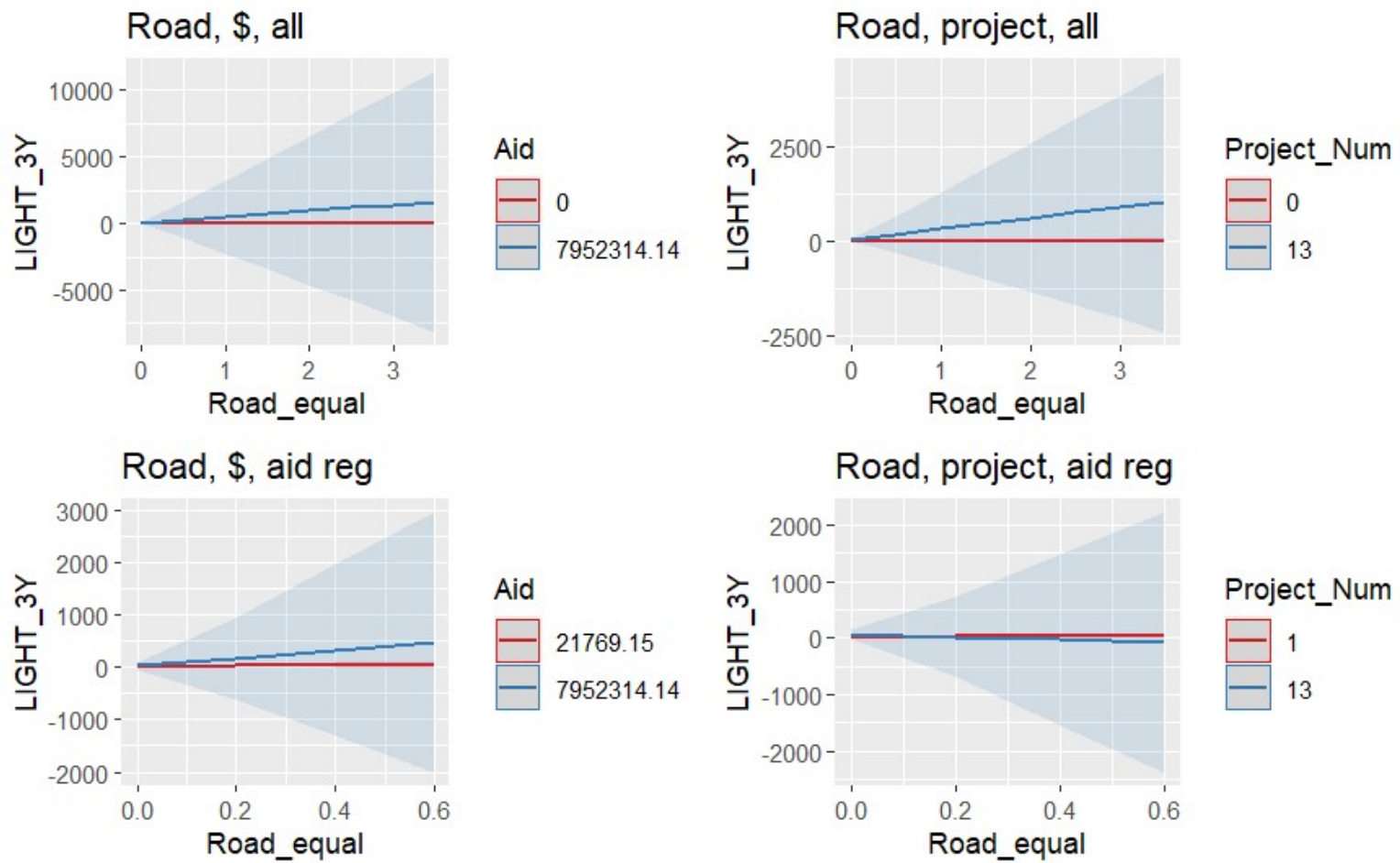
A.1 First Stage Estimation Results

	Roads	Health Centers	Health Sub- Centers	Hospitals	Polyclinics	Elementary Schools	Junior High	Senior High NA
(Intercept)	0.039 *** (0.008)	23.471 *** (0.661)	21.425 *** (0.643)	24.399 *** (0.666)	23.911 *** (0.665)	14.458 *** (0.489)	2.773 *** (0.083)	1.249 *** (0.046)
Total_Road_Length_ADM2	0.000 (0.000)							
Topography (VRM)	-0.825 (0.753)							
`Light Ratio`	0.006 *** (0.000)	-0.128 *** (0.035)	-0.099 ** (0.034)	-0.129 *** (0.036)	-0.130 *** (0.036)	-0.081 ** (0.026)	0.019 *** (0.005)	0.019 *** (0.002)
ADM2 Age	-0.000 (0.000)	0.005 (0.012)	-0.021 (0.011)	0.007 (0.012)	0.013 (0.012)	0.103 *** (0.009)	0.011 *** (0.001)	0.000 (0.001)
No. of ADM3	-0.001 * (0.000)	-0.070 ** (0.025)	-0.014 (0.024)	-0.079 ** (0.025)	-0.100 *** (0.025)	-0.073 *** (0.018)	-0.045 *** (0.003)	-0.026 *** (0.002)
2005 Light (ADM3)	0.004 *** (0.001)	1.180 *** (0.148)	1.137 *** (0.144)	1.183 *** (0.149)	1.078 *** (0.149)	2.047 *** (0.110)	0.175 *** (0.019)	0.111 *** (0.010)
2005 Light (ADM2)	-0.004 *** (0.001)	-1.605 *** (0.229)	-1.285 *** (0.222)	-1.641 *** (0.231)	-1.739 *** (0.230)	-1.315 *** (0.169)	-0.259 *** (0.029)	-0.106 *** (0.016)
Pop2005		0.000 *** (0.000)	0.000 *** (0.000)	0.000 *** (0.000)	0.000 *** (0.000)	0.000 *** (0.000)	0.000 *** (0.000)	0.000 *** (0.000)
`Area (in km2)`		0.001 ** (0.000)	0.000 (0.000)	0.001 ** (0.000)	0.001 ** (0.000)	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
N	5206	5314	5314	5314	5314	5298	5297	5297
R2	0.062	0.018	0.015	0.019	0.020	0.416	0.151	0.126

