

Amsterdam
School



for Social science Research

ASSR Working paper 04/07

September 2004

ON WELFARE AND TERROR

Social Welfare Policies and Political-economic Roots of Terrorism

Brian Burgoon

Brian Burgoon is an assistant professor of international relations in the Department of Political Science at the University of Amsterdam.

ASSR WORKING PAPER SERIES
[HTTP://WWW.ASSR.NL/](http://www.assr.nl/)
EMAIL: ASSRWORKINGPAPERS@FMG.UVA.NL

ABSTRACT:

This article develops and tests the argument that more generous social welfare provisions reduce the risk of both international and domestic terrorism. A range of social welfare policies, including social security, health and education provisions, tend to have off-setting effects for terrorism, but will on balance reduce preferences for terrorism by reducing economic insecurity, religious-political extremism, income inequality, and poverty. Thus, countries with more generous welfare provisions can be expected to suffer fewer transnational and total terrorist attacks on their soil and to have fewer of their citizens perpetrate terrorism. Cross-sectional and pooled time-series cross-sectional estimation provides significant empirical evidence for these arguments. Most importantly, cross-sectional evidence shows that total welfare effort reduces total terrorism in countries, transnational terrorism in countries, and significant transnational terrorism by those brought up in higher-welfare settings. And the pooled evidence shows that several measures of welfare effort reduce incidence of transnational terrorism in countries, robust to a range of estimators and controls. Such findings support the view that strengthening social welfare policies at home and abroad may not only serve redistributive or development goals, but should also be a part of strategies to combat terrorist violence.

Brian Burgoon is an assistant professor of international relations in the Department of Political Science at the University of Amsterdam. He received his Ph.D. from the Massachusetts Institute of Technology in 1998. Before coming to the University of Amsterdam in 2000, he held teaching positions at Brandeis University (1997) and the Johns Hopkins School of Advanced International Studies (SAIS) in Washington (1998-2000). His research has been supported by, among other sources, the MacArthur Foundation, the Stimson Foundation, and the Harvard Center for European Studies.

1. INTRODUCTION

In debate over what causes and contains international terrorism, there is substantial division over the importance of economic conditions in fueling terrorism and the value of economic policies in fighting it. On the one hand, plenty of commentary and some academic scholarship suggest that economic conditions like poverty and income inequality very much matter for terrorism by affecting levels of deprivation, feelings of injustice, and hence, political tension – a view finding support in studies of individual attitudes, actions, and aggregate patterns of crime and terrorism (Chen, 2003; Paxson, 2002; Li and Schaub, 2002). On grounds that such economic conditions matter, many insist that an important part of fighting terrorism is to promote economic growth and combat inequality through more economic aid, and through maintenance or development of social welfare states (Chen, 2003, Tyson, 2002; Wolfensohn, 2002).

On the other hand, plenty of intuition and scholarship points in the other direction, that economic conditions don't much matter for terrorism, and hence that economic policies are largely irrelevant to fighting terrorism. The official 2002 statement of US grand strategy emphasizes this view, pointing out that September 11th was perpetrated by middle-class, educated misanthropes led by a super-rich religious fanatic (White House, 2002). Scholarly research provides plenty to generalize this sort of view, emphasizing how links between economic condition and criminality may not extend to terrorism, and marshalling evidence that questions individual-level ties between economic fortune and extremism, and national-level correlation between aggregate wealth and terrorist incidents (Green et.al., 1998; Krueger and Maleckova, 2003). All these studies support views that terrorism's roots lie not in the economy, but in pure politics – for instance, clashes of civilizations, authoritarian rule, or state failure – thereby motivating or at least rationalizing anti-terrorism campaigns that target terrorist groups, failed states or promote democratization.

Partly because debate on the role of economic conditions remains unresolved, literature on terrorism has largely ignored the role of social welfare policies. Studies of how poverty and inequality shape terrorism, for instance, imply but don't investigate the possibility that social welfare policies might mitigate poverty and inequality and thereby terror. A few argue more explicitly that social policy and religious institutions might be imperfect substitutes (Berman, 1998; Chen, 2003), and that the lack of social welfare policies in some settings might strengthen religious groups that foment fundamentalism and political extremism (Chen, 2003). But the broader

empirical implication of such claims – more terrorism in settings with the weakest social policies – has not yet been investigated. In any event, some popular commentary suggest roughly the opposite – that social policies may disgruntle and cluster-together expatriates, and provide them with the time and money to organize and channel their energies towards political extremism, including terrorism (Kaus 2002). We have, thus, a question that existing debate begs but has not yet sought to answer: how does social policy affect actual incidence of terrorism?

This paper answers this question, developing arguments and evidence on how social policies affect terrorism. Conceptually, the paper argues that domestic social policies – including a broad range of the public economy, but especially social security, unemployment, health and education programs – affect the preferences and capacities of social actors in ways that, on balance, discourage terrorism: by diminishing poverty, income inequality, and socio-economic insecurity, thereby diminishing incentives to commit or tolerate terrorism for political gain; and by diminishing reliance on extremist political and religious organizations that can provide economic benefits and cognitive security in the absence of social policy.

Empirically, the paper assembles quantitative evidence in support of these arguments. The focus is on how several measures of social policy relate to three measures of the incidence of transnational terrorism: incidents by country where total terrorist attacks occur; by country where total *transnational* terrorist attacks occur; and by country from which perpetrators of significant transnational terrorist attacks come. Cross-sectional analysis of all three of these measures, and pooled time-series cross-sectional analysis of total transnational terrorism consistently suggest that total government revenue broadly, and social welfare policies in particular (e.g. social security and health expenditures), correlate with lower incidence of terrorism, net of economic wealth, the power of Left parties, population size, democracy, and other controls.

The implications of this argument and evidence are limited but important. The argument clarifies only a part of how economic conditions affect terrorism, and the evidence for this part is itself only a partial judgment of how social policy affects terrorism. But they together furnish plenty of reasons to recommend that supporting maintenance and development of social policies be part of strategies to combat terrorism.

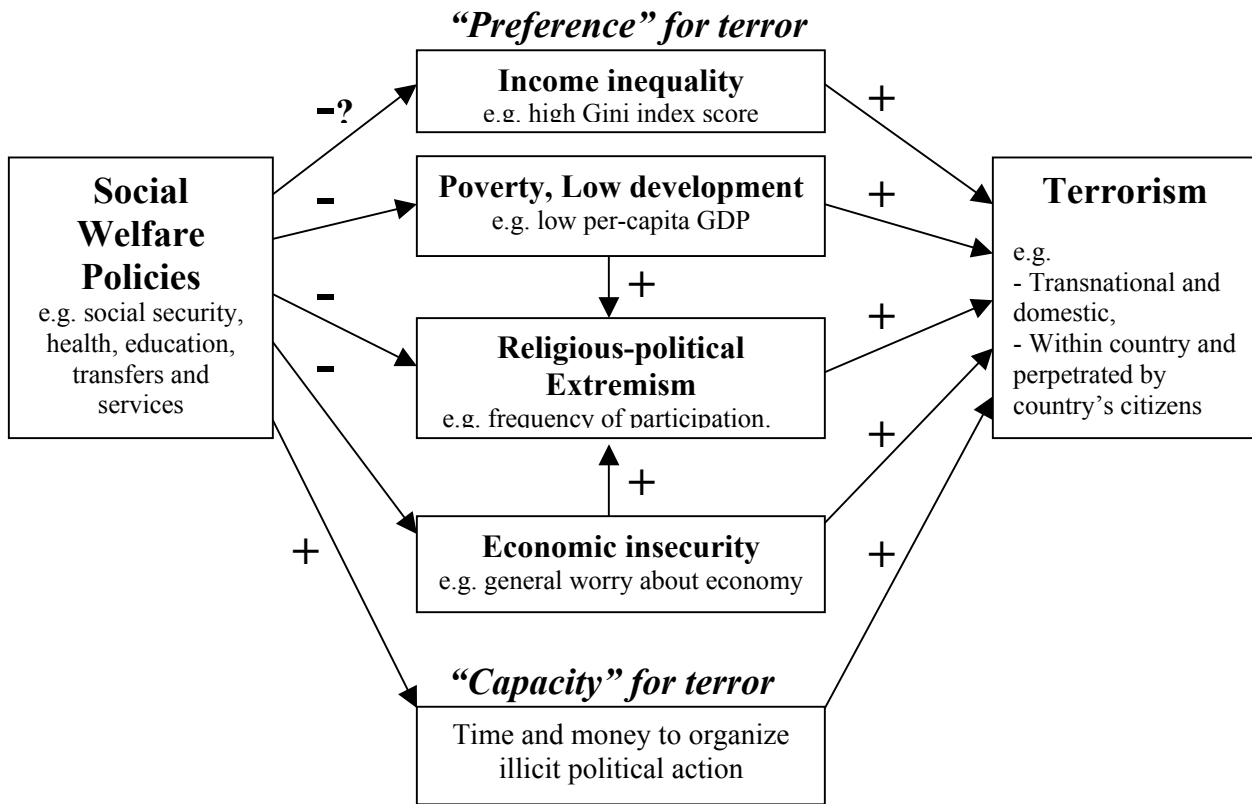
2. SOCIAL WELFARE POLICIES AND TERRORISM

Understanding how social policy might affect terrorism is no simple task, as it requires attention to how the diverse social policy realm affects the equally diverse phenomenon of terrorism. Narrowly construed, social policies include social security, unemployment, sickness, disability, health, and other policies explicitly furthering social rights. Although such policies are refined enough in industrialized countries to make the “welfare state” a meaningful policy realm, many developing countries lack such social policies, and yet maintain a range of public spending programs – from industry subsidies to military expenditures – that provide indirect social insurance (Rodrik, 1998). A theory of how social policy affects terrorism must therefore reckon with how and to what extent such varying faces of the public economy might affect violent political action.

Terrorism, meanwhile, is an even more complicated and less understood political phenomenon. Although most definitions of terrorism share the idea of politically-motivated violence against non-combatants, there are almost as many definitions as there are definers – differing over who “non-combatants” are, what “politically-motivated” means, and many other details. Within any given definition, in any event, terrorism that is domestic might differ from that which is transnational (where the perpetrator and victims have different nationalities). And more obviously, the roots of terrorism vary by issue – terrorism linked to nationalist struggles, ethnic strife, religious strife, separatist demands, political-governance goals, economic goals, and anti-imperialist revolt. Any consideration of how social policy might matter for terrorism must, therefore, reckon with this enormous diversity of terrorism as a political phenomenon.

Accepting this diversity in social policies and terrorism, the argument here is that a broad range of social policies have off-setting implications for life chances and capacities of citizens that on balance reduce all forms of terrorism. In particular, both narrow and broader conceptions of social welfare policy can be expected to reduce *poverty*, *inequality*, *politico-religious extremism*, and general *economic insecurity* that, in turn, shape preferences for terrorism; but at the same time, social policy can be expected to increase *capacities* to organize and carry-out terrorism. Although it is not an open-and-shut case, the balance of these off-setting implications likely means that social policy reduces terrorism. Laying-out this argument requires taking each intervening link connecting social policy to terrorism in turn, as schematically summarized in Figure One.

Figure 1: Social Welfare Policies, and the Preferences and Capacities for Terrorism



2.1. The Poverty and Development Connection

Perhaps the most obvious but also most controversial connection between social policy and terrorism lies in the role of poverty and per-capita wealth. The effects of poverty and wealth for terrorism are controversial, as are the effects of social policies for poverty and wealth. However, a very developed body of research suggests that, on balance, higher levels of social policy tend to reduce poverty and increase wealth, while a separate, much less developed literature on the roots of terror suggests that lower poverty and higher per-capita income on balance decreases national incidence of terrorism.

