Civil War as State-Building:
The Determinants of Insurgent Public Goods Provision

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Abstract

Why do rebel groups provide public goods? Some insurgencies divert critical financial and personnel resources to provide benefits to a population, that includes non-supporters (e.g. Karen National Union, Hezbollah, Eritrean People's Liberation Front). Other groups offer no services or limit their service provision to only those people who actively support, or are likely to support, the insurgency. The existing literature examines why some insurgencies provide selective incentives for members to join and how insurgencies use social services to recruit members, yet no research addresses why insurgencies provide public goods. I argue that insurgent public goods provision is a strategic tool secessionist insurgents use to achieve their long-term strategic goal of independence. With new and original data, I use a large-n analysis to test this hypothesis. The results of the analysis support the theory, underscoring the the importance insurgent non-violent behavior and addressing key issues such as sovereignty and governance.

Keywords: Insurgency, civil war, public goods, sovereignty, statehood, secessionist movements, conflict dynamics

1 Introduction

The Eritrean People's Liberation Front (the EPLF) began its campaign for Eritrean independence from Ethiopia in the early 1970s, and until it achieved final victory in 1993, the EPLF provided public goods, offering education and health care to all people in the areas it controlled. In 1978, the EPLF's medical services included over 22 mobile units, 24 stationary clinics, 7 hospitals and served almost 1.6 million Eritreans.[1] In 1982 alone, nearly 10,000 Eritreans had enrolled in the EPLF's literacy courses.[2] Even people who would likely never support the insurgency were able to benefit from the EPLF's social service provision: by 1990, tens of thousands of Ethiopian prisoners of war were given "medical treatment, food, shelter and basic education" despite the fact that they were "a strain on Eritrean resources."[3]

On the other hand, the Islamic State of Iraq and al-Sham (ISIS), provides education, pays municipal salaries, builds roads, opened hospitals, maintains electric, trash and sewage services, and even began issuing parking tickets throughout the areas of Iraq and Syria that it controlled.[4] Although ISIS' social service provision apparatus is expansive, the group is far more selective in who can benefit from its social services. ISIS provides club goods, offering their protection, education and health care to only Sunni Muslims that do not object to the insurgency.[5]

The cases above illustrate the diversity in the types of services insurgents provide, as well as the the variation in access to these services. Some insurgencies divert critical financial

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[1] *Selected Articles from EPLF Publications (1973-1980).* 1982. The Eritrean People's Liberation Front. Pg 91.

[2] Desta, Yemane. 2009. "Does the EPLF (Eritrean People's Liberation Front) Qualify to be a Learning Organization? A Modern Systems Theory Perspective," *Organisational Transformation and Social Change:* 6(1), Pg 19

[3] Wilson, Amrit. *The Challenge Road: Women and the Eritrean Revolution.* The Red Sea Press, 1991. Pg. 91

[4] Stewart, Megan A. "What's So New About the Islamic State's Governenace?" The Monkey Cage. *Washington Post.* 7 October 2014. Accessed 19 January 2015

[5] Abi-Habib, Maria."Iraq's Christian Minority Feels Militant Threat." *Wall Street Journal* 26 June 2014. Accessed: 19 January 2015. See also: Zarocostas, John. "U.N.: Islamic State executed imam of mosque where Baghdadi preached."*McClatchy DC.* 8 July 2014. Accessed: 19 January 2015.

and personnel resources to provide benefits to a population, even to non-supporters (e.g. Karen National Union, Hezbollah, Eritrean People's Liberation Front). Other groups offer no services or limit their service provision to only those people who actively support, or are likely to support, the movement. The existing literature examines why some insurgencies provide selective incentives for members to join and how insurgencies use social services to recruit members (for example: Weinstein 2006, Berman and Laitin 2008). Yet, public goods provision follows a logic distinct from recruitment. Because public goods provision involves providing services to people who are unlikely to support the insurgency, public goods provision is not a useful recruitment tool: insurgencies would expend valuable resources on people who have no intention of ever joining the insurgent group. This paper seeks to address the empirical puzzle: *why do insurgencies provide public goods?*

I argue that secessionist insurgencies with territorial control are more likely to provide public goods. Secessionist insurgencies cannot achieve success through military victory alone: secessionist rebels must be recognized by the domestic and international community as the legitimate sovereign of a defined and bounded territorial space. In other words, secessionist insurgents seek to become an independent state where none existed before. To achieve the ultimate objective of statehood, secessionists insurgents, like the states they seek to become, provide public goods to all people living within the territory the secessionists seek to govern.

To test this hypothesis, I use secondary and primary sources to create an original dataset containing variables on the degree of education and health care provision of all insurgencies from 1945 to 2003. I conduct a large-n analysis using these original data, as well as other insurgency and state-level variables. The statistical results strongly support this hypothesis: secessionist insurgencies that control territory are 67% likely to provide public goods, nearly 41% more likely to provide public goods than non-secessionist groups that control territory and 63% more likely to provide public goods than secessionists without territory. The results are robust to several alternative specifications. Ultimately, the results underscore the importance of non-violent rebel group activity and the role of state-building in civil wars,

while addressing important concepts such as governance and sovereignty.

2   The Determinants of Insurgent Public Goods Provision

Since Mao Tse Tung's and the People's Liberation Army's victory over the Kuomintang in 1950, rebels across the globe have followed Mao's "liberation" strategy and provided social services to civilians as they conquered and controlled territory. When insurgents gain territory, rebels create a "territorially based anti-state (insurgent state) within the state."[6] Insurgencies form this "anti-state within a state" through the creation of "territorial units complete with all the attributes of any legitimate state, namely a *raison d'tre*, control of territory and population and particularly, the creation of its own core areas and administrative units." Yet within this anti-state, there is considerable variation in the populations to which insurgencies provide services: the insurgency may provide no additional services, it may provide club goods, or the insurgency may provide public goods.

Club goods provision refers to targeted social service provision, or social service provision from which certain members of a population are excluded, while public goods provision refers to goods from which anyone can benefit and no one can be excluded. Insurgencies like the National Union for the Total Independence of Angola (UNITA) and the National Liberation Front (FLN) of Vietnam, provided education and health care to a conquered town or village after purging the territory (through murder or forced migration) of anyone suspected of collaborating with the government, rival rebel organization, or anyone thought to be a potential danger to the insurgency.[7] On the other hand, after Amilcar Cabral's African Party for the Independence of Guinea and Cape Verde (PAIGC) controlled territory

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[6]McColl, Robert W. "The Insurgent State: Territorial Bases of Revolution" *Annals of the Association of American Geographers* 59.4 (1969): 613-631, pg 614

[7]On UNITA: Collelo, Thomas.   Angola: A Country Study: Research Completed February 1989.   Washington, D.C.: U.S. Government Printing Office, 1991.   Pgs 103-109.   URL: http://www.dtic.mil/dtic/tr/fulltext/u2/a234415.pdf. On FLN: See Pike 1966 and 1970.

in 1963, it immediately began to develop a national health and education service for all to use, thus providing public goods.[8]

Berman and Laitin (2008)[9] examine why terrorists and insurgents provide club goods specifically, and argue that insurgencies target or limit their social service provision to attract members more willing to commit greater acts of violence, such as suicide terrorism. Similarly, Weinstein (2006)[10] argues that insurgents use social service provision to attract people with utmost dedication to the long-term goals of an insurgency. He finds that insurgencies with higher levels of social endowments and without high levels of economic resources will be able to attract more committed recruits.

Ultimately, insurgencies provide club goods as a means of recruitment. Selective social service provision offers incentives for joining the insurgencies, and insurgency leaders can screen the best recruits from this potential pool. Yet the logic of club goods provision is not the same as public goods provision. Because public goods provision entails channeling finances, food, medicine and personnel to benefit people that will likely never take up arms on behalf of the insurgency, public goods provision is not an effective recruitment tool.

Insread, once an insurgency controls territory, what determines whether that insurgency will provide public goods as opposed to no social services or club goods is the long-term strategic objective of the insurgency. Mampilly (2011) argues that the "ultimate strategic objective of the group—will shape the rebel command's preferences for a civilian governance strategy as well as the initial design of its civil administration."[11] Because secessionist insurgencies face a unique burden in the context of civil wars, they are more likely to provide public goods than their non-secessionist counterparts.

For non-secessionist rebels, military victory alone is typically sufficient to achieve their

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[8]Dhada, Mustafah. *Warriors at work: how Guinea was really set free.* Boulder, CO: University Press of Colorado, 1993. Pgs 61 and 97

[9]Berman, Eli, and David D. Laitin. "Religion, terrorism and public goods: Testing the club model" *Journal of Public Economics* 92.10 (2008): 1942-1967.

[10]Weinstein, Jeremy M. *Inside Rebellion: The Politics of Insurgent Violence.* Cambridge University Press, 2006.

[11]Mampilly 2011, 16

long-term strategic objectives. Rarely are insurgents able to capture and secure the capital city, but fail to achieve recognition as the governing leaders of a particular country.[12] However, military victory alone is insufficient for a secessionist insurgency to be successful. Instead, secessionist insurgents must be recognized as the legitimate sovereign of a territorial space by both the domestic and international community. This additional challenge secessionist insurgencies face is the *secessionist insurgent burden.*To achieve their long-term objective of statehood and overcome the secessionist insurgent burden, secessionist rebel groups rely on a repertoire of both military and non-military strategies to legitimate their claim of territorial sovereignty.[13] Public goods provision is one such strategy.

On a domestic level, public goods provision "highlights the failure of the state to fulfill its side of the social contract, thereby challenging the legitimacy of the state. Second, non-state social welfare organizations offer the population an alternative entity in which to place their loyalty."[14] Additionally, Mampilly (2011) notes that "it is only by replicating some of the functions and forms of the nation-state–chiefly in regard to state strategies used to generate civilian compliance–that will allow an insurgent organization to derive support for its political authority and achieve some form of legitimacy."[15] Public goods provision and the legitimacy of the provider of such goods are thus inherently intertwined. By providing public goods, the insurgency not only reduces the legitimacy of the state it fights, but it cultivates its own legitimacy and the loyalty of the population it seeks to govern.

Moreover, because a military victory alone is not enough for a secessionist insurgency to triumph, simply mobilizing enough soldiers to overthrow the government in the capital will not yield success. As a result, secessionists cannot only focus their recruitment efforts on those likely to support the organization. Instead, secessionist insurgencies make claims over

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[12]One exception is the United States and the Movimento Popular de Libertacao de Angola. Although the MPLA captured the Luanda (Angola's capital), the United States refused to recognize the MPLA until 2002. Virtually all other states in the international system recognized the MPLA, however.

[13]See for example, Fazal, Tanisha. "Secessionism and Civilian Targeting." *American Political Science Association Annual Conference.* 2013

[14]Grynkewich, Alexus G. "Welfare as warfare: How violent non-state groups use social services to attack the state." *Studies in Conflict & Terrorism* 31.4 (2008): 350-370. Pg 353

[15]Mampilly 2011, 8

a bounded territorial space. To be perceived as the rightful governing authority within this space, secessionists must legitimate themselves to all people living within it. If secessionist insurgencies only provide club goods to mobilize select groups of people with the hopes of overthrowing the government, the insurgency will have failed to be the sovereign of a territory and all people living within that territory. In other words, the primary goal of the secessionist insurgency is controlling the territorial space over which it seeks to be sovereign. This entails providing services to everyone in that space, or providing public goods, instead of selectively mobilizing for military victory and providing club goods.

Secessionist insurgencies also need the support of the international community. Coggins (2014) and Grant (1999)[16] emphasize that international recognition is the ultimate requirement for statehood. As a result, secessionist insurgents are highly concerned with the good opinion of the international community. Insurgents understand that they need foreign support for recognition of statehood[17] because "[the state] is viewed as having its genesis in recognition."[18] Thus, the secessionist insurgency must also convince the international audience that the secessionist insurgency is the legitimate sovereign of a territorial space.

To the international community, public goods provision bolsters a secessionist insurgency's claim to be the legitimate and sovereign actor of an independent, territorial space because public goods provision, either in the form of national defense, public order, education or health care, is what states do (or at least, aspire to do).[19] According to Olson (1965), "a state is first of all an organization that provides public goods for its members."[20] Although the state may have played a more limited role in social service provision historically, in the post-World War II era, a state "retains a distinctive role in providing the public goods

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[16]Coggins, Bridget. *Power Politics and State Formation in the Twentieth Century: The Dynamics of Recognition* Cambridge University Press, 2014. pg pg 29, 31 and Grant 1999, 2

[17]For example, Bob (2005), 25-26 notes that the secessionist insurgencies in Sudan and Nigeria hired international PR and lobbying firms to advocate for their causes in major cities around the world.

[18]Coggins 2014, 28-9

[19]See Krasner, Stephen D. *Sovereignty: Organized Hypocrisy.* Princeton University Press, 1999. and Krasner and Risse (2014) for examples of how states may fail to provide public goods.