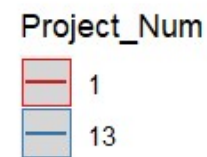
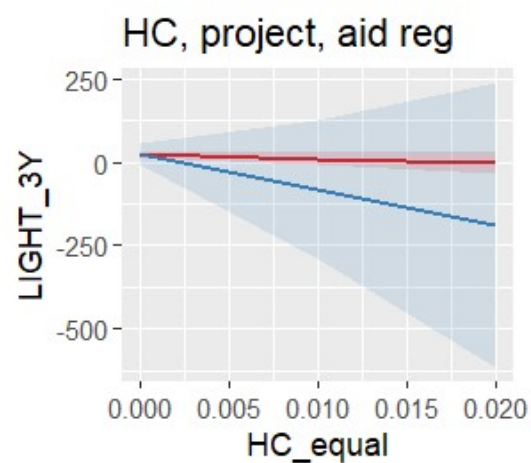
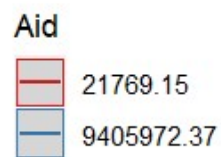
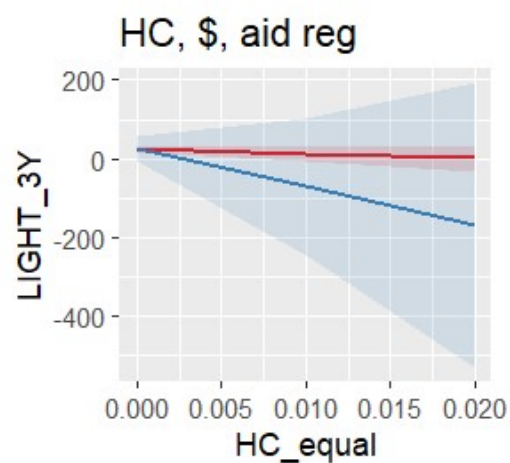
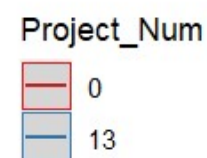
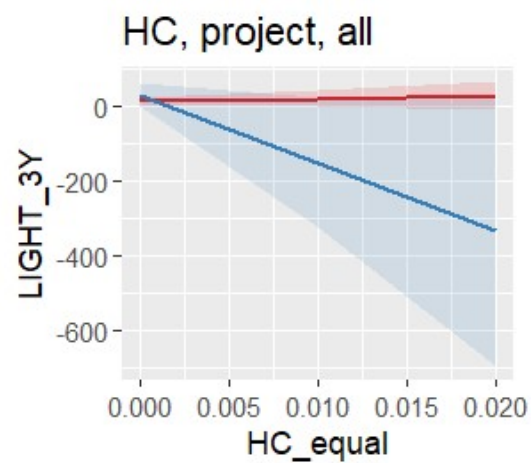
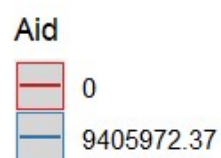
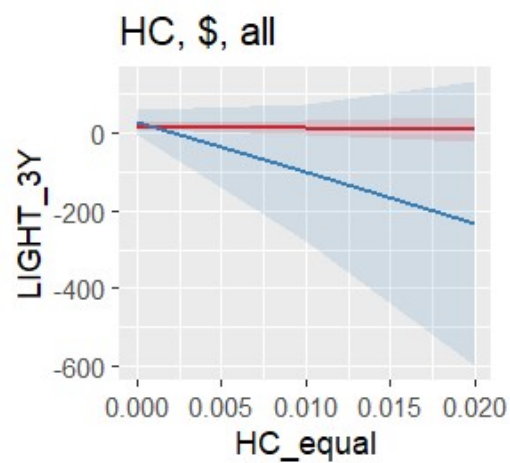
*** p < 0.001; ** p < 0.01; * p < 0.05.

