THE IMPACT OF TERRORISM AND CONFLICTS ON GROWTH IN ASIA

by

Khusrav Gaibulloev
kng031000@utdallas.edu

and

Todd Sandler*
School of Economic, Political & Policy Sciences
University of Texas at Dallas
800 W. Campbell Road
Richardson, TX 75080-3021 USA
Phone: 1-972-883-6725
Fax: 1-972-883 6486
tsandler@utdallas.edu

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Abstract

This paper quantifies the impact of terrorism and conflicts on income per capita growth in Asia for 1970-2004. Our panel estimations show that transnational terrorist attacks had a significant growth-limiting effect. An additional terrorist incident per million persons reduces GDP per capita growth by about 1.5 percent. In populous countries, many additional attacks are needed to achieve such a large impact. Transnational terrorism reduces growth by crowding in government expenditures. Unlike developing countries, developed countries are able to absorb terrorism without displaying adverse economic consequences. An internal conflict has the greatest growth concern, more than twice that of transnational terrorism. Conflict variables are associated with smaller investment shares and increased government spending, with the crowding-in of government spending being the dominant influence.

Keywords: Economic growth, panel estimation, transnational terrorism, intrastate wars, and interstate wars

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*Corresponding author.

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1. INTRODUCTION

Modern-day terrorists are bent on causing sufficient harm to a society that targeted governments concede to their demands. This harm may be in terms of human and/or economic losses – e.g., the al-Qaida training manual invokes followers to attack "vital economic centers" (WorldNetDaily, 2003). Both kinds of losses expose a government's inability to protect a country's assets, thereby causing a loss in citizen confidence and government legitimacy. When terrorist attacks are sufficiently deadly, costly, and persistent, an atmosphere of fear and terror may pervade the society making virtually everyone feel at risk, which is the terrorist group's intent. If a besieged government views the anticipated costs of future terrorist actions as greater than the costs of conceding (including lost reputation) to terrorist demands, then the government will grant some accommodation. A determined terrorist organization may obtain its demands quicker by augmenting the economic consequences of its terrorist campaign. Thus, Euskadi Ta Askatasuna (ETA) targeted hotels and resorts in the 1980s to hurt tourism in Spain (Mickolus, Sandler, and Murdock, 1989). The Irish Republican Army (IRA) and Jemaah Islamiyah have also sought to cause economic ramifications with their attacks. On 11 September 2001 (henceforth, 9/11), the al-Qaida attack against the World Trade Center, an icon of the capitalist world, created $80 to $90 billion in direct and indirect economic losses and temporarily impacted stock markets worldwide (Chen and Siems, 2004; Kunreuther, Michel-Kerjan, and Porter, 2003).

Terrorism can potentially affect economic growth in the short run through a number of channels. Such attacks can increase uncertainty which limits investments and diverts foreign direct investment (FDI) (Abadie and Gardeazabal, 2003, 2008; Enders and Sandler, 1996). For developing countries, FDI is an important source of saving to fund investment. Terrorism campaigns lead to government expenditures on defensive actions to harden targets and proactive

measures to capture terrorists and their assets. This increased government spending on security can crowd out more growth-enhancing public and private investments (Blomberg, Hess, and Orphanides, 2004; Gaibulloev and Sandler, 2008). Public investment in the form of social overhead capital (e.g., canals, highways, and bridges) is especially important to bolster growth in developing countries. Terrorism also hinders growth by raising the cost of doing business in terms of higher wages, larger insurance premiums, and greater security expenditures. These higher costs result in reduced profits and, thus, smaller returns on investment. Terrorist attacks can also destroy infrastructure, thereby leading to business disruptions. IRA attacks on London's financial district at the Baltic Exchange (10 April 1992) and Bishopsgate (24 April 1993) resulted in £800 million and £350 million in direct damages, respectively. The 7 July 2005 attacks on the London transport system resulted in over £1 billion in damages. Finally, terrorism can impact some key industries – airlines, tourism, and export sector – which can reduce gross domestic product (GDP) and growth (Enders and Sandler, 2006a).

Similarly, internal (i.e., intrastate or civil wars) and external conflicts can also reduce growth by destroying human, private, and public capital. Civil wars result in a flight of capital; the amount of private wealth held abroad more than doubles during intrastate conflicts (Collier et al., 2003, p. 15). Conflicts, like terrorism, increase uncertainty, thereby decreasing investment. In addition, internal conflicts almost double the share of GDP devoted to defense – from about 2.8% to 5% – which limits spending on social overhead capital and health (Collier et al., 2003, p. 14). Such diversion of public spending not only crowds out more productive forms of investment but also makes a conflict-ridden country prone to diseases (Ghobarah, Huth, and Russett, 2003). Conflict-torn developing countries may experience decreased growth from reduced assistance as donor countries worry that aid may be channeled to finance military activities rather than to alleviate poverty. As in the case of terrorism, internal and external

conflicts raise the costs of doing business. Nearby conflicts can reduce economic growth by disrupting supply lines, creating refugee inflows, causing border skirmishes, and increasing security spending. Murdoch and Sandler (2004) showed that each war in a neighboring state reduces annual growth rates by about 0.5% per year. Thus, a war not only limits growth at home, but also reduces growth within 800 kilometers of each conflict country's borders as nearby countries divert resources to defense to ward off the spread of conflict (Murdoch and Sandler, 2004).

The current study has six purposes. First, and foremost, we present panel estimates for a sample of 42 Asian countries to quantify the impact of terrorism and conflicts on income per capita growth for 1970-2004. Panel estimation methods control for country-specific and time-specific unobserved heterogeneity. Second, we distinguish the influence of terrorism on economic growth from that of internal and external conflicts. Third, these influences are investigated for cohorts of developed and developing countries to ascertain whether development can better allow a country to absorb the impact of political violence. Fourth, econometric estimations relate violence-induced growth reductions to two pathways – reduced investment and increased government expenditures. Fifth, a host of diagnostic and sensitivity tests support our empirical specification. Last, we draw some policy conclusions.

Earlier studies on the economic consequences of terrorism growth either focused on the world (Blomberg, Hess, and Orphanides, 2004; Tavares, 2004) or on Europe (Gaibulloev and Sandler, 2008). There are compelling grounds for focusing on Asia. Such a study allows us to ascertain whether Asian economies respond differently than the rest of the world or Europe to terrorism. Since 1970, Asia has had more conflicts than any other region (Gleditsch et al., 2002). With the rise of fundamentalist terrorism in the 1980s, there are many transnational terrorist attacks in Asia, which is home to some of the world's most notorious terrorist groups – e.g., al-

Qaida, Jemaah Islamiyah, Abu Sayyaf, and others. The incidence of Asian terrorist attacks has risen following 9/11 as Western democracies augmented homeland security (Enders and Sandler, 2006b). For a much smaller Asian sample and a different time period, Blomberg, Hess, and Orphanides (2004) did not uncover any significant effect of terrorism on economic growth. Our larger sample and expanded runs permit us to take a more careful look at this crucial region and to distinguish the growth consequences of terrorism between developing and developed countries. Asia houses a sizable share of the world's population and contains many of today's fastest growing economies. Thus, the impact of terrorism on these economies deserves study.

For the entire Asian sample, transnational terrorism and internal conflict have significant adverse consequences for growth, with the largest impact coming from internal conflicts. Developing Asian countries are much more affected by political violence than their more developed counterpart, suggesting that development cushions greatly the impact of terrorism and conflicts. Not surprising, political violence adversely affects investment, while it increases government spending. Transnational terrorism and conflicts have a particularly strong influence in augmenting government spending, with internal and external conflicts displaying the stronger impact.

