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On Welfare and Terror

SOCIAL WELFARE POLICIES AND POLITICAL-ECONOMIC ROOTS OF TERRORISM

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This article argues that social welfare policies may reduce international and domestic terrorism. Social policies likely affect terrorism in offsetting ways but, on balance, should diminish preferences for terrorism by reducing economic insecurity, inequality, poverty, and religious-political extremism. Thus, countries with more generous welfare provisions should suffer fewer terrorist attacks on their soil and have fewer of their citizens perpetrate terrorism. Supporting this argument, cross-sectional estimation reveals that a country's welfare efforts negatively correlate with transnational or total terrorist incidents on its soil, as well as transnational terrorism perpetrated by its citizens. Pooled cross-section time-series estimation reveals that several measures of welfare effort reduce the incidence of transnational terrorism in countries, robust to a range of estimators and controls. Such findings suggest that strengthening social policies at home and abroad may not only serve redistributive or development goals but also help combat terrorist violence.

Keywords: terrorism; terrorist; welfare state; social policy; religion; poverty; inequality; insecurity

In the rapidly evolving debate over terrorism, there is substantial division over the importance of economic conditions in fueling terrorism and the value of economic policies in fighting it. On one hand, plenty of commentary and academic scholarship suggest that economic conditions such as poverty and income inequality very much matter for terrorism by affecting levels of deprivation, feelings of injustice, and, hence, political tension—a view supported by studies of individual attitudes, actions, and aggregate patterns of terrorism (Chen 2003; Paxson 2002; Li and Schaub 2004). 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

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economic aid and through maintenance or development of welfare programs (Tyson 2001; Wolfensohn 2002).

On the other hand, plenty of intuition and scholarship points in the other direction, that economic conditions do not much matter for terrorism and hence that economic policies are largely irrelevant to fighting terrorism. The official 2002 statement of U.S. grand strategy emphasizes this view, pointing out that the terrorist attacks on September 11, 2001, were perpetrated by middle-class, educated misanthropes led by a rich religious fanatic (U.S. White House 2002). Scholarly research provides plenty to generalize this view, emphasizing how links between economic conditions and criminality may not extend to terrorism and marshalling evidence that finds weak ties between economic fortune and extremism at the individual and aggregate levels (Krueger and Maleckova 2004). These studies support views that terrorism's roots lay not in the economy but in pure politics—in clashes of civilizations, authoritarian rule, or state failure—thereby counseling antiterrorism campaigns that target terrorist groups and failed states or promote democratization.

Partly because debate on the role of economic conditions remains unresolved, there has been little attention paid to the role of social policies. For instance, studies suggesting that poverty and inequality spur terrorism imply but do not argue that social policies might mitigate both and thereby discourage terror. A few argue that weak welfare policies in some settings might strengthen religious groups fomenting fundamentalist extremism and, in turn, terrorism (Berman 2000; Chen 2003). But the broader implication of such claims—more terrorism in settings with the weakest social policies—has not yet been investigated. In any event, some commentary suggests that social policies may have the opposite effect, may disgruntle and cluster together some groups and provide them with the resources to channel their energies toward political extremism, including terrorism (Kaus 2001). We thus have a question that existing debate begs but has not yet sought to answer: how does social policy affect terrorism?

This article develops arguments and evidence to help answer this question. It argues that **social welfare policies—including social security, unemployment, and health and education spending—affect preferences and capacities of social actors in ways that, on balance, discourage terrorism: by reducing poverty, inequality, and socioeconomic insecurity, thereby diminishing incentives to commit or tolerate terrorism, and by weakening extremist political and religious organizations and practice that provide economic and cognitive security where public safety nets are lacking.**

The empirical contribution is quantitative, focused on how several measures of social policy relate to three measures of terrorism: incidents by country where total terrorism occurs, by country where total *transnational* terrorism occurs, and by country that is the nationality of perpetrators of significant transnational terrorist incidents. Cross-sectional analysis of all three measures and pooled time-series cross-sectional analysis of total transnational terrorism consistently suggest that social welfare policies correlate with fewer terrorist incidents, net of Left-party power, population size, state strength, democracy, general conflict, and other controls. Such argument and evidence provide only partial judgment of how social policy affects terrorism, but they furnish reasons to believe that maintenance and development of social policies should be part of strategies to combat terrorism.

SOCIAL WELFARE POLICIES AND TERRORISM

Understanding how social policy might affect terrorism is no simple task, as it involves unraveling how a complicated social policy realm affects the equally complicated phenomenon of terrorism. Narrowly construed, social policies include social security, unemployment, sickness, disability, health, and other policies explicitly furthering social rights. Although such policies make the “welfare state” a meaningful policy realm in industrialized countries, many developing countries lack such social policies but 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 even more complicated and less understood. Although most definitions of terrorism focus on politically motivated violence against noncombatants, there are as many definitions as definers—differing over who “noncombatants” are, what *politically motivated* means, and many other details. Within any given definition, domestic terrorism might differ from transnational terrorism (where perpetrators and victims have different nationalities). And more obviously, the roots of terrorism vary widely—nationalist struggle, ethnic strife, religious strife, separatist struggle, political-governance dispute, economic dispute, and anticolonial revolt. Any consideration of whether and how social policy affects terrorism, therefore, must reckon with this enormous diversity of terrorism as a political phenomenon.

Accepting this complexity in social policies and terrorism, the argument here is that a broad range of social policies has offsetting implications for life chances and capacities of citizens that, on balance, reduce most forms of terrorism. In particular, various social welfare policies can be expected to reduce *poverty*, *inequality*, *politico-religious extremism*, and general *economic insecurity*, thereby diminishing preferences for terrorism, but they may also increase *capacities* to organize and carry out terrorism. The balance of these implications, I shall argue, is that social policy should tend to reduce terrorism. Laying out this argument requires considering each of the links connecting social policy to terrorism, summarized in Figure 1.

THE POVERTY AND DEVELOPMENT CONNECTION

Perhaps the most obvious connection between social policy and terrorism is the role of poverty and per capita gross domestic product (GDP). But the effects of social policies for poverty and per capita GDP are heavily debated, as are the effects of poverty and development for terrorism. The very developed research on welfare and development suggests that whether and the extent to which social policy reduces poverty and promotes growth depends on particular kinds of welfare provisions—more or less targeted toward the poor, transfer- versus service-oriented welfare, universal versus targeted transfers, and unemployment versus health versus old-age provisions. Studies of Organization for Economic Cooperation and Development (OECD) welfare states suggest that welfare services and transfers reduce poverty (Korpi and Palme

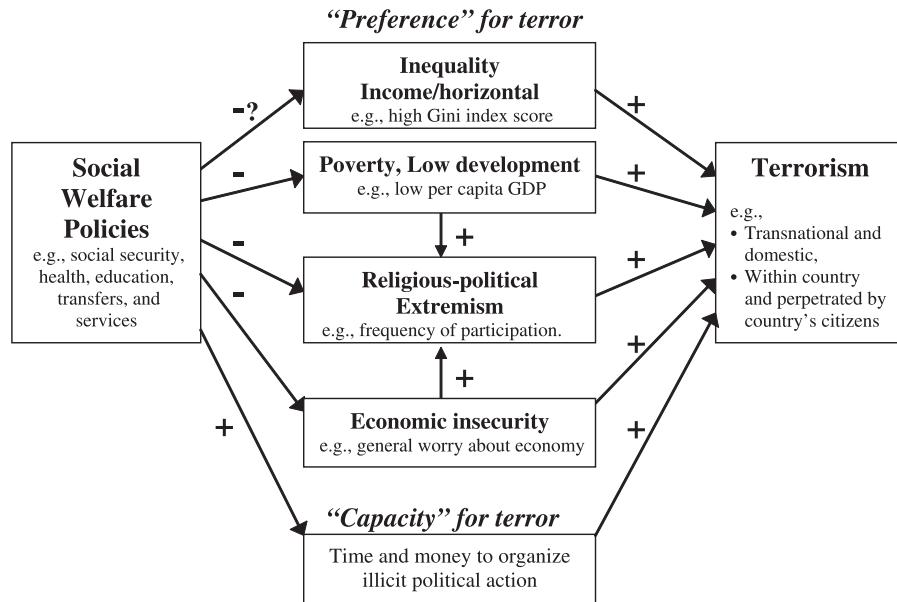


Figure 1: Social Welfare Policies and the Preferences and Capacities for Terrorism

1998) and are at least neutral if not positive for economic growth (Lindert 2004). For the developing world, however, the story is more uneven, as most social spending in these countries is on pensions and is often targeted at moderate to higher income earners in the formal economy, not the poorest in the informal economy.