A.2 Interaction Effect Plots

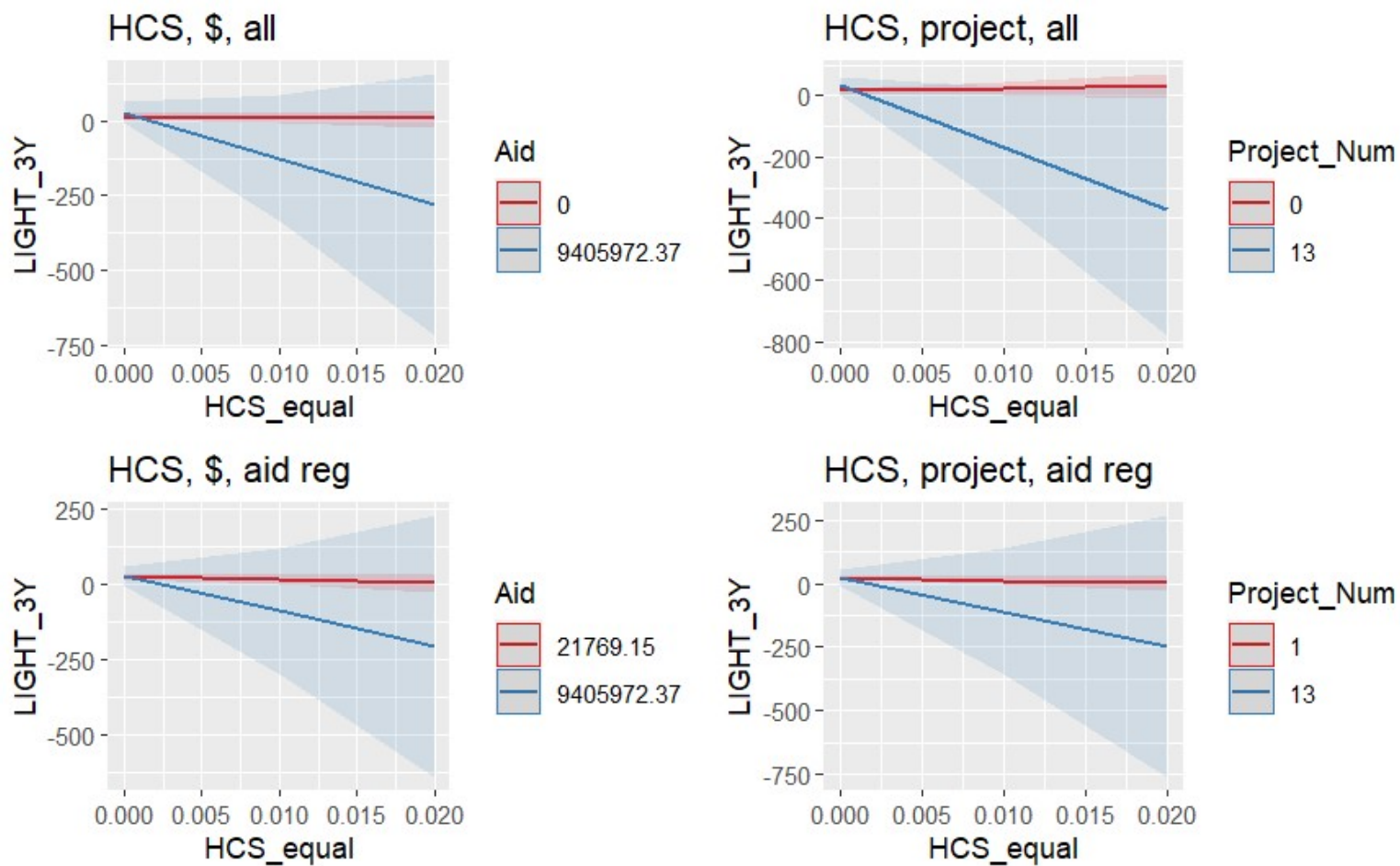
1. Roads



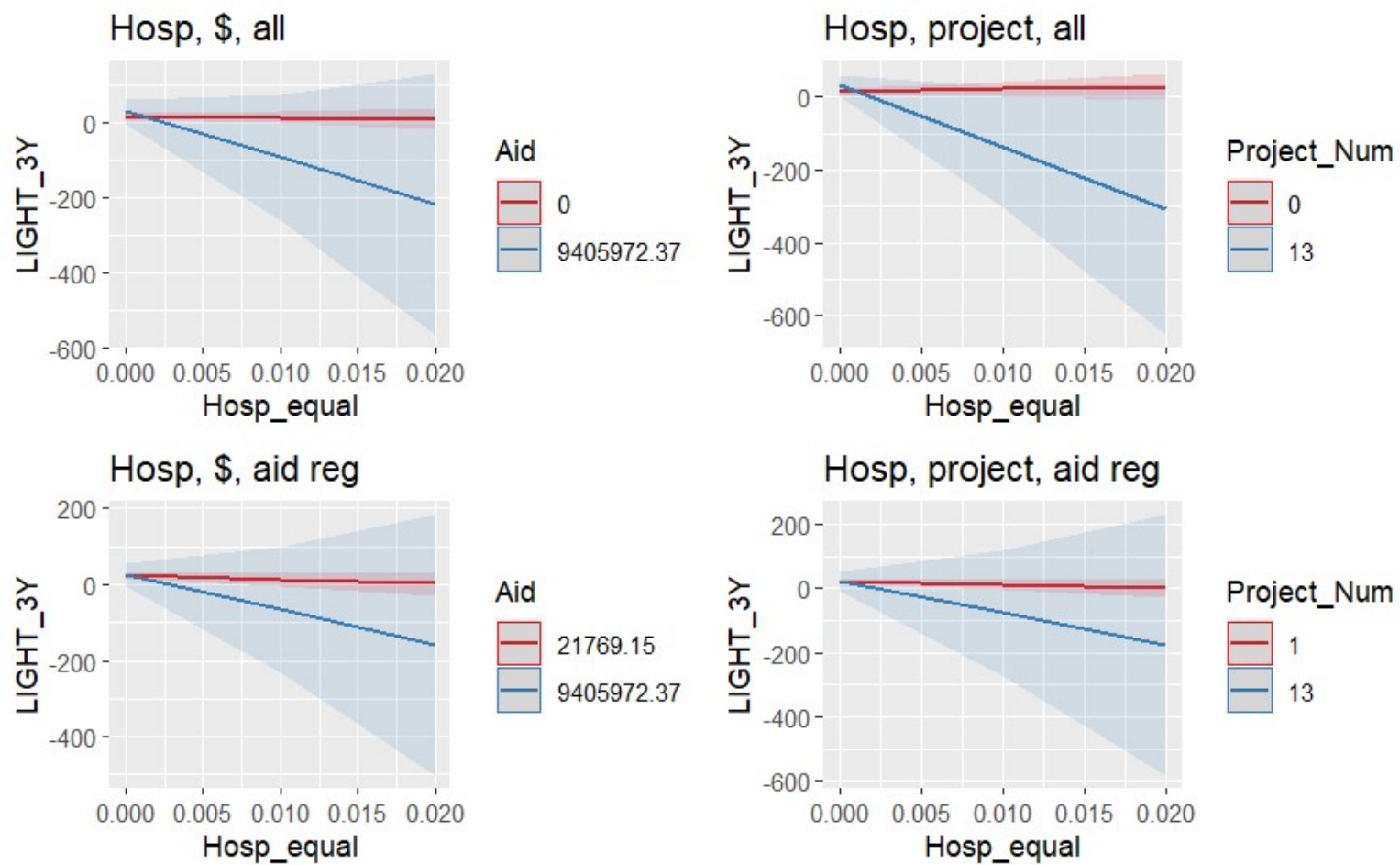
2. Health Centers



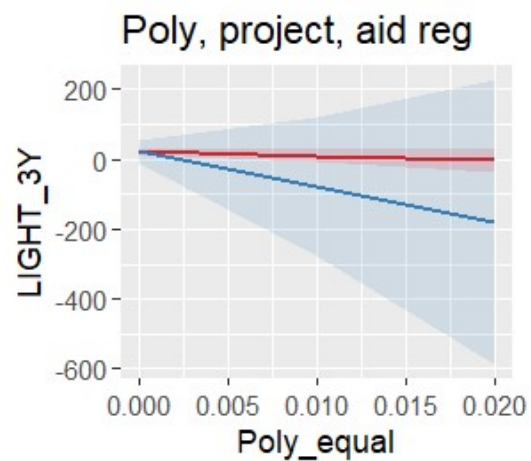
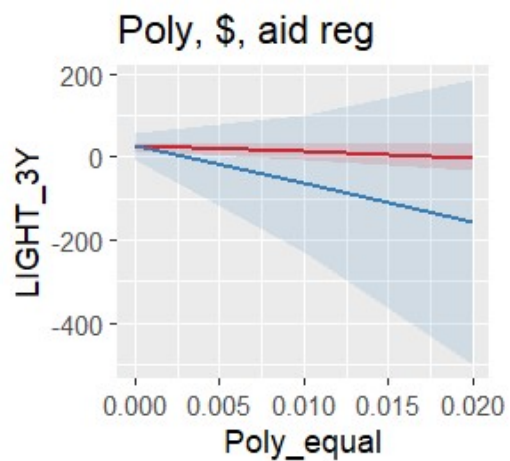
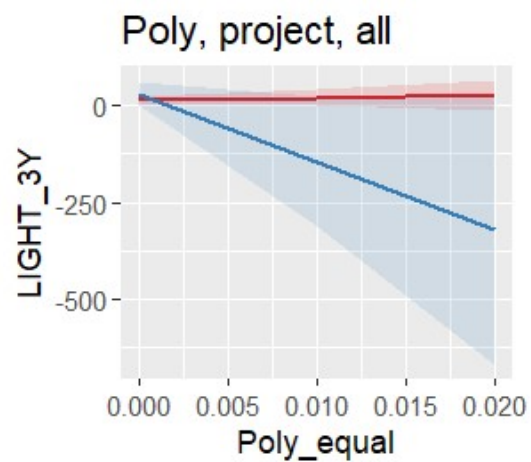
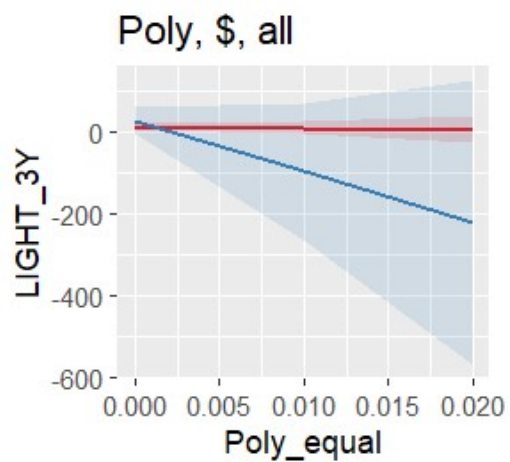
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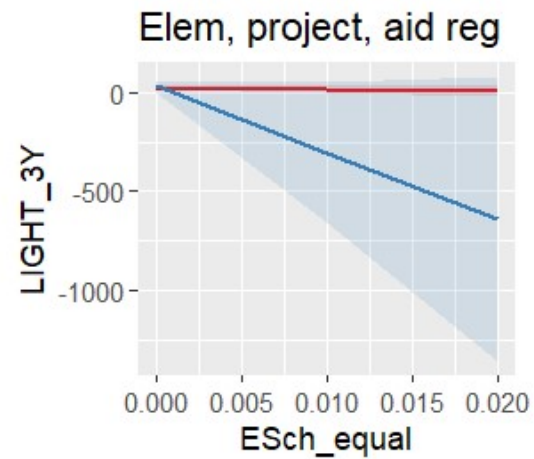