2.1.1. Social policy reduces poverty.

How social policies affect poverty and/or promote economic growth in both the developed and developing worlds is the subject of a very developed literature and continuing controversy. In a nut-shell, this literature suggests that whether and to what extent social policy reduces poverty and

promotes growth depends on particular kinds of welfare provisions – more or less targeted towards the poor; more or less transfer-oriented versus service-oriented welfare states, universal versus targeted transfers, unemployment versus health versus old-age provisions. These variations, in turn, co-vary with levels of development or regions of the globe. In a range of studies of OECD welfare states, for instance, welfare services and transfers tend to reduce poverty (Kenworthy, 1999; Korpi and Palme, 1998), and to be at least neutral if not positive for economic growth in the long term (Lindert, 2004). For the developing world, however, the story is more uneven. There, most social spending is on pensions, and in many countries both these and other transfers and services are targeted at those of moderate or higher incomes in the formal economy, not at the informal-economy’s poorest of the poor. Developing-country social policies, thus, appear to have more uneven poverty and growth implications than in the OECD, suggesting that one must be careful in making any generalizations about levels of social policy benefits on the one hand, and poverty on the other (Van der Walle and Nead, 1995).¹

This literature does, however, support some generalization across welfare forms and levels of development. While some studies of growth have suggested a negative relationship between “overly large” public economies and development (Barro and Lee, 1993), recent literature suggests that investment in longer-term social welfare policies, especially public spending on education, has positive effects on growth and therefore poverty reduction (Benabou, 1997; Birdsall and James, 1995; Deininger and Squire 1997; Dollar and Kraay, 2000; Lindert, 2004). Plenty of quantitative evidence also suggests that social policies, especially education and healthcare, significantly negatively affect poverty levels (Lustig and McLeowd 1997; Gupta et.al. 2001). Such benefits are strongest for spending on primary education and primary health, less so for higher education and medical research or hospital care that might promote growth but do less to relieve poverty (Lanjouw et.al. 2001). Social security transfers have more mixed effects for growth and poverty, depending on the nature of the transfers and their allocation (Benabou, 1997). But plenty of evidence suggests that social security can promote growth and reduce poverty – from non-contributory transfers to the elderly in Latin America and Africa, to a range of social security transfers across various regions in India (Barrientos et.al., 2002; Justino, 2003). And a number of

¹ In Brazil, for example, Carol Graham reports that “only 18 percent of the poorest groups, who account for over 40 percent of the population, are covered by social security, and they receive only 3 percent of social security benefits,” while “in Venezuela, over 50 percent of the education budget is spent on higher education” (Graham, 1998). But a range of country studies find social policies significantly reducing poverty. In Chile, for instance, increases in more targeted social policies helped reduce poverty rates from 45 percent in 1986 to 28 percent in 1994 (Ibid).

studies have shown social policies to promote concrete aspects of human development downstream from aggregate economic wealth – such as evidence that health and education expenditure correlate highly positively with the UN’s composite measure of human development (encompassing basic education and literacy, infant mortality and life expectancy, as well as standard wealth) (Chakraborty, 2002; Gerring and Thacker, 2003).

On balance, thus, there are substantial reasons and plenty of evidence to suppose that social policies, especially education and health spending, should help reduce poverty and perhaps promote economic growth and per capita wealth. There may well be a general pattern that Peter Lindert calls the “Robin Hood Paradox” – that the poorest countries with the highest inequality have social policies that do less to help their poorest than do the policies of wealthier, more equal polities (Lindert, 2004). But even in the least developed polities suffering from this paradox, one can generalize that more social policy, particularly education and health assistance, is better than less for per-capita wealth and poverty. Whether this is relevant to social policy’s effects for terrorism, however, depends on how lowering poverty and raising per capita wealth affect terrorist incidence.

2.1.2. Poverty and Low National Wealth encourage National Terrorism.

On this question, existing research and plenty of intuition exists on both sides of the issue, but on balance there are strong reasons to suspect that poverty and lower per capita income raise national patterns of terrorism. The conventional wisdom supports this conclusion, based on the intuitive idea that poverty tends to spark suffering and grievances that can in turn fuel political extremism and terrorism. Beyond countless anecdotes, some research into political attitudes suggests a strong positive link between poverty and violent-political extremism. The logic underlying such a link is frequently undeveloped but not difficult to fill-in from related literature and intuition: study of crime suggests that poverty fuels criminal activity against property and people, and some kinds of terrorism share much with such activity (Becker, 1968); poverty and slow growth may also breed feelings of “relative deprivation,” discontent and scape-goating that can in turn fuel, in particular, civil and ethnic conflict (Auvinen and Navziger, 1999; Gurr, 1970; Fearon and Laitin, 2003); poverty in relation to foreigners, furthermore, might fuel feelings of inferiority, encouraging resort to asymmetric means for pursuing wants or expressing rage (Johnson, 2001); and poverty and underdevelopment might also lead to weak states and governance that provide havens for terrorist groups, a la Afghanistan’s Taliban government and Al Qaeda (Li and Schaub 2004, 12).

Apart from the evidence supporting links between poverty and various metrics of human development, some studies have also established links between poverty and slow development on the one hand, and extremist political views and terrorism on the other. Based on a survey of Northern Irish citizens dating from the late 1960s, Paxson (2002) finds increased likelihood to support use of illicit political force generally, and to support the actions of known terrorist groups in the conflict over Northern Ireland in particular, among respondents who are poorer, unemployed, less skilled or educated. At the aggregate, national-level of incidence of terrorist attacks, one might also expect that poorer countries will tend to experience and sponsor more terrorism. Once again, countless anecdotes find more systematic support in at least one study of national-level incidence of transnational terrorist events, where a pooled time-series cross section analysis suggests that countries with higher levels of per capita GDP statistically significantly tend to suffer fewer transnational terrorist incidents on their national soil (Li and Schaub, 2004). This is a conservative test, to the extent that one might well suspect richer countries to be more attractive targets of hatred and transnational terrorism. For both this individual-level and aggregate analysis, in any event, the link between economic suffering and support for political violence is direct, as symbolized by Figure One's horizontal arrow connecting "poverty" and "terrorism."

However, poverty and wealth may also affect terrorism *indirectly*, by shaping religious and political practices and beliefs. Studies of religious fundamentalism have shown that poverty tends to inspire strong religious belief, participation, and support for extremist religious-political activity in particular (Berman, 2000, 2003; Chen, 2003). The logic, here, is that many fundamentalist, ostensibly religious communities provide social services and payments that make them imperfect substitutes for social policy in addressing poverty. A well known example, here, is the Palestinian Territory's Hamas, which provides food, direct cash assistance and social services to residents. But the phenomenon is visible across a range of denominations and countries – from child-care, elderly-assistance, interest-free loans, and burial services among Orthodox Jews in Israel; to maternity and sickness benefits among catechist groups in Ghana; to poor-relief services among Muslim and Hindu organizations in rural India; to the provision of charity payments and services by Christian churches in the US (Townsend, 1994; Landau, 1993; Chen, 2003; Gruber, 2003).

These examples suggest that greater economic suffering will spur reliance on fundamentalist religious institutions, an expectation borne out in a range of empirical studies. One is Chen's (2003) remarkable survey of rural Indonesians, revealing strong links between price

shocks and poverty on the one hand, and Koran study programs and religious participation generally on the other (Chen, 2003, 19).² At the aggregate level, further, per capita GDP has long been shown to negatively correlate with many measures of religious intensity (WVS).³ In any event, religious fundamentalism of all stripes has been shown to positively affect perpetration or (passive) support of communal violence in a broad array of political settings (Berman, 2003; Chen, 2003). Conceptually, the idea here is that heightened participation in these religious and political groups that are particularly intensive in membership involvement and often extreme in their political and ideological messages with respect to outside groups, will tend at the margin to inspire extremist political views and actions, relevant to at least some kinds of terrorist violence. Although this is obviously an area in need of much more theoretical and empirical research – I know of no studies, for instance, investigating possible links between religious intensity with terrorist incidence at the aggregate level⁴ – it is not such a stretch for the present purposes to hypothesize that religious intensity should correlate with terrorist incidence.

Against all these claims, however, are studies that voice skepticism about any positive link of this sort between poverty and terrorism. Many argue that the roots of communal violence, hate crimes, and terrorism are most fundamentally in social and political conditions that overwhelm any economic effects. And empirically, Green et.al. (1998), Krueger and Pischke (1997) and others find only a loose connection between unemployment levels and poverty on the one hand, and hate crimes (lynchings in the US, anti-immigrant violence in Germany). More specifically focused on terrorism, Krueger and Maleckova's (2003) frequently cited study finds that both Palestinian tastes for terrorism and participation in Hizbollah actions swing free of individual wealth and education. As they admit, however, this evidence does not rule out the possibility that poorer economic conditions inspire more terrorism at the national level. It may well be, for instance, that poverty motivates those with the political and economic capacities to act on behalf of their brethren, and may also influence the willingness of other (non-terrorist) citizens to tolerate extremism in their midst. Nonetheless, there is also some national-level cross-section evidence that poorer countries

² According to Chen, "a \$1 decline in per-capita nonfood expenditure stimulates a 2% increase in likelihood to increase Pengajian [Koran study]. Since the average household suffered a \$4.70 decline in per-capita nonfood expenditure [with the 1997 financial crisis]...the average household became 9% more likely to increase Pengajian..." (p.19)

³ For instance, in a cross section of 57 countries, per capita GDP (logged) correlates significantly negatively (R-squared .11, t-stat -2.56) with how frequently a country's citizens attended religious services (based on country means for 1990-1997 waves of the World Values Survey; see below for question).

⁴ The empirical section below considers one such test.

are not statistically-significantly more likely to have citizens perpetrating serious transnational terrorism once one controls for political or civil rights (Krueger and Maleckova, 2003).

The verdict is, thus, not completely in on just how strongly poverty affects terrorism. But the balance of evidence and logic is that poverty raises the risk of terrorism. Even the most skeptical studies, for instance, say little to suggest that poverty's effect for terrorism should be otherwise. And the evidence at the level relevant to understanding the aggregate effects of social policy – the national level patterns as opposed to individual level attitudes – is very thin. As schematized in Figure One, thus, social policy can be expected to reduce poverty, which in turn directly and by spurring religious extremism can be expected to spur terrorist incidence.

2.2. Inequality connection

2.2.1. Social Policy and inequality.

Social policies can also be expected to influence terrorism via their effects for income inequality within countries – net of poverty and aggregate wealth conditions. How social policies affect inequality appears to be more mixed than how they affect poverty or growth. As with growth and poverty, plenty of studies support the view that a OECD social transfers and services tend to lower most measures of income inequality. For instance, Korpi and Palme (1998) found strong negative links between inequality and the size and generosity of social policies, swinging partly free of how targeted such assistance is. Others have found significant inequality-reducing effects of government employment (Rueda and Pontusson, 2000), and of social security transfers (Smeeding, 2002), including the tendency of inequalities to significantly rise with retrenchment in such transfers (Caminada and Goudswaard, 2000).

But the same characteristics that yield mixed implications for poverty and growth in developing countries –social security transfers dominating total social spending, frequent targeting of formal-sector employees, etc. – make the implications for inequality even more uneven. The effects of social policies for inequality via growth remain a big controversy. Scholars continue to find logic and evidence for and against the idea of a “Kuznets curve” whereby early stages of development will raise inequality while later stages lower it (c.f. Barro, 2000, versus Deininger and Squire, 1997). And the direct income-distribution effects of social policies in the developing world widely vary across kinds of welfare and country. Thus, some find that in some developing and transitional countries, targeting of social policies to more well-to-do groups given the stronger

political voice of such groups frequently increases rather than decreases inequality – more often so with social security transfers, significantly less so with health and education (Castro-Leal et.al., 1999; Birdsall 1990; Milanovic and Kapstein 2003). On the other hand, there are plenty of case studies suggesting precisely the opposite for many developing-country welfare states, and in any event, aggregate spending on basic health and education is invariably found to be inequality-reducing (Van der Walle, 1996; Birdsall and James 1995; Cantillon et.al., 2002).

The highly variable distributional effects of social policies in the developing world make the general effect of social spending on inequality ambiguous, but health and particularly education spending should be more inequality reducing. In turn, we have the expectation that only partially reinforces the poverty/wealth link, summarized in Figure One: higher social spending in general has unclear effects for inequality, but education and health policies should tend to reduce inequality, particularly in developed countries.

2.2.2. Inequality and Terrorism.

Although the effect of inequality on terrorism is often uttered in the same breath as those of poverty, the scholarly literature is actually less developed (Ehrlich and Liu, 2002; Le and Schaub, 2004). But the way inequality appears to affect isomorphic phenomena of violence, especially civil wars, ethnic violence, and humanitarian emergencies provides some clues. For instance, Alesina and Perotti (1996) argue that income inequality fuels social discontent and sparks a chain of political instability and violence, including deaths in domestic disturbances, assassinations and coups. Auenin and Nafziger’s work has argued, similarly, that “high inequality can contribute to the immiseration or absolute deprivation of portions of the population, even with growth” – such as Nigeria’s extreme deprivation and political unrest against the Igbo political elites during the high-growth 1960s (Auenin and Nafziger, 1999, 270). Further, they suggest how inequality can produce feelings of deprivation and injustice even among groups not themselves in poverty – given the demonstration effects of illegitimate wealth and conspicuous consumption that inequality implies (Ibid., 270). If we extend these findings to terrorism, one can expect higher income and other forms of economic inequality to fuel resentments and feelings of relative deprivation, net of broad conditions of poverty. And these feelings, in turn, can be expected to fuel political extremism and asymmetrical violence.