Although these differential patterns complicate generalizing about social policy benefits and poverty (Van der Walle and Nead 1995), the balance of evidence does suggest that welfare tends to reduce poverty. While some studies have suggested a negative relationship between “overly large” public economies and development (Barro and Lee 1993), recent literature suggests that investment in many welfare policies, especially spending on education, has positive effects on growth and poverty reduction (Benabou 1997; Birdsall and James 1990; Dollar and Kraay 2000; Lindert 2004). Plenty of quantitative evidence also shows social policies, especially primary education and health care, lowering poverty levels (Gupta, Verhoeven, and Tiongson 2001; Lanjouw et al. 2001). And even narrow social transfers tend to promote growth and reduce developing-world poverty—from noncontributory transfers to the elderly in Latin America and Africa to social security transfers across different regions in India (Benabou 1997; Barrientos and Lloyd-Sherlock 2002; Justino 2003). Finally, social policies also promote development more broadly defined, such as the United Nations’s (UN’s) composite “human development index” (Gerring and Thacker 2003). There may well be a “Robin Hood paradox”—that the poorest countries have social policies that do less to help their poorest than do policies of wealthier, more equal poli-

ties (Lindert 2004). But in even the least developed polities suffering this paradox, more social policy, particularly education and health assistance, is better than less for poverty and per capita GDP.

What this all means for terrorism, however, depends on how lowering poverty and raising per capita GDP affect terrorism. Popular intuition suggests that poverty and low income spur terrorism by causing suffering and grievances that, in turn, fuel political extremism and terrorism. Some research fleshes out this intuition: poverty and slow growth may breed feelings of “relative deprivation,” discontent, and scapegoating that can fuel civil and ethnic conflict (Auvinen and Nafziger 1999; Gurr 1970; Fearon and Laitin 2003). Poverty might also weaken states and political legitimacy, extending invitations to terrorist groups, à la Afghanistan’s Taliban (Li and Schaub 2004, 12). And poverty relative to foreigners might fuel feelings of inferiority and resorting to terror to pursue wants or express rage (Johnson 2001). Empirically, Paxson’s (2002) survey of Northern Irish citizens dating from the late 1960s finds increased support for illicit political violence and for terrorist action in Northern Ireland among respondents who are poorer, unemployed, and less skilled and educated. Looking at the national level of incidence of terrorist attacks, one might also expect that poorer countries will tend to experience and breed more terrorism. Saleh (2004) finds a significant negative relationship between per capita income of Palestinians and the incidence of suicide bombing between 1990 and 2000, net of a range of political conditions. And Li and Schaub’s (2004) analysis of transnational terrorist events suggests that countries with higher levels of per capita GDP tend to suffer fewer transnational terrorist incidents on their national soil. For both individual-level and aggregate analyses, in any event, the link between economic suffering and support for political violence is direct, as symbolized by Figure 1’s horizontal arrow connecting “poverty” and “terrorism.” As we shall see shortly, poverty and development may also affect terrorism *indirectly*, by influencing religious and political practices.

A few studies voice skepticism about any positive link between poverty and terrorism. Some argue that the roots of communal violence, hate crimes, and terrorism are most fundamentally social and political conditions that overwhelm the economic conditions. Krueger and Maleckova’s (2004) study, for instance, finds that tastes for terrorism and participation in actions swing free of individual wealth and education—though this says little about whether poverty motivates economically well-off citizens to commit or tolerate terrorism on behalf of their poor brethren.¹ And it offers some national-level cross-sectional evidence that poorer countries are not statistically significantly more likely to have citizens perpetrating serious transnational terrorism once one controls for political or civil rights. The jury is thus out on how poverty affects terrorism. But even the most skeptical studies do not suggest that poverty discourages rather than encourages terrorism, and there is certainly enough logic and evidence to expect the latter. As reflected in Figure 1, social policy should thus reduce poverty, thereby directly diminishing religious extremism and reducing terrorism.

1. These measures, however, received sharp critique on methodological grounds (cf. Paxson 2002; Saleh 2004).

INEQUALITY CONNECTION

Social policies can also be expected to affect terrorism by influencing economic inequality. 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 OECD social transfers, services, and employment lower income inequality (Korpi and Palme 1998; Rueda and Pontusson 2000; Smeeding 2002), including the tendency of inequality to rise with retrenchment in social transfers (Caminada and Goudswaard 2000). As with poverty, however, social policy's implications for inequality are less clear in the developing world. Scholars continue to argue for and against the idea of a "Kuznets curve," whereby early stages of development will raise inequality while later stages lower it (cf. Barro 2000 vs. Deininger and Squire 1997), making an indirect link to social policy (via per capita GDP) unclear. In some developing countries, targeting social policies to more well-to-do groups can increase rather than decrease inequality—more with social security transfers than with health and education (Castro-Leal et al. 1999; Birdsall and James 1990; Milanovic and Kapstein 2003). On the other hand, many case studies suggest precisely the opposite for many developing-country welfare states, and aggregate spending on basic health and education has been consistently found to be inequality reducing (Van der Walle 1996; Cantillon, Marx, and van den Bosch 2002). Thus, as Figure 1 summarizes, the expectation here is that higher social spending has unclear effects for inequality, while education and health policies should reduce inequality, particularly in developed countries.

The expectation is generally the same with respect to other forms of inequality—most important, economic inequality that coincides with ethnic or religious divisions in a society—so-called "horizontal inequality" (Stewart 2002). On one hand, social policies have general income-leveling effects that should reduce such horizontal inequality, even or especially where benefits are targeted at, for instance, public employees in formal sectors (Stewart 2002). On the other hand, social policy can in some instances be targeted at elites or explicitly at particular ethnic groups in a society, perhaps thereby addressing income inequality in general while exacerbating horizontal inequality (Stewart 2000). One cannot assume, thus, that social policy will lower horizontal inequalities.

The role of inequality in terrorism is less clear than that of poverty, but inequality's influence on civil wars, ethnic violence, and humanitarian emergencies provides some clues. Parvin (1973) and, more recently, Alesina and Perotti (1993) argue that income inequality fuels social discontent, political instability, and violence (e.g., deaths in domestic disturbances, assassinations, and coups). Auvinen and Nafziger (1999, 270) argue that land and income inequality can spark "immiseration or absolute deprivation of portions of the population, even with growth"—such as Nigeria's deprivation and political unrest against the Igbo political elites during the high-growth 1960s. Their work further reminds us that inequality can produce feelings of deprivation and injustice even among middle classes—given demonstration effects of illegitimate wealth and consumption that inequality implies (Auvinen and Nafziger 1999, 270). The empirical patterns are less clear, with some finding income, land, and horizontal inequal-

ity spurring violence and humanitarian emergencies (cf. Auvenin and Nafziger 1999; Stewart 2000; Murshed 2002) and others finding it to be insignificant (cf. Fearon and Laitin 2003). Building on those expecting inequalities to spark discontent and violence, the few studies to consider the issue have argued and provided evidence that income inequality does tend to spur terrorist violence (Ehrlich and Liu 2002; Li and Schaub 2004). We thus have logic and evidence to reason that social policies may often though not always reduce inequalities and that both income and horizontal inequalities likely spur terrorism.

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. This is mainly because at any given level of poverty, development, or inequality, many religious communities provide shadow social services that make them imperfect substitutes for social policy in addressing poverty (Gill and Lundsgaarde 2004; Chen 2003). Examples of this phenomenon can be found across a range of denominations and countries—from child care and elderly assistance among Orthodox Jews in Israel, to maternity and sickness benefits among catechist groups in Ghana, to cash assistance and social services among Muslim groups in the Palestinian Territories, to poor relief from Muslim and Hindu organizations in India, to cash payments and services among Christian churches in the United States (Townsend 1994; Landau 1993; Gruber 2003). This imperfect substitution of welfare and religious practice should hold for middle-class citizens as well as the poor: publicly provided pension and other benefits might marginally dissuade citizens from participating in organizations for “middle-class” welfare services they provide, such as help for the elderly. Beyond concrete social services, religious organizations and social policies are imperfect substitutes in providing less materially tangible support networks, as well as sources of security and hope for members.