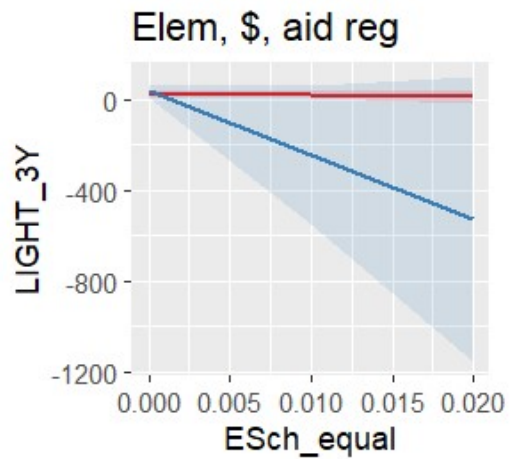
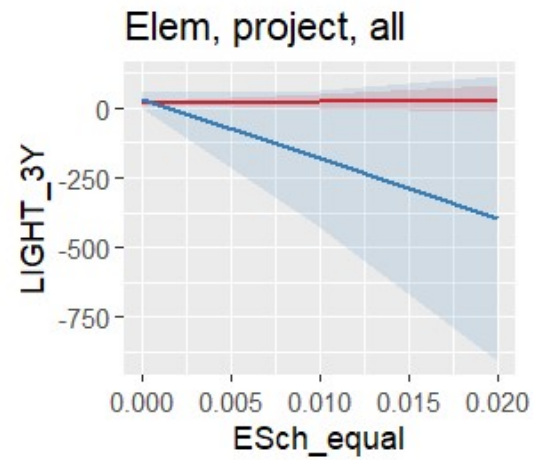
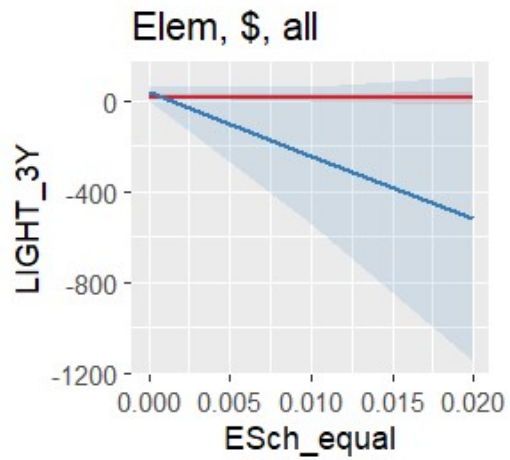
4. Hospital



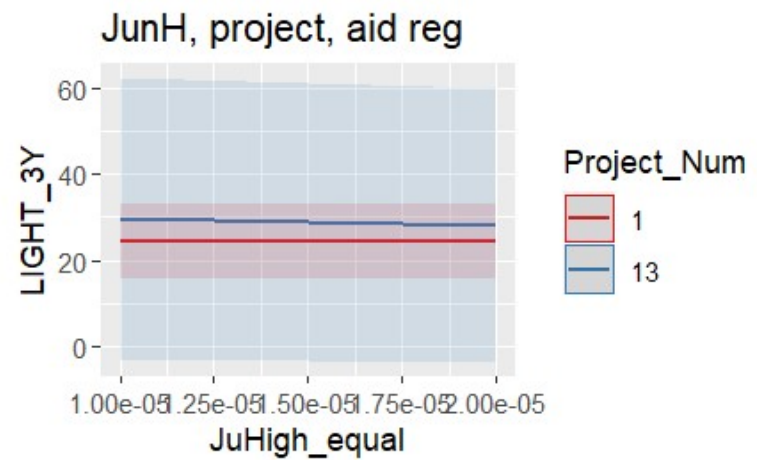
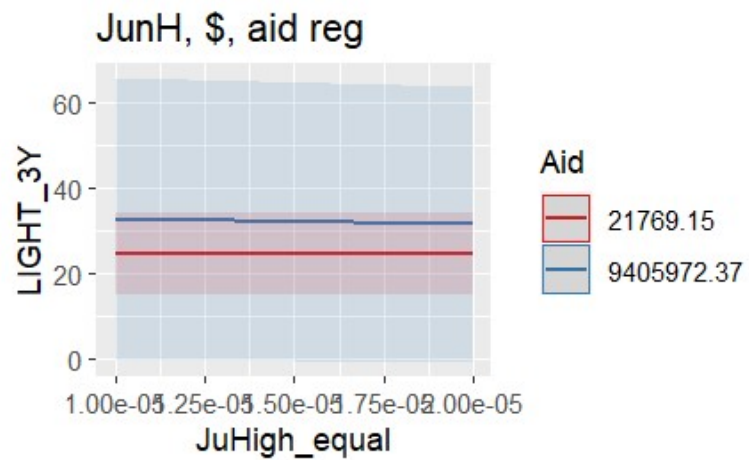
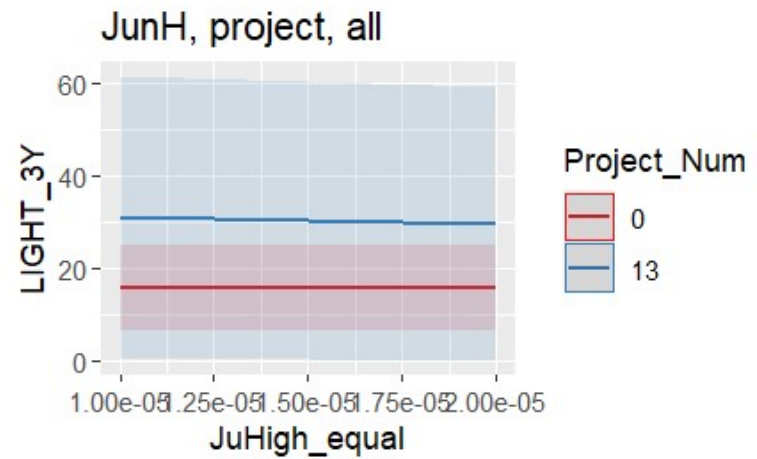
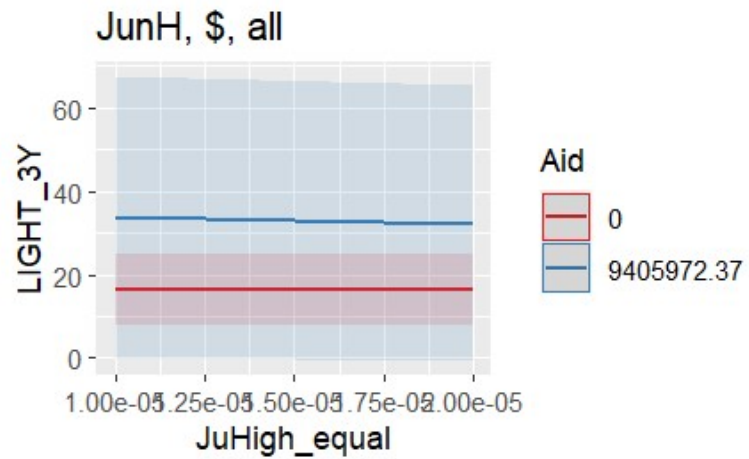
5. Polyclinics