Evidence for these claims is plentiful but not unanimous. Support comes from cross sectional evidence relating inequality measures to domestic disturbances, assassinations and coups (Alesina and Perotti, 1993). Auenin and Nafziger (1999) and others find time-series cross section evidence that both land and income inequality spur battle deaths, malnutrition and disease, refugee flows, and other elements of humanitarian crisis. Some studies of civil and ethnic wars, however, find land and income inequality to be positive but insignificant in their effects for organized violence (Fearon and Laitin, 2003; Moore et.al. 1996). In any event, Li and Schaub's (2004) study of transnational terrorism on a panel of 116 countries finds that income inequality, as measured by Gini index scores, significantly increases incidence of terrorism on a country's soil. We have, thus, logic and evidence to reason that at least some social policies tend to reduce inequality, and that inequality spurs terrorism – a second, more qualified way in which welfare might lower terrorism.

2.3. The Religious-Political Extremism Connection

A third way in which social policies can be expected to lower terrorism is by diminishing participation in and influence of fundamentalist religious-political organizations. Our discussion of poverty already stated how poverty might matter for terrorism by increasing reliance on such organizations among the poor, and thereby be subjected to the influence of relatively insular and often politically extremist groups of all political and religious stripes.

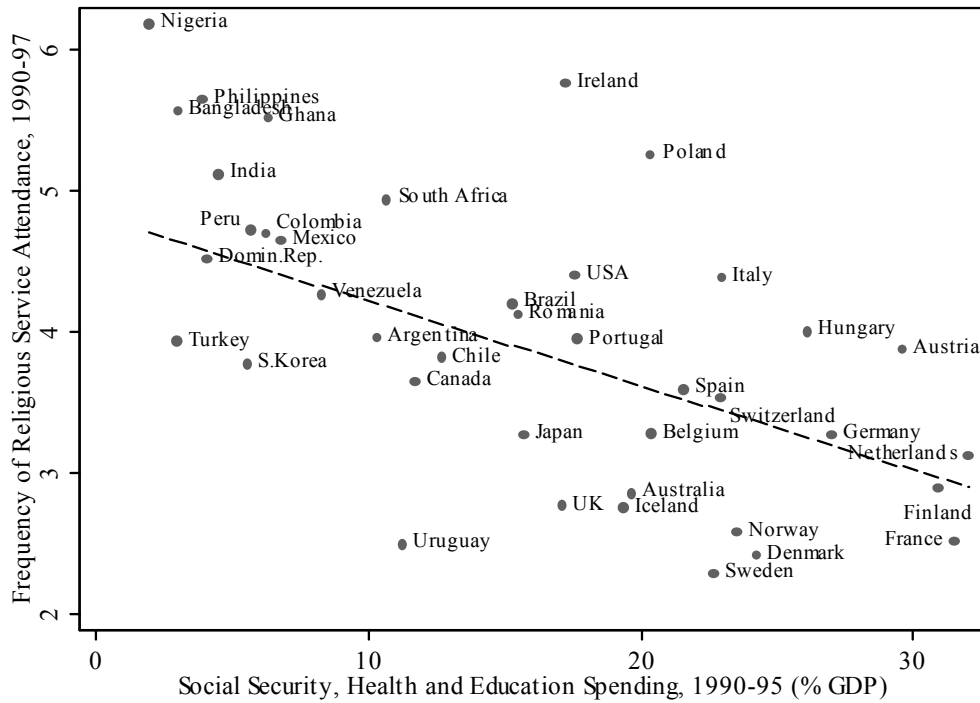
Social policy has, in addition, direct implications for reliance on and influence of such groups – *independent* of poverty levels. At any level of development, poverty or inequality, social assistance is an imperfect substitute for religious and political organizations. The logic for such a claim overlaps that mentioned above, that religious organizations supply shadow welfare services and even cash transfers that redress deprivation and suffering. Thus, more generous social policy should reduce citizens' "demand" for substitute services, in turn diminishing reliance on religious and other organizations that may recruit members on material bases. It should be stressed that welfare and religious-political organizations might be also be imperfect substitutes for middle-class citizens, and not be reducible to poverty, to the extent that provision of pension and other benefits might marginally dissuade citizens from participating in organizations for the "middle class" welfare services many provide, like help for elderly. In any event, it is also possible that political-religious organizations and social policies are imperfect substitutes in providing less materially tangible support networks, and sources of security and hope for their members. By this reading, we

can expect higher social policies, which can improve feelings of economic security and social solidarity, to dampen demand for and participation in radical religious or political organization, even where religious organizations offer no shadow social services.

Existing empirical support for these links is scant. The literature on the effects of religious organizations and terrorism are modest, as already mentioned above. And evidence that social policy and religious or political organizations are imperfect substitutes remains focused on the beliefs and political and religious activities of individuals within countries. Given the paucity of such literature, thus, it is worth empirically considering whether religious participation appears to have anything to do with social policy. Figure Two provides some suggestive evidence that social policy and religious participation are, indeed, negatively related. It plots the relationship between levels of total social expenditure as a percentage of GDP on the one hand, and one reasonable but very rough measure of religious participation: the mean country scores of respondent answers to the 1990-97 World Values Survey (2000) question, “apart from weddings, funerals and christenings, about how often do you attend religious services these days? (categories 1-7 ranging, recoded to increase from “almost never” to “more than once a week”). The relationship is visibly negative, and statistically significantly so in simple bi-variate regression ($R\text{-squared}=.39$, $t\text{-stat.}=-4.96$, with robust standard errors), though tends to lose significance with inclusion of various controls, such as per-capita wealth.⁵ We have, thus, both logic and a hint of evidence to suppose that social policy siphons-off participation in religious-political organization, a hint that social policy may also correlate negatively with religious extremism. With the intuition and evidence that such extremism can at least indirectly breed some kinds of terrorism, we have another reason to suspect a negative relationship between social policy effort and terror.

⁵ I show this relationship even though it tends to be stronger when focusing on other measure of social welfare spending (social security, health, or education expenditures, or government consumption), and is especially strong (and holds up to more controls) with measures of program generosity (based on replacement rates, coverage, and waiting periods for pensions and unemployment insurance). For instance, regressing participation in religious services on this latter measure of welfare generosity, GDP per capita and regional dummies for Africa, Asia, Americas, and Europe, the strongest predictor is generosity of social welfare (coefficient -1.46, t-statistic -2.86, significant beyond the .01 level).

Figure 2: Social Policies and Religious Intensity



Source: World Values Survey Group, 2000; Kugler et al., 2000.

2.4. Other Connections

Social policy can also be expected to affect patterns of terrorism via connections that are more difficult to judge and less examined in the literature. First, whatever the concrete implications welfare effort might have for poverty, inequality, and religious organization, more generous effort should generally increase general perceptions of economic security for citizens, beliefs that present or future downturns for the economy as a whole or for particular individuals will be partly insured-against. This should not only affect resort to political or religious organizations or pursuits that might be imperfect substitutes for social insurance, but should also directly affect feelings of deprivation and desperation. How much they do so, of course, can be expected to vary substantially with the nature, targeting and design of particular social policies. And as the discussion above strongly suggests, there will be plenty of groups in many countries for whom social policy does little to diminish feelings of economic insecurity. But even in those settings where social policies exacerbate inequality and do little for the poor, there is little reason to believe that social policies will ever have the opposite ideational effect – to worsen feelings of insecurity.

Figure One above captures this logic with “economic insecurity” putatively being diminished by social policy while spurring both religious-political extremism and terrorism.

Second, in addition to affecting *preferences* for terrorism by diminishing incentives to consider terrorist violence, social policy can also be expected to affect the *capacities* of groups to organize and carry-out terrorist attacks. And here, the effects may be in the direction of making terrorism marginally easier. As a Mickey Kaus column (2001) suggested, generous welfare states in industrialized countries can provide the means and even some incentives for disenchanting groups to turn their frustrations into illicit political action. The spark for such a claim was that several of the September 11th hijackers were living-off of European welfare state provisions, and perhaps thereby had more time and resources to organize. For our purposes, the general claim is two-fold: that social policies provide marginally more resources that can free time and resources of many groups, including those inclined to terrorist action, to organize and network with each other in planning of terrorism; and that some social policies, especially public housing or means-tested poor relief, might tend to cluster welfare recipients in particular settings, bringing-together groups in a setting of common experience and sustained living that can further facilitate terror-organizing among the disenchanting, net of income benefits. Figure One captures this logic about how social policy may well increase the capacities of already-inclined groups to commit terror.

Altogether then, social policy can be seen to have off setting implications for terrorism. On the one hand, there are lots of reasons and some substantial evidence to hypothesize that various social policies, especially health and education spending, will tend to reduce poverty, increase wealth, lower inequality, economic insecurity, and religious-political extremism – all thereby diminishing tastes for terrorist violence. On the other hand, we have at least some reasons to suppose that social policies may increase the capacities of extremist groups to plot and organize terrorist attacks. It is an open question which of the tendencies will dominate. On balance, however, I suspect that social policy’s effects for so many aspects of political economy relevant to the preferences for terrorism will dominate effects relevant to but a few aspects of capacities of terrorists. Hence the following general hypothesis:

Hypothesis One: Social welfare policies should diminish poverty, inequality, economic insecurity and religious-political extremism, thereby lowering the incidence of all forms of terrorism taking place in and perpetrated by those brought-up in settings with higher social policy spending.

The reach of this hypothesis is very broad: social policy should reduce both domestic and transnational terrorism, terrorism motivated by a range of grievances and political projects, and not only terrorism in more generous welfare settings but also by those brought-up in those settings.

Whether such a broad hypothesis is holds, however, is obviously an empirical question. The intervening connections, as we have seen, are themselves testable components of the research agenda into social policy and terrorism – where one must consider how social policies affect poverty, aggregate wealth, inequality, political-religious extremism, etc., and how these broad socio-economic and political conditions might affect terrorism. But testing social policy’s implications for terrorism requires what existing scholarship has so far not provided – direct study of how patterns of social policy relate to patterns of terrorism.

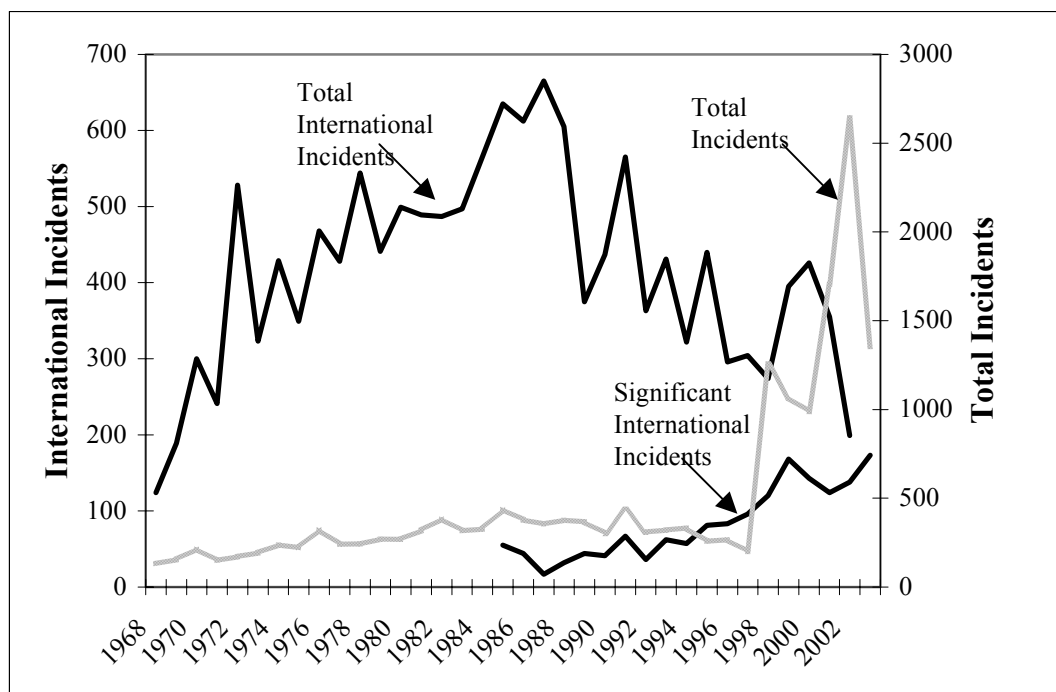
3. EVIDENCE

To provide such an empirical test, I analyze the relationship between several measures of social policy and of terrorist incidents through both cross-sectional and pooled time-series cross-section estimation. Cross-sectional analysis of how total government spending on social security, health and education correlate with several measures of terrorism provide the first impression that social policy does, as expected, reduce terrorist incidents. Further analysis of that same cross-section of countries suggests, further, that this correlation may indeed have to do with inequality, wealth, and religious intensity. And analysis of pooled cross-section time series of international terrorist incidents provides more robust evidence that total government spending, total welfare, and the social security and health components of such welfare, significantly reduce the incidence of international terrorism. Such quantitative evidence is an incomplete and rather colorless way of capturing how social policy affects the complicated and bloody politics of terrorism, but it provides direct and compelling evidence most relevant to the argument’s very broad expectations.