The remainder of the paper contains four main sections. Section 2 presents background including definitions, the primary influences on income per capita growth, and a brief review of the literature. Section 3 includes the empirical specification and data. Estimations and results then follow in section 4. Concluding remarks and policy implications are presented in section 5.

2. DEFINITIONS, ECONOMIC GROWTH, AND PAST LITERATURE

Terrorism is the premeditated use or threat to use violence by individuals or subnational groups in order to obtain a political or social objective through the intimidation of a large audience

beyond that of the immediate victims. Terrorists try to circumvent the democratic process by extorting concessions through the pressures that a targeted citizenry may bring on its government to end the violence. The above definition excludes state terror, where the state applies violence to intimidate its citizens (e.g., Stalin in the Soviet Union), but includes state-sponsored terrorism where a state assists (e.g., through safe havens, intelligence, or funding) a terrorist group. Terrorists employ myriad modes of attack – e.g., bombings, assassinations, kidnappings and skyjackings – whose mix is chosen optimally to trade off risks and returns (Sandler, Tschirhart, and Cauley, 1983). Terrorists try to make their attacks appear to be random to maximize an audience's anxiety as risks seem ubiquitous. In truth, attacks are not random but planned to exploit perceived target weaknesses and value.

Terrorist events are usually subdivided into two varieties: domestic and transnational terrorism. Domestic terrorism is homegrown with consequences for only the host country, its institutions, citizens, property, and policies. As such, domestic terrorism involves perpetrators, victims, and targets solely from the host country. Through its victims, targets, supporters, perpetrators, or implications, transnational terrorism concerns more than a single country. If the terrorists cross a border to perpetrate their acts, then the attacks are transnational. Terrorist incidents that begin in one country and conclude in another country (e.g., an international skyjacking or the mailing of a letter bomb to another country) are transnational terrorist events.

The kidnapping (and subsequent murder) in 2002 of *Wall Street Journal* reporter Daniel Pearl in Karachi, Pakistan is a transnational terrorist incident. In addition, the hijacking of Indian Airlines flight 814, en route from Katmandu to New Dehli, on 24 December 1999 is an example of transnational terrorism. The toppling of the World Trade Center towers on 9/11 is a transnational terrorist event, because the victims hailed from many countries, the mission had been planned and financed abroad, the terrorists were foreigners, and the implications were

global. The bombing of foreign-owned investments for political reasons is a transnational terrorist incident, in which FDI may be persuaded over time to seek a safer country. For the period of this study (1970-2004), both domestic and transnational terrorism plagued Asian countries. However, since we could not find a dataset with a reliable measure of domestic incidents for an extended time period, we only relate transnational terrorist attacks to economic growth.[1]

Internal conflicts include intrastate wars, where all violence is confined within the country's borders. Such conflicts typically concern opposition groups fighting for territory or political rights. At times, internal conflict may also be between ethnic groups with opposing interests. We use UCDP/PRIO *Armed Conflict Dataset, Version 4-2007* (Gleditsch et al., 2002) and hence apply their definitions. Conflict is "internal" when it involves the home government and domestic opposition groups; conflict is "internationalized internal" when it involves the home government, domestic opposition groups, and other countries. The latter may provide support to one of the adversaries or else dispatch some troops to the conflict. As is common in the literature, we include internal and internationalized internal conflicts as *internal conflicts*. In contrast, *external conflict* may be between two or more countries (i.e., interstate) or "extrastate" between a country and a non-state group from abroad (Gleditsch et al., 2002). The *Armed Conflict Dataset* distinguishes between minor conflicts with 25 to 999 battle-related deaths per year and wars with 1000 or more battle-related deaths per year. Because we use internal conflicts as a proxy for domestic terrorism for some of the runs in section 4, we include all conflicts in our two conflict categories with 25 or more battle-related deaths. Terrorism is a tactic that is used in both internal and external wars – e.g., the Vietnam War involving the United States had a lot of terrorist attacks. In small civil wars, some violence may be in the form of terrorist attacks owing to the modest means of an opposition group – e.g., Tamil Tiger suicide

attacks in Sri Lanka.

[Figure 1 near here]

In Figure 1, the number of Asian countries embroiled in internal and external conflicts is displayed for each year during the sample period. Since 1974, there have been more Asian countries involved in internal than in external conflicts. After 1988, there has been typically a single external war involving Pakistan and India over a territorial dispute in Kashmir. This war has also resulted in terrorist attacks in both countries. There have been eight or more Asian countries suffering internal conflicts from 1977 on.

We now turn to three important determinants of income per capita growth (*growth*). The initial level of income per capita (*y*) is a positive influence on economic growth owing to the notion of convergence, whereby the income per capita of a poorer country outpaces that of a richer country (Barro, 1991; Barro and Sala-i-Martin, 1992). Convergence hinges on diminishing returns, in which countries are better able to add to output when there is less initial output and inputs. Convergence assumes that comparison countries possess identical production functions and transition equations, but differ in their initial income per capita. The latter assumption may hold for many Asian countries at similar stages of development that confront analogous production conditions. The investment share (I/GDP) is a second essential determinant of income per capita growth. Higher shares give rise to greater capital accumulation, which fosters growth through capital and embodied technological change. A third influence on growth is trade openness (*open*), measured by the ratio of the sum of exports and imports to GDP. Openness may bolster growth as augmented exports increase aggregate demand and larger imports provide raw materials and, for developing countries, technology transfers. Rodrik (1999), however, felt that the benefits of openness on growth in developing countries are overstated unless a complementary set of policies is put in place that promotes the accumulation

of physical and human capital.

Income per capita growth may also be adversely affected by political violence in terms of alternative forms of terrorism and/or conflicts (Barro, 1991; Blomberg, Hess, and Orphanides, 2004). Terrorism and conflicts augment uncertainty and result in a loss of investor confidence. Political violence also limits economic growth by raising government spending on security. In recent years, an extensive literature exists on the economic consequences of terrorism. Blomberg, Hess, and Orphanides (2004) and Tavares (2004) showed that each year of transnational terrorism reduces income per capita growth by 0.048% and 0.038%, respectively. In a recent study of Western Europe, Gaibulloev and Sandler (2008) found that each additional transnational terrorist incident per million persons reduces economic growth by about 0.4 percentage points in a given year. Two careful country studies applied novel methods to investigate the negative impact of terrorism on income per capita. For the Basque region of Spain, Abadie and Gardeazabal (2003) estimated a 10% fall in per capita income over a twenty-year period when ETA engaged in an active terrorist campaign. Eckstein and Tsiddon (2004) applied a vector autoregressive (VAR) analysis to show that Israel lost 10% of its per capita income during the three-year Intifada. In effect, terrorism reduced Israeli economic growth to zero during this violent era.

In a recent survey, Sandler and Enders (2008) identified some unifying principles of the economic impact of terrorism. First, large developed economies are able to withstand terrorism and display little macroeconomic consequences. This is traced, in part, to these economies' ability to regain people's confidence through enhanced security. Advanced economies can also apply monetary and fiscal policy to curb the economic effects of large terrorist events, such as U.S. actions following 9/11 (Enders and Sandler, 2006a, pp. 208-211). Second, small developing economies suffer significant macroeconomic impacts from terrorism. Third,

terrorist-prone sectors suffer substantial losses when attacked. Fourth, the immediate costs of most terrorist attacks are localized, thereby causing a substitution of economic activities from relatively vulnerable sectors to relatively safe sectors. This substitutability allows large diversified economies to cushion losses in economic activities.