If welfare and (some) religious organization are imperfect substitutes, more generous social policy should reduce citizens’ “demand” for substitute services, in turn diminishing reliance on religious and other organizations that recruit members partly on material bases. Gill and Lundsgaarde (2004) provide the broadest evidence for such claims, focusing on a broad cross section of developed and developing countries, where total welfare spending correlates significantly negatively with several measures of religiosity, including church attendance, levels of stated “religiosity,” and “comfort in religion”—net of a range of modernization and religious regulation measures.

In addition to a direct influence, social policy might affect religious patterns via poverty. Following the same logic that social services and religious organization can be imperfect substitutes, it follows that poverty will tend to inspire larger numbers of people to seek out and deepen their religious belief, participation, and extremist religious-political activity in particular (Barro and McCleary 2003; Berman 2000, 2003; Chen 2003). Whether measured in individual or aggregate levels of membership, prayer, religious study, attendance, or values, economic suffering can spur religious participation and organization (Chen 2003; Barro and McCleary 2003). And if social

policy can reduce levels of poverty, we can also expect that it should thereby reduce religious participation.

Whether through direct or indirect effects, social policy's reduction of (extremist) religious participation is important because religious fundamentalism also tends to positively affect perpetration or tolerance of communal violence, including terrorism. Heightened participation in politico-religious groups intensive in membership involvement and extreme in their ideological messages with respect to out-groups can inspire extremist political views and action, even terrorist violence (Berman 2003). Obviously, not all religious participation sparks conflict, and the connections between religion and violence is an area needing much more theoretical and empirical research. But both individual and aggregate analyses of conflicts and religion suggest the link to hold across various religious and conflict settings—from links between Koran study and sympathy with terrorism in Indonesia (Chen 2003) to frequency of mosque attendance and such sympathy in the Palestinian Territories (Ginges 2004). We thus can expect higher social spending to improve economic security and social solidarity; to dampen demand for and participation in radical religious or political organization, even where organizations offer no social services; and to thereby diminish acts and tolerance of terrorism.

OTHER CONNECTIONS

Social policy may also affect terrorism via connections that are more difficult to judge and less examined in existing scholarship. First, more generous social policy should increase citizens' *perceived* (as opposed to objective) economic security—beliefs that downturns for oneself, others, or the economy as a whole will be partly insured against. This should affect not only resorting to political or religious organizations or pursuits that might substitute for public insurance but also feelings of deprivation and desperation. How much they do so, of course, varies with the nature, targeting, and design of particular policies. And as the discussion above suggests, there are plenty of groups in some countries for whom social policy does little to diminish economic insecurity. But even in those settings where social policies do less for the poor, there is little reason to believe that they will ever be worse than neutral for insecurity. Figure 1 captures this reasoning with social policy diminishing “economic insecurity,” which itself may spur both religious-political extremism and terrorism.

Second, in addition to affecting *preferences* for terrorism by diminishing incentives to consider terrorist violence, social policy may also affect *capacities* of groups to organize and carry out terrorist attacks, making terrorism marginally easier. As a Mickey Kaus (2001) column suggested, generous welfare states in industrialized countries can provide the means and even some incentives for disenchanted groups to turn their frustrations into illicit political action. For instance, several of the September 11 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 twofold: (1) that social policies provide marginally more resources that can free time and resources of those inclined to terrorist action, to organize and network with each other in planning terrorism, and (2) 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 disenchanted, net of income benefits. Figure 1 captures this logic, where social policy increases capacities of already inclined groups to commit terror.

Altogether then, social policy can be seen to have offsetting implications for terrorism. On one hand, various social policies will tend to reduce poverty, increase wealth, and lower inequality, economic insecurity, and religious-political extremism—all thereby diminishing tastes for terrorist violence. On the other hand, social policies may increase the capacities of extremist groups to plot and organize terrorist attacks. Although it remains an open question which of the tendencies will dominate, 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 only a few aspects of capacities of terrorists. Hence, the general hypothesis:

Hypothesis: Higher social welfare spending should diminish poverty, inequality, economic insecurity, and religious-political extremism, thereby lowering the incidence of terrorism taking place in and perpetrated by those from countries with higher social policy spending.

The reach of this hypothesis is broad in that social policy should diminish grievances underlying extremist action or toleration of such action against foreign or domestic targets, at home or abroad. Hence, social policy should reduce, via one or other of the several connections identified above, terrorism motivated by a range of grievances and political projects, whether or not directly connected to economic claims; terrorism by those brought up in more generous welfare settings and also terrorism taking place in higher welfare settings; and terrorism that is domestic as well as transnational (involving perpetrators and victims from different countries).

EVIDENCE

Whether such a broad hypothesis has merit is, of course, a difficult 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 per capita GDP, inequality, political-religious extremism, and how these political-economic conditions affect terrorism (more on this supplemental evidence follows). But testing social policy's implications for terrorism also requires direct study of how patterns of social policy relate to patterns of terrorism. And that is the task for the rest of this article, analyzing the relationship between measures of social policy and of terrorist incidents through both cross-sectional and pooled time-series cross-section estimation. Cross-sectional analysis of total welfare spending and various measures of domestic and transnational terrorism provides a broad portrait of how welfare affects a range of terrorism measures. And pooled cross-section time-series analysis of welfare provision and transnational

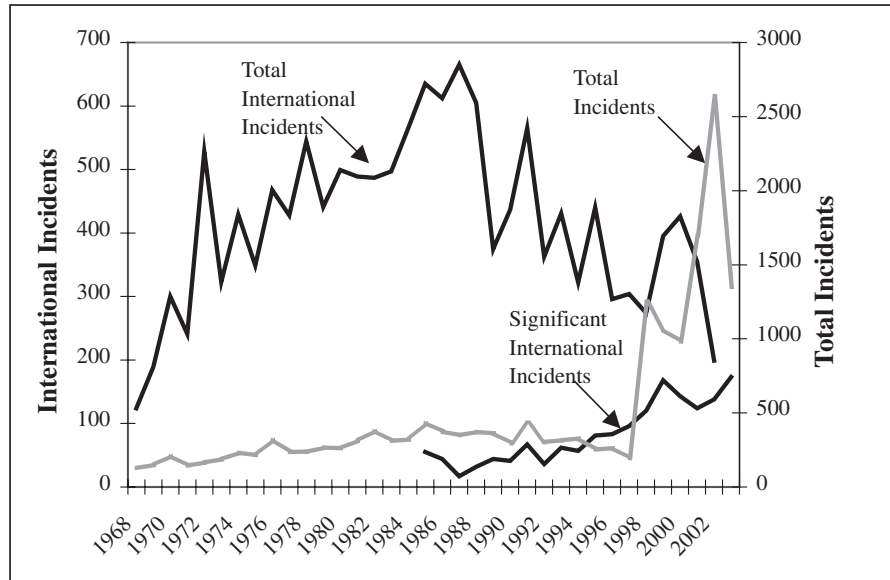


Figure 2: Terrorist Incidents: Total and Significant International Incidents and Total Incidents, 1968-2003

SOURCE: U.S. State Department, various years (<http://www.state.gov/s/ct/rls/pgtrpt/>).

terrorism provides deeper evidence of how several measures of welfare affect a particular form of terrorism over time and space.

DEPENDENT VARIABLE(S): TERRORIST INCIDENTS

Since the hypothesis is very general—that social policy diminishes the incidence of international as well as domestic terrorism, *taking place in* as well as *perpetrated by* those from 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” transnational incidents by the country where the terrorists came from. Figure 2 summarizes the total number of incidents by these three measures between 1968 and 2003.²

Transnational terrorist incidents occurring in a country—from the International Terrorism: Attributes of Terrorist Events (ITERATE) data set (Mickolus 1982; Mickolus et al. 1989, 1993, 2002)—has the broadest empirical coverage over time and countries. This data set defines terrorism as “the premeditated use, or threat of use, of

2. These measures account for only committed terrorist acts, not attempts that are foiled. The results may thus be biased by not accounting for “dogs that don’t bark.” But there is no clear reason to believe attempts distribute differently than actual incidents, and there is no data set of which the author is aware that counts such attempts.