[20]Olson, Mancur, and Mancur Olson. *The Logic of Collective Action: Public Goods and the Theory of Groups.* Harvard University Press. 1965. Pg 15

that promote economic and social development."[21] Moreover, Munro (1996) defines states as "the legitimate provider of specified political goods, over which it has sole and universal jurisdiction on the basis of a national collectivity and for which it seeks revenue on that basis."[22] States are the pre-eminent public goods providers, especially essential public goods such as security, order, education and health. When insurgencies provide public goods, they act as if they were states. For secessionist movements in particular, this demonstration of statehood is critical. Because secessionist insurgencies want to become independent states, their ability to demonstrate that they are a *de facto* state is an important step in achieving their long-term objective of sovereignty.

As an example, "since 1975 ...the Polisario and the SADR [Sahrawi Arab Democratic Republic] have been modernizing and developing the camps with two goals in mind. First, a degree of livability is necessary to sustain the independence movement ...Secondly, **the Sahrawis have developed and administered the camps to such a degree to prove that they are ready for self-rule—a practice-run for statehood**"[23] (emphasis mine). The Polisario recognizes that by providing public goods, the Polisario is acting as if it were a state. By providing public goods, the Polisario hopes to lend legitimacy to their claim of independence in the eyes of the domestic constituency as well as the international community.

Public goods provision is thus unique from club goods provision because public goods provision addresses both the domestic and international challenges presented by the secessionist insurgent burden. Club goods provision, unlike public goods provision, cannot legitimate the secessionist insurgency's claim of sovereignty over a bounded territorial space. Selective social service provision, by definition, excludes some members of the polity the insurgency seeks to govern through violence or forced expulsion, thus undermining the insurgency's

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[21]World Bank. 1997. "World Development Report 1997 : The State in a Changing World." New York: Oxford University Press. World Bank. https://openknowledge.worldbank.org/handle/10986/5980 License: CC BY 3.0 IGO. Page 25

[22]Munro, William A. "Power, peasants and political development: Reconsidering state construction in Africa" *Comparative Studies in Society and History* 38.01 (1996): 112-148

[23]Organization for Statehood and Freedom. "The Saharawi Stuggle." *Tindouf Refugee Camps.* Organization for Statehood and Freedom. 2010. Web. 6 Nov. 2014

claim to represent all people within a given territory. Instead, insurgencies use selective service provision as a way to attract highly-committed recruits, or recruits more willing to engage in egregious attacks,[24] not to demonstrate legitimate territorial sovereignty. Because selective social service provision does not allow the insurgency to demonstrate that it is the legitimate territorial sovereign of a particular space, selective social service provision will not help secessionist insurgencies overcome the secessionist insurgent burden. As a result, selective or restricted social service provision does not address the domestic component of the secessionist insurgent burden.

Moreover, non-secessionist insurgencies also lack incentives to provide public goods. Because non-secessionist rebels must only mobilize enough supporters to achieve military victory in order to be successful, non-secessionists do not need public goods provision to legitimate themselves as the rightful sovereign of a territorial space. If non-secessionist insurgencies provided public goods, they would waste resources on people who are unlikely to help them achieve military victory. Instead, non-secessionist insurgencies benefit from restricting their service provision and only allocating resources to likely recruits that will help them achieve military success.

Taken together, the argument outlined above suggests that secessionist insurgencies that control territory are more likely to provide public goods because they know it is a strategic tool that will help them achieve sovereignty over a bounded territorial space. Territorial control is a first-step to the provision of social services to civilians, but once a rebel group controls territory, public goods provision does not necessarily follow. Because only secessionist rebel organizations face the secessionist insurgent burden and because only public goods provision will mitigate this burden, secessionist insurgencies that control territory are thus more likely to provide public goods then other non-secessionist groups. This logic implies the following hypothesis:

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[24]Weinstein (2006); Berman and Laitin (2008)

> **Hypothesis:** *Secessionist insurgencies that control territory will be more likely to provide public goods.*

3   Data and Model Specification

One of the primary difficulties in testing the determinants of insurgent public goods provision is that few datasets exist that offer any information about insurgent social service provision. The Minorities At Risk Organizational Behaviors (MAROB) Dataset (2008)[25] offers some information on both violent and non-violent social movements. The data measure whether the group provided social services such as "education, health care, poverty alleviation at a para-statal level. . . to a large number of constituents." However, the MAROB data are geographically constrained to the Middle East and do not adjudicate between which types of services were provided and how extensively.

The NAVCO 2.0 Dataset (2013)[26] also includes some measures of non-state service provision. The NAVCO 2.0 Dataset measures both non-violent and violent campaigns and includes a measure of whether a campaign includes education or social welfare provision in a given campaign year. While providing greater clarity on non-state provision of social services, the data again do not disaggregate between or explain who is able to benefit from such services. Additionally, the data are limited to "campaigns," which are sustained, contentious events with at least 1,000 participants. This means that many smaller insurgencies may be excluded from the data.

Aside from the NAVCO 2.0 Dataset (2013) as well as the MAROB Dataset (2008), no other data exist that identifies that type of social service provided, as well as which populations were able to benefit from this social service provision. To address this deficiency, I code a new variable of insurgent public goods provision, part of a new dataset, the "In-

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[25]Asal, Victor, Amy Pate and Jonathan Wilkenfeld. 2008. Minorities at Risk Organizational Behavior Data and Codebook Version 9/2008 online: http://www.cidcm.umd.edu/mar/data.asp

[26]Chenoweth, Erica, and Orion A. Lewis. "Unpacking nonviolent campaigns Introducing the NAVCO 2.0 Dataset." Journal of Peace Research 50.3 (2013): 415-423.

surgent Social Service Provision Dataset." These new data identify whether an insurgency offered education or health care, the years an insurgency offered this service, the populations that benefitted from each of these services, and whether the insurgency provided other, non-education and non-health care services to a certain population. The data are time-variant and capture changes in both provision or to whom the insurgency provided services. I use both primary and secondary sources to code these variables.[27]

To identify the universe of cases, I rely on the The Non-State Actor Dataset from Cunningham, Gleditsch and Salehyan (2009).[28] The NSA Dataset contains several key insurgency-level variables. The original dataset contains a total of 327 insurgencies covering 2,426 insurgency-years. For clarity in coding, when I exclude some coups, coup attempts or groups that allied with the government and did not oppose it (for example the Ton Ton Macoutes of Haiti or the Karamajors of Sierra Leone), I am left with 304 groups, covering 2,331 insurgency-years.[29]

Because of the importance of disaggregating the populations that benefit from social service provision, I created five categories that describe the populations that may benefit from insurgencies' services:

1. No population because no provision
2. Provision to insurgent members
3. Provision to insurgent members and supporters
4. Provision to insurgent members, supporters and neutral civilians likely to be supporters
5. Provision of public goods, meaning provision to anyone, even those highly unlikely to support the insurgency.

Data collection on civil wars and insurgencies is a difficult task, especially data on social service provision. Primary documents from rebel groups may not present an accurate picture

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[27]Unfortunately, the data cannot capture quality or breadth of insurgent provision, so a rebel group that provided a single one-room school and one hospital will be coded in the same way as rebel group that provided twenty excellent education centers and twenty hospitals with high quality health care.

[28]Cunningham, D. E., K. Skrede Gleditsch, and I. Salehyan. "It Takes Two: A Dyadic Analysis of Civil War Duration and Outcome." *Journal of Conflict Resolution* 53.4 (2009): 570-97

[29]I do not include coups or military factions because they are arguably a branch of the existing state apparatus, and thus for coding purposes could skew results.

of their social service provision. Insurgencies may have an incentive to lie or misrepresent their social service provision, and may claim to provide more services than they actually do. At the same time, very rarely do secondary or primary sources explicitly state that rebel groups provide public goods and also mean "non-rivalrous, non-excludable" goods in the same sense as this study does. Because of this lack of clarity, I examined the textual evidence for several observable insurgent behaviors that indicated which populations a group provided social services to, even if the text did not explicitly state a group provided public health and public education. Examples of this include historical texts or documents would explicitly state that the organization provided services to their enemies, including prisoners of war (such as the EPLF mentioned before). If the insurgency under consideration were an ethnic or religious insurgency, the insurgency would need to provide services to people who were not co-ethnics or co-religionists. For example, the Karen National Union (KNU), composed of primarily Karen ethnic fighters, provided health care and education to Mons living in the territory the KNU controlled, even though at some points in its history, the KNU fought against a primarily Mon insurgency, the New Mon State Party (NMSP). Additionally, many Karens are Buddhist, but the leader of the KNU was Christian. Yet the KNU did not discriminate along religious lines.[30] Hezbollah is another example of observed public goods provision. A father from southern Lebanon who works for the United Nations Interim Force in Lebanon (UNIFIL) and backs Hezbollah's arch-rivals, Amal, sends his son to a Hezbollah school. The father says many who attend Hezbollah's schools "are not Hezbollah, nor are we in the least affiliated with their ideologies or political views, but we ... realize that their schools are currently better than anything else in the area."[31] If an insurgency was communist, the group would demonstrate public goods provision by providing education and health care to landlords, intellectuals or wealthy business people, as the People's Liberation

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[30]Fong, Jack. Revolution as Development: The Karen Self-determination Struggle against Ethnocracy 1949-2004. Boca Raton, FL: Universal, 2008. Print. 255-67.Smith, Martin J. Burma: Insurgency and the Politics of Ethnicity. London: Zed, 1991. Print. pg 384-402. Rebecca, Naw. "Karen Education: Children on the Front Line." Cultural Survival (1989). Oh, Su-Ann. Competing forms of sovereignty in the Karen state of Myanmar. Institute of Southeast Asian Studies, 2013.

[31]Jaber, Hala. *Hezbollah: Born with a Vengeance.* Columbia University Press, 1997. Pg 164

Army did after 1948, when it began a "national unity" campaign.[32]

These data are highly sensitive to the possibility of false positives, most likely to arise in two ways. First, an insurgency may provide services to anyone within a town or territory it controlled, but it would only provide services after expelling or killing anyone unlikely to support the insurgency.

Second, these data address potential false positives caused by the movement of civilians to refugee camps during wartime. After the start of the civil war, civilians may flee their homes and migrate to refugee camps. Civilians may have the opportunity to choose which camp to go to, and people who support the insurgency might choose to move to the camp that an insurgent group controls, while people who support the government may move to camps the government controls. As a result, when the insurgency provides social services in the refugee camp, it appears that the insurgency is providing to everyone when in actuality it is really only providing to supporters, creating a false-positive. To address this issue, I examine the demographics of the refugee camp. If the refugee camp population contains 90% or more people who are likely to support the insurgency (co-ethnics, co-religionists, etc.), I do not code this group as providing public goods.

Finally, for observations that are questionable or unclear, I code the best understanding of the service provision and offer an alternative coding of the case. This ensures that I am not coding on a bias, and I will use this alternative measure as a robustness check (Model 1, Appendix Table A.X).

3.1 Dependent Variable

The dependent variable is "Public Goods Provision", which I code as a "0" or "1." A "1" indicates that the group provided both public health care and public education, while a "0" indicates the insurgency did not provide public goods. A "0" coding may indicate the insurgency offered club goods or that the insurgency did not provide any services. I use this

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[32]Pepper, Suzanne. *Civil War in China: The Political Struggle, 1945-1949.* Berkeley: U of California, 1978. Print. Ps 221-224 and also page 203-4 on treatment of POWs.

binary indicator to make as few assumptions about the nature of social service provision as possible.[33] Of the 103 insurgencies that provided any education,[34] forty groups in the dataset provided public goods, or about 39% of all groups that provided any education.[35] The average number of years that each group provided public education is 8.7 years. Of the 101 insurgencies that provided any health care,[36] a total of 39 groups, or about 39% of all health care providing insurgencies, offered public goods,[37] with each group providing health care for an average of 8.0 years per group.

Because these data are original and hand-coded, they may be subject to questions of external validity. Nation-states are the traditional providers of public goods, especially health care and education. One may anticipate that insurgencies that provide public goods behave as-if they are states. Thus, insurgencies that provide public goods and control territory may appear in the "De Facto States in International Politics (1945-2011) Dataset." Florea (2014) lists 34 de facto states and of these, 21 are also included in the NSA Dataset (2009) as either insurgencies or the de facto states that are products of insurgencies. For example the Karen National Union in the NSA Dataset created what Florea calls "the Karen State," and what the Karens call "Kawthoolei."[38] Among this group of 21 de facto states, 17 are coded as providing public goods in the "Insurgent Social Services Dataset," a very high correlation.

Furthermore, Kalyvas and Balcells (2010) argue that some civil wars are conventional civil wars where "rebels are able to militarily confront states using heavy weaponry such as field artillery and armor. In conventional wars, military confrontation is direct, either across well-defined front-lines or between armed columns."[39] One would predict that insurgencies that provide public goods could be acting as if they were states, and thus engage in warfare as states (conventionally). The technologies of rebellion data lists 46 conventional wars,

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[33]For example, it is unclear if the populations that insurgencies provide services to can be ranked ordinally, or if these populations are categorical.

[34]See Figure A.1 for trends in insurgent education provision over time.

[35]See Figure A.2 for trends in the populations to whom insurgents provided education over time.

[36]See Figure A.3 for trends in insurgent health care provision over time.

[37]See Figure A.4 for trends in the populations to whom insurgents provided health care over time.

[38]Florea 2014, 5-6

[39]Kalyvas and Balcells (2010, pg. 419).

during which insurgencies provided public goods in 15 of these conventional wars.