Finally, the degree of a nation's democracy may have an impact on economic growth. Empirical results on the relationship between democracy and growth are inconclusive. In a recent study, Tavares and Wacziarg (2001) examined channels through which democracy may affect growth. They found that democracy promotes growth by increasing human capital accumulation and income equality, while democracy limits growth by lowering physical capital investment and bolstering government spending, with the net effect being negative. [2]

3. METHODOLOGY

3.1 Empirical Specification

Following Blomberg, Hess, and Orphanides (2004), we specify three estimation equations:

$$growth_{it} = \beta_0 + \beta_1 \ln y_{it-1} + \beta_2 \ln\left(open\right)_{it-1} + \beta_3 \left(I/GDP\right)_{it-1} + \beta_4 terror_{it} + \beta_5 external_{it} + \beta_6 internal_{it} + \beta_7 polity_{it} + \alpha_i + \lambda_t + \nu_{it}, \quad (1)$$

$$\left(I/GDP\right)_{it} = \gamma_0 + \gamma_1 \ln y_{it-1} + \gamma_2 \ln\left(open\right)_{it-1} + \gamma_3 terror_{it} + \gamma_4 external_{it} + \gamma_5 internal_{it} + \gamma_6 polity_{it} + \mu_i + \eta_t + \varepsilon_{it}, \quad (2)$$

$$\left(G/GDP\right)_{it} = \phi_0 + \phi_1 \ln y_{it-1} + \phi_2 \ln\left(open\right)_{it-1} + \phi_3 terror_{it} + \phi_4 external_{it} + \phi_5 internal_{it} + \phi_6 polity_{it} + \delta_i + \psi_t + \zeta_{it}. \quad (3)$$

Equations (1)-(3) examine the determinants of the income per capita growth rate, the investment share, and the government spending share (*G*/*GDP*), respectively, where $i = 1, \ldots, N$ represents the country and $t = 1, \ldots, T$ indexes the time period. The independent variable *terror* is a

measure of transnational terrorist attacks, *internal* denotes internal conflicts, *external* measures external conflicts, and *polity* quantifies the degree of democracy. βs, γs, and φs are regression coefficients, while the remaining Greek letters indicate the disturbances. In equations (1)-(3), each disturbance consists of three components: unobservable (time-invariant) country effect, subscripted with *i*; unobservable time effect, subscripted with *t*; and the classical random error. For example, α_i is the unobservable country-specific effect, λ_t is the unobservable time-specific effect, and ν_{it} is the stochastic error term. In equation (1), political violence variables are added to the main determinants of economic growth. Equations (2)-(3) identify the potential channels through which the political violence variables slow down economic growth by either reducing investments or augmenting government spending through security expenditures.

Our empirical approach is based on the behavior of the unobservable effects (see e.g., Baltagi, 2005). We perform *F*-test to examine the presence of unobservable effects.[3] If the effects are not present, we apply ordinary least squares (*OLS*), which is consistent and efficient. If, however, unobservable effects are present, we employ the one-way fixed-effects estimator when there are only country effects (time effects), and the two-way fixed-effects estimator when evidence suggests both time and country effects. In choosing the fixed-effects method, we assume that the unobservable effects are fixed parameters for estimation. Alternatively, we can regard the effects as random and apply generalized least squares (*GLS*), which implies that the unobservable effects are part of the disturbance and therefore independent of the observable explanatory variables. We implement the Hausman test to investigate the correlation between the effects and the regressors. If the Hausman test supports independence between the observable regressors and the unobservable effects, we use the random-effects estimator, in addition to the fixed-effects model, for sensitivity analysis.

3.2 Data

Our data are drawn from four sources: *Penn World Table Version 6.2* (Heston, Summers, and Aten, 2006), *International Terrorism: Attributes of Terrorist Events* (ITERATE) (Mickolus et al., 2006), Uppsala Conflict Data Program (UCDP)/International Peace Research Institute Oslo (PRIO) *Armed Conflict Dataset, Version 4-2007* (Gleditsch et al., 2002), and *Polity IV Dataset* (Marshall and Jaggers, 2004). We construct an unbalanced dataset for 42 Asian countries for 1970-2004.[4] The sample countries include Asian countries for which we can get both macroeconomic and political violence data and, as such, include the main developing and developed countries within the region. We begin at 1970 to increase the number of countries with macroeconomic data. Moreover, terrorism data for 1968-1969 is rather spotty because terrorism datasets were only started in 1968. By 1970, these datasets were better able to track incidents.

Macroeconomic variables – real GDP per capita in constant dollars, economic openness (exports plus imports as a share of real GDP), investment share of real GDP, population, and government expenditure share of real GDP – are obtained from the *Penn World Table Version 6.2*. Based on data on real GDP per capita, we compute the growth of real GDP per capita as the difference in the log (ln) of GDP per capita of subsequent years. We also calculate the log of the index of country *i*'s openness at time *t*, which we denote by $\ln(open)_{it}$.

ITERATE is used to construct the number of transnational terrorist incidents per million persons (*terror*), which indicates the level of transnational terrorist incidents normalized by the venue country's population. Five incidents in a year in a country with a population of 300 million should, ceteris paribus, have less of an economic influence than the same number of incidents in a country with a tenth of the population. We generally favor a terrorism measure where the number of events is used rather than a dummy that merely signals one or more events

in a given year, since the latter does not indicate the prevalence of terrorism. We have two indicator variables for conflicts. Based on UCDP/PRIO *Armed Conflict Dataset*, *external* is 1 if the country experienced an international conflict (interstate or extrastate) in a given year and is 0 otherwise; similarly *internal* is 1 if the country experienced an internal conflict (internal or internationalized internal) in a given year and is 0 otherwise. Finally, we obtain the polity variable from the *Polity IV Dataset* for each sample country and year. This polity measure reflects three interdependent elements – the amount of political participation, restraints (if any) on executive power, and the extent of government-backed civil liberties (e.g., freedom of association, freedom of speech, protection against unwarranted search and seizure, and due process under the law)**.** These three elements are aggregated into a single score that varies from –10 (strongly autocratic) to +10 (strongly democratic).

Summary statistics are displayed for our variables in Table 1. For 1970-2004, income per capita for a sample country grew on average by 2.3 percent. Investment share was about 15.5 percent of GDP, while government spending share was about 22.6 percent of GDP. On average, a sample country experienced 0.055 transnational terrorist incidents per million persons. In any given year, external conflict was present in about 8 percent of the sample countries, while internal conflict occurred in about 22 percent of the sample countries. This relative incidence of conflicts agrees with the impression gained from Figure 1, presented earlier. The average score of *polity* is around +1, with a standard deviation of 7; hence, the extent of democracy varies highly across our sample countries.

[Table 1 near here]

ITERATE records essential information about transnational terrorist events such as its date, country location (start and end location), incident type, and so on (Enders and Sandler, 2006a, pp. 55-60). ITERATE draws its data from media accounts, with a large reliance until

1996 on the Foreign Broadcast Information Service (FBIS) *Daily Reports*, which surveys a couple hundred of the world's newspapers. ITERATE continues to draw information from major newspapers, wire services, and other media outlets after 1996. ITERATE excludes not only attacks directed at combatants or occupying armies, but also attacks associated with declared wars or guerilla warfare.

We perform some cleanup of ITERATE data because it lists both a start and an end country for an incident. Typically, the start and end country locations are the same, but they differ for a small percentage of incidents. Our concern is when the start *or* end country lies outside of Asia – our region of interest. For 90 events, the incident started in an Asian country but ended outside of Asia. After reading the description of these 90 events, we determine that 16 of these incidents really took place in the Asian country of origin (e.g., a plane hijacked at an Asian airport). The other 74 events really took place outside of Asia and are dropped. There were 16 terrorist events that ended within Asia but started outside of the region (e.g., letter bombs mailed from Europe to an Asian country). Eight of these observations are kept after further investigation. Finally, 47 incidents started in one Asian location (e.g., India) and concluded in another Asian location (e.g., Pakistan). After consulting the incidents' descriptions, 43 of them are assigned to the start country and the remaining 4 are assigned to the end location. Also, we do not include "terrorist events" coded as arms smuggling (incident type 22), since the use of these arms in a specific terrorist incident is not indicated. Moreover, the arms may be intended for purposes other than terrorism – e.g., war or crime.