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 2001, 1). The focus is on “transnational” terrorism, where an “incident in one country involves victims, targets, institutions, governments, or citizens of another country” (Enders and Sandler 2001, 1)—excluding, thus, purely domestic terrorist actions such as the Oklahoma City bombing. And it counts where incidents take place, rather than where terrorists come from. And like most measures, it is based mainly on open sources, possibly underreporting incidents that authoritarian governments conceal. But the measure allows testing of the above argument, where more generous social policy should lower participation in extremist organization and suffering from or concern about inequality and poverty, in turn lowering acts or tolerance of violence against foreign targets. Figure 2 shows how total transnational terrorist incidents have fluctuated widely since the late 1960s, 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 the *total* number of terrorist incidents to occur in a country, including domestic as well as transnational events, coming from the MIPT-RAND (2004) database. This database defines terrorism, similar to 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 2004). This database has the advantage of including (after 1997) 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 where attacks take place. Figure 2 shows the 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 2003.³

The 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 incidents from 1996 to 2001 using the U.S. State Department’s 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”;⁴ “transnational terrorism” is any incident “involving victims and perpetrators of different nationalities”; and “significant” incidents are those meeting the U.S.

3. The definition of *civilian* here is somewhat more restrictive, excluding military personnel not on active duty, helping explain why in a few years this measure totals lower than total transnational counts from the International Terrorism: Attributes of Terrorist Events (ITERATE) database. Also, this MIPT-RAND (2004) measure provides less reliable counting of domestic events before the mid-1990s, leading to undercounting in earlier years.

4. Title 22 of U.S. 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” (U.S. State Department 2004).

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" (U.S. State Department 2004). Following Krueger and Maleckova (2004), I surmise the perpetrators' nationality from State Department and other media information about each incident, allocating incidents in proportion to groups or individuals responsible for each attack.⁵ And I round the six-year total to the nearest whole number so the measure remains a count variable.

These are rough estimates, given ambiguity about the nationality of all involved terrorists, let alone upbringing, and even then, 19 percent of incidents cannot be counted due to poor information on the attackers' nationality. However, since many incidents in the "total" category are trivial acts of vandalism with minimal damage, "significant" incidents may gauge more meaningful effects of social policy. More important, this measure allows us to judge how social policy affects the incidence of terrorism by its influence on tastes for carrying out terror, regardless of where the act takes place. In any event, Figure 2 shows how this measure indicates 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.

INDEPENDENT VARIABLES: SOCIAL SPENDING, BROAD AND NARROW

To investigate the effects of social policy for these various patterns of terrorism, we need measures of policies that serve a social assistance role, capturing wide variation in the generosity of such assistance, and for a significant time span across a range of both developing and developed countries. To try to meet this standard, the empirical analysis focuses on three measures of "social" spending.

Total spending/revenue as a 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, than government consumption, which represents a fraction of all spending and biases upwards spending in developing countries (Adserà and Boix 2002). And it is available for a broad cross section of countries and years—more, for instance, than total social expenditures. The source is the Politics of Fertility and Economic Development (POFED) database, built up from OECD, UN, World Bank, and International Monetary Fund (IMF) sources (Kugler, Feng, and Zak 2002). Among the 115 countries in the sample (from 1975-1995), the 1990 to 1995 averages range from Sudan's 7 percent of GDP to Hungary's 69 percent of GDP.

Total transfers (social security and health spending) as a percentage of GDP: "social security" captures a traditional conception of nonhealth transfers, especially

5. For instance, the first plane to hit World Trade Center on September 11, 2001, counts as one incident, with four known terrorists, whose respective nations of citizenship are scored .25 of an incident.

public pensions and, less so, unemployment insurance (Kugler, Feng, and Zak 2002). For most countries, this is the largest component of social policy expenditure. For the 1990 to 1995 average in 115 countries, such spending ranges from Angola's .01 percent of GDP to Holland's 19 percent of GDP. And health care spending captures total public spending on basic and hospital health care (Kugler, Feng, and Zak 2002). For a few countries, such as the Bahamas, health care spending is larger than social security spending. For the 1990 to 1995 average in the 115 countries (sample 1975-1995), however, the spending levels range from .16 percent of GDP in South Korea to 7.5 percent of GDP in Germany.

Total welfare spending (total social security and health, plus education spending) spending as a percentage of GDP combines the above transfers with public spending on primary, secondary, and tertiary education. The measure for 166 countries comes from the United Nations Educational, Scientific, and Cultural Organization (UNESCO), made available through the World Bank (2004). As we saw above, public education, particularly basic education, is effective in fighting poverty and inequality, while education spending generally is particularly beneficial for growth and per capita GDP. In some developing countries, such as Botswana, education spending is proportionally far larger than spending on health or social security, but the 1990 to 1997 averages range from the Democratic Republic of the Congo's 1 percent of GDP to Mongolia's 9.8 percent of GDP. As for the combined measure of welfare spending (education plus the social security and health spending), the 1990 to 1997 averages among 113 countries range from (again) the Democratic Republic of the Congo's 1.6 percent of GDP to Holland's 32 percent.

Together, these measures capture broad variation in social assistance for a large cross section of countries and for a significant time span. Such measures only indirectly capture actual benefit generosity, focusing instead on how big a part they are of total economic activity. More direct generosity measures are available—for instance, for net replacement rates—but only for fewer countries and many fewer years (often one). Furthermore, the argument above focuses as much on downstream economic effects of social policy efforts, not just perceptions surrounding available assistance. This makes the spending measures more relevant to the general argument.

CONTROLS

To address the possibility that observed correlations between these measures of social spending and terrorism are spurious, I control for a range of conditions that intuition and literature suggest are determinants of *both* terrorism and social spending.⁶ *Left-party power*, measured here as Left-party control of government using data from the Database on Political Institutions (Beck et al. 2001), correlates with higher spend-

6. Gross domestic product (GDP) per capita is a candidate for inclusion as a control, but it is an important *intervening* link between social policy and welfare and is in any event more highly correlated with social spending than the other controls. Inclusion in robustness tests reported below does not, however, change the basic results.

ing because Left parties tend to develop more social policies than their Right or Center counterparts (Allan and Scruggs 2004). Partisanship's relevance for terrorism remains largely unstudied, but Left parties may not only be big supporters of welfare but also disproportionately represent aggrieved groups that can thereby achieve political goals within established channels rather than violence (Burgoon 2005).

Democracy has been shown to affect terrorism, negatively with incidents by country of perpetrator (Krueger and Maleckova 2004), capturing how democratic representation might diminish political grievance, and positively with where incidents take place, capturing either overrepresentation of incidents where freedom allows their measurement or how democracy increases capacities of terrorists to target democracies (Li and Schaub 2004). In any event, democracy plausibly and empirically correlates with social expenditures (Adserà and Boix 2002). The measure used here is the Polity IV index from -10 to 10, the difference between a 10-point democracy and 10-point autocracy index (Marshall and Jaggers 2000).

Population (logged) has also been shown to be highly significant and positively related to terrorist incidents, not only because more people imply more targets but also because larger countries are heterogeneous and subject to more intergroup tension (Li and Schaub 2004). And plenty of literature has shown population to be a very strong predictor of welfare expenditures (cf. Rodrik 1998). The source is Penn World Tables (Heston, Summers, and Aten 2002).

Government capability is a composite 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 affect a state's position relative to its own society and the world, with higher capability generating hostility from foreign citizens or from domestic nationals, making it a more attractive site of terrorist action (Sandler and Lapan 1988). On the other hand, the measure captures a state's capability to maintain order at home, to contain domestic and international terrorist activities, and to influence domestic economic conditions (Li and Schaub 2004).

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) from Gleditsch et al. (2002). This captures the possibility that external conflict sparks internal tensions or terrorist action from or against foreigners involved in the conflict. External conflict, furthermore, may affect social expenditure, either upwards via compensation for domestic sacrifice during war or downwards via fiscal guns-butter trade-offs.

Finally, *trade openness*, imports and exports as a percentage of GDP (Heston, Summers, and Aten 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 (cf. Rodrik 1998; Adserà and Boix 2002).