3.1. Dependent Variable(s): Terrorist Incidents

Since the hypothesis is very general – that social policy diminishes incidence of international as well as domestic terrorism, *taking place in*, as well as *perpetrated by* those brought-up in, more generous welfare settings – I consider three measures of terrorist incidence: transnational incidents occurring in a country; total terrorist incidents occurring in a country; and “significant”

Figure 3: Terrorist Incidents: Total and Significant International Incidents, and Total Incidents, 1968-2003



Source: US State Department, various years.

transnational incidents by the country where the terrorists came from. Figure Three summarizes the total number of incidents by these three measures between 1968 and 2003.

The measure with the broadest empirical coverage is the number of transnational terrorist incidents that occur in a country, collected from the International Terrorism: Attributes of Terrorist Events (ITERATE) data sets (Mickolus, 1982; Mickolus et.al.,1989, 1993, 2002). This dataset defines terrorism as “the premeditated use, or threat of use, of extra-normal violence or brutality to obtain a political objective through intimidation or fear directed at a large audience,” with “political objectives” including “the promotion of religious freedoms, economic equality, income redistribution, nationalism, separatism, ideological ends, nihilism, and issue-specific goals” (Enders and Sandler 2000, p.1). The database focuses only on “transnational” terrorism, where “a terrorist incident in one country involves victims, targets, institutions, governments, or citizens of another country” (Ibid.). It excludes, thus, purely domestic terrorist actions such as Timothy McVeigh’s Oklahoma City bombing. And it focuses on where incidents take place, thus not measuring how social policy might affect tendency of citizens to inflict terror abroad. Like most measures,

furthermore, it is based partly on open sources, thus excluding incidents authoritarian governments do not want reported. But the measure provides a clear test for the argument above, as it expects more generous social policy to lower terrorist violence against foreign targets. Figure Three, in any event, shows how total transnational terrorist incidents have fluctuated widely since the late 1960s, with the trend rising from a low of 124 in 1968 to a peak of 665 in the late 1980s, tapering off since then, to 199 incidents in 2002.

The second measure is of *total* number of terrorist incidents to occur in a country, including domestic as well as transnational events, coming from the MIPT-RAND database (2004). This database defines terrorism, similar to that of the ITERATE database, as “violence, or the threat of violence, calculated to create an atmosphere of fear and alarm...usually [though not always] targeted at civilian targets,” by groups whose “motives are political” (MIPT-RAND 2002). This database has the significant advantage of including domestic as well as transnational terrorist incidents, but like ITERATE’s international incidents, the measure may downward bias events in authoritarian settings and, in any event, focuses only on attacks in countries. In any event, it captures the most encompassing measure of terrorism, clearly relevant to the argument. Figure Three shows the much higher count than the total transnational count since the 1960s: the number of total incidents remained roughly stable in the low hundreds, with a low in 1968 of 132 incidents, but then spikes in the late 1990s, with 2,642 events in 2002, dropping to 1,355 events in 2003.⁶

The third and final measure focuses on “significant” terrorist incidents counted by the nationality of the known perpetrators of terrorist events, regardless of where incidents take place. I estimate such incidence from 1996 to 2001 using the State Department’s annual accounting of “significant” transnational terrorist incidents. Here, terrorism is “...premeditated, politically motivated violence perpetrated against noncombatant targets by sub-national groups or clandestine agents, usually intended to influence an audience.”⁷; “transnational terrorism” is any incident “involving victims and perpetrators of different nationalities”; and “significant” incidents are those meeting the US Government’s Incident Review Panel criteria, where the act ““results in loss of life or serious injury to persons, abduction or kidnapping of persons, major property damage....” (US State Department 2004). Following Krueger and Maleckova (2003), I surmise the perpetrators’

⁶ The definition of civilian is, here, somewhat more restrictive, excluding military personnel not on active duty, thereby explaining why in a few years this measure totals lower than total transnational counts from the ITERATE database.

⁷ Title 22 of US Code, Section 2656f(d) defines “noncombatant” as “in addition to civilians, military personnel who at the time of the incident are unarmed and/or not on duty” and “military installations or...armed military personnel when a state of military hostilities does not exist at the site” (US State Department, 2004).

nationality from State Department and other media information about each incident, allocating incidents in proportion to the groups or individuals responsible for each attack.⁸ And I round the total for the six-year period to the nearest whole number so the measure remains a count variable.

These are rough estimates, given ambiguity about nationality of all involved terrorists, let alone upbringing, and even then, 19 percent of incidents cannot be counted due to poor information on attackers' nationality. However, since many of the incidents in the "total" category are trivial acts of vandalism with minimal damage, focusing on "significant" incidents provides a test of more meaningful effects of social policy. More importantly, this measure allows us to judge how social policy might affect the incidence of terrorism by its influence on tastes for carrying-out terror, regardless of where the act takes place. We have, thus, a different face of terrorist patterns with which we can judge the argument. In any event, Figure Three shows how this measure shows a clearly rising pattern of serious terrorism – with the last year, 2003, showing the highest incidence of significant terrorism since the State Department began keeping track in 1985.⁹

3.2. Independent Variables: Broad and Narrow Measures of Social Spending

To investigate the effects of social policy for these various patterns of terrorism, we need both broad and narrow measures of policies that serve a social assistance role, capturing wide variation in the generosity or size of such assistance, and for a range of both developing and developed countries. To try to meet this standard, the empirical analysis focuses on four measures of "social" spending: total revenue, social security spending, health spending, and education spending, all expressed as percentage of GDP, for roughly 100 countries, between 1975 and 1995 for all but the education spending, for which comparable data spans 1980 to 1995.

Total revenue as percentage of GDP is the broadest measure of government intervention potentially serving a social-insurance role. This is important to the extent that policies nominally focused on other goals, such as defense or capital investments, still affect the social rights of citizens, particularly in developing-country settings where more explicitly social welfare is less developed. This revenue measure has the advantage of being encompassing – more, for example,

⁸ For instance, one ETA action in Portugal gets coded as 1 for Spain; and the first plane to hit WTC on September 11th counts as one incident, with four known terrorists, whose respective nations of citizenship are scored.25 of an incident.

⁹ In April 2004 the Bush Administration celebrated declining "total" transnational incidents as affirmation of its policies, ignoring the much gloomier recent spike in "significant" incidents as they themselves define it (Figure Three shows both). Facing strong criticism that they were fudging the numbers, Administration officials later announced that they would revise their estimates. See Krueger and Laitin (2004).

than government consumption, which represents a fraction of all spending and is biased upwards spending in developing countries (Adsera and Boix 2002). And it is available for a broader cross-section of countries and years – more for instance than total government expenditure. The source is the POFED database, with total revenue numbers built up from OECD, UN, World Bank and IMF sources (Kugler et.al., 2002). Among the 115 countries in the sample, the 1990 to 1995 average of such total revenue ranges from Sudan's 7 percent of GDP, to Hungary's 69 percent of GDP.

Social Security spending as a percentage of GDP captures a more traditional conception of non-health transfers, especially public pensions and, less so, unemployment insurance (Kugler et.al., 2002). For most countries, this is the largest component of social policy expenditure. For the 1990-95 average in 115 countries, such spending ranges from Angola's .01 percent of GDP, to Holland's 19 percent of GDP.

Health care spending as a percentage of GDP captures total public spending on basic and hospital healthcare (Kugler et.al., 2002). In the literature on how public economies affect growth, poverty and inequality, basic health expenditure is often singled-out as being more beneficial than general social transfers. For a few countries, like the Bahamas, health is larger than social security spending. For the 1990-95 average in the 115 countries, however, the spending levels range from a little under .16 percent of GDP in South Korea, to 7.5 percent of GDP in Germany.

Education spending as a percentage of GDP captures total public spending on primary, secondary, and tertiary education. The measure for 166 countries comes from the UNESCO, and is available through the World Bank (World Bank, 2004). As we saw above, the social policy literature suggests that public education, particularly basic education, is effective in fighting poverty and inequality, while education spending generally is particularly beneficial for growth and wealth – more so than social transfers. In some developing countries, such as Botswana, general public education spending is far larger than spending on either health or social security. But for the 1990-97 averages among 169 countries, the spending ranges from Zaire's (Democratic Republic of the Congo) 1 percent of GDP, to Mongolia's 9.8 percent of GDP.

Together, these measures capture broad variation in the level of social assistance for a large cross-section of countries and for a significant time span. Such measures only indirectly capture actual generosity of benefits, focusing instead on how big a chunk they represent in total economic activity. More direct generosity measures are available – for instance, for net replacement rates – but only for fewer countries and generally for fewer years. Furthermore, the argument above

focuses as much on down-stream economic effects of social policy efforts, not just perceptions surrounding what assistance is available. This makes the spending measures at least as, and arguably more, relevant to testing the argument.

3.3. Controls

To address the possibility that observed correlation between these measures of social spending and terrorism are spurious, I control for a range of conditions that intuition and literature suggest are important determinants of both terrorism and social spending. *Left party power*, measured here as Left party control of the executive or cabinet using data drawn from the Database on Political Institutions (Beck et al., 2001), has been found in many studies of social policy to correlate with higher social spending, because Left parties tend to develop more social policies than their Right or Center party counterparts (Korpi and Palme, 2003; Scruggs and Allan, 2004). Partisanship's relevance for terrorism remains unstudied, but Left parties' support for social policies might entail an indirect negative link between Left power and terrorism, and Left parties may disproportionately represent aggrieved groups that might thereby work within established political channels rather than through illicit political action. If so, Left partisanship can also be expected to correlate negatively with terrorism, necessitating its inclusion as a control.

GDP per capita, as discussed above, is one of the intervening variables in the arguments of how social policy might affect terror (the source for the data is *Penn World Tables*, Heston et al., 2002). Although its inclusion as a control can be expected to weaken correlation between social spending and terrorism, such inclusion is important because so much research has established that per capita GDP so strongly influences the size of public spending (Wagner's law).¹⁰

Democracy has been shown to affect terrorism, negatively with incidents by country of perpetrator (Krueger and Maleckova, 2003), capturing how democratic representation might diminish political grievance and extremism, and positively with where incidents take place, capturing either over-representation of incidents where freedom allows their measurement or how democracy increases capacities or incentives of terrorists to target democracies (Li and Schaub, 2004). The measure, here, is the Polity IV index from -10 to 10, based on the difference between a 10-point democracy and a 10-point autocracy index (Marshall and Jaggers 2000). Because research

¹⁰ Income inequality and religious intensity – the other main intervening links in the argument – may influence social spending but not as strongly to justify inclusion as controls (c.f. Benobau, 2002). Running measures of inequality as a control in both cross-sectional and panel estimations do weaken the effects of social policy measures (see below).

has also established that democracy positively influences social expenditures (Adsera and Boix, 2002), it is important to include as a control. I expect democracy to correlate negatively with country of perpetrators and to be unclear or positive with incidents in a country.

Population (logged) has also been shown to be highly significant and positively related to terrorist incidents, perhaps because larger countries are heterogeneous and subject to more inter-group tension (Li and Schaub 2004; Everman 1998). And there's also plenty of social policy literature has shown it to be a very strong predictor of welfare expenditures (Katzenstein, 1985; Cameron 1978; Rodrik 1998). The source is Penn World Tables (Heston et.al., 2002).

Government capability is a composite percentage index of a country's GDP per capita, GDP per unit of energy, military manpower and expenditures, and share of the world's total population. This may be relevant to terrorism by affecting the position of a government relative to its own society and the world, with higher levels of capability generating hostility from foreign citizens or from domestic nationals, making it a more attractive cite of terrorist action for some groups (Sandler and Lapan 1988). On the other hand, the measure captures indirectly a government's capabilities to contain terrorist activities, and a government's capacity to intervene to influence domestic economic conditions (Li and Schaub 2004; Sandler 1997).

Conflict measures whether a country is engaged in interstate military conflict or war, measured here as a binary variable (1=presence of conflict; 0=no conflict) originally from Gleditsch et.al. (2002; from Li and Schaub 2004). This captures the possibility that external conflict sparks internal tensions or terrorist action from or against foreigners involved in the conflict. External conflict, furthermore, can be expected to affect social expenditure, either upwards via a compensation for domestic sacrifice during war-time, or downwards via fiscal trade-offs of guns and butter.

Finally, *Trade openness*, imports and exports as a percentage of GDP (Heston et.al., 2002), is a measure of international economic openness. Such openness may spark or constrain the incidence of terrorism, via effects for growth and inequality (Li and Schaub, 2004). And trade and other faces of economic openness spark economic risks that in turn strengthen demands for compensatory social protection, but perhaps also constraining governments from providing such compensation (c.f. Rodrik, 1998; Garrett, 2000; Adsera and Boix, 2002).