Figure 2 displays the annual number of transnational terrorist events per million persons for our Asian sample for 1970-2004. The time series suggests cycles in transnational terrorist events as the terrorists and the targeted governments take countermeasures against one another (Enders and Sandler, 2006a). There are more incidents for 1986-1994 and a greater variability

after 1986. This increased terrorism corresponds to the rise of Islamic fundamentalist terrorism as the dominant influence of transnational attacks. In the two years following 9/11, there is a big increase in transnational terrorist attacks in Asia, which corresponds to geographical transference, identified by Enders and Sandler (2006b).

[Figures 2 near here]

Although not shown in the figure, the geographic distribution of terrorism is of interest. In terms of transnational terrorist incidents for 1970-2004, ITERATE ranks the top fifteen Asian venues in descending order as follows: the Philippines, Pakistan, India, Cambodia, Afghanistan, South Korea, Indonesia, Thailand, Japan, Australia, Tajikistan, Malaysia, Sri Lanka, Taiwan, and China. In terms of transnational terrorism events per million people, the top fifteen hotspots are: the Solomon Islands, Tajikistan, Fiji, the Philippines, Singapore, Afghanistan, Cambodia, Georgia, Laos, Australia, Malaysia, Hong Kong, Sri Lanka, Pakistan, and South Korea. Some sparsely populated countries on the second list do not appear on the first list, while some populous countries (e.g., India, Indonesia, and China) on the first list do not appear on the second list. Nine countries show up on both lists.

4. ESTIMATION AND RESULTS

We first estimate the growth equation in equation (1) for our entire Asian sample. The Hausman test between two-way fixed-effects and two-way random-effects specifications rejects the null hypothesis of no correlation between the explanatory variables and the unobserved effects; hence, the standard random-effects estimation is not appropriate. We also perform *F*-tests for the presence of country-specific and time-specific effects and find the presence of both effects, thereby supporting our two-way fixed-effects estimations.[5]

In Table 2, Models 1-3 sequentially introduce the three conflict variables – transnational

terrorist events, external conflicts, and internal conflicts – one at a time to three standard growth explanatory variables that appear in all five models. Model 4 includes conflict variables together with transnational terrorism, and Model 5 adds the democracy variable. Consistent with the growth literature, the log of lagged GDP per capita has a negative influence on income per capita growth, which reflects convergence.[6] The lagged investment share has the anticipated positive effect on income per capita growth. Across all five models, the impacts of these two variables are robust. The log of lagged openness is not a positive determinant of growth, which agrees with Rodrik's (1999) view that the influence of openness on growth is overstated, especially for developing countries which comprise most of our sample. Openness has a negative sign across all models but is statistically significant only in Model 5, when the polity variable is included; but one should be cautious in attributing this change to the inclusion of this variable. *Polity IV Dataset* does not have regime information for nine countries of our sample (i.e., Brunel, Hong Kong, Kiribati, Maldives, Micronesia, Palau, Samoa, Tonga, and Vanuatu) and therefore the discrepancies may exist because the samples differ (Model 5 has over 300 fewer observations). To investigate, we reestimate Model 5 without the polity variable, excluding these nine countries, so that there are 886 observations. The results are almost identical to those presented in Table 2 with the polity variable included, which suggests that the differences are coming from the sample size. The impact of democracy on growth is not statistically significant.

[Table 2 near here]

For the political violence variables, transnational terrorism and internal conflicts have the expected negative impact on growth; however, external conflict is statistically insignificant. These results hold for all five models. In particular, the coefficient of transnational terrorism is about –0.015 (Model 1), indicating that, on average, an additional terrorist event per million persons lowers GDP per capita growth by about 1.5 percent in a given year. Thus, a populous

country with 100 million people would have to experience 100 more transnational terrorist events to have this kind of impact. Ten additional events would reduce growth by 0.15 percent for this hypothetical country. When the polity variable is included (Model 5), the coefficient for terrorism becomes around –0.02. This difference in magnitude, however, does not seem to be caused by omitting the democracy measure. In particular, we could not find a statistically significant effect of democracy on growth and, as noted before, we get similar results with and without the polity variable. The estimated influence of internal conflicts is around –0.02, which implies that an intrastate conflict cuts a country's income per capita growth by approximately 2 percent in a year.

There is a potential endogeneity problem in our growth regressions with respect to openness and investment. We apply the IV method on a first-differenced growth model (e.g., Dollar and Kraay, 2003), but the results are insignificant. As Dollar and Kraay (2003) demonstrated, this may be due to the identification problem. Unfortunately, finding good instruments is problematic, whereas weak instruments can lead to misleading conclusions (Dollar and Kraay, 2003).

There are a number of potential reasons for why terrorism and other types of conflict influence a country's economy. One scenario is that terrorism and conflict crowd out growth-promoting investment for less productive government spending in terms of national security. We investigate this possibility by estimating investment and government spending models, given by equations (2)-(3). A positive impact of terrorism and conflict on government spending and a negative influence of terrorism and conflict on investment would be consistent with this crowding-in/crowding-out hypothesis. We perform specification tests for these two equations. *F*-tests indicate that both time-specific and country-specific effects are significant for the investment models, whereas only country-specific effects are significant for Models 1-4 of

government spending.[7] The Hausman test for the investment regression and the Wald statistic (an equivalent to the Hausman test) for the government spending regression indicate a correlation between the unobserved effects and the regressors for all models; thus, we employ two-way fixed-effects estimators for the investment models and one-way fixed-effects estimators for the government spending models.

[Table 3 near here]

Table 3 reports the results for the investment regressions where the dependent variable is investment share in percentage. Economic openness strongly stimulates investment. Lagged GDP per capita is positive across all models but is not statistically significant, except for Model 5 when the polity variable is introduced. Democracy is a positive determinant of investment opposite to the findings of Tavares and Wacziarg (2001). They, however, indicated that democracy has both positive (by improving property rights and contract enforcement, and by reducing uncertainties associated with political and socio-economic instability) and negative (by increasing the cost of labor) consequences on investment. Thus, the benefits from democracy appear, for our study, to outweigh the costs. Transnational terrorism is not statistically significant. External and internal conflicts are associated with a fall of the investment share of 0.73 and 0.66 percentage points, respectively. These results are weakly significant at the .10 level. External conflict is not significant when included with internal conflict (Model 4), while both external and internal conflicts become insignificant when the polity index is introduced (Model 5).

The insignificance of terrorism on investment must be interpreted with caution. Empirical work found a large and statistically significant influence of terrorism on the less general measure of FDI (e.g., Abadie and Gardeazabal, 2008). Because many investment projects cannot be easily reversed, they may be relatively insensitive to short-term shocks,

captured by the fixed-effects estimator. Finally, the openness variable may be endogenous if a significant share of investment is directed toward trade-enhancing activities. In this case, the terrorism coefficient will be biased. We lag the openness variable to address partially this endogeneity. Even when we repeat the estimations either excluding openness or applying democracy as an instrument for openness, the effect of terrorism remains insignificant.