The correlation between these two similar datasets and the Insurgent Social Services Dataset provides considerable external support for the validity of the data I collected.

3.2 Independent Variables

My key independent variables are whether a group is secessionist and whether a group controls territory. I code groups as *Secessionist* if the insurgency is coded either fully or partially as "Secessionist," as per the "Conflict Type" variable from the Cunningham, Gleditsch and Salehyan (2009) Non-State Actor dataset (NSA Dataset). The "Conflict Type" variable indicates the type of intrastate conflict a group is engaged in, or the nature of their struggle. This dataset offers 21 different conflict types. Of these, four conflict types include the term "secessionist": "secessionist" conflict types, "civil war/secessionist" conflict types, "ethnic conflict/secessionist" conflict types and "secessionist/terrorist" conflict types. Insurgencies with a full or partial "secessionist" conflict type are coded as "1," while all other conflicts are coded as "0."

The *Territorial Control* variable is from the NSA Dataset (2009) and is coded as a "yes" if the group controlled territory or a "no" if otherwise. To enable statistical analysis, I code the variable so that all "yes" observations equal a "1" and all "no" observations become "0." I hypothesize that secessionist insurgencies that control territory are more likely to provide public goods because of their strategic, long-term governance goals. As such, I interact the variable *Secessionist* with *Territorial Control*. If the *Secessionist* × *Territorial Control* coefficient is positive and statistically significant, the results of the statistical analysis will support my hypothesis.

3.3 Controls

In several of the Models that follow, I add insurgency-level control variables that may impact the probability that an insurgency may provide public goods. I include a measure of

Central Command Strength from the variable "Strength of Central Command" in the NSA Dataset (2009). The NSA Dataset lists the values of this variable as "high," "moderate," "low," or "unclear." To operationalize this variable for statistical analysis, I code the *Central Command Strength* variable as "0" if the rebel group had "low" central command strength, "1" if the rebel group had "moderate" central command strength and "2" if the rebel group had high central command strength. I code as missing any variables that are listed as "unclear" in the NSA Dataset.

I include the strength of central command variable for two reasons: first Weinstein (2006) argues that groups lacking economic resources must be highly disciplined and ideologically driven to be successful. These highly disciplined organizations use social services to attract recruits. Thus, insurgencies with high levels of central command strength may reflect groups lacking economic resources. These groups are in turn more likely to provide public goods.

Second, Staniland (2014) argues that "integrated" and "vanguard" insurgent organizations are more likely to have strong central command structures, compared to "parochial" and "factional" groups.[40] "Integrated" rebel groups are likely to have close ties across leaders within the rebel organization, but also to local populations outside the organization. These strong horizontal and vertical ties might make groups more inclined to strategize about social service provision, then implement them locally. Meanwhile, "vanguard" organizations may be less likely to provide social services unless the state is absent. Staniland writes that "uncontested territory creates valuable space for vanguards to create quasi-state structures that can make possible greater integration over long periods of time."[41] Parochial and fragmented groups may be less likely to provide social services because parochial groups already have strong ties to the local population and so do not need to provide social services. Fragmented groups are unlikely to build strong ties with leaders within the organization or locally due to organizational dysfunction.[42] Thus we would predict that groups with a weaker central

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[40]Staniland, Paul. *Networks of Rebellion: Explaining Insurgent Cohesion and Collapse.* Cornell University Press, 2014.
[41]Staniland 2014, 46
[42]Staniland 2014, 53

command, such as parochial or fragmented groups, are less likely to provide social services. Ultimately then, groups with a strong central command may be more likely to provide social services.

I also include a measure of rebel group military strength. The NSA Dataset (2009) codes rebels as "much stronger," "stronger," "parity," "weaker," or "much weaker" in comparison to the incumbent government they are fighting. I code the ordinal variable *Rebel Strength* as "0" if rebel strength is listed as "much weaker", a "1" if the group's strength is listed as "weaker," a "2" if the organizational strength is at "parity" with the state, a "3" if the rebel group is "stronger" than the incumbent government and a "4" if the rebel group is coded as "much stronger" than the state it is fighting.

The strength of a rebel group might impact its propensity to provide public goods in two distinct ways. Weinstein (2006) argues that groups lacking economic endowments are more likely to provide public goods. Similarly, groups lacking military strength and endowments may rely on the civilian population more for support. As a result, public goods provision becomes a weapon of the weak, employed to generate support amongst and harvest supplies from the population in which an insurgency is embedded. The National Revolutionary Movement (NRM) in Uganda, for example, began with few military resources and just 27 men, but soon provided social services within the territory it controlled.[43] This hypothesis suggests that lower levels of rebel group strength will correspond to an increased likelihood of public goods provision.

Alternatively, social service provision could be seen as a corollary of strength: only strong groups would have the necessary resources, training and capacity to provide public goods. In this case, we would expect rebel group strength and public goods to have a positive relationship, indicating that stronger insurgencies are more likely to provide public goods.

In his text *On Guerrilla War*, Mao Tse-Tung writes that insurgencies need a popular base of support in order to survive, and it is from this base that they derive their strength.[44]

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[43]Weinstein 2006, 68
[44]Mao Tse-Tung, *On Guerrilla War* (University of Illinois, 2000). 43-44

As a result, Mampilly (2011) has hypothesized that Maoist groups are more likely to provide social services.[45] To account for the ideological influence of Mao on other insurgent groups, I created a variable called *Communist* if a group had a socialist or communist ideology. I coded this variable using data from the NSA Dataset casebook. If the NSA Dataset casebook refers to a group as "Marxist," "Maoist," "communist" or "socialist," I code this variable as "1" and a "0" if otherwise. I also triangulate this coding with Kalyvas and Balcells (2010) *Communist* variable from their "Technologies of Rebellion" dataset, which codes all civil wars that had at least one communist insurgency.

Insurgencies do not operate within a vacuum, and state-level attributes could be critical determinants of social service provision. Certain regime types may be more or less prone to provide services to their citizens, which could impact whether an insurgency is able to control territory and whether an insurgency may be able to provide social services. I include a binary indicator variable for whether a country is a *Democracy* (coded as "1" if the country is a democracy and a "0" if otherwise). I use the XPOLITY (2008) data to code this variable.[46] The XPOLITY variable is highly similar to the Polity IV Index, but the XPOLITY is better suited to address questions related to political conflict.[47] The XPOLITY variable ranges from -7 to +7 and consistent with Vreeland (2008), I code all states as democracies if they have a score of +4 or higher on the XPOLITY scale.

The level of social development may also impact public goods provision because lower levels of social development might make populations more in need of services. Therefore, I include a measure of *Infant Mortality* from the World Bank (2012) because infant mortality has been used as a measure of state development in post-conflict reconstruction research

[45]Mampilly, Zachariah Cherian. *Rebel rulers: insurgent governance and civilian life during war.* Cornell University Press, 2011. Pg 78-9.

[46]Vreeland, James Raymond. "The effect of political regime on civil war unpacking anocracy" *Journal of Conflict Resolution* 52.3 (2008): 401-425.

[47]The Polity IV variable includes measures of civil violence in its construction. Although I am not measuring civil violence specifically, I am measuring something that occurs within the context of civil war. Therefore including a variable may confound the estimates as measures of civil violence would be included on both sides of the regression equation. The XPOLITY variable addresses these problems by removing the political violence components of the Polity IV index.

(see for example Girod 2012).[48] Additionally, high levels of state capacity and economic strength may make it more difficult for an insurgency to begin a civil conflict or control territory. However, a stronger state may produce the personnel resources (educated teachers and doctors) to staff an insurgent's social service apparatus. To test this hypothesis, I include the variable *Income*, a logged measure of GDP per capita[49] from Penn World Tables (2012).[50] States facing worsening economic conditions may close schools or hospitals, in turn opening up a space for insurgents to provide services. Insurgencies operating in states with a decline in GDP per capita may be more likely to provide public goods to fill this governance gap. As such, I include a measure of *Income Growth* operationalized as the rate of change in GDP per capita from one year to the next, calculated from Penn World Tables.[51] I also include measures of *Ethnic Fractionalization* and *Rugged Terrain*.[52] Because I hypothesize that secessionist insurgencies are more likely to provide public goods, states that have high levels of ethnic fractionalization may be more likely to experience secessionist wars in the first place. If the results support the hypothesis that territory-controlling secessionist insurgencies are more likely to provide public goods, *Ethnic Fractionalization* may be a confounding factor. Second, *Rugged Terrain* might make it more difficult for states and insurgencies to control territory, and it may also complicate both a state's and an insurgency's ability to provide public goods.

Finally, the Cold War has been shown to be associated with different modes of civil conflict (Kalyvas and Balcells 2010). To account for the effects the Cold War may have on public goods provision, I include the variable *Cold War*, coded as "1" if the year is between 1945 and 1991 and a "0" if the year is 1992 or later. Additionally, because Weinstein (2006) has hypothesized that high levels of economic endowments make insurgencies less likely to

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[48]Girod, Desha M. "Effective Foreign Aid Following Civil War: The Nonstrategic-Desperation Hypothesis." American Journal of Political Science 56.1 (2012): 188-201, Pg 192

[49]Fearon, James D., and David D. Laitin. "Ethnicity, insurgency, and civil war." *American Political Science Review* 97.01 (2003): 75-90.

[50]Heston, Alan, Robert Summers and Bettina Aten. 2012. "Penn World Table Version 7.1," *Center for International Comparisons of Production, Income and Prices at the University of Pennsylvania*, November.

[51]Ibid.

[52]Fearon and Laitin (2003)

provide public goods, the state-sponsorship of various insurgencies during the Cold War may make insurgencies during this time period less likely to provide public goods.[53]

3.4 Model Specification

Due to the binary construction of the dependent variable, I use a logistic estimator. I cluster standard errors by region, as I assume errors are likely to be correlated within regions, but not across regions, because insurgencies may have safe havens in other countries and may operate transnationally, or certain conflicts might affect other nearby conflicts (See Figure A.5 for regional distribution). Thus, clustering standard errors by state, conflict or insurgency is not appropriate in these models. Additionally, because many insurgency- and state-level variables are time invariant, I cannot include state or insurgency fixed effects in the models. The *Cold War* variable is mostly time-invariant and substantively important, and so I cannot include year-fixed effects. I lag all time-variant state-level variables by one year to ensure that these state-level attributes existed prior to the provision of public goods. In subsequent robustness checks, however, I demonstrate that results are robust to the inclusion of alternative fixed effect and clustering specifications.

4 Results and Discussion

Table I presents the results of the logistic regression model. Model 1 of Table I reports the central relationship between the interaction term of *Secessionist × Territorial Control* as well as the lower order terms. As predicted, the relationship is positive and statistically significant at the 99% level. The statistically significant positive coefficient of this interaction terms indicates that secessionist insurgencies that control territory are more likely to provide public goods. This model demonstrates that the relationship between secessionist rebel groups that control territory and public goods provision is statistically significant and positive without

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[53]Salehyan, Idean, David Siroky, and Reed M. Wood. "External Rebel Sponsorship and Civilian Abuse: A Principal-Agent Analysis of Wartime Atrocities." *International Organization* (2014): 1-29.

the inclusion of any controls, and remains robust with the incremental inclusion of additional key covariates.

In Models 2 and 3 of Table I, I introduce key insurgency-level (Model 2) and state-level (Model 3) control variables. Again, the interaction term of *Secessionist × Territorial Control* is positive and statistically significant to the inclusion of these sets of variables. These models also include standard errors clustered by region.

Finally, Model 4 of Table I includes both insurgency- and state-level controls with region clustered standard errors. Again, the interaction term of *Secessionist × Territorial Control* is positive and statistically significant at the 99% level. The direction and significance of the relationship supports the hypothesis that secessionist insurgencies that control territory are more likely to provide public goods.

Because I use a logistic estimation model, the coefficients are not easily interpretable. To ease interpretation, Figure 1 presents the predicted probabilities with all variables set to their medians. I set all variables to their medians as many variables are either dichotomous or are non-continuous, ordinal variables. By setting all variables to their median, I present results with all variables set to theoretically meaningful values.

Figure 1 presents the results of Model 4 in Table I. Secessionist insurgencies that control territory are approximately 67% likely to provide public goods and nearly 41% more likely to provide public goods than non-secessionist groups that control territory. The confidence intervals of territory-controlling secessionist groups and territory-controlling non-secessionist groups do not overlap, demonstrating that the difference between these two categories is statistically significant. On the other hand, secessionist insurgencies are only 4% likely to provide public goods if they do not control territory. This means that if a secessionist organization acquires territory, their likelihood of providing public goods increases nearly 63%. Non-secessionist organizations that do not control territory are only 5% likely to provide public goods, but this value is not statistically significant and thus indistinguishable from a 0% likelihood of providing territory. Because of the substantial size of the effect

between *Secessionist* × *Territorial Control* and public goods provision, the findings are not only statistically significant but substantively meaningful as well.