3.4. Estimation Technique

How social policy correlates with terrorism on both the cross-sectional and pooled time-series cross-section data is estimated with negative binomial regression. Because all of our measures of terrorism are count variables, Ordinary Least Squares estimates can be biased, inconsistent and inefficient (Long 1997). Poisson regression, which assumes that the conditional mean and standard deviation are roughly equal, is also inappropriate because all our terrorism counts exhibit very high dispersion – immediately obvious by how the standard deviations are much greater than the means for all three terrorism measures for the cross-sectional data and for the total transnational events for the panel data (see Appendix Tables One and Two).¹¹ The data thus call for either negative binomial regression or zero-inflated negative binomial regression, depending on the nature and proportion of the zero values in that data.

For both the cross-sectional and pooled analysis, several considerations suggest negative binomial regression to be the better estimator than its zero-inflated alternative. First, the proportion of zero's is, in most cases, not high enough to make the zero-inflated option the obvious choice.¹² Second, test statistics that provide some guidance in choosing between zero-inflated and regular negative binomial regression tend to either recommend the regular over the zero-inflated alternatives, or to be ambiguous (Vuong 1989; Greene 1994).¹³ Third, a range of goodness-of-fit diagnostics – log-likelihoods of the models, the deviance, the likelihood ratio chi-square, Bayesian Information Criterion (BIC), etc. – suggest that the negative binomial regression provides the better fit for all three cross-sectional measures, and in most estimations also for the pooled measure. Fourth, the zero-inflated model is most suited where the full sample comprises sub-samples that systematically differ in the likelihood of and reasons for having a zero count – such as purely teaching academics who don't publish because it's not in their job-description, versus research academics not publishing because they are not working well or hard. And yet, there is not a clear

¹¹ More formal measures confirm that “over-dispersion” rules out Poisson, from Poisson goodness-of-fit statistics to formal measures of dispersion that we shall include in the analysis below.

¹² The proportions are below 26 percent for two of the three cross-sectional measures, and between 34 and 43 percent for the pooled measure (depending on social policy parameter in the estimation).

¹³ As Greene (1994) and (Long 1997) suggest, the Vuong statistic has a standard normal distribution, with large positive values favoring the zero-inflated model, large negative values favoring the nonzero-inflated version, and values close to zero favoring neither model. The Vuong statistics for most the cross-sectional and the pooled estimations fall in the third, ambiguous, category. For the *significant transnational incidents* cross-section, for instance, which has the highest proportion of zero's to total observations (72 percent) gets an ambiguous Vuong statistic of 1.55 when the model is fit so that at least some of the parameters in the inflation-component of the model (logit estimation of how much included variables predict likelihood of a zero count) are significant.

logic in the arguments above or research into terrorism that suggest such distinctions in the country-year counts of terrorist attacks. For all these reasons, I choose for the negative binomial regression as the benchmark estimator, but include the zero-inflated approach in robustness tests.

The pooled and cross-sectional estimations below also share other features of estimation strategy. To address possible endogeneity and how social policy's effects might take time to percolate through the polity, all social policy measures and controls are lagged – one-year for the country-year observations in the pooled analysis, at least one-year for the country observations (multi-year averages) for the cross-sectional analysis. To take account of unmeasured regional effects – which past studies have found to be important (c.f. Li and Schaub, 2004) – all estimations also include regional dummy variables for Asia, the Americas, Africa, and Europe (the Middle East being the reference region). Finally, given heteroskedasticity in the error term that remains given such a broad cross section on so regionally heterogeneous variables, and given the combination of both heteroskedasticity and serial correlation that commonly plague the pooled data, all estimates are calculated with robust standard errors clustered over countries (Williams, 2000).

The pooled cross-section time-series estimation, furthermore, includes year dummies to address unit effects over time, and the trending of transnational terrorism in particular (Enders and Sandler 1999).¹⁴ And to address the heteroskedasticity and serial correlation commonly plaguing pooled time-series cross section data – despite inclusion of regional and year dummies – I include lagged dependent variable (incidents) to address serial correlation (Beck and Katz 1995).¹⁵

3.5. Cross-sectional Findings

Table One summarizes the cross-sectional results. Shown are two estimations for each measure of terrorist incidents: a base model of total social welfare expenditures (social security, health, and education expenditures) with minimal controls (population and regional dummies); and a “complete” model of such expenditures with the full battery of controls (Left government, national wealth, democracy, population, government capacity, conflict, trade and regional dummies). The base model takes account of the modest degrees of freedom in the cross-sections, and of the collinearity between total social spending and some controls, especially GDP per capita

¹⁴ There is, however, no sign that transnational incidents in countries is non-stationary in the sample. Tests for unit roots show no signs that transnational incidents has a unit root (Levin-lin: Coeff=-0.629, t-stat=-35.24, t-star=-20.29, $p > t = 0.0000$; Im, Pesaran and Shin (demeaned): $t\text{-bar} = -3.02$, $\psi(t\text{-bar}) = -19.32$, $p\text{-value} = 0.000$).

¹⁵ Robustness tests below, however, include estimates without the lagged dependent variable or robust standard errors.

Table 1: Cross-sectional Analysis of Terrorist Incidents and Social Welfare Spending

	Total Transnational Incidents in Country		Total Incidents in Country		Significant Transnational Incidents By Country's Citizens	
	(1)	(2)	(3)	(4)	(5)	(6)
Total Welfare Spending (%GDP)	-0.046* (1.79)	-0.060** (2.28)	-0.110** (2.41)	-0.120*** (3.14)	-0.236*** (4.21)	-0.275*** (4.52)
Left government		-0.051 (0.16)		1.352*** (2.73)		1.154* (1.74)
GDP per capita (log)		-0.318 (1.57)		0.132 (0.36)		-0.504 (1.26)
Democracy 1996-97		-0.151 (1.55)		-0.140 (0.92)		-0.446** (2.45)
Govt.Capacity		1.811*** (3.48)		2.677*** (3.46)		2.723** (2.51)
Conflict		0.382 (0.54)		-0.807 (0.67)		-0.479 (0.30)
Trade openness (log)		0.416 (1.30)		-0.974* (1.73)		0.906 (1.26)
Population (log)	0.574*** (6.88)	0.680*** (5.45)	1.335*** (7.67)	0.937*** (4.68)	0.874*** (5.16)	1.026*** (3.56)
Constant	2.507*** (6.05)	4.034** (2.48)	2.670*** (2.94)	-1.536 (0.48)	2.349*** (2.28)	5.008 (1.46)
Regional dummies	Yes	Yes	Yes	Yes	Yes	Yes
Joint-signif. test (Chi-sq.)	42.88***	28.2***	21.71***	4.3	10.43**	12.82**
Pseudo-R ²	.089	.11	.092	.118	.069	.096
Wald- χ^2	81.45	98.2	79.84	138.03	44.73	71.01
α	.988***	.76***	2.74***	2.24***	5.43***	4.4***
Observations	100	92	104	93	111	95

Negative binomial regression, with robust standard errors (z statistics in parentheses).

Dependent Variables:

Columns (1) and (2): Total transnational terrorist incidents in country, 1991-98 (ITERATE, own calculations)

Columns(3) and (4): Total incidents (domestic and transnational) in country, 1998-2003 (MIPT-RAND database)

Columns (5) and (6): Significant transnational terrorist incidents by country of perpetrator(s), 1996-2001 (State Department, own calculations)

Independent Variables:

Total Welfare Spending, Public spending on social security, health and education as % GDP, 1990-96 average (Kugler et.al., 2000; World Bank 2002);

Left Party, % years 1975-95 that Left party controls government (DPI 2001);

GDP per capita, logged, 1994 (Penn World Tables 6.1);

Democracy, extent of democracy rating (Polity IV, 1996-7);

Population, logged, 1975-95 average (UN);

Government Capacity, index of wealth, military spending and personnel, share of world population and energy consumption, 1990-95 average;

Conflict, % years 1990-95 that country in international conflict (conflict=1; 0 otherwise) (Gleditsch et.al.2000);

Trade openness, imports plus exports as % GDP, logged, 1960-95 average (World Bank 2002);

Regional dummies for Africa, Asia, Americas, and Europe (Middle East is excluded region).

*** significant at 10%; ** significant at 5%; *** significant at 1% or lower**

(coefficient of correlation of .68).¹⁶ Of all the controls, total population (logged) is for all measures of terrorism the best performing and is uncorrelated with total welfare spending (coefficient of correlation of -.04). With the regional dummies, thus, this provides a reasonable base set of controls for estimation of the influence of total welfare spending on terrorist incidents, while the full model provides a glimpse of how social policy, net of a full range of controls, performs in cross-sections as compared with the pooled analysis below. The highly significant alpha scores reveal the high levels of over-dispersion that all the measures of terrorism display, while the controls in both the base and full models tell a story mainly in keeping with expectation. Population is significantly and highly positively related to terrorist incidents, as expected. GDP per capita tends to correlate negatively with incidents, though not significantly so, unless one runs a reduced model without social welfare, government capacity or Left parties. Democracy tends to correlate negatively with all incidents, though as expected is more strongly so for incidents by a country's citizens and not for the measures of incidents in countries. Government capacity correlates positively and significantly with all measures of incidents. And trade openness is unstable as a parameter, positive for two of the measures though significantly negative for total incidents within a country. And, the regional dummies tend to be individually and jointly significant – particularly for the base model. Most surprising, Left power relates significantly positively for both total incidents in country and for significant transnational incidents by country's citizens, suggesting that the encouragement such governments give to some marginal groups and provocation it poses for (right-wing) others may outweigh the terror-reducing effects of incorporation and social-welfare stimulation. The limited degrees of freedom that these cross-sections offer mean we should be very skeptical of the patterns in the full model. But they also set up a difficult test, above the base model, of how social welfare relates to terrorism.

Most importantly, total social welfare spending correlates significantly and negatively with all measures of terrorism, in both the base and full specifications. The strongest effect is for significant transnational incidents perpetrated by a country's citizens, the weakest for total transnational incidents taking place in countries. We can capture the substantive effects by considering the base models' incident rate ratio's (IRR), which capture how a one-percent-of-GDP increase in welfare spending will change transnational incidents (e.g. 1=0 percent change; 1.1=10

¹⁶ The full cross-section models have mean variance inflation factors (VIF) just above 3.0, while the base cross-section models have mean VIFs between 2.0 and 2.1.

percent increase; .9=10 percent reduction), holding all other parameters constant. The incident rate ratio (IRR) of .79 for total social welfare spending in estimation (5) suggests that a one percent increase in total welfare spending yields a 21 percent reduction in the number of incidents perpetrated by a country's citizens in a six year period. For total and total transnational incidents taking place in a country, the effects are more modest: a one percent increase in total welfare spending eliciting a 4.5 percent reduction in transnational incidents between 1991 and 1998, and 10.1 percent reduction in total incidents between 1998 and 2003.

These results are robust to other specifications (not shown), such as zero-inflated negative binomial regression that yields even stronger support for the argument. They are also robust to most of the disaggregated measures of social policy: social security spending is significantly negatively related to all measures of terrorism in the base (and full models); health spending is significant negative for base models of total incidents and transnational incidents by perpetrator, though not significant for transnational incidents in country (or for full models); and education spending is significantly negatively related to total transnational incidents in country in both the full and base models, and to total incidents in country in the full model. Finally, the results are not sensitive to exclusion of particular countries, such as outliers that one might expect to strongly effect results with such dispersed count data for all the measures of terrorist incidents.¹⁷

Supplemental regressions of the individual effects for terrorism of income inequality, national wealth, and religious intensity, suggest further that the hypothesized mechanisms by which social policy matters for terrorism also have the expected effects: Appendix Table Three shows, for instance, that Gini scores consistently and positively correlate with all measures of terrorism; GDP per-capita has more unstable but generally negative effects; and the frequency of attending religious services outside of weddings, funerals and baptisms correlates significantly positively with transnational incidents in countries and by their citizens, though not significantly with total incidents in countries. And as the argument above would predict, running these intervening conditions with the measures of total social welfare spending tend to reduce the substantive negative effect of the latter, often to levels of insignificance. We have, thus, some cross-sectional

¹⁷ The outliers vary per measure of terrorism, of course. But taking the high-count countries individually or in pairs out of the regression sample leaves the results for social policy intact for all three measures of incidents. The only exception is removing UK from the base model estimation of transnational incidents taking place on country soil, where the coefficient for social welfare drops just under the .1 level of significance.

evidence that social welfare reduces total and transnational terrorism in countries, and transnational terrorism perpetrated by those brought-up in countries with more social welfare spending.