[Table 4 near here]

For government spending models[8] in Table 4, lagged income per capita decreases the percentage of government spending share, which may be attributable to automatic stabilizers. That is, government spending contracts during good times when income per capita is high, while it expands during bad times when income per capita is low. Lagged openness, however, stimulates government spending, consistent with Rodrik (1998) who argued that open economies are more vulnerable to external shocks. To cushion such shocks, government expenditures play a stabilizing role in open economies, so that government spending and openness must move together. The results for Model 5 show that more democracy is associated with lower government spending, perhaps due to better accountability and transparency. An increase in transnational terrorism by one incident per million persons raises the share of government expenditures by approximately 1.5 percent, consistent with crowding-in. External conflicts augment the government spending share by approximately 1.4 percent, while internal conflicts increase this share by about 1 percent. The results are robust across all government spending models.[9]

Although we find that political violence variables are negatively associated with growth and positively associated with government spending, we cannot compare the *relative* effect of these variables since the terrorism variable is measured in number of incidents per capita, while internal and external conflicts are indexed as dummy variables. To compare the relative

magnitudes of the terrorism and conflict coefficients, we transform terrorism into an indicator variable and then reestimate Models 4 and 5 of the growth and the government spending regressions. Table 5 shows the results for the political violence variables. We do not present estimates of the investment regression, because the results are not robust across models. In Table 5, the adverse impact of internal conflict on income per capita growth is over twice as large as that from transnational terrorism. Thus, internal conflict is a greater growth concern than transnational terrorism. Similarly, the impact of transnational terrorism on the share of government spending is about half of that of the external and internal conflict variables. Internal and external conflicts contribute almost equally to the need for government spending.

[Table 5 near here]

Until now, we assumed that the influence of terrorism is the same across sample countries and periods; however, terrorism may have a stronger effect on countries with less-developed economies. Advanced economies are more resilient and recover faster from shocks associated with terrorist incidents (Sandler and Enders, 2008). To explore this possibility, we divide our sample into seven developed and thirty-five developing countries (see footnote 2) and repeat the analysis. For brevity, we focus on the coefficients of the political violence variables. For developed countries, we exclude internal conflicts because there were almost no such conflicts.

As anticipated, the terrorism variable is never significant for developed countries in Table 6.[10] External interstate conflicts reduce investment shares by just under 4 percent and increase government spending shares by about 1.2 percent. These results are highly significant and robust, except for Model 4 of the government spending regression, where external conflict is not significant. Development is no firewall against the adverse effects of interstate wars on investment and government spending.

[Table 6 near here]

A different picture emerges for developing countries, which are adversely affected by conflicts and terrorism.[11] According to Table 7, transnational terrorism has a statistically significant impact on growth and government spending, consistent with the entire sample. Transnational terrorism's effect on growth is significant in Models 1, 5 and is insignificant when combined with conflict variables (Model 4) in the absence of the polity variable. External conflict is only significant in the government spending models. Finally, internal conflict is statistically significant in all relevant models. The sign of all significant coefficients are as expected. An additional transnational terrorist incident per million persons results in a reduced growth of 1.4 percent and a rise in the government spending share of about 1.6 percent. The growth effect of terrorism increases to about 2 percent when the polity variable is introduced; but this change has more to do with the reduction in sample size. External conflicts lead to an increase in the government spending share of about 1.7 percent, which is similar to transnational terrorism. Internal conflict lowers growth and investment shares by about 2 percent and 1 percent, respectively, and raises the government spending share by approximately 1 percent.

[Table 7 near here]

Finally, we examine the stability of the political violence parameters over time. As previously shown in Figure 2, the number of annual terrorist incidents are higher with larger fluctuations over 1986-2004 compared to prior sample years. The mean and variance of terrorist incidents are 0.031 and 0.106 for the sample period before 1986, and they are 0.072 and 0.357, respectively, for 1986-2004. To discover whether the political violence variables display different effects over time, we divide the data into two subsamples – 1970-1985 and 1986-2004 – and repeat our regressions. Table 8 presents the results for the terrorism and conflict variables associated with Models 4 and 5.

[Table 8 near here]

For 1970-1985, terrorism and external conflict are never significant. Internal conflict is statistically significant only in government spending models and its effect is stronger compared to the corresponding coefficient for 1986-2004 and the respective estimate of pooled data in Table 4. For 1986-2004, terrorism and internal conflict slow down growth and raise government spending, while internal conflict reduces investment. The magnitude of the coefficients of terrorism and internal conflict variables in the growth and investment models are comparable to the corresponding pooled sample estimates in Table 2 and 4. The effect of internal conflict on investment is, however, larger and statistically stronger compared to the respective parameter in Table 3. We do not find a statistically significant impact of external conflict in any model.

There is evidence that the economic impacts of the political violence variables, especially terrorism, become more resonant in the latter sample period. These results are preliminary; more formal analysis is needed to pinpoint the structural change. An investigation of the structural stability of the model may increase efficiency by imposing appropriate restrictions on coefficients. We hope that our results stimulate further investigation of this problem.

5. CONCLUDING REMARKS

We added terrorism and conflict variables to a standard growth model to ascertain the influence that these political violence factors have on Asian growth for 1974-2004. Our one-year-panel analysis indicates that transnational terrorism has a significant short-run, growth-retarding effect for developing countries in Asia. Asian developed countries, however, manage to sustain terrorist attacks without displaying growth consequences. For Asian developing countries, transnational terrorism curbs income per capita growth primarily by stimulating government security spending, which diverts resources from more productive private and public investments.

Both internal and external conflicts are associated with smaller investment shares and larger government spending shares, with crowding-in of government expenditures dominating the crowding-out of investment. Internal conflicts have a much greater negative growth influence than transnational terrorist events or external conflicts. Populous countries must sustain a large increase in transnational terrorist attacks before displaying much lost in growth, given that our terrorism measure is in terms of incidents per million persons. Both internal and external conflicts crowd in government spending of a similar magnitude that is about twice as large as that from transnational terrorism.

Following Abadie and Gardeazabal (2008), we must acknowledge several concerns that apply to all terrorism studies that use similar data. Terrorist event data are not the ideal measure of the unobservable perceived risk of terrorism, insofar as we cannot control for the magnitude or importance of individual events. Given that event data measure terrorist risk with error, our terrorism coefficients suffer from attenuation. The measurement error in explanatory variables is particularly problematic in fixed-effects models (Griliches and Hausman, 1986). In addition, fixed-effects estimates of terrorism do not account for the long-run effects. Thus, our estimates are potentially conservative measures of terrorism's influence on growth.

A number of policy insights can be drawn from this analysis. Since transnational terrorism negatively impacts growth through increased government spending, targeted countries must ensure that they do not overspend on defensive and offensive counterterrorism measures. Recent research indicates that there is a proclivity for at-risk countries to spend too much on protective countermeasures in the hopes of displacing potential attacks abroad (Enders and Sandler, 2006a; Siqueira and Sandler, 2006). Such actions have a negative impact on growth, which makes it even more imperative that neighboring nations cooperate in their efforts to curb terrorism. Coordination failures may result in countries transferring attacks to their own people

and property elsewhere in Asia, so that little security may be truly gained. This also means that Asian countries must take coordinated efforts to eliminate the terrorists and their weapons so that the need for defensive actions diminishes.

Because developing countries are less able than their more developed neighbors to withstand terrorist attacks without economic consequences, rich Asian countries must assist poorer neighbors to protect themselves and to recover from transnational terrorist attacks. Moreover, the rich Asian nations must take a leadership role in proactive countermeasures against a common terrorist threat. Terrorist groups, such as Jemaah Islamiyah which seeks a pan-Islamic state, underscore the need for coordinated government actions, because any Asian foothold that these terrorists achieve will allow them to pose greater risks throughout the region. Insofar as Jemaah Islamiyah also attacks Western interests [e.g., the Bali nightclub suicide car bombings (12 October 2002) and the Jakarta Marriott Hotel suicide car bombing (5 August 2003)], Western countries also have a real interest in eliminating this terrorist group. Rich Western countries can greatly assist Asian countries' efforts to address such common terrorist threats. This assistance may take many forms – e.g., intelligence, counterterrorist agents, and resources. Many Asian groups are linked – e.g., al-Qaida, Jemaah Islamiyah, Abu Sayyaf, and the Moro Islamic Liberation Front – which bolsters the case for joint Asian efforts, supported by Western help.