Table I: Public Goods Provision

	(1) Public Goods	(2) Public Goods	(3) Public Goods	(4) Public Goods
Secessionist	0.02	0.22	-0.24	-0.24
	(0.29)	(0.59)	(0.64)	(0.96)
Territorial Control	1.41***	1.45***	1.76***	1.95***
	(0.17)	(0.46)	(0.65)	(0.39)
Secessionist × Territorial Control	1.04***	0.98*	1.89***	1.99***
	(0.33)	(0.57)	(0.35)	(0.26)
Central Command Strength		0.01		-0.26
		(0.28)		(0.35)
Rebel Strength		-0.12		-0.35
		(0.19)		(0.44)
Communist		-0.08		-0.46
		(0.75)		(1.38)
Democracy			0.64***	0.65***
			(0.11)	(0.19)
Infant Mortality			0.03**	0.02**
			(0.01)	(0.01)
Income			0.91**	0.86
			(0.46)	(0.59)
Income Growth			-0.01	-0.02
			(0.02)	(0.03)
Population Density			-0.00	-0.00
			(0.00)	(0.00)
Ethnic Fractionalization			1.28	1.79*
			(1.09)	(1.03)
Rugged Terrain			0.31	0.30
			(0.22)	(0.30)
Cold War			-1.08*	-0.87***
			(0.55)	(0.04)
Constant	-2.47***	-2.31***	-13.26***	-12.52**
	(0.13)	(0.74)	(3.29)	(5.61)
Observations	1669	1515	1207	1072
Pseudo R^2	0.134	0.142	0.245	0.260

Note: The dependent variable is the provision of public goods, as opposed to no provision or the provision of club goods. The state-level independent variables are lagged by one year. Positive coefficients indicate an increased likelihood of providing public goods. Models 2 through 4 include standard errors clustered by region. Standard errors in parentheses; ∗ sig at 10%; ∗∗ sig at 5%; ∗ ∗ ∗ sig at 1%. The significant positive coefficient for "Secessionist × Territorial Control" in Models 1 through 4 supports the hypothesis.

Figure 1: Public Goods Provision
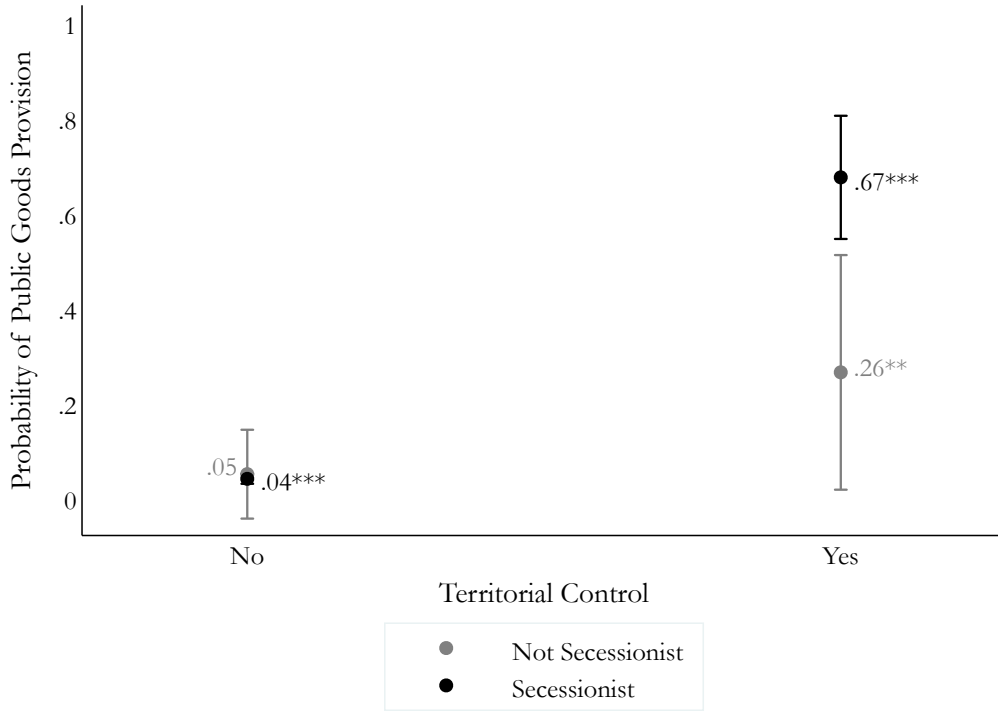
Note: The figure demonstrates the predicted probability of an insurgency providing public goods. The 95% confidence intervals are represented by the bars. Secessionist insurgencies that control territory are 67% likely to provide public goods, and 41% more likely to provide public goods than other groups that control territory.

5   Robustness Checks

Because of the time-invariant construction of certain insurgency- and state-level variables, I do not include fixed effects in the models presented in Table 1. To show that the results are robust to the inclusion of fixed effects, in Models 1 and 2 of Appendix Table A.III, I include region fixed effects with standard errors clustered by region (Model 1) and conflict (Model 2). The Model 2 specification accounts for differences across regions and inflates standard errors by conflict to correct for unobserved correlation in the error term within conflicts. Models 3 and 4 of Appendix Table A.V exclude the *Cold War* variable and include year fixed effects and region fixed effects, clustering standard errors on region (Model 3) and

conflict (Model 4). Even with these alternative fixed effects and clustered standard errors specifications, the interaction of *Secessionist × Territorial Control* is still large, positive and statistically significant, adding further support for the hypothesis.

In Appendix Table A.IV, I include additional controls that might impact the likelihood of secessionist insurgencies that control territory providing public goods. In each model of Appendix Table A.IV, I include an additional control variable, then include all additional control variables in Model 5. Because Weinstein (2006) predicts that groups receiving external monetary support are less likely to provide social services, I include a measure for whether a group received non-military aid in Model 1. To code this *Non-Military Aid* variable, I used the NSA Dataset (2009) in conjunction with UCDP's External Support Dataset (2013).[54] I code the *Non-Military Aid* as "1" if the NSA Dataset (2009) lists the observation as receiving "non-military aid," as opposed to an "endorsement," "troops" or "military aid." As some observations might receive two types of aid, I also code the *Non-Military Aid* variable as "1" if the UCDP External Support Dataset (2013) codes the observation as receiving economic aid in that year.[55] The results are robust to the inclusion of the *Non-Military Aid* variable.

In Model 2 of Appendix Table A.IV, I control for the logged number of *Battle Deaths*, as groups that commit more violence may use public goods to attract recruits more willing to commit violence.[56] Yet, the *Secessionist × Territorial Control* is still robust and positive, further supporting my argument.

Model 3 of Appendix Table A.IV presents the results of the inclusion of the control variables *Pre-Conflict Education* and *Pre-Conflict Health*. The *Pre-Conflict Education* and *Pre-Conflict Health* variables measure whether the group provided any education or any

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[54]Hogbladh, Stina, Therese Pettersson and Lotta Themner, 2011. "External Support in Armed Conflict 1975-2009. Presenting new data." Paper presented at the 52nd Annual International Studies Association Convention, Montreal, Canada, 16-19 March, 2011

[55]While an important theoretical variable, because many observations are missing, it reduces the sample size significantly, and so I do not include it in the base model (Model 4, Table 1).

[56]Berman, Eli, and David D. Laitin. "Religion, terrorism and public goods: Testing the club model" *Journal of Public Economics* 92.10 (2008): 1942-1967.

health care prior to the onset of civil war. For example, a rebel group could provide education, such as literacy or mathematics courses, to recruits prior to engaging in conflict. On the other hand, it could suggest that some rebel groups provided services but had not committed enough violence to be considered an active insurgency. These variables are coded as a "1" if the rebel provided education or health care prior to conflict onset, and a "0" if they did not. The *Pre-Conflict Education* and *Pre-Conflict Health* variables are both insignificant, yet the *Secessionist × Territorial Control* is still positive and robust.

Model 4 of Appendix Table A.IV includes the variable measure *Rebel Size*, operationalized as the log of the best estimate of rebel size from the NSA Dataset (2009). A larger rebel group may be more likely to provide public goods because the rebel group has enough people to fill both combat and non-combat positions. Even with the inclusion of the variable *Rebel Size*, the interaction of *Secessionist × Territorial Control* is still positive, large and statistically significant.

Finally, I include all additional control variables in Model 5 of Appendix Table A.IV as difficult test for the hypothesis. The interaction of *Secessionist × Territorial Control* is positive and statistically significant despite the inclusion of five additional control variables and the related decrease in observations due to the missingness of these data. The results strongly support the theory that territory controlling secessionist insurgencies are more likely to provide public goods.

Although it is unlikely that the results are a product of endogenous processes, it is not impossible that endogeneity may be effecting the results. Endogeneity may occur if an organization provides public goods, then becomes a secessionist insurgency that controls territory. Secessionism is more likely to occur under certain conditions where economic, normative and security benefits of secession are high and not because of public goods provision, I account for potential endogeneity.[57] Therefore, while endogeneity is unlikely or unusual, one could

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[57]Fazal, Tanisha M., and Ryan D. Griffiths. "Membership Has Its Privileges: The Changing Benefits of Statehood." International Studies Review 16.1 (2014): 79-106.; Sambanis, Nicholas, and Branko Milanovic. "Explaining Regional Autonomy Differences in Decentralized Countries." *Comparative Political Studies* (2014). 1-26

argue that cases such as the Republic of Nagorno-Karbagh, South Ossetia or Abkhazia are examples of organizations that provided public goods and controlled territory, then decided to rebel and become secessionist armies. Model 1 of Appendix Table A.V reports the logistic regression model after excluding all cases where rebel groups enjoyed considerable governing autonomy, such as former Soviet *oblasts* or republics, prior to the onset of civil conflict. The coefficient for the interaction term *Secessionist × Territorial Control* is statistically significant and robust, consistent with the hypothesis.

For an even tougher test, I re-run the logistic regression model excluding all cases that enjoyed considerable governing autonomy prior to conflict onset, as well as all observations that provided public goods prior to the official onset of civil conflict (Appendix Table A.V, Model 2). This test is tougher as some insurgencies are not coded as engaging in civil conflict unless they have caused a certain number of battle deaths. Thus, even if an insurgency exists and has committed violence, if the level of violence is too low, the insurgency may not enter the NSA Dataset. For example, Hezbollah has engaged in violence since 1982 and began providing public goods in the mid-to-late 1980s, but does not enter the dataset until 1990. Even with this extremely difficult test, the results are still robust and support the hypothesis.

Next, to ensure that the results are not the results of outliers or influential observations, I re-run the base model excluding all outliers (Model 1, Appendix Table A.VI). To determine the cases that are outliers, I use a linear probability model and calculate the Cook's D of each observation in the sample. The Cook's D is a measure of leverage each observation exerts on the regression line. Typically, if an observation has a Cook's D higher than $4/n$ where "n" equals the number of observations, the observation is considered an outlier and excluded. After identifying all outliers, I re-run the model excluding these observations. The coefficient of *Secessionist × Territorial Control* is statically significant and positive, supporting the theory. I also conduct an analysis using a "jackknife" estimation technique. Jackknifing entails dropping a single observation from the sample and re-running the analysis, generating predicted coefficients and standard errors. Once the analysis has been run, the

observation is replaced, the next observation is excluded, and the model is re-run. This is repeated until all observations have been excluded, at which point the coefficients and standard errors are recalculated. Again, the interaction of *Secessionist × Territorial Control* is robust (Model 1, Appendix Table A.VII).

The dataset I use reflects updates to the original NSA Dataset in lieu of new information. These updates include changing the coding of territorial control of Hezbollah, Hamas and the Ethiopian People's Revolutionary Party as well as eliminating the conflict type of "terrorist" which lacked analytic utility. I use alternative conflict-type categories already existing in the NSA Dataset to recode this variable. Seven rebel groups including Hamas, Hezbollah, Al-Aqsa Military Brigades, Popular Front for the Liberation of Palestine (PFLP), Popular Front for the Liberation of Palestine-General Command (PFLP-GC), National Organization of Cypriot Fighters (EOKA) and Devrimci Sol were coded as terrorist groups only. All but three of these groups are Palestinian liberation organizations. The Palestinian liberation groups are re-coded as "independence/anti-occupation" organizations. Because Hezbollah formed in response to the Israeli occupation and also fought against the Lebanese government, Hezbollah is coded as "anti-occupation/civil war." The EOKA operating in Cyprus is coded as an "anti-colonial" organization as it sought to overthrow Turkish influence. The Devrimci Sol group sought to implement communism in Turkey, and so it is coded as a "communist" conflict. To demonstrate that these updates to the data do not bias the results, I re-run the model using the unchanged NSA Dataset (2009). Again, the results are still robust: the term *Secessionist × Territorial Control* is positive and statistically significant, supporting the theory (Model 1, Appendix Table A.VIII).

To ensure that my operationalization of secessionist groups is not too narrow, I develop three alternative specifications of secessionist rebel organizations. Secessionists as well as anti-occupation and anti-colonial insurgencies may all view their state as being controlled by a "foreign" ruler. Each of these types of groups might seek to overthrow the "foreign" ruler and govern the occupied or colonized state independently. Using the NSA Dataset, if any

group's conflict type includes the term "Secessionist" or "Anti-Occupation," it is coded as *Secessionist, Broadly Defined* in Model 1 of Appendix Table A.IX. In Model II, *Secessionist, Broadly Defined* includes secessionist, anti-occupation, and anti-colonial conflict types.[58] Finally, because autonomy conflicts seek an increase in regional power while eschewing outright independence, it is similar to, although not precisely the same as, secessionism. Thus, I include autonomy conflicts, secessionist conflicts, anti-colonial conflicts and anti-occupation conflicts[59] in the final measure of *Secessionist, Broadly Defined* (Model III, Appendix Table A.IX). In all three models, the interaction term of *Secessionist, Broadly Defined × Territorial Control* is positive and statistically significant, consistent with the hypothesis.