3.6. Pooled Time-series Cross-section of Transnational Incidents in Countries

A second test of the argument focuses on a pooled time-series cross-section of transnational terrorist incidents in countries (the first measure of terrorism discussed in the cross-sections above) for 95 countries annually observed from 1975-95, many times multiplying the total number of country-year observations. Table Two shows the benchmark model on this panel, with negative binomial regression using robust standard errors clustered over countries, on a range of measures of social welfare spending, the full set of controls, lagged dependent variable, and regional dummies. In most respects, the results are similar to the cross-sectional estimations. Alpha measures of dispersion clearly suggest that the data displays over-dispersion that argues in favor of negative binomial regression. And like the controls in the cross-sectional analysis, population (logged) is the strongest predictor of transnational incidents, with highly significant and positive coefficients, whichever face of welfare effort is being tested. GDP per capita tends to be negative but insignificant, though taking the social policy measures out of the estimations often allows GDP per capita to reach standard levels of significance. Government capacities tend again to be significantly positively related to incidents, while conflict tends to be insignificantly negative. And trade openness tends to be negative though insignificant, consistent with other panel studies (Li and Schaub, 2004). The biggest changes are with Left parties and Democracy: Left partisanship relates significantly negatively to incidents, with or without social policy or other parameters in the estimations, a result more consistent with the argument above but in contrast to the cross-sectional estimation. Levels of democracy tend to be significantly positively related to terrorist incidents, consistent with many other panel estimates of terrorism, perhaps reflecting bias in reporting or the tendency of terrorist groups to have more capacities for organization in democracies (c.f. Li and Schaub, 2004). Finally, both the year and regional dummies are highly jointly significant.

Most importantly, most measures of social policy effort correlate significantly negatively with transnational incidents. This applies for the most encompassing measure, total revenue, as well as for social security, health, the combination of social security and health (“total transfers”) and the total welfare spending measure (public spending on education along with social security and health spending). The only measure that does not reach significance is public spending on

Table 2: Pooled Time-series Cross-section of Transnational Terrorist Incidents in Countries (Benchmark)

	(1)	(2)	(3)	(4)	(5)	(6)
Total Revenue t_{-1}	-0.022** (2.43) [.979]					
Social Security t_{-1}		-0.048** (2.17) [.953]				
Health t_{-1}			-0.087** (2.03) [.916]			
Total Transfers t_{-1}				-0.046** (2.54) [.955]		
Education t_{-1}					-0.025 (1.17)	
Total Welfare t_{-1}						-0.029** (2.03) [.972]
Left Government t_{-1}	-0.246** (2.39)	-0.256** (2.44)	-0.266*** (2.58)	-0.244** (2.31)	-0.212* (1.88)	-0.214** (2.14)
GDP per capita (log) t_{-1}	-0.084 (0.64)	-0.097 (0.76)	-0.076 (0.62)	-0.058 (0.46)	-0.326*** (2.67)	-0.211* (1.78)
Democracy t_{-1}	0.023** (2.06)	0.023** (1.97)	0.022* (1.88)	0.023* (1.96)	0.034*** (2.82)	0.033*** (2.69)
Population (log) t_{-1}	0.248*** (3.67)	0.250*** (3.70)	0.230*** (3.42)	0.246*** (3.69)	0.240*** (3.11)	0.231*** (3.18)
Govt. Capacity t_{-1}	0.496** (2.02)	0.547** (2.21)	0.419* (1.84)	0.510** (2.08)	0.663*** (3.05)	0.606*** (2.73)
Conflict t_{-1}	-0.104 (0.67)	-0.071 (0.41)	-0.070 (0.43)	-0.057 (0.34)	-0.102 (0.57)	-0.083 (0.48)
Trade Openness t_{-1}	0.000 (0.19)	-0.002 (0.80)	-0.002 (0.96)	-0.002 (0.86)	-0.002 (1.18)	-0.002 (1.08)
Incidents t_{-1}	0.082*** (6.21)	0.084*** (6.34)	0.086*** (6.34)	0.085*** (6.54)	0.076*** (5.11)	0.070*** (5.77)
Constant	-2.251 (1.64)	-2.731** (2.07)	-2.409* (1.81)	-2.874** (2.17)	-0.689 (0.48)	-1.231 (0.93)
Regional Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Joint signif. (Chi-sq)	24.67***	22.27***	21.98***	24.14***	18.05***	26.37***
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Joint signif. (Chi-sq)	89.46***	88.99***	93.25***	90.37***	75.54***	75.12***
Wald- χ^2	402.42	400.31	415.42	418.36	376.05	437.43
α	1.12***	1.13***	1.28***	1.12***	1.03***	.943***
Observations	1779	1779	1779	1779	1273	1193

Negative binomial regression, with robust standard errors clustered over countries (z statistics in parentheses) [incident rate ratios in brackets].

Dependent Variable: Total transnational terrorist incidents in country (ITERATE)

Total Revenue, Social Security, Health, Total Transfers (Health + Soc. Sec.), (%GDP) 1975-95 (POFED 2000); Education (%GDP), 1980-95 (WDI 2002); Total Welfare Spending (Soc. Sec.+Health+Education) (% GDP), 1980-95;

Left Party, 1=Left party controls government (0 otherwise) (DPI 2001);

GDP per capita, logged (Penn World Tables 6.1);

Democracy, extent of democracy rating (Polity IV);

Population, logged (UN);

Government Capacity, index of wealth, military spending and personnel, share of world population and energy consumption, 1990-95 average (Li and Schaub 2004);

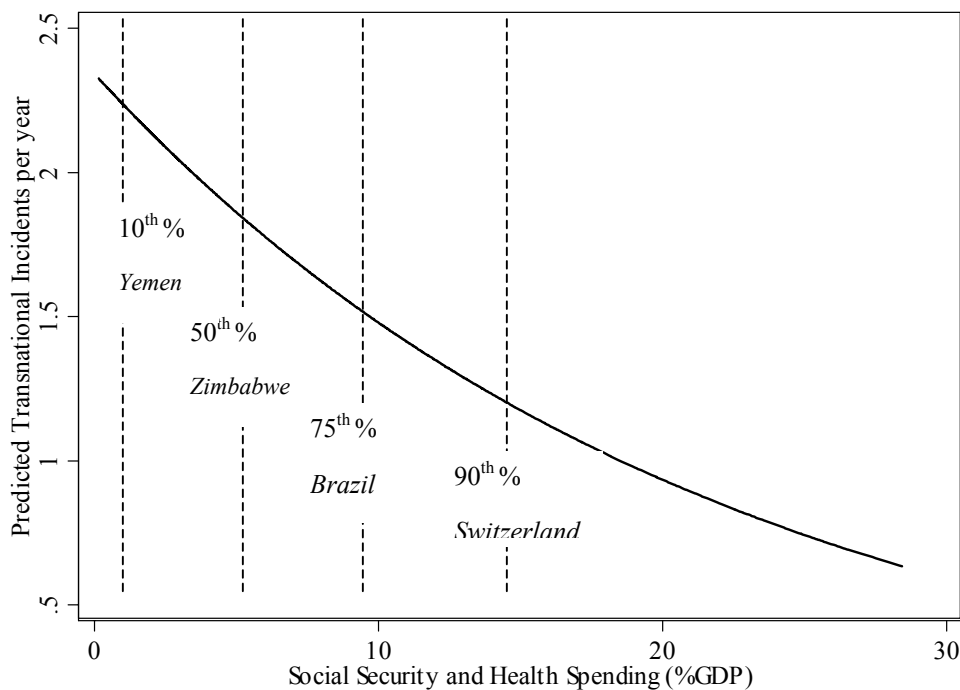
Conflict, 1=country in international conflict (0 otherwise) (Gleditsch et.al.2000);

Trade openness, imports plus exports as % GDP, logged, (Li and Schaub 2004);

Regional dummies for Africa, Asia, Americas, and Europe (Middle East is excluded region).

* significant at 10%; ** significant at 5%; *** significant at 1% or lower

Figure 4: Predicted Effects of Social Security and Health Spending on Transnational Incidents (in sample)



education, surprising given the expectation that spending on education and health ought to make a bigger difference, especially in developing countries, for inequality and poverty. On the other hand, of all the component of social policy, health spending *does* have the strongest negative effect.

The substantive size of all these effects are relatively modest, however, as captured by the IRR statistics and simple simulation. As the IRR entry in column (1) shows (in brackets), a one-percent GDP increase in total revenue predicts a 2 percent decrease in annual transnational incidents. And for health spending (Column (3)), a one percent of GDP increase elicits a little more than an 8 percent decrease in annual transnational terrorist incidents. Another way to picture the scale of these effects is to simulate how rising social security and health expenditures reduces terrorist incidents on the basis of the in-sample predictions of fitted model, holding all other parameters at their mean. Figure Four shows the results of such counter-factual simulation for total transfers (social security plus health expenditures), with lines for percentile distribution points and country examples (based on sample means) for reference. As this shows, moving from the 10th to the 50th percentile of the sample – comparable to moving from the 1975-95 average spending of Yemen (1.04 percent of GDP), to that of Zimbabwe (3.31 percent of GDP) – predicts a reduction of

about 10 percent, from 2.25 annual transnational incidents to roughly 2 annual incidents per year. The substantive effects are, thus, modest, but significant enough to make a difference for the security and economic conditions of a country – where we know a couple of serious terrorist attacks can do massive damage.

Table Three, furthermore, gives some indication that these results are robust and insensitive to a range of alternative estimations of how total spending on social security and health affect transnational terrorism. These robustness tests can be compared with benchmark model in Table Two (column (4)).¹⁸ Column (1) of Table Three shows the results of running the total transfers with education spending in the same estimation, as opposed to the disaggregated approach in the base model. Here, the results do not change, with the transfers significantly negative and the education spending not.¹⁹ Column (2) of Table Three shows the results of zero-inflated negative binomial regression, where the substantial proportion of zero-events in the sample – as much as 43 percent in the case of combined social security and health expenditures (766 of 1779 observations). Here, goodness-of-fit tests suggest that the best-performing model includes lagged incidents, population and government capacity in the inflated-zeros logit.²⁰ The result is more highly significant negative effects of social security and health expenditures than the benchmark, as is true if one runs this or other variants of the zero-inflation model on other measures of welfare effort.

Columns (3) and (4) show the results of the benchmark model without the lagged dependent variable. With the robust standard errors clustered over countries, total spending on social security and health is still negative, but drops below standard levels of statistical significance – as is true of most measures of social welfare in such estimations, except for education and total welfare, where significance still prevails. Column (4) also shows the results without the lagged dependent variable, and without the clustering over countries for the robust standard errors.

¹⁸ I use this measure of social welfare effort because social security and health form the largest part of traditional welfare, and the measures here are taken from the same source and are available for the full 1975 to 1995 period, whereas measures of education and of total welfare combine education with the transfers measures and are available only from 1980 to 1995. The robustness tests for alternative measures yield similar results to those discussed.

¹⁹ The results are similar if one runs social security or health spending with education spending, though the significance level for health goes down somewhat as a result. Running social security and health spending together yields a multicollinearity problem, one indicator of which is their correlation coefficient of .58 in the sample.

²⁰ In such zero-inflated negative binomial regression, the model runs separate regressions on the sample: a standard negative binomial regression on the non-zero observations and a logit regression on the zero's to judge how parameters predict zero-counts. Thus, coefficients for the inflation logit and the standard negative binomial regression ought to be in opposite directions. The estimation shown provides the best-performing zero-inflation model relative to the benchmark. But the results of alternative estimations, with other or all parameters in the inflation model, yield similar results in terms of significance and negative sign of social welfare measures on terrorist incidence. See Long (1997).

Table Three: Robustness Tests of Pooled Analysis

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Total Transfers_{t-1} (Social Security+Health)	-0.04 (2.18)	-0.037*** (2.81)	-0.039 (1.44)	-0.039*** (3.46)	-0.030** (2.25)	-0.032* (1.86)	-0.021* (1.80)
Education_{t-1}	-0.009 (-0.55)						
Left Government _{t-1}	-0.218** (2.14)	-0.247*** (2.78)	-0.305** (2.08)	-0.305*** (3.39)	-0.196* (1.87)		0.148* (1.94)
GDP per capita (log) _{t-1}	-0.19 (1.54)	-0.077 (0.75)	-0.038 (0.20)	-0.038 (0.44)	0.090 (0.91)		0.147 (1.47)
Democracy _{t-1}	0.031** (2.59)	0.020** (2.02)	0.033** (2.12)	0.033*** (3.95)	0.022** (2.26)		0.054*** (7.19)
Population (log) _{t-1}	0.234*** (3.28)	0.147*** (2.76)	0.434*** (4.98)	0.434*** (12.36)	0.213*** (3.38)	0.279*** (5.34)	-0.021 (0.41)
Government Capacity _{t-1}	0.618*** (2.74)	0.322* (1.85)	0.691* (1.85)	0.691*** (3.88)	0.848*** (3.96)		0.122 (1.01)
Conflict _{t-1}	-0.063 (0.36)	-0.076 (0.51)	-0.189 (1.08)	-0.189 (1.13)	-0.068 (0.33)		-0.099 (0.70)
Trade Openness _{t-1}	-0.002 (1.15)	-0.002 (1.25)	-0.002 (0.73)	-0.002 (1.47)	-0.003** (2.01)		-0.002 (0.86)
Incidents _{t-1}	0.071*** (5.76)	0.069*** (7.38)			0.094*** (6.28)	0.103*** (6.96)	
Inflate (Logit)							
Incidents _{t-1}	--	-1.514*** (5.61)	--	--	--	--	--
Population (log) _{t-1}	--	-0.324*** (3.21)	--	--	--	--	--
Government Capacity _{t-1}	--	-0.875** (2.03)	--	--	--	--	--
Inflate Constant	--	5.843*** (3.77)	--	--	--	--	--
Regional Dummies	Yes	Yes	Yes	Yes	No	Yes	No
Joint significance (Chi-sq)	26.4***	20.80***	23.76***	119.9***		41.11***	
Year Dummies	Yes	Yes	Yes	Yes	No	Yes	Yes
Joint significance (Chi-sq)	75.63***	83.93***	82.85***	52.86***		58.34***	88.81***
Country Dummies	No	No	No	No	No	No	Yes (95)
Constant	-1.563 (1.14)	-0.615 (0.56)	-5.898*** (3.35)	-5.898*** (7.14)	-4.148*** (3.62)	-3.571*** (4.32)	-0.485 (0.44)
Wald- χ^2	440.39	442.57	265.39	649.55	175.7	347.45	156.79
α	.942***	.759***	1.61***	1.61***	1.32***	1.34***	--
Observations	1193	1779	1779	1779	1779	2250	1761

Zero-inflated or standard negative binomial regression, robust standard errors clustered over countries (z statistics in parentheses).