There is another justification for Western nations to assist Asia to address its transnational terrorism. As Western countries augmented their homeland security following 9/11, there is a documented transference of attacks to the Middle East and Asia (Enders and Sandler, 2006b, pp. 388-391). This transference means that Western countries have a responsibility for assisting. They also have a motive insofar as this transference involves an increase in attacks against Western persons and assets.

Footnotes

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Sandler is the Vibhooti Shukla Professor of Economics and Political Science.

1. In an earlier version of this paper, we also used a general measure for domestic and transnational terrorist attacks, taken from the Global Terrorism Dataset (GTD), compiled by the Study of Terrorism and Responses to Terrorism (START) at the University of Maryland. The GTD variable is generally insignificant, except for crowding out investment, and its removal had a negligible effect on the other coefficients; hence, we dropped these runs to conserve space. The high variance of the GTD variable and the inability of START to recreate the counts of earlier years call into question the reliability of GTD, which was initially gathered by Pinkerton Global Intelligence Services.

2. One reason for including the democracy variable is to avoid a possible omitted variable bias problem: democracy may influence growth and may also correlate with political violence variables. We also consider including fractionalization measures to account for a potential negative association between fractionalization and growth (Alesina and La Ferrara, 2005) and a positive association between fractionalization and conflict variables. The only

available fractionalization measures do not vary with time; thus, our fixed-effects estimator will wash out the influence of these time-invariant measures.

3. Orme and Yamagata (2006) derived the asymptotic distribution of the *F*-test for fixed effects when $N \to \infty$ and T is fixed. Their Monte Carlo analysis showed that the *F*-test performs well [compared with the random effects (LM) test] under random and fixed effects.

4. Sample countries include Afghanistan, Armenia, Australia*, Azerbaijan, Bangladesh, Bhutan, Brunei, Cambodia, China, Fiji, Georgia, Hong Kong*, India, Indonesia, Japan*, Kazakhstan, Kiribati, South Korea*, Kyrgyzstan, Laos, Malaysia, Maldives, Micronesia (Federated States), Mongolia, Nepal, New Zealand*, Pakistan, Palau, Papua New Guinea, the Philippines, Samoa, Singapore*, Solomon Islands, Sri Lanka, Taiwan*, Tajikistan, Thailand, Tonga, Turkmenistan, Uzbekistan, Vanuatu, and Vietnam. Developed countries are denoted with *.

5. More specifically, we test the null hypotheses of no country-specific effects, no time-specific effects, no joint country-specific and time-specific effects, no country-specific effects conditional on the presence of time-specific effects, and no time-specific effects conditional on the presence of country-specific effects.

6. There are, however, disagreements in the literature on whether the negative initial income coefficient is a true measure of convergence or just a result of a Galtonian fallacy bias (see, e.g., Friedman, 1992; Hart, 1995; Quah, 1993).

7. For Model 5, the time effects are significant, but the inclusion of time dummies in government spending regressions does not affect our conclusion on terrorism and conflict across all models.

8. The share of government spending in GDP is not a perfect measure of spending on national security. For example, an increase in the government share may stem from public

expenditures unrelated to national security, so that the effect of political violence on this share may be overstated. We do not possess better data that accurately isolate security-related expenditures from other government spending. An alternative is to use the data on government's military expenditure. We tried to estimate the effect of political violence variables on military spending and obtained insignificant results. However, this finding should be taken with caution; the military spending variable has its own weaknesses. Military expenditure does not capture defensive measures against terrorism. Also, the data on military spending start in 1988 and are either incomplete or fully missing for many sample countries.

9. Our results for all three estimation equations are broadly consistent if we repeat the panel regressions using robust standard errors or if we rerun the models with openness and investment shares not lagged.

10. Investment models are estimated using the one-way (country) fixed effects, because time effects are not statistically significant. The qualitative results do not change if we include year-specific dummies. We also estimate growth and investment models using the random-effects estimator, insofar as the Hausman test do not reveal an endogeneity problem. The results from Table 6 generally hold, except for external conflict which becomes marginally significant at the .10 level in the growth equation.

11. The growth and government spending models are estimated using one-way (country) fixed effects because the time effects are not statistically significant. Adding time dummies does not change the findings. For the government expenditure share models, we also estimate the models using the random-effects estimator – the results are virtually identical to those in Table 7.

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Figure 1. Annual number of countries involved in external and internal conflicts, 1970-2004