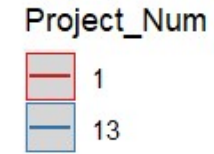
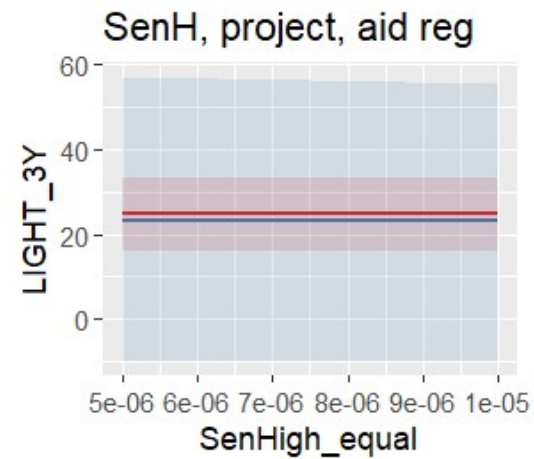
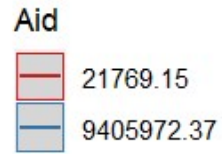
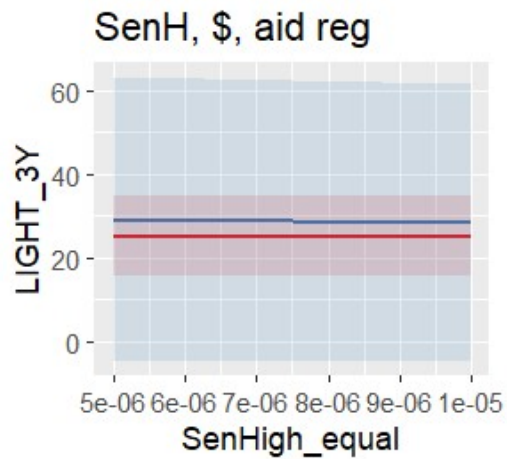
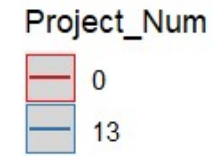
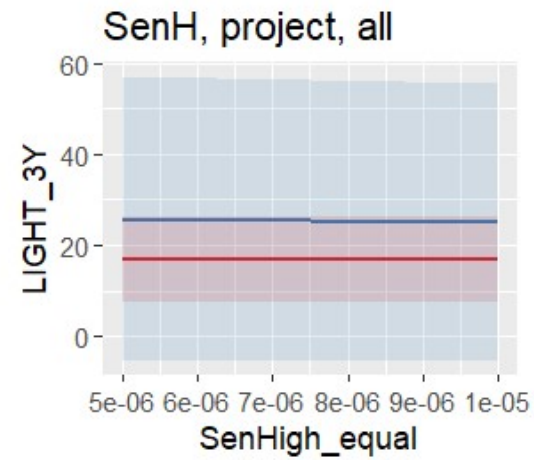
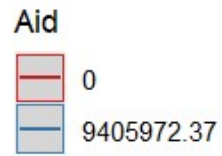
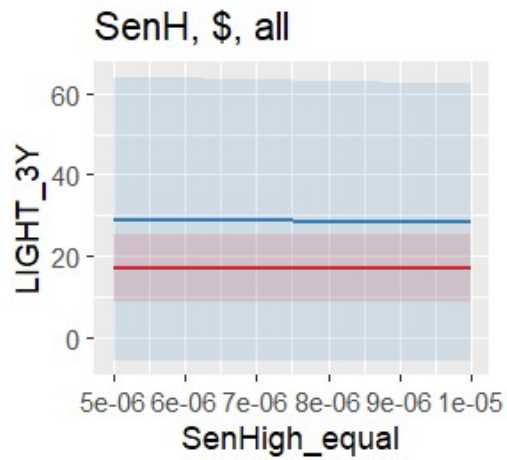
6. Elementary Schools



7. Junior High



8. Senior High



Appendix B

B.1 Translated Treatment Vignettes and Diagrams

Informasi Institusi

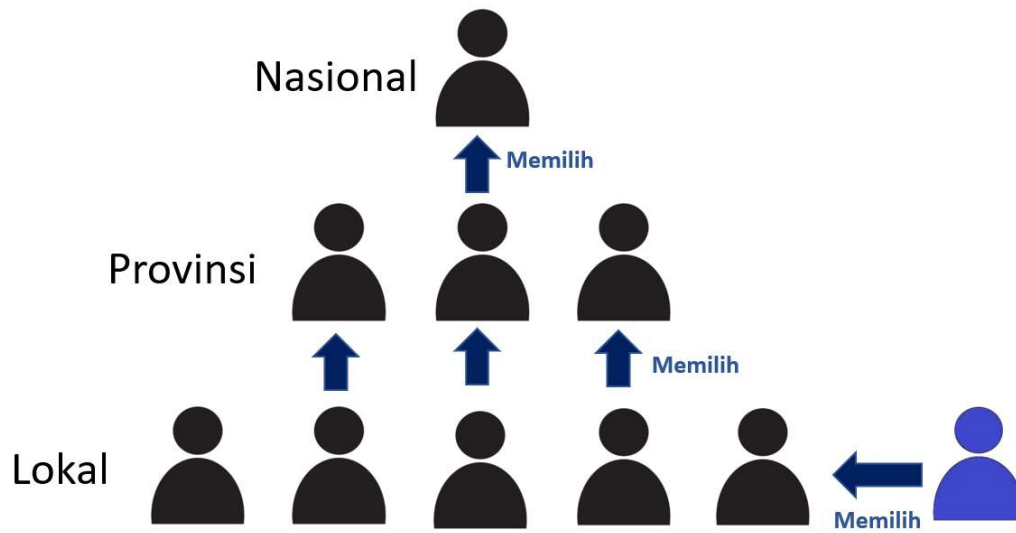
Mohon luangkan waktu Anda sesaat untuk membaca dan memahami informasi di bawah ini dengan gambar yang tersedia:

Sistem Politik Tiongkok	Sistem Politik Amerika Serikat
<p>Sistem politik Tiongkok dideskripsikan sebagai sistem sentralisasi.</p> <p>Salah satu alasannya adalah karena pemimpin di Cina umumnya dipilih oleh pemimpin lain*.</p> <p>Warga memilih pemimpin di tingkat lokal, sedangkan pemimpin di tingkat nasional dan negara bagian (provinsi)** dipilih oleh pemimpin lain.</p> <p>Pada dasarnya, warga negara Tiongkok tidak dapat mempengaruhi kebijakan melalui pemilihan pemimpin mereka.</p> <p>* Anggota lain dari Partai Komunis Tiongkok ** Seperti Presiden, anggota dari Dewan Negara dan Kongres Rakyat Nasional</p>	<p>Sistem politik AS dideskripsikan sebagai sistem desentralisasi.</p> <p>Salah satu alasannya adalah karena pemimpin di AS umumnya dipilih oleh warga negara.</p> <p>Warga memilih pemimpin di tingkat lokal, dan pemimpin di tingkat nasional dan negara bagian (provinsi)* dipilih oleh warga juga.</p> <p>Pada dasarnya, warga negara AS dapat mempengaruhi kebijakan melalui pemilihan pemimpin mereka.</p> <p>* Seperti Presiden, anggota kongres dan senat</p>

Mohon luangkan waktu Anda sesaat untuk membaca dan memahami informasi di bawah ini:

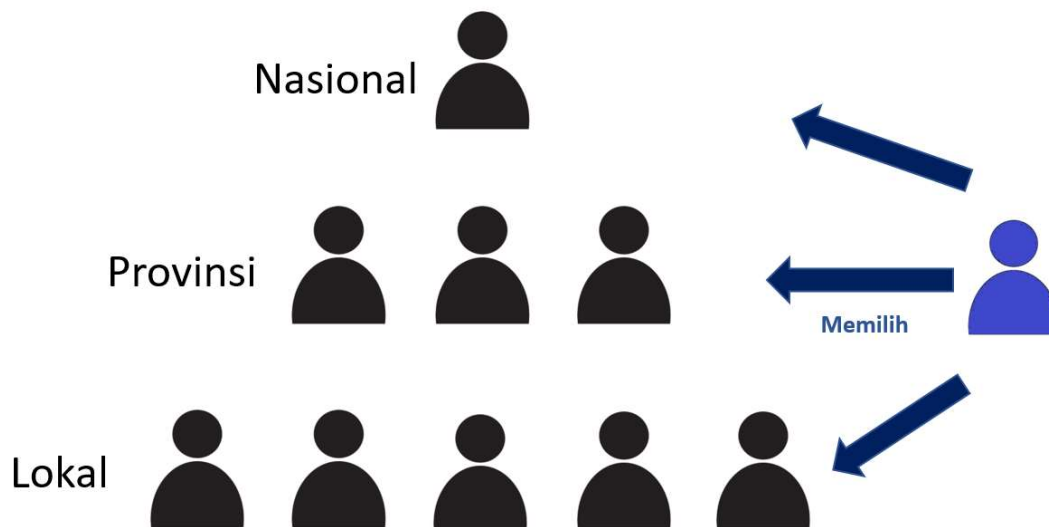
<p>Kesuksesan Ekonomi Tiongkok/ Kesuksesan Ekonomi Amerika Serikat</p>	<p>Keberhasilan Tiongkok Melestarikan Budaya/ Keberhasilan Amerika Serikat Melestarikan Budaya</p>
<p>Dari beberapa dekade terakhir, Tiongkok /Amerika Serikat telah menghasilkan hasil yang spektakuler bagi perekonomian mereka.</p> <p>Ketika ditanya mengapa mereka berhasil mengembangkan ekonomi mereka, beberapa orang mengaitkannya dengan bagaimana institusi mereka berkontribusi dalam membuat kebijakan ekonomi yang sehat.</p>	<p>Dari beberapa dekade terakhir, Tiongkok /Amerika Serikat telah menghasilkan hasil yang spektakuler bagi kelestarian budaya mereka.</p> <p>Ketika ditanya mengapa mereka berhasil melestarikan warisan budaya, beberapa orang mengaitkannya dengan bagaimana mereka secara konsisten menekankan pelestarian situs-situs penting budaya.</p>

Institusi Tiongkok



Institusi Politik Tiongkok

Institusi Amerika Serikat



Institusi Politik Amerika Serikat

B.2 Full Model Estimation Results (with covariates)

	Main	Rescaled Delta	With Attention
	Results		Checks
(Intercept)	0.504 (0.477)	0.150 (0.179)	0.317 (0.683)
as.factor(Treat)2	-0.140 (0.153)	-0.049 (0.055)	0.006 (0.187)
as.factor(Treat)3	-0.248 (0.155)	-0.101 (0.056)	-0.509 * (0.213)
as.factor(Treat)4	-0.369 * (0.155)	-0.111 * (0.056)	-0.749 *** (0.221)
Age	0.008 (0.007)	0.003 (0.003)	0.011 (0.010)
ProvinceBali	-0.155 (0.197)	-0.019 (0.072)	0.104 (0.265)
ProvinceDI Yogyakarta	0.080 (0.175)	-0.003 (0.065)	0.346 (0.238)
ProvinceKalimantan Barat	-0.132 (0.188)	-0.060 (0.067)	0.136 (0.255)
ProvinceKepulauan Riau	0.039 (0.203)	0.052 (0.073)	0.183 (0.280)
ProvinceRiau	-0.089 (0.211)	-0.065 (0.076)	0.182 (0.292)
IncomeLebih dari Rp 40 juta	0.511 (0.582)	0.225 (0.208)	-0.003 (0.836)
IncomeRp 1 ~ 3 juta	-0.007 (0.188)	0.021 (0.064)	-0.179 (0.259)
IncomeRp 11 ~ 20 juta	-0.154 (0.311)	0.015 (0.114)	-0.495 (0.431)
IncomeRp 21 ~ 40 juta	-1.073 ** (0.405)	-0.314 * (0.155)	-1.506 ** (0.534)
IncomeRp 4 ~ 5 juta	0.238 (0.226)	0.132 (0.080)	0.333 (0.306)
IncomeRp 6 ~ 10 juta	-0.071 (0.249)	0.069 (0.091)	-0.160 (0.342)
GenderWanita	0.007 (0.115)	-0.008 (0.042)	-0.077 (0.157)
EducationPascasarjana dan di atasnya	-0.422 (0.396)	-0.036 (0.153)	-1.085 (0.583)
EducationSarjana	-0.188 (0.190)	-0.057 (0.071)	-0.109 (0.263)
EducationSD	-0.361 (1.031)	-0.187 (0.356)	-0.433 (1.860)
EducationSMA/SMK	-0.241 (0.202)	-0.079 (0.075)	-0.360 (0.282)
EducationSMP	0.149 (0.450)	0.061 (0.163)	-1.069 (0.800)
AssetsLebih dari Rp 500 juta	0.333 (0.322)	-0.007 (0.120)	0.474 (0.452)
AssetsRp 101 ~ 250 juta	-0.248 (0.236)	-0.086 (0.089)	-0.410 (0.307)