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 three measures of terrorism are count variables, ordinary least squares (OLS) 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 A1 and A2). 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 analyses, several considerations suggest negative binomial regression to be the better estimator than its zero-inflated alternative. First, the proportion of zeros is modest enough to obviate the need for the zero-inflated option.⁷ Second, test statistics providing guidance in choosing between zero-inflated and regular negative binomial regression recommend against the zero-inflated alternatives or are ambiguous (Greene 1994).⁸ Third, goodness-of-fit diagnostics—log-likelihoods of the models, the deviance, the likelihood ratio chi-square, Bayesian information criterion (BIC), and so on—suggest that the negative binomial regression offers the better fit for all three cross-sectional measures and in most estimations for the pooled measure. Fourth, the zero-inflated model is most suited where the full sample comprises subsamples that systematically differ in the likelihood of and reasons for having a zero count—such as purely teaching academics who do not publish because it is 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 logic in terrorism suggesting such distinctions in the country-year counts of terrorist attacks. For all these reasons, I use negative binomial regression as the benchmark estimator but consider 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 and at least one year for the country observations (multiyear averages) for the cross-sectional analysis. To take account of unmeasured regional effects, all estimations also include regional dummies for Asia, the Americas, Africa, and Europe (the Middle East being

7. 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).

8. 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 non-zero-inflated version, and values close to zero favoring neither. The Vuong statistics for most cross-sectional and pooled estimations fall in the third, ambiguous category. The *significant transnational incidents* cross section, for instance, which has the highest proportion of zeros to total observations (72 percent), has an ambiguous Vuong statistic of 1.55 when the model is fit so that some of the parameters in the inflation component of the model (logit estimation of how much included variables predict a zero count) are significant.

the reference region). Finally, given heteroskedasticity in the error term that remains, given such a broad cross section of regionally heterogeneous variables and given the combined heteroskedasticity and serial correlation that commonly plague the pooled data, all estimates are calculated with robust standard errors clustered over countries (Williams 2000).

Some of the pooled cross-section time-series estimation, furthermore, include year dummies to address unit effects over time and the trending of transnational terrorism in particular (Enders and Sandler 1999).⁹ And to address the heteroskedasticity and serial correlation commonly plaguing pooled time-series cross-section data—despite regional and year dummies—some estimations also include lagged dependent variable (incidents) to address serial correlation (Beck and Katz 1995).

CROSS-SECTIONAL FINDINGS

Table 1 summarizes the cross-sectional results. Shown are two estimations for each measure of terrorist incidence: a base model of total welfare expenditures (social security, health, and education expenditures) with only regional dummies as controls and a full model of such expenditures with a battery of controls (Left government, democracy, population, government capacity, conflict, trade, and region). The base model works easily within the degrees of freedom in the cross sections, with relatively low collinearity among regressors (mean variance inflation factor [VIF] scores between 2.1 and 2.2). And although the full models have higher collinearity (with mean VIF scores around 2.7 and a couple of individual parameters reaching VIFs of 3.7), they do not violate common standards of collinearity. The cross-sectional analysis thus provides a glimpse of how social policy affects not only a measure of terrorism studied in the pooled analysis below but also of two other measures to provide a broader test of the argument.

The significant alpha scores reveal high overdispersion for all measures of terrorism, while controls perform broadly in keeping with expectation. Population is significantly and highly positively related to terrorist incidents, as expected. Democracy tends to correlate negatively with incidents, particularly those counted by country of perpetrator. Government capacity correlates positively and significantly with all measures of incidents. And trade openness performs unevenly, positive for two measures and significantly negative for total incidents. And regional dummies tend to be individually and jointly significant—particularly for the base model. Left power, however, relates positively for both incidents in country and for transnational incidents by perpetrator's country, suggesting that encouragement that such governments give to marginal groups and the provocation it poses for (right-wing) others may outweigh the terror-reducing effects of inclusion.

Most important, social welfare spending correlates significantly and negatively with all measures of terrorism, in both the minimalist and full specifications. The

9. There is, however, no sign that transnational incidents in countries are nonstationary 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*-bar = -3.02, $\psi(t\text{-bar}) = -19.32$, $p = .000$).

TABLE 1
Cross-Sectional Analysis of Terrorist Incidents and Social Welfare Spending

	<i>Total Transnational Incidents in Country</i>		<i>Total Incidents in Country</i>		<i>Significant Transnational Incidents by Country's Citizens</i>	
	(1)	(2)	(3)	(4)	(5)	(6)
Total welfare spending	-0.51** (2.21)	-0.641** (2.14)	-0.719* (1.71)	-1.230** (2.31)	-1.95*** (3.05)	-2.23*** (3.36)
Left government		-0.065 (0.21)		1.240** (2.41)		1.037 (1.58)
Democracy 1996-1997		-0.114 (1.14)		-0.065 (0.46)		-0.55*** (3.28)
Population		0.62*** (4.45)		0.92*** (4.59)		0.85*** (3.26)
Government capacity		1.48*** (2.75)		2.83*** (3.25)		2.58** (2.41)
Conflict		0.385 (0.54)		-0.737 (0.64)		-0.829 (0.51)
Trade openness		0.297 (0.80)		-0.802 (1.34)		0.701 (1.00)
Constant	4.48*** (8.02)	2.41*** (3.26)	5.71*** (5.98)	0.996 (0.78)	6.00*** (3.89)	3.23** (2.07)
Regional dummies	Yes	Yes	Yes	Yes	Yes	Yes
Joint significance test (chi-square)	33.9***	17.2***	36.1***	3.13	3.35	7.66*
Wald- χ^2	34.36	86.95	36.26	110.53	22.03	54.68
Log pseudo-likelihood	-384	-314	-398	-313	-198	-155
α	1.53***	0.782**	4.44***	2.27***	7.49***	4.69***
Mean variance inflation factor (VIF)	2.11	2.67	2.17	2.7	2.24	2.68
Observations	102	92	106	93	113	95

NOTE: Negative binomial regression, with robust standard errors (z-statistics in parentheses). *Dependent Variables:* columns (1) and (2): total transnational terrorist incidents in country, 1991-1998 (International Terrorism: Attributes of Terrorist Events [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 (U.S. State Department, own calculations). *Independent Variables:* total welfare spending, public spending on social security, health, and education (logged percent gross domestic product [GDP]), 1990-1996 average (Kugler, Feng, and Zak 2002; World Bank 2004); Left party, percent years from 1975 to 1995 that Left party controls government (Beck et al. 2001); democracy, extent of democracy rating (Freedom House 1996-1997; 2001); population, 1975 to 1995 average (logged) (Heston, Summers, and Aten 2002); government capacity, index of military spending and personnel, share of world population, energy consumption, and GDP per capita, 1990 to 1995 average (Li and Schaub 2004); conflict, percent years from 1990 to 1995 that the country was in international conflict (Gleditsch et al. 2002); trade openness, imports plus exports (logged percent GDP), 1960 to 1995 average (Heston, Summers, and Aten 2002); regional dummies for Africa, Asia, Americas, and Europe (Middle East is excluded region).

*Significant at 10 percent. **Significant at 5 percent. ***Significant at 1 percent or lower.

strongest effect is for significant transnational incidents perpetrated by a country's citizens, the weakest for total transnational incidents in countries. We can capture the effects by considering the models' incident rate ratios (IRRs), which predict how a 1 percent increase in welfare spending as percent GDP will change incidents (e.g., 1 = 0 percent change in incidents; 1.1 = 10 percent increase; .9 = 10 percent reduction), holding other parameters constant. For instance, the IRR of .79 for total welfare from estimation (5) predicts that a 1 percent increase in welfare yields a 21 percent reduction in incidents perpetrated by a country's citizens in the measured period (1996-2001). For total and total transnational incidents in a country, the effects are more modest: a 1 percent increase in welfare eliciting a 4.5 percent reduction in transnational incidents between 1991 and 1998, as well as a 10.1 percent reduction in total incidents between 1998 and 2003. Although modest, these results are robust and insensitive to other specifications (see below). We thus have cross-sectional evidence that social spending reduces total and transnational terrorism that a country suffers and the significant transnational terrorism it sows.