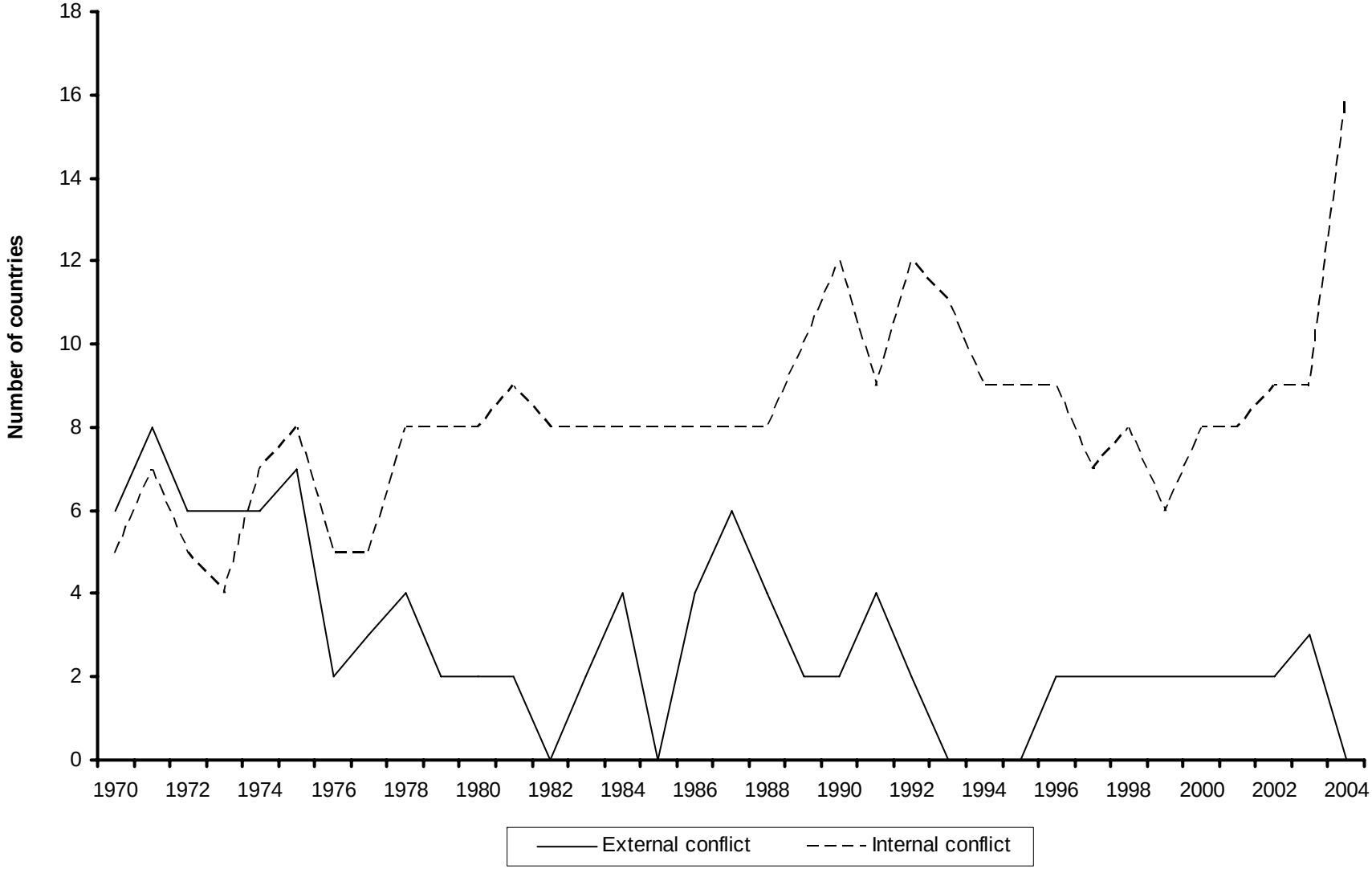

Figure 2. Annual terrorist events per million persons, 1970-2004

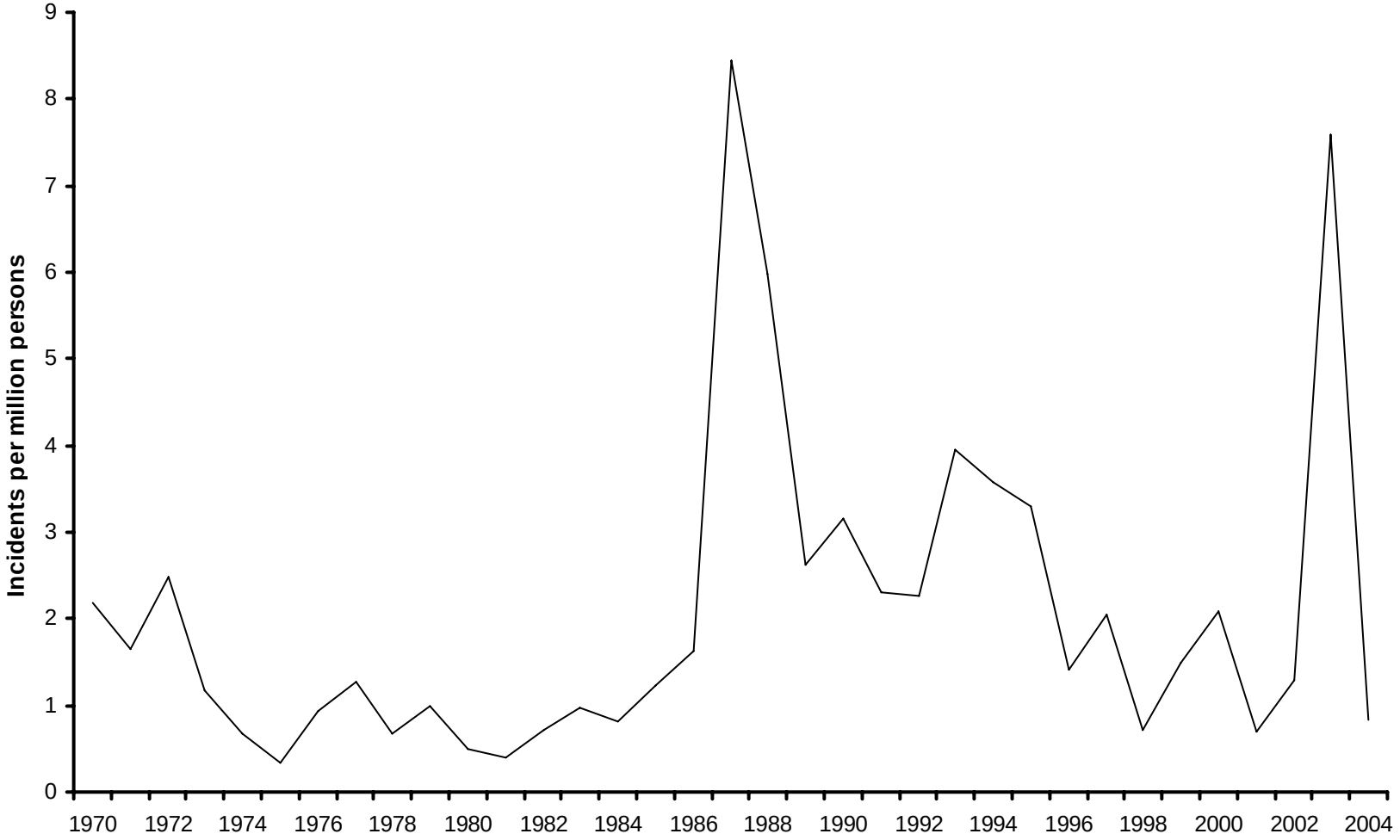

TABLE 1 SUMMARY STATISTICS

Variable	Mean	Standard Deviation
$Growth_{it}$	0.023	0.073
$\ln y_{it}$	8.132	1.078
$\ln\left(open\right)_{it}$	4.200	0.759
$\left(I/GDP\right)_{it}$	15.476	10.063
$\left(G/GDP\right)_{it}$	22.568	9.360
$terror_{it}$	0.055	0.282
$external_{it}$	0.077	0.267
$internal_{it}$	0.219	0.414
$polity_{it}$	0.758	7.102

Notes: The number of countries is 42 and the sample period is from 1970 to 2004.

TABLE 2 TWO-WAY FIXED-EFFECTS ESTIMATION OF GROWTH MODEL

	Model 1	Model 2	Model 3	Model 4	Model 5
$\ln y_{it-1}$	–0.040***	–0.039***	–0.039***	–0.040***	–0.035***
	(0.007)	(0.007)	(0.007)	(0.007)	(0.009)
$\ln (open)_{it-1}$	–0.011	–0.011	–0.012	–0.012	–0.021**
	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)
$(I/GDP)_{it-1}$	0.002**	0.002**	0.002**	0.002**	0.002**
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
$terror_{it}$	–0.015**			–0.014*	–0.023***
	(0.007)			(0.007)	(0.009)
$external_{it}$		–0.007		–0.006	–0.006
		(0.009)		(0.009)	(0.009)
$internal_{it}$			–0.023***	–0.022***	–0.022***
			(0.008)	(0.008)	(0.007)
$polity_{it}$					0.0002
					(0.001)
Sample size	1201	1201	1201	1201	886
Hausman (df)	22.18 (4)	24.08 (4)	19.95 (4)	25.80 (6)	14.41 (7)
p-value	0.000	0.000	0.001	0.000	0.044

Notes: Hausman test is between two-way fixed effects and two-way random effects. df denotes the degree of freedom and *p*-value is the probability value. Constant, time, and country dummies are suppressed. Standard errors are in parentheses. Significance levels: *** is .01, ** is .05, and * is .10.