B.3 Balance Table

Variable	Variable Type	Unadjusted Correlation (Treatment and Respondent Characteristic)
Age	Continuous	-0.0116
Province_Aceh	Binary	0.0089
Province_Bali	Binary	-0.0249
Province_DI Yogyakarta	Binary	0.0135
Province_Kalimantan Barat	Binary	0.0132
Province_Kepulauan Riau	Binary	-0.0357
Province_Riau	Binary	0.0202
Income_< Rp 1 mil	Binary	0.0052
Income_Rp 1 mil-3 mil	Binary	0.0075
Income_Rp 4 mil-5 mil	Binary	0.0159
Income_Rp 6 mil-10 mil	Binary	-0.0515
Income_Rp 11 mil-20 mil	Binary	0.0305
Income_Rp 21 mil-40 mil	Binary	-0.0138
Income_> Rp 40 mil	Binary	0.0222
Gender_Male	Binary	-0.0015
Education_Diploma 1-4	Binary	0.0247
Education_High Sch	Binary	0.0018
Education_Middle Sch	Binary	-0.0151
Education_Postgrad & above	Binary	-0.0049
Education_Uni(Stage 1)	Binary	-0.0077
Education_Uni(Stage 2)	Binary	-0.0261
Assets_No Assets	Binary	0.0485
Assets_< Rp 10 mil	Binary	-0.0716
Assets_Rp 11 mil-25 mil	Binary	0.0284
Assets_Rp 26 mil-50 mil	Binary	0.0005
Assets_Rp 51 mil-100 mil	Binary	0.0406
Assets_Rp 101 mil-250 mil	Binary	-0.0077
Assets_Rp 251 mil-500 mil	Binary	-0.0514
Assets_> Rp 500 mil	Binary	0.0221

N = 1,089

B.4 Subgroup Analysis by Knowledge of Aid

	No Knowledge	Low Knowledge	High Knowledge
(Intercept)	0.097 (0.560)	1.400 (0.800)	0.836 (0.515)
as.factor(Treat)2	-0.079 (0.261)	-0.370 (0.360)	-0.020 (0.213)
as.factor(Treat)3	-0.378 (0.268)	-0.602 (0.361)	-0.035 (0.212)
as.factor(Treat)4	-0.244 (0.258)	-0.805 * (0.353)	-0.089 (0.221)
Age	0.015 (0.012)	-0.014 (0.017)	-0.003 (0.011)
ProvinceBali	0.212 (0.328)	-0.591 (0.491)	-0.194 (0.263)
ProvinceDI Yogyakarta	0.455 (0.316)	-0.082 (0.416)	0.017 (0.227)
ProvinceKalimantan Barat	-0.058 (0.308)	0.209 (0.422)	-0.378 (0.262)
ProvinceKepulauan Riau	-0.169 (0.338)	-0.690 (0.515)	0.548 * (0.268)
ProvinceRiau	0.001 (0.331)	-0.323 (0.466)	-0.088 (0.290)
IncomeLebih dari Rp 40 juta	2.968 (1.830)		0.096 (0.636)
IncomeRp 1 ~ 3 juta	0.075 (0.259)	-0.146 (0.414)	-0.001 (0.330)
IncomeRp 11 ~ 20 juta	-0.029 (0.612)	-0.180 (0.696)	-0.392 (0.449)
IncomeRp 21 ~ 40 juta	-1.287 (0.886)	-1.215 (1.291)	-1.175 * (0.536)
IncomeRp 4 ~ 5 juta	0.561 (0.338)	-0.209 (0.513)	0.036 (0.372)
IncomeRp 6 ~ 10 juta	0.314 (0.397)	-0.372 (0.587)	-0.300 (0.389)
GenderWanita	-0.136 (0.194)	0.063 (0.276)	0.114 (0.157)
EducationPascasarjana dan diatasnya	-0.502 (0.760)	0.177 (1.093)	-0.263 (0.452)
EducationSarjana	-0.168 (0.324)	-0.261 (0.430)	-0.215 (0.268)
EducationSMA/SMK	-0.081 (0.321)	-0.345 (0.459)	-0.181 (0.299)
EducationSMP	0.656 (0.667)	-0.189 (0.962)	1.133 (0.632)
AssetsLebih dari Rp 500 juta	-0.710 (0.657)	0.560 (1.022)	0.729 (0.378)
AssetsRp 101 ~ 250 juta	-0.803 (0.427)	0.081 (0.518)	0.188 (0.323)
AssetsRp 11 ~ 25 juta	-0.262 (0.351)	-0.153 (0.469)	-0.283 (0.273)
AssetsRp 251 ~ 500 juta	-0.118 (0.581)	1.103 (0.673)	-0.084 (0.348)
AssetsRp 26 ~ 50 juta	-0.389 (0.581)	0.169 (0.673)	-0.699 * (0.348)

	(0.453)	(0.525)	(0.318)
AssetsRp 51 ~ 100 juta	-0.218	0.463	-0.066
	(0.411)	(0.540)	(0.297)
AssetsTidak memiliki aset/investasi pribadi	0.052	0.665	-0.423
	(0.244)	(0.382)	(0.341)
EducationSD		-1.691	-0.135
		(2.042)	(0.973)
N	387	255	447
R2	0.067	0.080	0.093
*** p < 0.001; ** p < 0.01; * p < 0.05.			