Dependent Variable: Total transnational terrorist incidents in country (ITERATE)

Total Transfers (Health + Soc. Sec.), (%GDP) 1975-95 (Kugler et al., 2000);

(1) Benchmark estimation (Table Two, column (4)) with Education spending

(2) Benchmark, with zero-inflated negative binomial regression

(3) Benchmark without lagged dependent variable

(4) Benchmark without lagged dependent variable or clustering over countries

(5) Benchmark without regional or year dummies

(6) Benchmark with only log population as control

(7) Benchmark in full fixed effects negative binomial regression, without lagged dependent variable

*** significant at 10%; ** significant at 5%; *** significant at 1% or lower**

Here, as with all estimations with such robust standard errors, the welfare's effects for terrorist incidence are more significantly negative than the benchmark models.

Columns (5) and (6) show results without dummies or with fewer substantive controls. Column (5) shows the results of the benchmark model without year or regional dummies, where social security and health spending have effects for terrorist incidents very similar to the benchmark model. Column (6) shows the results of a model with no substantive controls except logged population, the strongest predictor of terrorist incidents and uncorrelated with social welfare expenditures. The results weaken the coefficient and significance of social security and health spending, but such spending retains at least a 10 percent level of significance. Adding other controls in a stepwise procedure strengthens the negative effects of social welfare, becoming strongest until inclusion of GDP per capita, whose collinearity with social transfers leads to a somewhat weakening effect, as reported in the benchmark model.²¹

Finally, Column (7) shows the results of a full fixed effects model with dummies for all 95 countries in the panel, and without the lagged dependent variable. Here, social security and health expenditures retains sign and significance, though is weaker than the benchmark model.²² A few other robustness and sensitivity tests not shown are worth mentioning. First, splitting the sample by level of development yields comparable results if one focuses only on developing countries, and weaker if one focuses only on OECD countries, perhaps representing the much-reduced degrees of freedom in the latter (though, interestingly, education becomes strongly negatively significant). Second, considering all estimations on only the non-zero observations – worth considering given that transnational terrorism is a rare event with a high zero-count – we get actually stronger results in favor of expectation for all measures of social welfare except for health expenditures. And third, running estimations by sequentially dropping outlier countries also does not change significance levels or signs of coefficients for social welfare expenditures.

Altogether, then, it is fair to say that the results presented in the benchmark model are stable and supportive of the argument. Net of a range of political and economic conditions that existing

²¹ GDP per capita is most correlated with social transfers (.66 correlation coefficient in the sample), with a VIF score over 4. Running the benchmark model without per-capita GDP lowers mean VIFs and strengthens coefficients and significance for social spending. The mean VIF for the Column (6) is under 2; that for the benchmark just over 2.

²² Running this fixed effects model with the lagged dependent variable yields significantly stronger negative coefficients for the measures of social security and health, comparable to the benchmark model. And running a random effects model also yields more strongly significant and negative coefficients for social welfare spending measures.

scholarship tells us affect terrorism, most measures of social welfare effort, robust to a range of estimation strategies, correlate with modest reductions in the incidence of transnational terrorism.

4. CONCLUSION

This article has provided logic and evidence to believe that more generous social welfare provisions will tend to reduce terrorism. A range of social welfare policies tend to reduce economic insecurity, religious-political extremism, income inequality, and poverty – in turn off-setting welfare’s possible tendency to increase capacities to organize terror. The end result is that countries with more generous welfare provisions can be expected, on balance, to suffer less transnational and total terrorism on their soil and to have fewer of their citizens perpetrate terrorism. Indirect evidence for this hypothesis lies in how welfare tends to reduce inequality, insecurity, and poverty, and how these patterns in turn correlate positively with terrorism. The empirical focus here, however, has been on how welfare spending *directly* correlates with terrorism, whatever the intervening links: cross-sectional evidence that total welfare effort reduces total and transnational terrorism in countries, and significant transnational terrorism by those from higher-welfare settings; and pooled-cross-section time-series evidence that a range of measures of welfare effort reduce incidence of transnational terrorism in countries. Although this evidence suggests that the substantive effects are modest, it is consistent, robust and significant enough to justify the conclusion that social policy reduces risk of a rare but menacing security threat.

Such a conviction, however, is as much a call for further research as a research conclusion. With respect to the argument, we need to better understand how particular kinds of social policies in particular national or regional settings affect inequality, poverty, insecurity, and religious-political extremism – and how such policies may affect political consciousness relevant to terrorist action. For instance, do social transfers and services targeted at the poorest groups have different political effects than less targeted but perhaps financially larger welfare provisions that might improve broader social solidarity? How might less welfare-oriented aspects of the public economy, like defense or industry subsidies, compare with explicitly social welfare provisions? And how might foreign aid that can substitute for social policies in developing countries make a difference – providing terror-reducing social policy “from without?” As for empirics, there is much to be done to test and extend the argument – beyond the obvious need to look for more and better measures of social welfare effort and of terrorism. For instance, quantitatively we might more directly

investigate not only whether economic conditions or policies matter net of various political conditions, but also what the relative weight of these conditions are in shaping transnational or other terrorism. More obviously and importantly, qualitative case comparisons could more deeply test how social policy affects terrorism – for instance analyzing the process of how groups in similar political-institutional settings but with varying access to basic social services might make different political choices.

Despite being part of an ongoing research agenda, however, the article offers enough logic and evidence that more generous social policy can reduce risks of terrorism to have important policy implications. The obvious implication is that the development and maintenance of social safety nets should be a part of national strategies to fight terrorism on one's own soil or elsewhere. Both developing and developed countries should try to maintain and improve their own social policies as part of insurance programs against terrorist extremism – whatever the social or political goals served by such. Developed countries, furthermore, should devise their economic aid and structural adjustment programs to help develop, or at least not undermine, social policy interventions – whatever the humanitarian goals served. It is important to emphasize that these recommendations hold, whatever else a country tries to do to address terror. It may be that the economic conditions generally, and social policy in particular, are less important to fighting terrorism than political and military conditionality, containment and confrontation – perhaps even the controversial and aggressive combination of preventive war and nation-building that inform the Bush Administration's "Wilsonianism in boots" (Hassner 2002). Whatever one's opinion on this or any other form of direct political confrontation, one must consider that support for social policy at home and abroad may well be a critical part of the fight.

REFERENCES:

Adserà, Alicia and Carles Boix. (2002). "Trade, Democracy, and the Size of the Public Sector: The Political Underpinnings of Openness." *International Organization* 56(2): 229-262.

Alesina, Alberto and Perotti. (1993). "Income Distribution, Political Instability, and Investment," NBER Working Paper No. w4486.

Allan, James P. and Lyle Scruggs. (2004). "Political Partisanship and Welfare State Reform in Advanced Industrial Societies," *American Journal of Political Science* 48 (3) (July).

Auvinen, Juha and E. Wayne Nafziger. (1999) "The Sources of Humanitarian Emergencies," *Journal of Conflict Resolution* 43(3) (June): 267-90.

----- (2003). *Inequality and War: Humanitarian Emergencies in Developing Countries*. London: Palgrave Macmillan.

Barrientos, Armando and Peter Lloyd-Sherlock. (2002) "Non-contributory Pensions and Social Protection," *Issues in Social Protection series, International Labor Organization*. Geneva: ILO.

Barro, Robert. (2000). "Inequality and growth in a panel of countries," *Journal of Economic Growth* 5 (1) (March): 5-32.

Barro, Robert and Jong-Wha Lee. (1993) "Losers and Winners in Economic Growth," NBER Working Paper No.4341.

Becker, Gary S. (1968). "Crime and Punishment: An Economic Approach," *The Journal of Political Economy*, 76(2), Mar. - Apr., 1968, pp. 169-217.

Beck, Thorsten, George Clarke, Alberto Groff, Philip Keefer, and Patrick Walsh. (2001) "DPI. 2001: New tools and new tests in comparative political economy: The Database of Political Institutions," *Published in World Bank Economic Review*.

Beck, Nathaniel and Jonathan N. Katz. (1995). "What to do (and not to do) with time-series cross-section data," *American Political Science Review* 89(3): 634-47.

Benabou, R. (2002) "Tax and Education Policy in a Heterogeneous Agent Economy: What Levels of Redistribution Maximize Growth and Efficiency?," *Econometrica*, 70(2) (March): 481-517

Benabou, R. (1997) *Inequality and Growth*. NBER Macroeconomics Annual. Cambridge, England: National Bureau of Economics Research.

Berman, Eli. (2003) " Hamas, Taliban, and the Jewish Underground: An Economist's View of Radical Religious Militias," UCLA mimeo.

----- (2000) "Sect, Subsidy, and Sacrifice: An Economist's View of Ultra-Orthodox Jews," *Quarterly Journal of Economics* 65(3): 905-953.

Birdsall, N., and E. James. (1990). "Efficiency and equity in social spending: Why governments misbehave," *Working Paper Series 274* (May). Washington, DC: The World Bank.

Birdsall, N., D. Ross, and R. Sabot. (1995) "Inequality and growth reconsidered: Lessons from East Asia," *World Bank Economic Review* 9(3):477-508.

Cameron, David. (1978). "The Expansion of the Public Economy: A Comparative Analysis," *American Political Science Review* 72: 1243-61.

Caminada, Koen and Kees Goudswaard. (2000) "International Trends in Inequality and Social Policy." The Year 2000 International Research Conference on Social Security Helsinki, 25-27 September 2000

Cantillon, Bea, Ive Marx, and Karel van den Bosch. (2002). "Welfare, Social Protection, Labour Markets and Poverty: Lessons from Cross-Country Comparisons," 9th International Congress of the Basic Income European Network, Geneva (September 12-14).

Castro-Leal, Florencia, Julia Dayton, Lionel Demery, Kalpana Mehra. (1999) "Public Social Spending in Africa. Do the Poor Benefit?," *The World Bank Research Observer* 14 (1) (February): 49-72

Chakraborty, Lekha S. (2002). "Public Expenditure and Human Development: An Empirical Investigation." Mimeo National Institute of Public Finance and Policy

Chen, Daniel. (2003). "Economic Distress and Religious Intensity: Evidence from Islamic Resurgence During the Indonesian Financial Crisis," PRPES Working Paper #39.

Deininger, K. and L. Squire (1997). "Economic growth and income inequality: reexamining the links," *Finance and Development* (March): 38-41

----- (2002) Measuring Income Inequality: A New Database. Economic Growth Research, World Bank Group. <http://www.worldbank.org/research/growth/dddeisqu.htm>

Dollar, D. and Kraay, A. (2000) "Growth is good for the poor" <http://www.worldbank.org/research>.

Ehrlich, Paul R.; Liu, Jianguo. (2002) "Some Roots of Terrorism," *Population and environment* 24 No.2: 183-192.

Enders, Walter, and Todd Sandler. (1999). "Transnational terrorism in the post-cold war era," *International Studies Quarterly* 43: 145-67.

----- (2001). "Terrorism: Theory and Applications," in K.Hartley and T. Sandler, eds., *Handbook of Defense Economics Volume 1, Chapter 9*. North-Holland

Fearon, James and David Laitin. (2003) "Ethnicity, Insurgency, and Civil War," *American Political Science Review* 97 (1) (February): 75-90

Garrett, G. (2000), "Globalization and Government Spending around the World", *Estudio/Working Paper/2000/155*.