TABLE 3 TWO-WAY FIXED-EFFECTS ESTIMATION OF INVESTMENT MODEL

	Model 1	Model 2	Model 3	Model 4	Model 5
$\ln y_{it-1}$	0.482	0.471	0.462	0.454	1.258**
	(0.344)	(0.343)	(0.343)	(0.344)	(0.513)
$\ln (open)_{it-1}$	4.147***	4.092***	4.118***	4.066***	4.682***
	(0.357)	(0.358)	(0.357)	(0.358)	(0.450)
$terror_{it}$	–0.001			0.032	0.111
	(0.342)			(0.342)	(0.487)
$external_{it}$		–0.726*		–0.700	–0.521
		(0.438)		(0.438)	(0.497)
$internal_{it}$			–0.655*	–0.637*	–0.539
			(0.356)	(0.357)	(0.402)
$polity_{it}$					0.056*
					(0.034)
Sample size	1201	1201	1201	1201	886
Hausman (df)	19.37 (3)	18.91 (3)	16.23 (3)	18.97 (5)	29.36 (6)
p-value	0.000	0.000	0.001	0.002	0.000

Notes: Hausman test is between two-way fixed effects and two-way random effects. df denotes the degree of freedom and *p*-value is the probability value. Constant, time, and country dummies are suppressed. Standard errors are in parentheses. Significance levels: *** is .01, ** is .05, and * is .10.

TABLE 4 ONE-WAY FIXED-EFFECTS ESTIMATION OF GOVERNMENT EXPENDITURE MODEL

	Model 1	Model 2	Model 3	Model 4	Model 5
ln y_{it-1}	–1.368***	–1.365***	–1.447***	–1.347***	–1.881***
	(0.299)	(0.300)	(0.301)	(0.298)	(0.361)
ln $(open)_{it-1}$	1.294***	1.402***	1.286***	1.399***	1.563***
	(0.318)	(0.322)	(0.320)	(0.319)	(0.342)
$terror_{it}$	1.498***			1.440***	1.528***
	(0.350)			(0.349)	(0.417)
$external_{it}$		1.359***		1.328***	1.083**
		(0.448)		(0.444)	(0.424)
$internal_{it}$			0.978***	0.860**	0.986***
			(0.367)	(0.364)	(0.348)
$polity_{it}$					–0.086***
					(0.029)
Sample size	1201	1201	1201	1201	886
Wald (df)	14.65 (3)	12.95 (3)	17.90 (3)	19.85 (5)	14.50 (6)
p-value	0.002	0.005	0.000	0.001	0.024

Notes: The Wald statistic is asymptotically equivalent to the Hausman test between fixed effects and random effects. The Hausman test is not presented because the matrix of the difference between variances of the fixed-effects estimates and the random-effects estimates is not positive definite. df denotes the degree of freedom and *p*-value is the probability value. Constant, and country dummies are suppressed. Standard errors are in parentheses. Significance levels: *** is .01, ** is .05, and * is .10.

TABLE 5 COMPARING CONFLICTS AND TERRORISM ESTIMATES OF GROWTH AND GOVERNMENT SPENDING MODELS

	growth		government spending share	
Variable	Model 4	Model 5	Model 4	Model 5
$terror_{it}$	–0.008	–0.010*	0.500**	0.457*
	(0.005)	(0.005)	(0.247)	(0.250)
$external_{it}$	–0.006	–0.005	1.313***	1.061***
	(0.006)	(0.006)	(0.332)	(0.342)
$internal_{it}$	–0.022**	–0.023**	0.885**	1.021**
	(0.009)	(0.009)	(0.430)	(0.430)
Sample size	1201	886	1201	886

Notes: See Models 4, 5 of Table 2 and Models 4, 5 of Table 4 for specification. *terror* is a dummy variable for transnational terrorism. Robust standard errors are in parentheses. Significance levels: *** is .01, ** is .05, and * is .10.

TABLE 6 DEVELOPED COUNTRIES: FIXED-EFFECTS ESTIMATION OF THE GROWTH, INVESTMENT AND GOVERNMENT SPENDING MODELS

	Model 1	Model 2	Model 3	Model 4
		Growth (two-way fixed effects)		
$terror_{it}$	0.009		0.009	–0.008
	(0.015)		(0.015)	(0.016)
$external_{it}$		–0.007	–0.007	–0.0002
		(0.010)	(0.010)	(0.010)
		Investment share in GDP (country fixed effects)		
$terror_{it}$	1.521		1.874	1.706
	(2.053)		(2.016)	(2.248)
$external_{it}$		–3.813***	–3.873***	–3.567***
		(1.197)	(1.199)	(1.225)
		Government expenditure share in GDP (two-way fixed effects)		
$terror_{it}$	–0.274		–0.245	0.550
	(0.666)		(0.654)	(0.712)
$external_{it}$		1.240***	1.238***	–0.032
		(0.429)	(0.430)	(0.459)
N	245	245	245	210

Notes: See Tables 2-4 for specification. Standard errors are in parentheses. Significance levels: *** is .01, ** is .05, and * is .10.

TABLE 7 DEVELOPING COUNTRIES: FIXED-EFFECTS ESTIMATION OF THE GROWTH, INVESTMENT AND GOVERNMENT SPENDING MODELS

	Model 1	Model 2	Model 3	Model 4	Model 5
			Growth (country fixed effects)		
$terror_{it}$	–0.014*			–0.012	–0.023**
	(0.008)			(0.008)	(0.010)
$external_{it}$		0.0001		0.001	–0.0001
		(0.012)		(0.012)	(0.011)
$internal_{it}$			–0.023***	–0.022***	–0.022***
			(0.009)	(0.009)	(0.008)
			Investment share in GDP (two-way fixed effects)		
$terror_{it}$	–0.181			–0.123	–0.083
	(0.306)			(0.306)	(0.444)
$external_{it}$		–0.170		–0.132	–0.013
		(0.441)		(0.439)	(0.503)
$internal_{it}$			–1.001***	–0.990***	–0.986
			(0.326)	(0.327)	(0.372)
			Government expenditure share in GDP (country fixed effects)		
$terror_{it}$	1.617***			1.558***	1.708***
	(0.391)			(0.390)	(0.480)
$external_{it}$		1.687***		1.666***	1.498***
		(0.567)		(0.561)	(0.548)
$internal_{it}$			1.089***	0.937**	1.040**
			(0.420)	(0.416)	(0.407)
N	956	956	956	956	676

Notes: See Tables 2-4 for specification. Standard errors are in parentheses. Significance levels: *** is .01, ** is .05, and * is .10.

TABLE 8 FIXED-EFFECTS ESTIMATION OF THE GROWTH, INVESTMENT AND GOVERNMENT SPENDING MODELS BEFORE AND AFTER 1986

	1970 – 1985		1986 – 2004	
	Model 4	Model 5	Model 4	Model 5
	Growth (two-way fixed effects)			
$terror_{it}$	–0.022	–0.030	–0.016**	–0.021**
	(0.031)	(0.023)	(0.007)	(0.010)
$external_{it}$	0.006	0.008	–0.025	–0.027
	(0.013)	(0.010)	(0.016)	(0.017)
$internal_{it}$	–0.003	0.00003	–0.020**	–0.018*
	(0.013)	(0.009)	(0.010)	(0.011)
	Investment share in GDP (two-way fixed effects)			
$terror_{it}$	–0.280	0.024	0.339	0.362
	(1.049)	(1.243)	(0.337)	(0.480)
$external_{it}$	–0.297	–0.119	–0.952	–0.783
	(0.453)	(0.515)	(0.750)	(0.835)
$internal_{it}$	0.572	0.524	–1.207**	–1.315**
	(0.443)	(0.505)	(0.475)	(0.528)
	Government expenditure share in GDP (country fixed effects)			
$terror_{it}$	0.106	0.075	0.793**	1.319***
	(0.992)	(1.067)	(0.340)	(0.437)
$external_{it}$	0.319	0.328	0.307	0.185
	(0.420)	(0.438)	(0.750)	(0.759)
$internal_{it}$	1.371***	1.511***	0.853*	0.842*
	(0.422)	(0.437)	(0.477)	(0.484)
N	499	355	702	531

Notes: See Tables 2-4 for specification. Standard errors are in parentheses. Significance levels: *** is .01, ** is .05, and * is .10.