While the results of the alternative specification of the independent variable are robust, to ensure that results are not simply an artifact of coding the dependent variable, I analyze the same statistical model using an alternative measure of public goods provision (Appendix Table A.X). As noted in the sections above, any questionable cases I encountered while coding were first coded as the best estimate and then as an alternative coding. In Model 1 of Appendix Table A.X, I replace the best estimate of coding with the alternative, secondary measure if applicable. Despite this alternative specification of the dependent variable, the interaction of *Secessionist × Territorial Control* is robust with a statistically significant and positive coefficient, providing further evidence in support of the theory.

In Model 2 of Appendix Table A.X, I code a group as providing public goods if the organization provided either public education or health care. This is a lower threshold of public goods provision because organizations need only provide one service publicly.[60] Even with this lower threshold, the results continue to support the hypothesis, due to the positive and statistically significant coefficient of the interaction between *Secessionist × Territorial Control.*

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[58]From the NSA Dataset "Conflict Type" variable.

[59]Also from the NSA Dataset "Conflict Type" variable.

[60]This coding also increases the number of observations that can be included in the model. This is because in the original measure of public goods provision I use demands that both education and health care variables are not missing. For Model 2 of Appendix Table A.X, if either education or health care variables are not missing, this observation is included in the model.

Appendix Tables A.IX and A.X demonstrate that the results are not an artifact of the construction of the independent or dependent variables. To ensure that the results are not driven by the logistic regression estimator, however appropriate this estimator may be, I re-run the analysis employing a linear probability model (Model 1, Appendix Table A.XI). Not only are the results robust and statistically significant and positive, but the substantive effect is consistent in both models. The interaction coefficient of Model 1 of Appendix Table A.XI shows that a secessionist group that controls territory is 41% more likely to provide public goods than a non-secessionist group that controls territory. This is the same predicted effect in the logistic regression model (Model 4, Table I).

Finally, one may argue that public goods provision is merely a function of territorial control, and that any group that controls territory, regardless of conflict type, may be likely to provide public goods. To ensure that the condition of being a secessionist insurgency, and the associated long-term goal of sovereignty, exerts an independent effect on the likelihood of public goods provision, I restrict the sample to only groups that control territory and re-run the analysis (Appendix Table A.XII). I include the same covariates in Model IV of Table 1, however, I do not interact *Secessionist* with *Territorial Control* as the sample already excludes insurgencies that do not control territory. Because groups are coded as controlling territory within the particular country they fight against, conflicts tend to be more localized. Thus, in these models, I cluster standard errors by conflict (Model 1), insurgent group (Model 2) and the state in which the conflict was fought (Model 3), instead of by region.[61] Again, the only variable that remains positive and statistically significant is the variable *Secessionist*.

Figure A.6 presents the results of Model 1, Appendix Table A.XII, graphically. When all variables are set to their medians, secessionist groups are 56% likely to provide public goods, while non-secessionist groups are neither more nor less likely to provide public goods.[62] Although non-secessionist insurgencies that control territory are about 11% likely to provide

[61]Results are robust to the inclusion of region fixed-effects. I do not include these models in Appendix Table A.XII to aid in comparison between Model 4 of Table I and Models 1-3 in Appendix Table A.XII

[62]I set all variables to their medians so that ordinal variables are set to theoretically meaningful levels.

public goods (45% less likely to provide public goods than secessionist groups that control territory), this value is not statistically significant, meaning that the value is not statistically distinguishable from a 0% probability (Figure A.6). These results strongly support the theory.

6   Conclusion

The results above offer considerable support for the hypothesis that secessionist insurgencies with territorial control are more likely to provide public goods. I argue that public goods provision is a long-term strategy employed by secessionist rebel organizations to overcome the secessionist insurgent burden. Thus, secessionist insurgencies are more likely to provide public goods because public goods will help them achieve their long-term goal of sovereignty.

Although previous research has made several important contributions to the study of insurgent strategies of social service provision, the results underscore the importance of disaggregating between populations of beneficiaries, as well as between the services insurgencies provide. Theoretically, the findings presented here have important implications for the understanding of civil war dynamics, especially secessionist strategies. These results also speak to the importance of understanding how and why secessionist insurgencies might eventually be recognized by members of the international community, or said otherwise, how states are born, particularly in the post-1945 era. Relatedly, these results address the importance of the international community, particularly for secessionist civil wars.

Additionally, these results provide evidence for a potential need to disaggregate analyses of secessionist insurgencies from revolutions or traditional civil wars. These findings, as well as others (such as Fazal 2013), suggest that secessionist insurgencies may operate differently from non-secessionist rebels. Disaggregating between these two categories of civil war may be an important next step in furthering our understanding of civil war. Additionally, secessionist insurgencies may offer important insights about existing ideas of sovereignty and governance.

Krasner and Risse (2014) argue that sovereignty is not always consolidated within states. This research here, however, suggests that empirical sovereignty could be consolidated within non-state actors, although this consolidation is not fully recognized internationally.

Finally, these results have real-world policy implications. As insurgencies control territory and begin providing social services, such as ISIS or the Free Syrian Army, policy practitioners may have a better sense of which populations may be more likely to receive social services, and which populations may be the targets of violence or exclusion from necessary goods. Additionally, this research raises questions about the effects of public goods provision within the context of a civil war as well as the historical legacies of public goods provision during post-conflict development, as is the case of Burma/Myanmar, with the historical legacies of secessionist insurgencies like the Karens and Shans.

Appendix 1: Additional Tables & Figures

Table A.I: Summary of Covariates

Variables	Original Variable	Operationalization
Public Goods	NA	1=Public education, health 0=No public goods
Secessionist	21 unique conflict types (NSA Dataset, 2009)	1="Secessionist," "Ethnic Conflict/Secessionist," "Civil War/Secessionist," and "Secessionist/Terrorist" 0=All other conflict types
Territorial Control	"Yes" or "No" (NSA Dataset, 2009)	1=Territorial control 0=No territorial control
Central Command Strength	Strength of Central Command "Low", "Moderate" or "High" (NSA Dataset, 2009)	0=Low 1=Moderate 2=High
Rebel Strength	"Much Stronger" "Weaker" "Parity" "Stronger' "Much Stronger" (NSA Dataset, 2009)	0=Much Weaker 1=Weaker 2=Parity 3=Stronger 4=Much Stronger
Communist	NSA Case notes/ Kalyvas & Balcells (2010)	1=Communist 0=Not communist
Infant Mortality	Infant Mortality Rate (World Bank)	Infant Mortality Rate
Income	GDP per capita (Penn World Tables 2012)	Log of GDP per capita
Income Growth	GDP per capita (Penn World Tables 2012)	GDP per capita, % annual change
Democracy	-7 to +7 index (Vreeland 2008)	1=Democracy (+4 to +7) 0=Non-Democracy (-7 to +3)
Population Density	Population Density (World Bank)	Population Density
Ethnic Fractionalization	Ethnic Fractionalization (Fearon & Laitin 2003)	Ethnic Fractionalization
Rugged Terrain	Log of Mountainous Terrain (Fearon & Laitin 2003)	Log of Mountainous Terrain
Cold War	NA	1=1991 and earlier 0=Post-1991

Table A.II: Summary Statistics

	Mean	Median	Min	Max	SD	Observations
Total						
Secessionist	0.26	0.00	0.00	1.00	0.44	2318
Territorial Control	0.41	0.00	0.00	1.00	0.49	2304
Central Command Strength	1.02	1.00	0.00	2.00	0.57	2125
Rebel Strength	0.62	1.00	0.00	4.00	0.68	2325
Communist	0.36	0.00	0.00	1.00	0.48	2331
Democracy	0.52	1.00	0.00	1.00	0.50	2331
Infant Mortality	81.14	79.70	5.20	269.20	44.09	1916
Income	7.59	7.53	5.08	10.59	1.13	1805
Income Growth	0.78	1.49	-64.41	51.33	8.22	1787
Population Density	96.97	45.39	2.41	844.55	114.93	2077
Ethnic Fractionalization	0.58	0.56	0.04	1.00	0.23	2294
Rugged Terrain	2.71	2.63	0.00	4.41	1.14	2325
Cold War	0.71	1.00	0.00	1.00	0.46	2331
Secessionist Groups						
Territorial Control	0.51	1.00	0.00	1.00	0.50	595
Central Command Strength	1.16	1.00	0.00	2.00	0.67	488
Rebel Strength	0.45	0.00	0.00	3.00	0.57	595
Communist	0.21	0.00	0.00	1.00	0.40	595
Democracy	0.51	1.00	0.00	1.00	0.50	595
Infant Mortality	76.99	77.60	5.90	178.00	38.67	540
Income	7.48	7.39	5.49	10.20	1.01	454
Income Growth	1.80	2.35	-19.77	35.15	5.79	451
Population Density	133.55	73.33	4.65	362.14	116.63	562
Ethnic Fractionalization	0.62	0.71	0.09	1.00	0.20	593
Rugged Terrain	2.94	2.72	0.00	4.28	1.05	593
Cold War	0.59	1.00	0.00	1.00	0.49	595
Non-Secessionist Groups						
Territorial Control	0.38	0.00	0.00	1.00	0.48	1696
Central Command Strength	0.98	1.00	0.00	2.00	0.54	1624
Rebel Strength	0.68	1.00	0.00	4.00	0.71	1717
Communist	0.42	0.00	0.00	1.00	0.49	1723
Democracy	0.52	1.00	0.00	1.00	0.50	1723
Infant Mortality	83.01	83.00	5.20	269.20	46.04	1364
Income	7.62	7.69	5.08	10.59	1.17	1338
Income Growth	0.48	1.22	-64.41	51.33	8.84	1323
Population Density	83.81	37.27	2.41	844.55	111.66	1503
Ethnic Fractionalization	0.57	0.55	0.04	0.93	0.23	1688
Rugged Terrain	2.62	2.63	0.00	4.41	1.16	1719
Cold War	0.75	1.00	0.00	1.00	0.43	1723

Table A.III: Alternative Standard Error and Fixed Effects Specifications

	(1) Public Goods	(2) Public Goods	(3) Public Goods	(4) Public Goods
Secessionist	-0.93*	-0.93	-1.62***	-1.62
	(0.54)	(1.37)	(0.58)	(1.50)
Territorial Control	1.81***	1.81***	2.03***	2.03***
	(0.65)	(0.58)	(0.72)	(0.58)
Secessionist × Territorial Control	2.56***	2.56*	3.55***	3.55**
	(0.23)	(1.36)	(0.18)	(1.64)
Central Command Strength	-0.61	-0.61	-0.96*	-0.96
	(0.41)	(0.90)	(0.51)	(0.90)
Rebel Strength	-0.29	-0.29	-0.23	-0.23
	(0.33)	(0.40)	(0.44)	(0.44)
Communist	0.39	0.39	0.73	0.73
	(1.33)	(0.86)	(1.28)	(0.87)
Democracy	0.62***	0.62	0.55	0.55
	(0.10)	(0.49)	(0.44)	(0.58)
Infant Mortality	0.02***	0.02*	0.03***	0.03*
	(0.01)	(0.01)	(0.01)	(0.02)
Income	1.07**	1.07*	1.44**	1.44**
	(0.44)	(0.56)	(0.56)	(0.63)
Income Growth	-0.02	-0.02	-0.02	-0.02
	(0.02)	(0.01)	(0.02)	(0.01)
Population Density	-0.00	-0.00	-0.01	-0.01
	(0.00)	(0.00)	(0.01)	(0.00)
Ethnic Fractionalization	1.62	1.62	1.24	1.24
	(1.23)	(1.29)	(1.44)	(1.50)
Rugged Terrain	0.35	0.35	0.46*	0.46
	(0.23)	(0.30)	(0.23)	(0.33)
Cold War	-1.06***	-1.06**		
	(0.27)	(0.49)		
Constant	-13.10***	-13.10***	-16.73***	-16.73***
	(4.32)	(5.02)	(5.69)	(5.45)
Region Fixed Effects	Yes	Yes	Yes	Yes
Year Fixed Effects	No	No	Yes	Yes
Clustered Standard Errors (Region)	Yes	No	Yes	No
Clustered Standard Errors (Conflict)	No	Yes	No	Yes
Observations	863	863	859	859
Pseudo R^2	0.292	0.292	0.341	0.341

Note: The dependent variable is the provision of public goods, as opposed to no provision or the provision of club goods. The state-level independent variables are lagged by one year. Positive coefficients indicate an increased likelihood of providing public goods. Standard errors in parentheses; ∗ sig at 10%; ∗∗ sig at 5%; ∗∗∗ sig at 1%. The significant positive coefficient for *Secessionist × Territorial Control* in Models 1 through 4 supports the theory.