Gerring, John and Strom Thacker. (2003). "Social Democracy, Liberalism, and Human Development," <http://www.bu.edu/sthacker/IMRpolicy.pdf>

Gleditsch, Nils Petter, Peter Wallensteen, Mikael Eriksson, Margareta Sollenberg, and Håvard Strand. (2002). "Armed conflict 1946-2001: A new dataset," *Journal of Peace Research* 39: 615-37.

Graham, Carol. (1998). "From Safety Nets to Social Policy: Lessons for the Transition Economies from the Developing Countries," in Joan M. Nelson, Charles Tilley, and Lee Walker, eds., *Transforming Post-communist Political Economies*. National Academies Press.

Green, Donald P., Jack Glaser, and A. Rich. (1998). "From lynching to gay-bashing: The elusive connection between economic conditions and hate crime," *Journal of Personality and Social Psychology*, 75: 82-92.

Greene, W. H. (1994). "Accounting for Excess Zeros and Sample Selection in Poisson and Negative Binomial Regression Models." Working paper, Stern School of Business, NYU EC-94-10.

Gruber, Jon (2003) "Pay or Pray: The Impact of Charitable Subsidies on Religious Participation," MIT mimeo.

Gupta, Sanjeev, Marijn Verhoeven and Erwin Tiongson. (2001) "Public Spending on Health Care and the Poor," *IMF Working Paper* WP/01/127.

Gurr, T.R. (1970). *Why Men Rebel*. Princeton, NJ: Princeton University Press.

Hassner, Pierre. (2002). "The United States: The Empire of Force or the Force of Empire?" Chaillot Papers No. 54, Paris: Institute for Security Studies, European Union (September).

Heston, Alan, Robert Summers and Bettina Aten. (2002). "Penn World Table Version 6.1," Center for International Comparisons at the University of Pennsylvania (CICUP), (October).

Johnson, A. (2001) Disparities in wealth are seen as fuel for terrorism. *International Herald Tribune* (December 20).

Justino, Patricia. (2003) Social Security in Developing Countries: Myth of Necessity? Evidence from India. *University of Sussex Poverty Research Unit*.

Kaus, Mickey. (2001). "Does Welfare Cause Terrorism? You knew Mickey's Assignment Desk would come to this," Slate (December 17): <http://slate.msn.com/?id=2059799>

Kugler, Jacek, Yi Feng and Paul J. Zak. (2002). "Politics of Fertility And Economic Development (POFED)." NATIONAL SCIENCE FOUNDATION GRANT (Grant Ref. No.: SBR-9730474) 1998-2001 The Political Economy of Growth, Migration and Fertility, Principal Investigators:

Kenworthy, Lane. (1999) "Do Social-Welfare Policies Reduce Poverty? A Cross-National Assessment," *Social Forces* 77 (3): 1119-1139

Korpi, Walter, and Joakim Palme. (1998) "The Paradox of Redistribution and Strategies of Equality: Welfare State Institutions, Inequality, and Poverty in the Western Countries." *American Sociological Review* 63: 661-687.

----- (2003). "New Politics and Class Politics in the Context of Austerity and Globalization: Welfare State Regress in 18 Countries, 1975-95." *American Political Science Review* 97 (3):425-46.

Katzenstein, Peter. (1985). *Small States in World Markets: Industrial Policy in Europe*. Ithaca: Cornell University Press.

Krueger, Alan B. and Jitka Maleckova. (2004). "Education, Poverty and Terrorism: Is There a Causal Connection?," *Journal of Economic Perspectives*. Vol.17, No.4: 119-44.

Krueger, Alan and David Laitin. (2004). "Faulty Terror Report Card," *Washington Post* (May 17), A21.

Krueger, Alan and Jörn-Steffen Pischke. (1997) "A Statistical Analysis of Crime Against Foreigners in Unified Germany," *Journal of Human Resources* 32 (1) (Winter): 182-209.

Landau, David. (1993) *Piety and Power, the World of Jewish Fundamentalism*. New York: Hill and Wang.

Lanjouw, Peter, Menno Pradhan, Fadia Saadah, Haneen Sayed, and Robert Sparrow. (2001). "Poverty, Education and Health in Indonesia: Who Benefits from Public Spending?" http://econ.worldbank.org/files/3184_wps2739.pdf

Li, Quan and Drew Schaub. (2004) "Economic Globalization and Transnational Terrorist Incidents: A Pooled Time-Series Cross-sectional Analysis," *Journal of Conflict Resolution* 48, No.2 (April).

Lindert, Peter H. (2004) *Growing Public: Social Spending and Economic Growth Since the Eighteenth Century. Volumes I and II* Cambridge, UK: Cambridge University Press.

Long, J. S. (1997). *Regression Models for Categorical and Limited Dependent Variables*. Thousand Oaks, CA: Sage Publications

Lustig, Nora Claudia and Daryl McLeowd. (1997) "Minimum Wages and Poverty in Developing Countries: Some Empirical Evidence," in Sebastian Edwards and Nora Lustig, eds, *Labor Markets in Latin America*. Washington, DC: Brookings Institution Press.

Milanovic, Branko, and Ethan Kapstein. (2003) *Income and Influence: Social Policy in Emerging Market Economies*. MN: W.E.Upjohn Institute

Marshall, Monty G., and Keith Jagers. (2000). "Polity IV project: Political regime characteristics and transitions, 1800-2000 dataset users manual."
<http://www.bsos.umd.edu/cidcm/inscr/polity/index.htm#data>.

Mickolus, Edward F. (1982). *International terrorism: Attributes of terrorist events, 1968-1977 (ITERATE 2)*. Ann Arbor, MI: Inter-University Consortium for Political and Social Research.

Mickolus, Edward F., Todd Sandler, Jean M. Murdock, and Peter Fleming. (1989). *International terrorism: Attributes of terrorist events, 1978-1987 (ITERATE 3)*. Dunn Loring, VA: Vinyard Software.

Mickolus, Edward F., Todd Sandler, Jean M. Murdock, and Peter Fleming. (1993). *International terrorism: Attributes of terrorist events, 1988 – 1991 (ITERATE 4)*. Dunn Loring, VA: Vinyard Software.

Mickolus, Edward F., Todd Sandler, Jean M. Murdock, and Peter Fleming. (2002). *International terrorism: Attributes of terrorist events, 1991 – 2000 (ITERATE 5)*. Dunn Loring, VA: Vinyard Software.

MIPT-RAND. (2004). Terrorism Incident Database, 1968-2003.
http://db.mipt.org/rep_inrg_rep.cfm

Moore, Will H. , Ronny Lindström and Valerie O'Regan. (1996) "Land Reform, Political Violence and the Economic Inequality--Political Conflict Nexus: A Longitudinal Analysis," *International Interactions* 21(4): 335-363.

Nafziger, E. Wayne. (2003). *Economic development, inequality, and war: humanitarian emergencies in developing countries*. London: Palgrave Macmillan.

Paxson, Christina. (2002). "Comment on Alan Krueger and Jitka Maleckova, 'Education, Poverty, and Terrorism: Is There a Causal Connection?'" Mimeo, Princeton University (May).

RAND-MIPT Terrorism Database. http://db.mipt.org/rand_tidb.cfm

Rodrik, Dani. (1998). "Why do more open economies have bigger governments?" *Journal of Political Economy* 106(5): 997-1032.

- Rueda, David and Jonas Pontusson. (2000) "Wage Inequality and Varieties of Capitalism," *World Politics*, 52 (April): 350-83.
- Sandler, Todd. (1997). The future challenges of NATO: An economic viewpoint. *Defense and Peace Economics* 8: 319-53.
- Sandler, Todd, and Harvey E. Lapan. (1988). The calculus of dissent: An analysis of terrorist' choice of target. *Synthese* 76:245-61.
- Smeeding, Timothy. (2002) "Globalization, Inequality and the Rich Countries of the G-20: Evidence from the Luxembourg Income Study (LIS). *LIS Working Paper No.320*.
- Townsend, Robert M. (1994) "Risk and Insurance in Village India," *Econometrica*, 62(3): 539-591.
- Tyson, Laura. (2001) "It's Time to Step Up the Global War on Poverty" *Business Week*, (Dec. 3).
- Van de Walle, Dominique and Kimberly Nead. (1995) *Public spending and the poor : theory and evidence*. Baltimore : The World Bank [by] the Johns Hopkins University Press
- Van der Walle, Dominique. (1996) "Assessing the Welfare Impacts of Public Spending." World Bank Policy Research Paper 1670.
- Vuong, Q. (1989). Likelihood ratio tests for model selection and non-nested hypotheses. *Econometrica*, 57, 307-334.
- Wolfensohn, James D. (2002) "Fight Terrorism By Ending Poverty," *New perspectives quarterly*. vol. 19, (2) (01 04), p.42 (3)
- US State Department. various years. *Patterns of Global Terrorism*. online versions: <http://www.state.gov/s/ct/rls/pgtrpt/>
- US White House. (2002) *National Security Strategy of the United States*. (Government Printing Office: Washington, D.C.) (September 17).
- Williams, Rick L. (2000). A note on robust variance estimation for cluster-correlated data. *Biometrics* 56: 645-46.
- World Bank. (2004). *World Development Indicators Database*. Online version <http://devdata.worldbank.org/edstats/cd5.asp>
- World Values Study Group. (2000) World Values Survey, 1981-1984, 1990-1993, 1995-97 [Computer file]. ICPSR version. Ann Arbor, MI: Institute for Social Research.

Appendix Table 1: Summary Statistics for Cross-sectional Analysis

Variable	Obs	Mean	Std. Dev.	Min	Max
Total Transnational Incidents in Country (1991-98)	141	18.28	35.93	0	281
Total Incidents in Country (1998-2003)	152	46.68	149.58	0	1099
Significant Incidents by Country (1996-2001)	196	3.11	11.54	0	99
Total Welfare Spending (%GDP) (1990-96 mean)	113	10.89	7.29	1.65	32.01
Left government (% years 1990-95)	171	0.34	0.39	0	1.00
GDP per capita (log) (1990-94)	174	8.27	1.07	5.86	10.44
Democracy (median) 1990-94)	191	4.52	2.26	-10	10
Population (log) 1975-95 mean	170	1.63	1.79	-2.30	5.54
Government Capacity (1991-95 mean)	121	0.66	0.36	0.04	1.79
Conflict (% years 1991-95)	141	0.04	0.09	0.00	0.67
Trade Openness (log) (% GDP 1985-95)	158	-0.46	0.58	-1.96	1.19

Appendix Table 2: Summary Statistics for Pooled Time-series Cross-section Analysis

Variable	Obs.	Mean	Std. Dev.	Min	Max
Total Transnational Incidents in Country	3045	2.824	7.890	0	180
Total Revenue (% GDP)	2436	24.56	12.86	2.08	94.97
Social Security (% GDP)	2436	3.73	4.71	0	21.83
Health (% GDP)	2436	2.12	1.72	0.09	9.5
Total Transfers (Social Security+Health) (% GDP)	2436	5.85	5.89	.14	28.44
Education (% GDP)	1766	4.41	2.42	0.27	41.78
Welfare (% GDP)	1523	10.86	7.2	0.71	42.6
Left Government	2660	0.368	0.482	0	1
GDP per capita (log)	2395	8.007	1.116	5.384	10.388
Democracy Score	2632	-0.245	7.719	-10	10
Population (log)	2916	15.688	1.731	10.995	20.910
Government Capacity	2395	0.769	0.464	0.039	3.696
Conflict	3087	0.039	0.194	0	1
Trade Openness (% GDP)	2469	72.4	48.5	3.1	439.0

Appendix Table 3: Terrorist incidents and Inequality, Wealth and Religious Intensity

	Total Transnational Incidents in Country		Total Incidents in Country		Significant Transnational Incidents By Country's Citizens	
Gini index (log)	1.441**		2.357**		2.406**	
	(2.09)		(2.01)		(2.19)	
GDP per capita (log)	-0.278*		-0.120		-1.18***	
	(1.72)		(0.46)		(3.58)	
Religious attendance		0.245		1.020***		1.429***
services		(1.08)		(2.81)		(4.01)
Population (log)	0.650***	0.673***	0.987***	1.055***	0.978***	1.181***
	(6.25)	(4.24)	(6.29)	(4.81)	(4.93)	(3.40)
Constant	-1.011	0.316	-5.125	-2.412	-0.171	-7.96***
	(0.33)	(0.31)	(1.05)	(1.14)	(0.04)	(3.19)
Regional dummies	Yes	Yes	Yes	Yes	Yes	Yes
Joint-signif. test (Chi-sq.)	44.46***	18.35***	23.21***	24.87***	11.83**	13.53**
Wald- χ^2	78.89	41.69	83.02	43.25	37.51	32.01
α	1.11***	1.0***	2.57***	2.48***	6.06***	4.57***
Observations	96	46	111	56	120	56