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 ninety-five countries from 1975 to 1995, the only measure of the three above with sufficient coverage to allow such pooling.¹⁰ Table 2 focuses on three measures of social spending—total government spending, total transfers (social security and health spending), and total welfare spending (on social security, health, and education). Table 2 also reports two estimations for each measure: both with negative binomial regression using robust standard errors clustered over countries and a battery of controls and regional dummies, but with the benchmark (1) to (3) including a lagged dependent variable and year dummies and with (4) through (6) excluding both. The benchmark model (1) to (3) helps address, as stated above, trending effects, serial correlation, and heteroskedasticity. But the relatively short time span of the sample may lead the lagged dependent variable with year dummies to introduce inefficiency that can mask the role of social policy—hence the latter estimation approach in (4) through (6) as a robustness check.

The results are similar to the cross-sectional estimations. Alpha measures reveal overdispersion, arguing in favor of negative binomial regression. And the higher degrees of freedom that the pooling of time series and cross sections can accommodate the modest levels of collinearity among the right-hand-side variables, captured among other ways by the mean VIF scores between 2.1 and 2.3 (and no individual parameter above 3.7). As for the performance of controls, population (logged) is again the strongest predictor of transnational incidents, with highly significant and positive co-

10. My own count of significant transnational incidents by perpetrator only goes back to 1996, the beginning of State Department counts of significant incidents, and the RAND-MIPT (2004) total incidents has some undercounting before the mid-1990s, making it suitable for a cross section after 1995 (as used above) but not for cross-section time series.

TABLE 2
Pooled Time-Series Cross Section of Transnational Terrorist Incidents in Countries

	(1)	(2)	(3)	(4)	(5)	(6)
Total spending _{<i>t</i> - 1}	-0.560** (2.55)			-0.679** (2.12)		
Total transfers _{<i>t</i> - 1}		-0.30*** (2.82)			-0.344** (2.33)	
Total welfare _{<i>t</i> - 1}			-0.343** (2.02)			-0.457** (2.05)
Left government _{<i>t</i> - 1}	-0.227** (2.21)	-0.244** (2.52)	-0.184* (1.91)	-0.253* (1.77)	-0.278** (1.98)	-0.165 (1.17)
Democracy _{<i>t</i> - 1}	0.026** (2.24)	0.027** (2.26)	0.032** (2.57)	0.031** (2.18)	0.035** (2.29)	0.030* (1.74)
Population _{<i>t</i> - 1}	0.314*** (4.08)	0.252*** (3.26)	0.240*** (2.75)	0.459*** (4.56)	0.408*** (4.00)	0.328*** (2.90)
Government capacity _{<i>t</i> - 1}	0.316* (1.81)	0.426** (2.26)	0.326* (1.93)	0.693** (2.52)	0.756*** (2.68)	0.847*** (3.25)
Conflict _{<i>t</i> - 1}	-0.056 (0.36)	-0.028 (0.17)	-0.074 (0.44)	-0.182 (1.04)	-0.167 (0.90)	-0.174 (0.93)
Trade openness _{<i>t</i> - 1}	0.274 (1.39)	-0.002 (0.01)	-0.051 (0.29)	0.210 (0.77)	-0.081 (0.37)	-0.282 (1.22)
Incidents _{<i>t</i> - 1}	0.083*** (6.20)	0.084*** (6.38)	0.072*** (5.61)			
Constant	-6.21*** (3.21)	-4.57*** (2.60)	-3.66* (1.89)	-8.57*** (3.28)	-6.91*** (2.91)	-4.797* (1.81)
Regional dummies	Yes	Yes	Yes	Yes	Yes	Yes
Joint significance (chi-square)	27.22***	27.37***	25.74***	22.89***	25.55***	15.68***
Year dummies	Yes	Yes	Yes	No	No	No
Joint significance (chi-square)	93.1***	91.91***	76.45***	No	No	No
Wald- χ^2	388.8	406.5	335.0	142.21	124.23	92.70
Log pseudo-likelihood	-3,351	-3,351	-2,381	-3,537	-3,537	-2,515
α	1.12***	1.12***	0.97***	1.67***	1.67***	1.43***
Mean variance inflation factor (VIF)	2.18	2.18	2.19	2.32	2.32	2.29
Observations	1,779	1,779	1,193	1,779	1,779	1,193

NOTE: Negative binomial regression, with robust standard errors clustered over countries (*z*-statistics in parentheses). *Dependent Variable*: total transnational terrorist incidents in country (International Terrorism: Attributes of Terrorist Events [ITERATE]). *Independent variables*: *total spending (or revenue)* (logged percent gross domestic product [GDP]), 1975 to 1995 (Kugler, Feng, and Zak 2002); *total transfers: total social security, plus health expenditures* (logged percent GDP), 1975 to 1995 (Kugler, Feng, and Zak 2002); *total welfare: transfers* (Kugler, Feng, and Zak 2002) *plus education spending* (World Bank 2004) (logged percent GDP), 1980 to 1995; *Left party*, 1 = Left party controls government (0 otherwise) (Beck et al. 2001); *democracy*, extent of democracy rating (Polity IV); *population*, logged (Heston, Summers, and Aten 2002); *government capacity*, index of military spending and personnel, share of world population and energy consumption, and GDP per capita (Li and Schaub 2004); *conflict*, 1 = country in international conflict (0 otherwise) (Gleditsch et al. 2002); *trade openness*, imports plus exports (logged percent GDP) (Heston, Summers, and Aten 2002); *regional dummies* for Africa, Asia, Americas, and Europe (Middle East is excluded region).

*Significant at 10 percent. **Significant at 5 percent. ***Significant at 1 percent or lower.

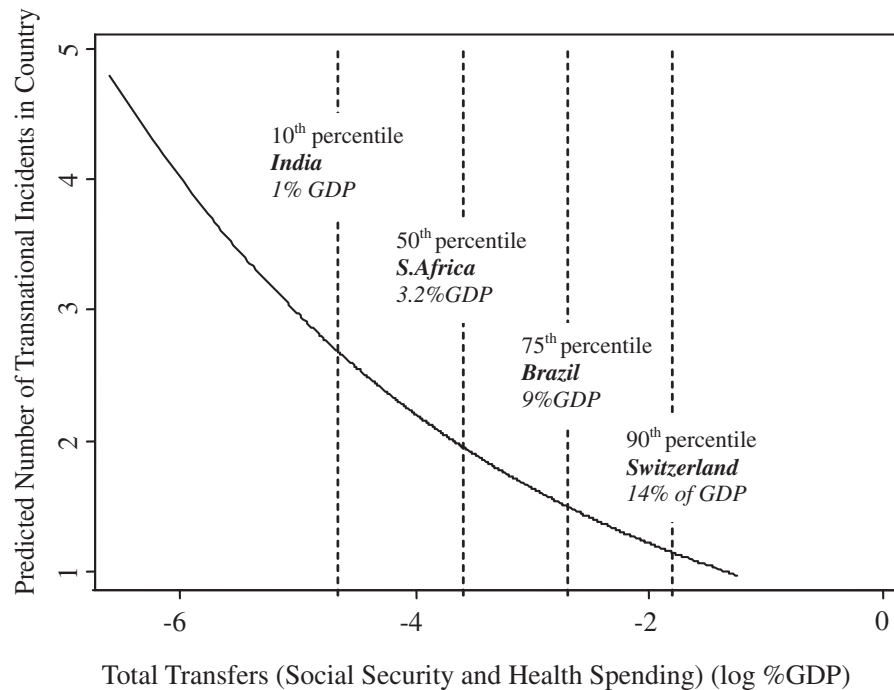


Figure 3: Predicted Annual Effects of Social Security and Health Spending on Transnational Incidents (in Sample)

efficients. Government capacities correlate significantly positively with incidents, whereas conflict is insignificantly negative. And trade tends to be insignificantly negative, consistent with other panel studies. On the other hand, Left partisanship relates significantly negatively to incidents, with or without social policy or other parameters, consistent with the argument above but contrasting the cross-sectional estimation. And democracy tends to be significantly positively related to terrorist incidents, consistent with other panel estimates of terrorism, perhaps reflecting bias in reporting or the tendency of terrorist groups to have more capacities for organization in democracies (cf. Li and Schaub 2004). Finally, both year and regional dummies are highly jointly significant.