Table A.IV: Additional Controls

	(1) Public Goods	(2) Public Goods	(3) Public Goods	(4) Public Goods	(5) Public Goods
Secessionist	-1.36	-0.53	-0.01	-1.46	-0.57
	(0.98)	(0.93)	(0.67)	(0.92)	(1.06)
Territorial Control	1.63***	1.68***	1.64***	1.49***	1.39
	(0.31)	(0.28)	(0.56)	(0.57)	(0.98)
Secessionist × Territorial Control	2.96***	2.01***	1.54***	3.23***	1.89***
	(0.55)	(0.25)	(0.57)	(0.22)	(0.29)
Central Command Strength	-0.36	-0.40	-0.55	-0.53**	-0.67
	(0.43)	(0.30)	(0.39)	(0.26)	(0.43)
Rebel Strength	-0.71***	-0.47	-0.22	-1.31	-1.96**
	(0.22)	(0.44)	(0.46)	(1.27)	(0.91)
Communist	-0.34	-0.38	-0.58	0.43	0.50
	(1.28)	(1.44)	(1.47)	(1.78)	(1.93)
Non-Military Aid	1.16				0.88
	(0.89)				(0.82)
Battle Deaths		0.14***			0.14**
		(0.04)			(0.05)
Pre-Conflict Education			-0.50		1.80
			(0.42)		(1.21)
Pre-Conflict Health			1.61		0.53
			(1.20)		(1.25)
Rebel Size				0.96**	0.59
				(0.48)	(0.40)
Democracy	0.37	0.50**	0.71***	0.35	0.05
	(0.27)	(0.21)	(0.14)	(0.29)	(0.30)
Infant Mortality	0.02**	0.02*	0.02***	0.02*	0.01
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Income	0.74**	0.88	0.76*	1.02	0.19
	(0.35)	(0.60)	(0.44)	(0.81)	(0.43)
Income Growth	-0.02	-0.02	-0.02	-0.03	-0.02
	(0.03)	(0.02)	(0.03)	(0.02)	(0.03)
Population Density	-0.00	0.00	-0.00	0.00	-0.00**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Ethnic Fractionalization	1.97	2.38***	1.65	1.85***	2.61***
	(1.25)	(0.74)	(1.40)	(0.53)	(0.66)
Rugged Terrain	0.33	0.28	0.24	0.04	0.05
	(0.31)	(0.25)	(0.30)	(0.56)	(0.49)
Cold War	-0.86***	-0.68***	-0.69***	-1.21***	-0.87**
	(0.09)	(0.05)	(0.14)	(0.21)	(0.37)
Constant	-11.50***	-13.22**	-11.06**	-20.58***	-11.14***
	(4.02)	(5.38)	(4.42)	(4.32)	(1.32)
Observations	768	984	1044	865	643
Pseudo R^2	0.303	0.257	0.285	0.360	0.391

Note: The dependent variable is the provision of public goods, as opposed to no provision or the provision of club goods. The state-level independent variables are lagged by one year. Positive coefficients indicate an increased likelihood of providing public goods. Standard errors in parentheses; ∗ sig at 10%; ∗∗ sig at 5%; ∗ ∗ ∗ sig at 1%. The significant positive coefficient for *Secessionist × Territorial Control* in Models 1 through 4 supports the theory. Models include standard errors clustered on region.

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Table A.V: Endogenity Checks

	(1) Public Goods	(2) Public Goods
Secessionist	0.12	0.43
	(1.01)	(1.01)
Territorial Control	2.41***	1.90***
	(0.24)	(0.14)
Secessionist× Territorial Control	1.37***	0.79**
	(0.25)	(0.32)
Central Command Strength	-0.13	-0.11
	(0.29)	(0.26)
Rebel Strength	-0.73***	-0.44***
	(0.17)	(0.08)
Communist	-0.40	-0.13
	(1.48)	(1.41)
Democracy	0.92***	0.80***
	(0.11)	(0.21)
Infant Mortality	0.03*	0.02*
	(0.02)	(0.01)
Income	0.74	0.47
	(0.59)	(0.52)
Income Growth	-0.02	-0.02
	(0.03)	(0.03)
Population Density	-0.00	-0.00
	(0.00)	(0.00)
Ethnic Fractionalization	1.61	1.51
	(0.99)	(1.21)
Rugged Terrain	0.38	0.44
	(0.40)	(0.35)
Cold War	-0.84***	-0.71***
	(0.11)	(0.11)
Constant	-12.31*	-10.19*
	(6.35)	(5.29)
Observations	1050	1023
Pseudo R^2	0.265	0.233

Note: The dependent variable is the provision of public goods, as opposed to no provision or the provision of club goods. The state-level independent variables are lagged by one year. Positive coefficients indicate an increased likelihood of providing public goods. Standard errors in parentheses; ∗ sig at 10%; ∗∗ sig at 5%; ∗∗∗ sig at 1%. The significant positive coefficient for *Secessionist × Territorial Control* in Model 1 supports the theory. Model includes standard errors clustered on region.

Table A.VI: Excluding Outliers

	(1) Public Goods
Secessionist	0.01
	(0.03)
Territorial Control	0.04
	(0.06)
Secessionist × Territorial Control	0.75***
	(0.10)
Central Command Strength	-0.04
	(0.03)
Rebel Strength	-0.00
	(0.00)
Communist	-0.04
	(0.02)
Democracy	-0.02
	(0.01)
Infant Mortality	0.00
	(0.00)
Income	0.00
	(0.01)
Income Growth	-0.00
	(0.00)
Population Density	-0.00*
	(0.00)
Ethnic Fractionalization	0.06*
	(0.02)
Rugged Terrain	0.01
	(0.01)
Cold War	-0.04
	(0.03)
Constant	0.04
	(0.10)
Observations	941
R^2	0.637

Note: The dependent variable is the provision of public goods, as opposed to no provision or the provision of club goods. The state-level independent variables are lagged by one year. Positive coefficients indicate an increased likelihood of providing public goods. Standard errors in parentheses; ∗ sig at 10%; ∗∗ sig at 5%; ∗∗∗ sig at 1%. The significant positive coefficient for *Secessionist × Territorial Control* in Model 1 supports the theory. Model includes standard errors clustered on region.

Table A.VII: Results of Jackknifing

	(1) Public Goods
Secessionist	-0.24
	(0.44)
Territorial Control	1.95***
	(0.27)
Secessionist × Territorial Control	1.99***
	(0.54)
Central Command Strength	-0.26
	(0.18)
Rebel Strength	-0.35**
	(0.18)
Communist	-0.46*
	(0.25)
Democracy	0.65**
	(0.28)
Infant Mortality	0.02***
	(0.00)
Income	0.86***
	(0.14)
Income Growth	-0.02
	(0.01)
Population Density	-0.00
	(0.00)
Ethnic Fractionalization	1.79***
	(0.34)
Rugged Terrain	0.30**
	(0.12)
Cold War	-0.87***
	(0.23)
Constant	-12.52***
	(1.63)
Observations	1072
Pseudo R^2	0.260

Note: The dependent variable is the provision of public goods, as opposed to no provision or the provision of club goods. The state-level independent variables are lagged by one year. Positive coefficients indicate an increased likelihood of providing public goods. Standard errors in parentheses; $*$ sig at 10%; $**$ sig at 5%; $***$ sig at 1%. The significant positive coefficient for *Secessionist × Territorial Control* in Model 1 supports the theory. Model includes standard errors clustered on region.

Table A.VIII: Original Dataset

	(1)
	Public Goods
Secessionist	-0.33
	(0.91)
Territorial Control	2.02***
	(0.51)
Secessionist × Territorial Control	2.17***
	(0.35)
Central Command Strength	-0.13
	(0.52)
Rebel Strength	-0.45
	(0.44)
Communist	-0.61
	(1.15)
Democracy	0.76***
	(0.10)
Infant Mortality	0.03**
	(0.01)
Income	0.77
	(0.62)
Income Growth	-0.02
	(0.03)
Population Density	-0.00
	(0.00)
Ethnic Fractionalization	-0.80
	(2.25)
Rugged Terrain	0.32**
	(0.16)
Cold War	-1.02***
	(0.17)
Constant	-10.46
	(6.41)
Observations	1074
Pseudo R^2	0.254

Note: The dependent variable is the provision of public goods, as opposed to no provision or the provision of club goods. The state-level independent variables are lagged by one year. Positive coefficients indicate an increased likelihood of providing public goods. Standard errors in parentheses; $*$ sig at 10%; $**$ sig at 5%; $***$ sig at 1%. The significant positive coefficient for *Secessionist × Territorial Control* in Model 1 supports the theory. Model includes standard errors clustered on region.

Table A.IX: Alternative Secessionist Measurement

	(1) Public Goods	(2) Public Goods	(3) Public Goods
Secessionist (Broadly Defined)	0.01		
	(1.02)		
Secessionist (Broadly Defined)		-0.09	
		(0.86)	
Secessionist (Broadly Defined)			-0.18
			(0.90)
Territorial Control	1.25	1.07	0.91
	(0.86)	(0.82)	(0.94)
Secessionist (Broadly Defined) × Territorial Control	2.58***		
	(0.93)		
Secessionist (Broadly Defined) × Territorial Control		2.85***	
		(0.73)	
Secessionist (Broadly Defined) × Territorial Control			2.88***
			(0.90)
Central Command Strength	-0.33	-0.15	-0.10
	(0.50)	(0.60)	(0.55)
Rebel Strength	-0.29	-0.22	-0.00
	(0.46)	(0.43)	(0.57)
Communist	-0.27	-0.54	-0.26
	(1.29)	(1.12)	(1.01)
Democracy	0.68**	0.46**	0.71***
	(0.27)	(0.20)	(0.10)
Infant Mortality	0.02**	0.02*	0.02**
	(0.01)	(0.01)	(0.01)
Income	0.61	0.66	0.75
	(0.50)	(0.51)	(0.61)
Income Growth	-0.02	-0.03	-0.02
	(0.03)	(0.02)	(0.02)
Population Density	-0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)
Ethnic Fractionalization	1.79*	1.83*	2.27*
	(0.94)	(1.08)	(1.25)
Rugged Terrain	0.24	0.36**	0.47***
	(0.22)	(0.14)	(0.15)
Cold War	-0.83***	-0.86***	-1.18***
	(0.03)	(0.07)	(0.06)
Constant	-10.06**	-10.68**	-12.78**
	(4.05)	(4.26)	(5.56)
Observations	1072	1072	1072
Pseudo R^2	0.304	0.327	0.319

Note: The dependent variable is the provision of public goods, as opposed to no provision or the provision of club goods. The state-level independent variables are lagged by one year. Positive coefficients indicate an increased likelihood of providing public goods. Standard errors in parentheses; ∗ sig at 10%; ∗∗ sig at 5%; ∗∗∗ sig at 1%. The significant positive coefficient for *Secessionist × Territorial Control* in Models 1-3 supports the theory. Models include standard errors clustered on region.

Table A.X: Alternative Public Goods Measurement

	(1) Public Goods (Alternative)	(2) Public Goods (Alternative)
Secessionist	0.24	1.20
	(1.00)	(0.81)
Territorial Control	2.46***	0.91
	(0.23)	(0.89)
Secessionist × Territorial Control	1.35***	1.00**
	(0.38)	(0.49)
Central Command Strength	-0.22	-0.03
	(0.32)	(0.24)
Rebel Strength	-0.74***	-0.07
	(0.21)	(0.52)
Communist	-0.23	0.32
	(1.39)	(0.81)
Infant Mortality	0.03*	0.01**
	(0.02)	(0.01)
Income	0.90	0.29
	(0.59)	(0.37)
Income Growth	-0.02	-0.01
	(0.03)	(0.02)
Democracy	0.69***	-0.21
	(0.20)	(0.22)
Population Density	-0.00	-0.00
	(0.00)	(0.00)
Ethnic Fractionalization	0.89	1.75*
	(0.83)	(1.00)
Rugged Terrain	0.28	-0.05
	(0.39)	(0.25)
Cold War	-0.96***	-0.77***
	(0.20)	(0.08)
Constant	-12.93**	-6.35*
	(6.13)	(3.41)
Observations	1090	1258
Pseudo R^2	0.279	0.214

Note: The dependent variable is the provision of public goods, as opposed to no provision or the provision of club goods. The state-level independent variables are lagged by one year. Positive coefficients indicate an increased likelihood of providing public goods. Standard errors in parentheses; ∗ sig at 10%; ∗∗ sig at 5%; ∗∗∗ sig at 1%. The significant positive coefficient for *Secessionist × Territorial Control* in Model 1 supports the theory. Model includes standard errors clustered on region.