Appendix C

C.1 Timing of SLP Waves

Wave	Time Period
1 to 5	Aug to Dec 2015
6 to 17	Jan to Dec 2016
18 to 29	Jan to Dec 2017
30 to 41	Jan to Dec 2018
42 to 53	Jan to Dec 2019
54 to 65	Jan to Dec 2020
66 to 77	Jan to Dec 2021
78 to 84	Jan to Jul 2022

C.2 SLP Variables

1. Respondent Characteristics

Variable	Description/Variable ID	Waves
Age	Date of birth of respondent - age_ultfinal	Monthly (FFB)
Age of Spouse	Date of birth of respondent spouse - spage_ultfinal	Monthly (FFB)
Marital Status	Married vs Single (including separated, divorced, widowed, etc.) – d005cat	Monthly

Household Size	Number of family members in HH - D012_intro (need to sum answers to the sub questions in this category)	Monthly (with gaps)
Number of children below 18	Number of household members in same residence below 18 years old - D012_18_and_under	Monthly
Income	HH Total Income - hitotleyw HH Total pension – hirpen HH Other Gov or GST Support – hiothrsupw HH Life CPF Income – hilifecpfw HH Total CPF Income – hitotcpfw HH Total Pension/Retirement Plan Income – hirpenw HH Other Assets - hiothrastinw	Annual (54, 55, 67, 79, 80)
Received Social Assistance	Any cash income from Workfare, Comcare, or Public Assistance, ST Pocket Money Fund, & other similar welfare schemes – a09110z	Annual (54, 55, 67, 79, 80)
Savings	Respondent + Spouse Checking/Savings Account – a04010impw	Annual (54, 55, 67, 79, 80)
Any secondary property	Any secondary (non-business) property - a06010z	Annual (54, 55, 67, 79, 80)

Education	Highest Education highest_edz	All (fixed from baseline)
CPF	CPF OA Balance – a01010impw	Annual (54, 55, 67, 79, 80)
Number of Children	Number of living children – num_living_childz	All (fixed from baseline)
Home Type	Housing Type HU002	Baseline
Housing Type/Ownership	Own home – a05010z (hu001z) Type of home – a05300z (hu002) Type of HDB – a05310z (hu002_followup	Baseline
Children Housing Type/Ownership	1 st to 5 th Child Home Type: F00820z - f00824z 1 st to 5 th Child Ownership: F00920z - f00924z	Once-off (35, 47)
Transfers from Family	Transfers from family (>500) – f0040	Annual (54,55)

*I use windsorized versions of the variables (with potential entry errors removed) whenever possible

Note: FFB = Fixed from baseline

2. Other Respondent Characteristics

Variable	Description/Variable ID	Waves
Neighbour Interaction	Know neighbours by name – f06030 Frequency of chatting with neighbours – f06040 Frequency of advice - F06050s3	61, 73
Employment	Current Job Status – e001s1 (working for pay) Current Job Status – e001s2 (looking for work) Current Job Status – e001s5 (disabled) Current Job Status – e001s6 (retired) Current Job Status – e001s8 (Self-employed) Spouse Job Status – e003s1 (working for pay) Spouse Job Status – e003s2 (looking for work) Spouse Job Status – e003s5 (disabled) Current Job Status – e003s6 (retired) Current Job Status – e003s8 (Self-employed)	Monthly
Social Engagement	Religiosity - s00018s2 Frequency of Group Activities - s00018s3	Monthly (after 61)
Social Networks	Number of Close Relatives – f06090	Annual

	<p>Number of Close Neighbours – f06100</p> <p>Number of Close Coworkers – f06110</p> <p>Number of Close Friends – f06120</p> <p>Close contacts' Gender – f06150s1-5</p> <p>Close contacts' Race – f06160s1-5</p> <p>Close contacts' Education – f06170s1-5</p> <p>Close contacts' Age - f06180s1-5</p> <p>Close contacts' frequency of contact - f06210s1-5</p> <p>Network density – f06270s1 to f06270s10</p>	(61, 73)
Policy Awareness	<p>Policy info from friends and family – s08050s1</p> <p>Policy info from Community Centre/Place of Worship – s08050s2</p> <p>Policy info from Govt Call/Info Centers – s08050s3</p> <p>Policy info from TV, radio, newspapers – s08050s4</p> <p>Policy info from Internet – s08050s5</p> <p>Barrier to take-up: Information – s08080s1</p> <p>Barrier to take-up: Unclear criteria – s08080s2</p> <p>Barrier to take-up: Unclear Benefits – s08080s3</p>	<p>Once-off</p> <p>(45)</p>

	Barrier to take-up: Unclear program – s08080s4	
	Barrier to take-up: Time to learn – s08080s5	
	Barrier to take-up: Time to apply – s08080s6	
	Barrier to take-up: Being judged – s08080s7	

C.3 Qualifying Criteria for Social Assistance Policies (In 2020)

Social Assistance Policy	Qualifying Criteria
ComCare Long Term Assistance (Public Assistance)	<ul style="list-style-type: none"> - Unable to work because of old age, illness or disability; - have little or no family support, savings or assets to rely on for your daily needs; - Are elderly persons who receive only a small monthly payout from other sources such as CPF Retirement Sum /CPF Life, Pension, ElderShield, Lease Buyback Scheme, and the monthly payout is lower than the prevailing LTA rates; - Are elderly persons whose children are low-income themselves, (i.e., have a household income of \$1,900/month and below, or per capita household income of \$650/month and below) and unable to support their parents; and - Are a Singapore Citizen or a Permanent Resident.
ComCare Short-to-Medium Term Assistance	<ul style="list-style-type: none"> - Looking for work or temporarily unable to work due to illness or have to care for children, elderly or other dependants. - Little or no family support, savings or assets to rely on for your daily needs; - Household income of \$1,900/month and below, or a per capita household income of \$650/month and below.

	<ul style="list-style-type: none"> - Even if your income exceeds these guidelines, you can still approach our Social Service Offices (SSOs) if you face financial difficulties. Our SSOs will assess your circumstances and needs, and assist you accordingly. - Singapore Citizen or Permanent Resident (with at least one immediate family member in the same household must be a Singapore Citizen)
Community Health Assistance Scheme (CHAS) – Blue	<ul style="list-style-type: none"> - Singaporean Citizen - Per capita Household Income < \$1,100 (For households with income) - Annual Value of home <\$13,000 (For households with no income)
Straits Times Pocket Money Fund	<ul style="list-style-type: none"> - A Singapore citizen or permanent resident - A full-time student studying in the following institutions: <ul style="list-style-type: none"> o Mainstream school (Primary /Secondary) o Specialised /special education school o Specialised independent school o Religious school such as a madrasah - Living in a HDB four-room flat or a smaller unit - Per capita gross monthly household income is not more than \$690.
Workfare – Workfare Income Supplement	<ul style="list-style-type: none"> - Gross monthly income of not more than \$2,300* in that particular month; and an average gross monthly income of not more than \$2,300 in the past 12 months. - Annual Value (AV) threshold of \$13,000 (All HDB flats) - Assessable income of spouse for the preceding Year of Assessment does not exceed \$70,000 - Does not own two properties (including for Spouse)