Most important, all three measures of social policy effort correlate significantly negatively with transnational incidents. This applies for the most encompassing measure, total revenue, as well as for total transfers (social security and health) and for the total welfare spending measure (public spending on education along with social security and health spending). As for the substantive size of the effects, the IRR for the estimation in column (1) (not shown) suggests that a 1 percent increase in total revenue predicts a modest 2 to 5 percent decrease in annual transnational incidents. Counterfactual predictions of the fitted model (in sample), holding all other parameters at their means, also suggest modest effects. Figure 3 shows the results of such simulation for

total transfers (social security plus health expenditures), with percentile distribution points and country examples (based on sample means) to provide reference. Thus, moving from the 10th to the 50th percentile of the sample—comparable to moving from the 1975 to 1995 average spending of India (1 percent of GDP) to that of South Africa (3.2 percent of GDP)—predicts a reduction of 23 percent, from 2.6 to roughly 2 transnational incidents per year. The effects are thus modest but enough to make a difference where one serious terrorist attack can do massive damage to a country's physical and felt security. As columns (4) through (6) in Table 2 show, in any event, the results are robust to estimations without a lagged dependent variable or year effects. This alternative estimation, in fact, yields stronger negative coefficients for social welfare spending than the benchmark model.

More generally, the results of both the pooled time-series cross-sectional and the cross-sectional estimations above withstand a range of other robustness and sensitivity tests (not shown but available online as Supplemental Tables 1 and 2). Limiting the sample to nonzero observations—since terrorism is a rare event with a high zero count—yields stronger results in favor of expectation for all measures of welfare spending. Similarly, including alternative controls—for instance, civil as opposed to interstate conflict, civil rights as opposed to democracy, measures of income inequality or horizontal inequality, or GDP per capita—does not change the significantly negative welfare coefficients. Dropping outlier countries or limiting the sample to developed or developing countries also does not appreciably change welfare coefficients. Furthermore, regressing social policy on lagged levels of terrorism yields no significant results, suggesting that social spending is not endogenous to past terrorism. And Durbin-Wu-Hausman tests suggest that the estimates are consistent and do not suffer endogeneity bias (Davidson and MacKinnon 1993). In any event, a two-stage approach where social welfare is instrumented by dependent population, urban population, and proportional representation yields similar results on all terrorism measures. Finally, the results hold up to alternative estimators, such as zero-inflated negative binomial regression or ordered logit of terrorist incidents, or standard logit of a binary measure of terrorist incidence (1 = 1 or more incidents; 0 = no incidents). The benchmark model's results are thus stable: net of a broad range of controls and robust to a range of estimations, social welfare effort correlates with reduced transnational terrorism.

This evidence, of course, does not identify what the mechanisms might be by which welfare tends to diminish terrorism, but supplemental regressions (not shown but also available online as Supplemental Tables 3 and 4) suggest that the *mechanisms* of such correlation fit the argument above. Thus, social policy tends to reduce religiosity and horizontal inequality, as well as poverty and income inequality, and these latter conditions correlate positively with terrorism (lack of data prevents similar tests for the subjective insecurity connection). Running these intervening conditions with the measures of welfare spending tends to reduce the negative effect of the latter, though less so in the pooled estimations than for the cross-sectional estimations. In any event, interacting social policy spending with the intervening conditions to see if social policy mitigates the effects of, rather than reduces, inequality, poverty, and religiosity, generally yields insignificant results. Altogether, then, the quantitative evidence

corroborates the basic claim that social welfare ought to reduce terrorism by reducing poverty, horizontal and income inequality, economic insecurity, and religious extremism.

CONCLUSION

This article has thus provided arguments and evidence to believe that more generous social welfare provisions will tend to reduce terrorism. A range of social welfare policies tends to reduce economic insecurity, religious-political extremism, income inequality, and poverty—thereby offsetting 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. Evidence for this hypothesis lies in how a polity's total welfare effort correlates with less terrorism on its soil and less transnational terrorism by its citizens. Although this evidence suggests that the substantive effects are modest, it is stable, robust, and insensitive to a broad range of alternative estimations—justifying the judgment that social policy may reduce risk of a rare but menacing security threat.

Such a judgment, however, is as much a call for further research as a 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, such as defense or industry subsidies, compare with explicitly social welfare provisions? And might foreign aid that substitutes 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—not only to find more and better measures of welfare effort and of terrorism. For instance, further quantitative analysis may not only reveal whether economic conditions or policies matter at the margin but also what the relative weight of these and other political conditions are in shaping terrorism. Qualitative case comparisons, furthermore, could clarify how social policy affects terrorism by analyzing how groups 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 clues 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 perhaps 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 struc-

tural 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 political confrontation, a potentially potent if less direct route to fighting terrorism may well be to support social policy at home and abroad.

APPENDIX TABLE A1
Summary Statistics for Cross-Sectional Analysis

<i>Variable</i>	<i>Observations</i>	<i>Mean</i>	<i>Standard Deviation</i>	<i>Minimum</i>	<i>Maximum</i>
Total transnational incidents in country (1991-1998)	141	18.28	35.93	0	281
Total incidents in country (1998-2003)	152	46.68	149.58	0	1,099
Significant incidents by country (1996-2001)	196	3.11	11.54	0	99
Total welfare spending (percent gross domestic product [GDP]) (1990-1996 mean)	113	10.89	7.29	1.65	32.01
Left government (percent years 1990-1995)	171	0.34	0.39	0	1.00
Democracy (median) (1990-1994)	191	4.52	2.26	-10	10
Population (log) 1975-1995 mean	170	1.63	1.79	-2.30	5.54
Government capacity (1991-1995 mean)	121	0.66	0.36	0.04	1.79
Conflict (percent years 1991-1995)	141	0.04	0.09	0.00	0.67
Trade openness (log) (percent GDP 1985-1995)	158	-0.46	0.58	-1.96	1.19

APPENDIX TABLE A2
Summary Statistics for Pooled Time-Series Cross-Section Analysis

<i>Variable</i>	<i>Observations</i>	<i>Mean</i>	<i>Standard Deviation</i>	<i>Minimum</i>	<i>Maximum</i>
Total transnational incidents in country	3,045	2.824	7.890	0	180
Total revenue (percent gross domestic product [GDP])	2,436	24.56	12.86	2.08	94.97
Social security (percent GDP)	2,436	3.73	4.71	0	21.83
Health (percent GDP)	2,436	2.12	1.72	0.09	9.5
Total transfers (social security + health) (percent GDP)	2,436	5.85	5.89	0.14	28.44
Education (percent GDP)	1,766	4.41	2.42	0.27	41.78
Total welfare (percent GDP)	1,523	10.86	7.2	0.71	42.6
Left government	2,660	0.368	0.482	0	1
Democracy score	2,632	-0.245	7.719	-10	10
Population (log)	2,916	15.688	1.731	10.995	20.910
Government capacity	2,395	0.769	0.464	0.039	3.696
Conflict	3,087	0.039	0.194	0	1
Trade openness (percent GDP)	2,469	72.4	48.5	3.1	439.0