Table A.XI: Linear Probability Model

	(1) Public Goods
Secessionist	-0.03
	(0.09)
Territorial Control	0.17**
	(0.05)
Secessionist × Territorial Control	0.41**
	(0.07)
Central Command Strength	-0.04
	(0.05)
Rebel Strength	-0.02
	(0.05)
Communist	-0.04
	(0.14)
Democracy	0.07
	(0.04)
Infant Mortality	0.00
	(0.00)
Income	0.07
	(0.07)
Income Growth	-0.00
	(0.00)
Population Density	-0.00
	(0.00)
Ethnic Fractionalization	0.10
	(0.07)
Rugged Terrain	0.01
	(0.02)
Cold War	-0.09**
	(0.03)
Constant	-0.60
	(0.59)
Observations	1072
R^2	0.241

Note: The dependent variable is the provision of public goods, as opposed to no provision or the provision of club goods. The state-level independent variables are lagged by one year. Positive coefficients indicate an increased likelihood of providing public goods. Standard errors in parentheses; $*$ sig at 10%; $**$ sig at 5%; $***$ sig at 1%. The significant positive coefficient for *Secessionist × Territorial Control* in Model 1 supports the theory. Model includes standard errors clustered on region.

Table A.XII: Conditional Models

	(1) Public Goods	(2) Public Goods	(3) Public Goods
Secessionist	2.33***	2.33***	2.33***
	(0.76)	(0.87)	(0.89)
Central Command Strength	-0.41	-0.41	-0.41
	(0.72)	(0.59)	(0.61)
Rebel Strength	-1.13**	-1.13**	-1.13*
	(0.54)	(0.57)	(0.59)
Communist	1.81	1.81*	1.81
	(1.12)	(1.07)	(1.20)
Democracy	-0.77	-0.77	-0.77
	(0.74)	(0.73)	(0.73)
Infant Mortality	0.00	0.00	0.00
	(0.02)	(0.02)	(0.02)
Income	0.25	0.25	0.25
	(0.65)	(0.59)	(0.64)
Income Growth	-0.01	-0.01	-0.01
	(0.01)	(0.01)	(0.01)
Population Density	-0.00	-0.00	-0.00
	(0.01)	(0.01)	(0.01)
Ethnic Fractionalization	3.01	3.01	3.01
	(2.14)	(2.09)	(2.32)
Rugged Terrain	-0.65	-0.65	-0.65
	(0.46)	(0.47)	(0.48)
Cold War	-1.52**	-1.52**	-1.52**
	(0.75)	(0.70)	(0.76)
Constant	-1.69	-1.69	-1.69
	(6.32)	(5.73)	(6.10)
Clustered Standard Errors (Conflict)	Yes	No	No
Clustered Standard Errors (Insurgency)	No	Yes	No
Clustered Standard Errors (State)	No	No	Yes
Observations	390	390	390
Pseudo R^2	0.239	0.239	0.239

Note: The dependent variable is the provision of public goods, as opposed to no provision or the provision of club goods. The state-level independent variables are lagged by one year. Positive coefficients indicate an increased likelihood of providing public goods, conditional on already controlling territory. Standard errors in parentheses; $*$ sig at 10%; $**$ sig at 5%; $***$ sig at 1%. The significant positive coefficient for Secessionist in Models 1-3 supports the theory. Models 1-3 include standard errors clustered on conflict, insurgency and country, respectively.
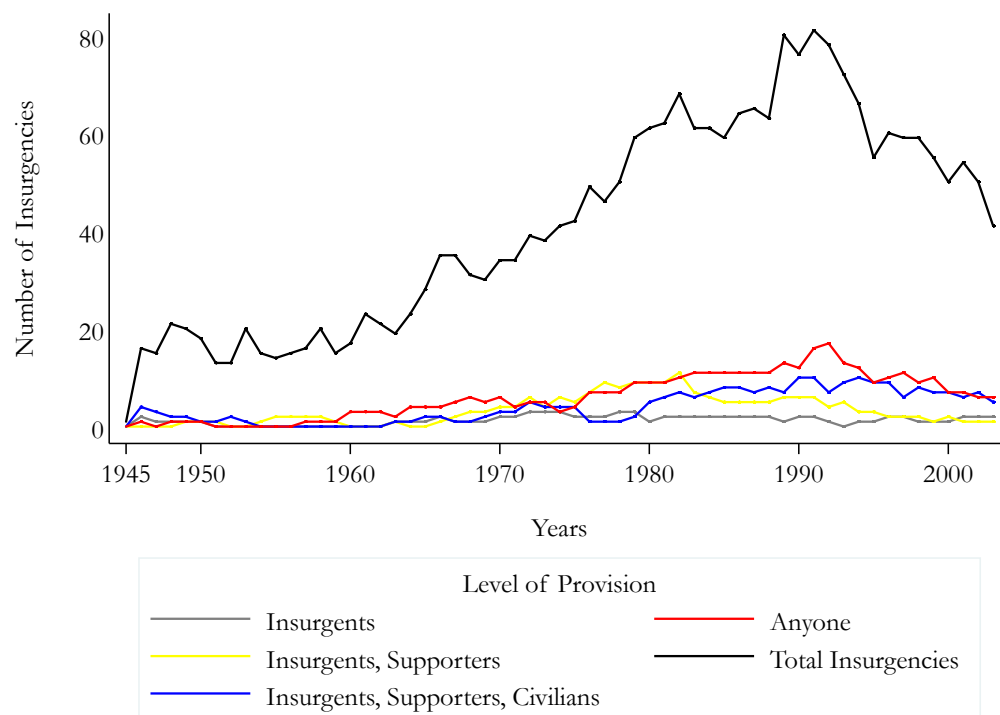
Appendix Figures

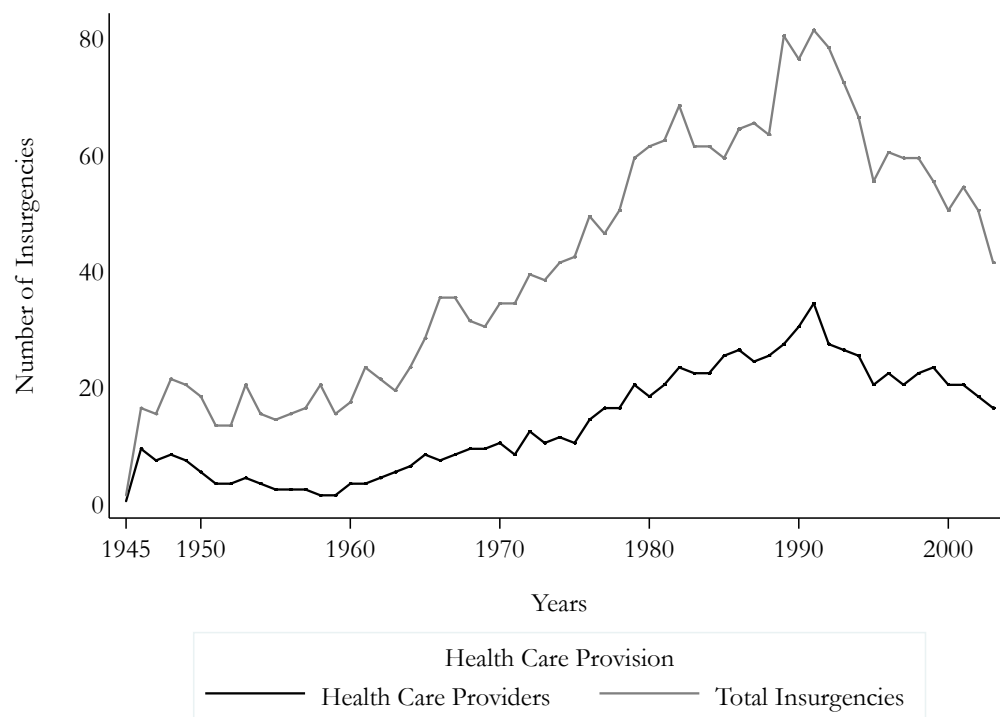Figure A.1: Annual Total Insurgent Education Provision, Globally 1945-2003
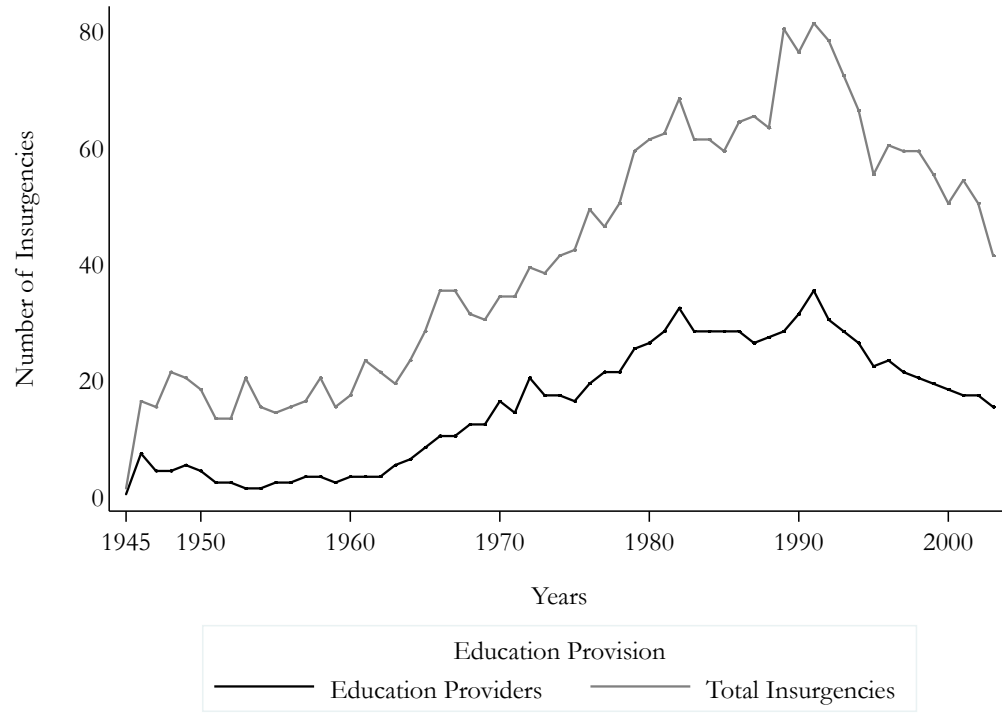
Note: The figure demonstrates the number of insurgencies providing education globally from 1945-2003.

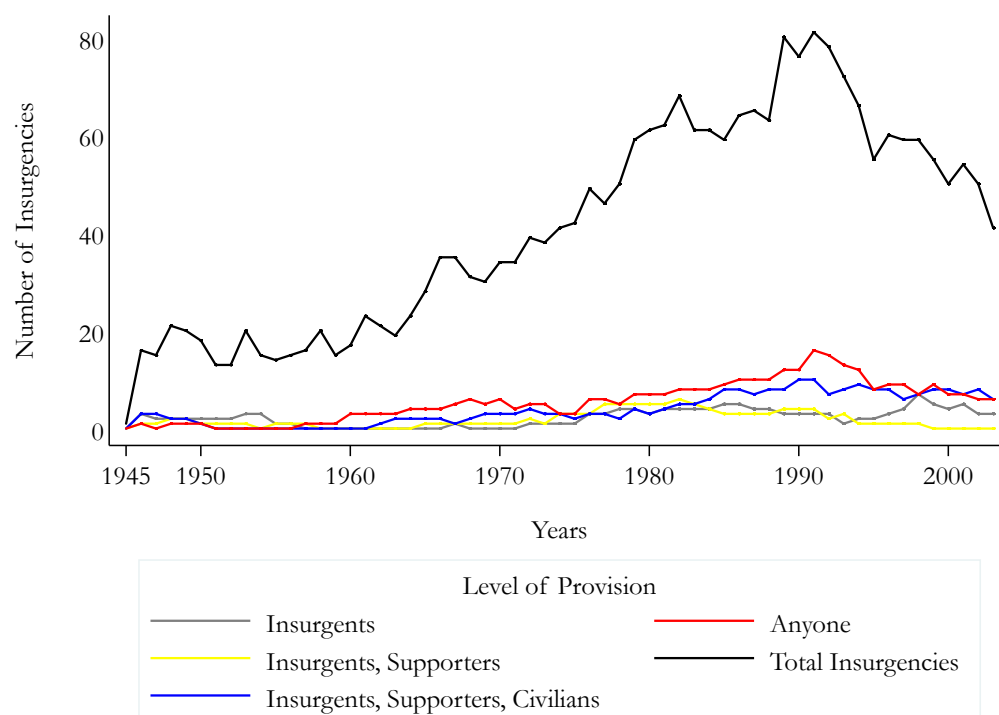Figure A.2: Annual Insurgent Education Provision, Globally 1945-2003

Note: The figure demonstrates the annual level of insurgent education provision globally from 1945-2003.

Figure A.3: Annual Total Insurgent Health Care Provision, Globally 1945-2003

Note: The figure demonstrates the number of insurgencies providing health care globally from 1945-2003.

Figure A.4: Annual Insurgent Health Care Provision, Globally 1945-2003

Note: The figure demonstrates the annual level of insurgent health care provision globally from 1945-2003.