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): 229-62.
- Alesina, Alberto, and R. Perotti. 1993. Income distribution, political instability, and investment. NBER Working Paper No. 4486, National Bureau of Economic Research.
- Allan, James P., and Lyle Scruggs. 2004. Political partisanship and welfare state reform in advanced industrial societies. *American Journal of Political Science* 48 (3): 496-512.
- Auvinen, Juha, and E. Wayne Nafziger. 1999. The sources of humanitarian emergencies. *Journal of Conflict Resolution* 43 (3): 267-90.
- Barrientos, Armando, and Peter Lloyd-Sherlock. 2002. *Non-contributory pensions and social protection*. Geneva, Switzerland: ILO.
- Barro, Robert. 2000. Inequality and growth in a panel of countries. *Journal of Economic Growth* 5 (1): 5-32.
- Barro, Robert, and Jong-Wha Lee. 1993. Losers and winners in economic growth. NBER Working Paper No. 4341, National Bureau of Economic Research.
- Barro, Robert, and Rachel M. McCleary. 2003. The international determinants of religiosity. NBER Working Paper No. w10147, National Bureau of Economic Research.
- 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.
- 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. World Bank Policy Research Working Paper No. 2283, World Bank.
- Benabou, R. 1997. *Inequality and growth*. Cambridge, UK: National Bureau of Economics Research.
- Berman, Eli. 2000. Sect, subsidy, and sacrifice: An economist's view of ultra-orthodox Jews. *Quarterly Journal of Economics* 65 (3): 905-53.
- . 2003. Hamas, Taliban, and the Jewish underground: An economist's view of radical religious militias. Mimeo, University of California, Los Angeles.
- Birdsall, N., and E. James. 1990. Efficiency and equity in social spending: Why governments misbehave. Working Paper Series 274, World Bank.
- Burgoon, B. 2005. The political economy of post September 11th security. In *The political economy of the changing global order*, 3rd ed., edited by R. Stubbs and G. Underhill. New York: Oxford University Press.
- Caminada, Koen, and Kees Goudswaard. 2000. International trends in inequality and social policy. Paper presented at The Year 2000 International Research Conference on Social Security, September, Helsinki.
- Cantillon, Bea, Ive Marx, and Karel van den Bosch. 2002. Welfare, social protection, labour markets and poverty: Lessons from cross-country comparisons. Paper presented at the 9th International Congress of the Basic Income European Network, September 12-14, Geneva, Switzerland.
- Castro-Leal, Florencia, Julia Dayton, Lionel Demery, and Kalpana Mehra. 1999. Public social spending in Africa: Do the poor benefit? *The World Bank Research Observer* 14 (1): 49-72.
- Chen, Daniel. 2003. Economic distress and religious intensity: Evidence from Islamic resurgence during the Indonesian financial crisis. PRPES Working Paper No. 39, Harvard University.
- Davidson, R., and J. G. MacKinnon. 1993. *Estimation and inference in econometrics*. New York: Oxford University Press.
- Deininger, K., and L. Squire. 1997. Economic growth and income inequality: Reexamining the links. *Finance and Development*, March, 38-41.
- Dollar, D., and A. Kraay. 2000. Growth is good for the poor. <http://www.worldbank.org/research>.
- Ehrlich, Paul R., and Jianguo Liu. 2002. Some roots of terrorism. *Population and Environment* 24 (2): 183-92.
- 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 *Handbook of defense economics*, vol. 1, edited by K. Hartley and T. Sandler. Amsterdam: North-Holland.

- Fearon, James, and David Laitin. 2003. Ethnicity, insurgency, and civil war. *American Political Science Review* 97 (1): 75-90.
- Freedom House. 2001. Freedom in the world: Annual survey of freedom country scores, 1972-73 to 1999-00. <http://www.freedomhouse.org/research/freeworld/FHSCORES.xls>.
- Gerring, John, and Strom Thacker. 2003. Social democracy, liberalism, and human development. <http://www.bu.edu/sthacker/IMRpolicy.pdf>.
- Gill, Anthony, and Erik Lundsgaarde. 2004. State welfare spending and religiosity: A cross-national analysis. *Rationality and Society* 16:399-436.
- Ginges, Daniel. 2004. Devotion to God or to the collective? Understanding the relationship between religion and support for suicide bombing. Working Paper, Research Center of Group Dynamics, University of Michigan.
- 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.
- Greene, W. H. 1994. Accounting for excess zeros and sample selection in Poisson and negative binomial regression models. Working Paper NYU EC-94-10, Stern School of Business.
- Gruber, Jon. 2003. Pay or pray: The impact of charitable subsidies on religious participation. Mimeo, MIT.
- Gupta, Sanjeev, Marijn Verhoeven, and Erwin Tiongson. 2001. Public spending on health care and the poor. IMF Working Paper WP/01/127, International Monetary Fund.
- 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 Paper No. 54, Institute for Security Studies, European Union, Paris.
- Heston, Alan, Robert Summers, and Bettina Aten. 2002. *Penn world table version 6.1*. Philadelphia: Center for International Comparisons at the University of Pennsylvania (CICUP).
- Johnson, A. 2001. Disparities in wealth seen as fuel for terrorism. *International Herald Tribune*, December 20.
- Justino, Patricia. 2003. *Social security in developing countries: Myth of necessity? Evidence from India*. Sussex, UK: 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>.
- 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* 63:661-87.
- Krueger, Alan B., and Jitka Maleckova. 2004. Education, poverty and terrorism: Is there a causal connection? *Journal of Economic Perspectives* 17 (4): 119-44.
- Kugler, Jacek, Yi Feng, and Paul J. Zak. 2002. Politics of fertility and economic development (POFED). NSF Grant No. SBR-9730474, 1998-2001.
- Landau, David. 1993. *Piety and power: World of Jewish fundamentalism*. New York: Hill & Wang.
- Lanjouw, Peter, M. Pradhan, Fadia Saadah, Haneen Sayed, and Robert Sparrow. 2001. Poverty, education and health: 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 (2): 230-58.
- Lindert, Peter H. 2004. *Growing public: Social spending and economic growth since the eighteenth century*. Vols. 1-2. Cambridge, UK: Cambridge University Press.
- Long, J. S. 1997. *Regression models for categorical and limited dependent variables*. Thousand Oaks, CA: Sage.
- Marshall, Monty G., and Keith Jaggers. 2000. Polity IV project: Political regime characteristics and transitions, 1800-2000 dataset users manual. <http://www.bsos.umd.edu/cidcm/inscr/polity>.
- Mickolus, Edward. 1982. *International terrorism: Attributes of terrorist events, 1968-1977 (ITERATE 2)*. Ann Arbor, MI: Inter-University Consortium for Political and Social Research.
- Mickolus, Edward, Todd Sandler, Jean Murdock, and Peter Fleming. 1989. *International terrorism: Attributes of terrorist events, 1978-1987*. Dunn Loring, VA: Vinyard Software.
- . 1993. *International terrorism: Attributes of terrorist events, 1988-91*. Dunn Loring, VA: Vinyard Software.

- . 2002. *International terrorism: Attributes of terrorist events, 1991-2000*. Dunn Loring, VA: Vinyard Software.
- Milanovic, Branko, and Ethan Kapstein. 2003. *Income and influence: Social policy in emerging market economies*. Minneapolis, MN: W. E. Upjohn Institute.
- MIPT-RAND. 2004. Terrorism incident database, 1968-2003. http://db.mipt.org/rep_inrg_rep.cfm.
- Murshed, S. Mansoob. 2002. Civil war, conflict and underdevelopment. *Journal of Peace Research* 39 (4): 387-93.
- Parvin, M. 1973. Economic determinants of political unrest: An econometric approach. *Journal of Conflict Resolution* 17 (2): 271-96.
- Paxson, Christina. 2002. Comment on Alan Krueger and Jitka Maleckova, "Education, poverty, and terrorism: Is there a causal connection?" Mimeo, Princeton University.
- 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* 52:350-83.
- Salah, Basel. 2004. Economic conditions and resistance to occupation in the West Bank and Gaza Strip: There is a causal connection. *Topics in Middle Eastern and North African Economies* 6. <http://www.mafhoum.com/press7/197E14.htm>.
- 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, Luxembourg Income Study.
- Stewart, Frances. 2000. Crisis prevention: Tackling horizontal inequalities. *Oxford Development Studies* 28 (3): 245-62.
- . 2002. Horizontal inequalities: A neglected dimension of development. QEH Working Paper No. 81, University of Oxford, UK.
- Townsend, Robert M. 1994. Risk and insurance in village India. *Econometrica* 62 (3): 539-91.
- Tyson, Laura. 2001. It's time to step up the global war on poverty. *Business Week*, December 3.
- U.S. State Department. 2004. *Patterns of global terrorism*. <http://www.state.gov/s/ct/rls/pgtrpt/>.
- U.S. White House. 2002. *National security strategy of the United States*. Washington, D.C.: Government Printing Office.
- Van der Walle, Dominique. 1996. Assessing the welfare impacts of public spending. World Bank Policy Research Paper 1670, World Bank.
- Van der Walle, Dominique, and Kimberly Nead. 1995. *Public spending and the poor: Theory and evidence*. Baltimore: World Bank by Johns Hopkins University Press.
- Williams, Rick L. 2000. A note on robust variance estimation for cluster-correlated data. *Biometrics* 56: 645-46.
- Wolfensohn, James D. 2002. Fight terrorism by ending poverty. *New Perspectives Quarterly* 19 (2): 42.
- World Bank. 2004. World development indicators database. <http://devdata.worldbank.org/edstats/cd5.asp>.