Figure A.5: Insurgent Public Education and Health care, By Region
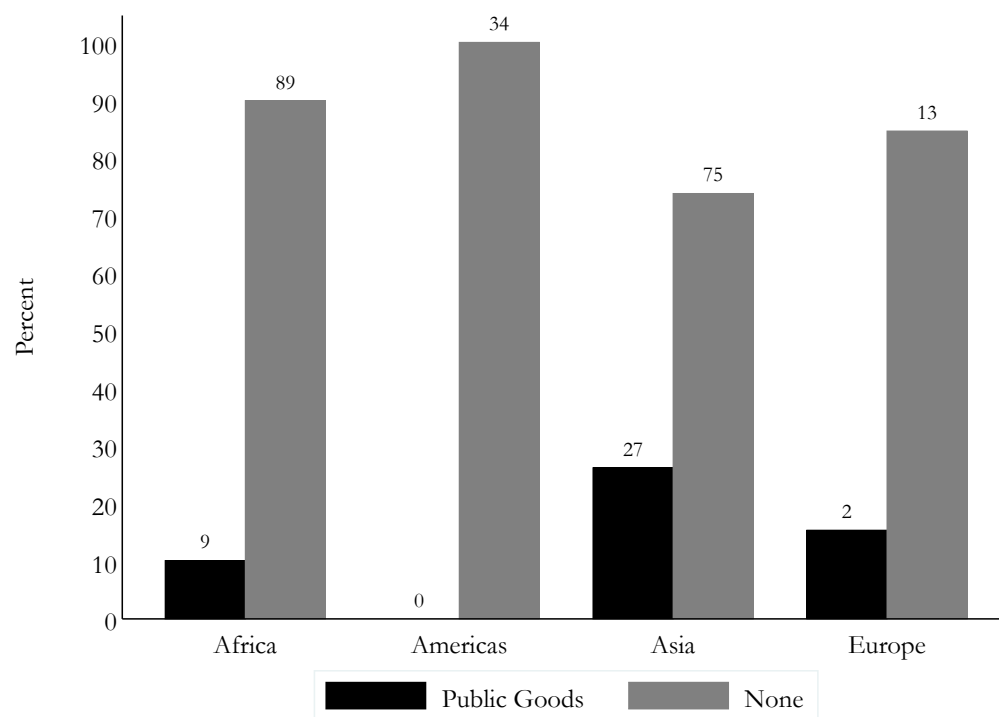
Note: The figure demonstrates the number of insurgencies providing public goods and those not providing public goods by region. The y-axis indicates the percent of insurgencies in a region providing public goods or not. The values on top of each bar indicate the total number of groups providing public goods or not. Missing observations are excluded.

Figure A.6: Public Goods Provision, Conditional on Territorial Control
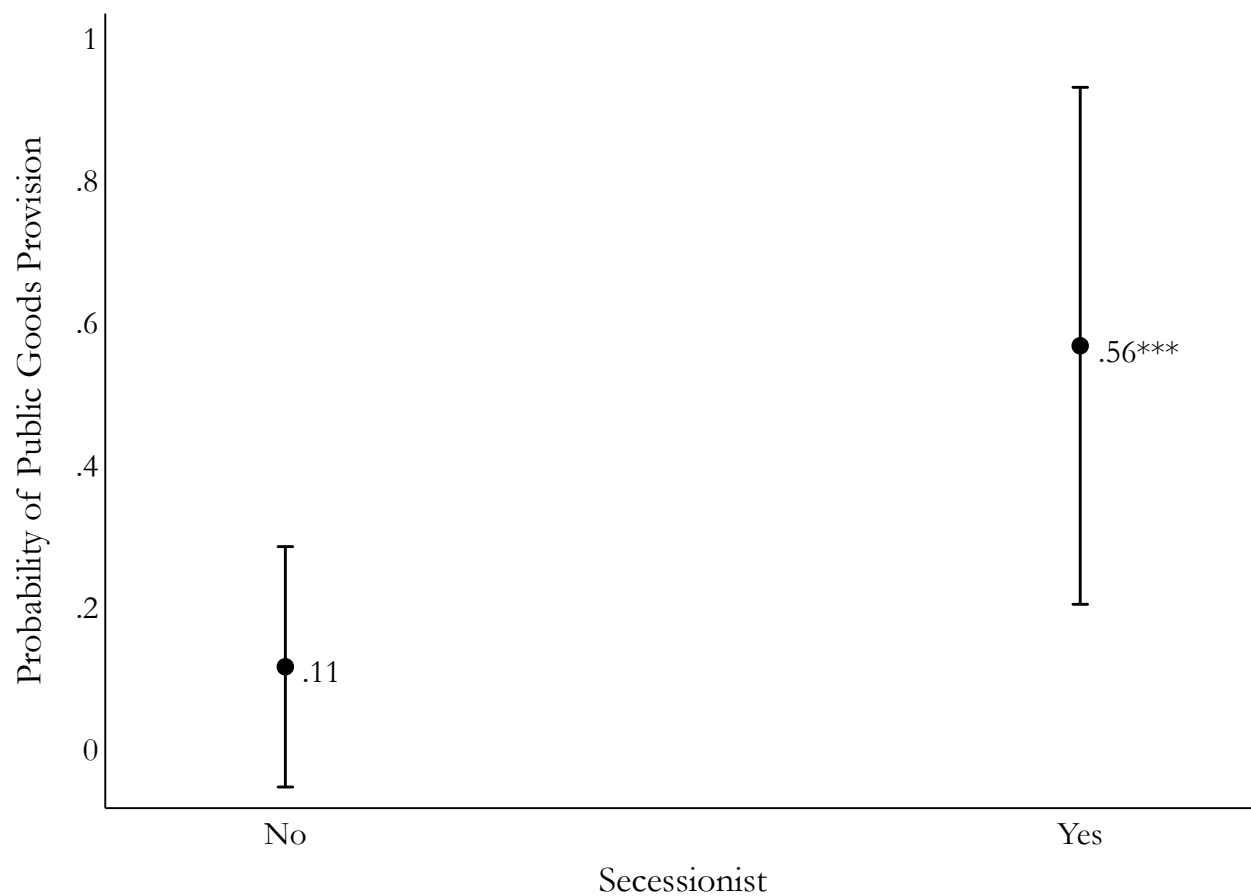
Note: The figure demonstrates the predicted probability of an insurgency providing public goods, conditional on that group controlling territory. The 95% confidence intervals are represented by the bars. Of all groups that control territory, secessionist insurgencies are 56% likely to provide public goods, while non-secessionist groups are no more or less likely to provide public goods.

Appendix 2: Descriptive Overview of
Insurgent Social Services Dataset

The Insurgent Social Services Dataset contains 304 unique rebel groups.[63] Of these, 103 insurgent groups provided some form of education, or approximately 34% of rebel groups provided any education between 1945 and 2003. Nearly 48%, or 146 groups, provided no education, and 54 groups have missing observations (18%). Of the total observations, 894 insurgency-years experience education provision, meaning that 38% of all insurgency-years included education provision.

Correspondingly, approximately 101 groups provided health care, meaning that about 33% of insurgencies provided health care, while 141 insurgencies provided nothing, or 46%. For 62 groups, or 21% of insurgencies, the data are missing. Approximately 33% of all observations experience health care provision, or about 794 insurgency-years.

The overall correlation between health care and education provision is fairly high, about 72%. The correlation of public health care to public education is 93%, meaning that approximately 93% of groups that provided education also provided health care. The correlation of education and health care to insurgents, supporters and neutral civilians who are likely to be potential supporters is 87%. From this point the correlations decrease, meaning that fewer groups provided health care and education to the same populations. The correlation of insurgents providing both education and health care to insurgents and supporters if 57%, and just 37% of insurgencies provide both health care and education to only fellow insurgents.

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[63]Some of these cases are somewhat challenging to code because many had considerable autonomy, if not outright independence before the civil conflict began. These states tend to be former Soviet (Nagorno-Karbagh, South Ossetia) or Yugoslav (Croatia, Serbia, etc.) states, or states that were occupied by the Japanese in World War II, granted independence when the Japanese knew they were losing, then were retaken as colonies by victorious European states. This group of cases with considerable autonomy includes: Autonomous Province of Western Bosnia, Croatian Republic of Bosnia and Herzegovenia, Dniestr Republic, Independent Mining State of South Kasai, Indonesian People's Army, Katanga, Lao Issara, Palestine National Authority (PNA), Popular Front, Republic of Abkhazia, Republic of Biafra, Republic of Chechnya, Republic of Dagestan, Republic of Nagorno-Karabakh, Republic of South Moluccas, Republic of South Ossetia, Serbian Republic of Bosnia and Herzegovenia, and the Serbian Republic of Krajina.

Appendix 3: Insurgent Education and Health Care

The "Insurgent Social Services Dataset" focuses on the provision of education and health care specifically. I use these services for two reasons. The first is that these services are comparable across cases and across time. As an example of this variation, the Burmese Communist Party not only built hospitals and schools, it also created a hydroelectric power plant to provide electricity to the people living under its control.[64] On the other hand, the Front for the National Liberation of Congo (FNLC) provided food, justice and paid city workers and officials to keep basic transport operations running, but did not provide education and health care.[65] Because of the variation in the types of services insurgencies provide, to ensure that I am comparing between similar services across space and time, I limit my focus to education and health care.

The second reason I focus on these two services is that education and health care are broadly desirable to all people and services from which all people can benefit. As a result, exclusion from these services clearly demonstrates the populations to which the insurgency is or is not providing social services. For example, insurgencies such as the FNLC may provide food to the starving or most impoverished. Yet, because the majority of people are not starving or impoverished, they are ineligible to receive these services at any given point. Because the social services data I collected also takes into account who can benefit from services, I do not code any services from which people might be ineligible to receive, however reasonable their exclusion. If an insurgency offered food to some civilians, and not others, it would be difficult to determine if the insurgency was limiting its provision to only those with economic need, or if the insurgency limited its provision to people with both economic need and who were likely to support the insurgency. Therefore, I do not code any social service

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[64]Lintner, Bertil. *The Rise and Fall of the Communist Party of Burma (CPB).* Ithaca, NY: Southeast Asia Program, Cornell University, 1990. Print. See Appendix II.

[65]"Moroccan Troops make their First Move in Zaire." Los Angeles Times (1923-Current File) Apr 17 1977: 30. ProQuest. PROQUESTMS. 27 June 2014 ¡http://search.proquest.com/docview/158283274?accountid=11091¿. Wright, Robin. "Katanga Rebels Tighten Grip in Zaire." The Washington Post (1974-Current file) Apr 07 1977: 1. ProQuest. PROQUESTMS. 27 June 2014 ¡http://search.proquest.com/docview/146833738?accountid=11091¿

that might exclude members of the population, however reasonably, to ensure the greatest accuracy possible. Education and health care do not suffer from this exclusion problem, as ostensibly anyone at any time could benefit from education or health care.

Provision:

I code insurgencies as "providing" services if they diverted their personnel and financial resources to ensure that a certain group of people received education and health care. This typically manifests in two ways:

1. The insurgencies offered education or health care themselves through their construction of schools, development of curriculum, service as teachers and doctors, or building of hospitals as needed

2. The insurgencies ensured that services continued to operate in the area they controlled, typically through the administration and financing of these services.

I do not code groups as providing services if they allow an NGO, religious group, or the incumbent government to provide services in the areas they control, but the insurgencies themselves did not contribute to this provision. For example, the Liberation Tamil Tigers of Eelam (LTTE) allowed the Sri Lankan government to continue its health care provision in the areas the LTTE controlled. The LTTE taxed this service, but was not involved in the direct administration of it. As a result, I do not consider the LTTE to have provided health care services.[66]

Education:

In the context of a civil war, insurgents or authors of secondary source texts could use the term "education" ambiguously, and may refer to propaganda campaigns or general military training as education. If the insurgent organization itself or the secondary literature refers to an insurgency as "training" recruits or supporters, and not educating them, I do not consider this to be education. If what the insurgency is providing is not described as training, then I

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[66]Mampilly 2011, Pgs. 118-9

code education as the instruction of skills that can be applied outside of the context of the military operations, such as language, mathematics, or history. If these skills are applicable to both the insurgents' military goals as well as useful outside the context of the insurgency, such as teaching mathematics so that insurgents know how many explosives to use and how to budget resources, I still code this as education. A clear example of education provision is exemplified by the following passage: Hezbollah's "Educational Center of the Martyr Bojeii opened in 1992 in the village of Mashghara. . . [I]t has nineteen sections covering both nursery and elementary classes and also serves the children of seven neighboring villages."[67] On the other hand, the Nationalist Socialist Council of Nagaland (NSCN) has an education ministry in their structure, but no texts referred to their explicit provision of education to insurgent members or civilians.[68] From this information above, it is not clear if the NSCN education ministry developed education policy, created propaganda campaigns or actually provided education to others. As a result of this ambiguity, I code this entry as missing.

Health Care:

I code an insurgency as providing health care if the insurgency offered medical treatment. Because of the influence of Mao and China's sponsorship of liberation movements in the Middle East and Africa, some insurgencies provided acupuncture to the populations under its control. Even if an insurgency provided acupuncture, such as the Ethiopian People's Revolutionary Party (EPRP), I consider the group to provide health care.[69] This is to avoid a bias in coding medical care as only "Western" medical practices.

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[67]Jabar (1997), 164

[68]http://www.satp.org/satporgtp/countries/india/states/nagaland/terrorist_outfits/NSCN_IM.HTM

[69]Tadesse, Kiflu. The Generation: The History of the Ethiopian People's Revolutionary Party. Vol. 2. Silver Spring, MD: Distributed by K & S Distributors, 1993. Print. Pg 368-9