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Economic Development, Inequality, and War

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Recently the media have focused on the threat that insurgents in failed states with weapons of mass destruction pose to wealthy nations of the West—the United States, Canada, and the countries of Europe. Scholars predict that a clash between the West and Islam is inevitable. Amid this peril, we should not forget that war, state violence, and rebel resistance threaten the livelihood and the very lives of millions of the poor in Africa and Asia. About 20 percent of Africans live in countries seriously disrupted by war or state violence. The cost of conflict includes refugee flows, increased military spending, damage to transport and communication, reduction in trade and investment, and diversion of resources from development. The World Bank (2000, pp. 57–59) estimates that civil war in an African country lowers the gross domestic product (GDP) per capita by 2.2 percent annually. Scholars must focus on reducing this danger to the survival income and human rights of the world's poorest.

Economic stagnation, political decay, and deadly political violence interact mutually: economic and political factors contribute to war, while war has an adverse effect on economic growth and political development. This paper analyzes how economic decline, income inequality, a weakening state, pervasive rent seeking by ruling elites, an extensive threat to survival income, and competition for control of mineral exports contribute to humanitarian emergencies. These emergencies compose a human-made crisis in which large numbers of peo-

ple die and suffer from war, state violence, and refugee displacement, and they are usually accompanied by widespread disease and hunger (Väyrynen 2000a).

What are the sources of humanitarian emergencies? Auvinen and Nafziger (1999) show that stagnation and decline in real (inflation-adjusted) GDP, slow growth in average food production, high income inequality, a high ratio of military expenditure to national income, and a tradition of violent conflict are sources of emergencies. The study also finds that countries that failed to adjust to chronic external deficits were more vulnerable to humanitarian emergencies. In addition, political variables, such as predatory rule, authoritarianism, and state decay and collapse,¹ interact with economic variables to affect vulnerability to humanitarian emergencies. The findings are by and large consistent for three measures of the dependent variable and for many different regression models.²

However, the focus of this chapter is much less on econometrics than on a discussion of how factors embedded in the political economy of developing countries contribute to humanitarian emergencies. “Political economy” includes not only economic analysis but also an examination of the interests of political leaders and policymakers who make economic decisions and of members of the population who are affected by these decisions. This politico-economic analysis is based on a research project begun in 1996 by the United Nations University’s World Institute for Development Economics Research (WIDER), Helsinki, and Queen Elizabeth House, Oxford (QEH). It generalizes on the case studies of 17 war-affected less-developed countries (LDCs) and explains the reasons for econometric findings from the annual data of 124 LDCs from 1980 to 1995 (Auvinen and Nafziger 1999).³ The case studies include Nigeria and Pakistan from the late 1960s and early 1970s and Rwanda, Burundi, Congo, Sudan, Somalia, Liberia, Sierra Leone, Afghanistan, Cambodia, Iraq, Haiti, El Salvador, Colombia, Bosnia, and the South Caucasus from 1980 to 2000.

STAGNATION AND DECLINE IN INCOMES

Contemporary emergencies are found in low- and middle-income (that is, developing) countries, suggesting a ceiling above which war

and massive state violence do not occur. A disproportional number of these states are also weak or failing (Holsti 2000, pp. 243–250), a trait that interacts as both cause and effect of their relative poverty. Moreover, emergencies are more likely to occur in countries experiencing stagnation in real GDP per capita and a breakdown in law and public services. These phenomena affect relative deprivation, the actors' perception of social injustice from a discrepancy between goods and conditions they expect and those they can get or keep. This deprivation often results from vertical (class) or horizontal (regional or communal) inequality (Stewart 2000, p. 16), where the actors' income or conditions are related to those of others within society. Relative deprivation spurs social discontent, which provides motivation for collective violence (Gurr 1970). Among the components of emergencies, war and violence have major catalytic roles, adding to social disruption and political instability, undermining economic activity, spreading hunger and disease, and fueling refugee flows. A marked deterioration of living conditions, especially during a period of high expectations, is likely to produce socio-political discontent that may be mobilized into political violence.

During the twentieth century, some 200 million people were killed in war or state violence (Rummel 1994), but only a small proportion of these deaths came from insurgent action or fighting between belligerents. Holsti (2000, pp. 250–267) demonstrates that the policies of governing elites are at the root of most humanitarian emergencies,⁴ a fact not recognized in most research on war (cf. Collier 2000a; Collier and Hoeffler 1998). Slow or negative per-capita growth puts pressure on ruling coalitions. Ruling elites can expand rent-seeking opportunities for existing political elites, contributing to further economic stagnation that can threaten the legitimacy of the regime and increase the probability of regime turnover. To forestall threats to the regime, political elites may use repression to suppress discontent or capture a greater share of the majority's shrinking surplus. These repressive policies may entail acts of direct violence against or withholding food and other supplies from politically disobedient groups, as in Sudan in the 1980s (Keen 2000, pp. 292–294). Moreover, repression and economic discrimination may generate relative deprivation and trigger socio-political mobilization on the part of the groups affected, leading to further violence and thus worsening the humanitarian crisis.

Since economic deceleration or collapse can disrupt ruling coalitions and exacerbate mass discontent, we should not be surprised that since 1980 the globe, particularly Africa, has been more vulnerable to humanitarian emergencies. This increase in intrastate political conflict and humanitarian emergencies in Africa in the last two decades of the twentieth century is linked to the continent's negative per-capita growth in the 1970s and 1980s and virtual stagnation in the 1990s. Indeed, in Africa, which had the highest death rate from wars in the 1990s of any continent, GDP per capita was lower in the late 1990s than it was at the end of the 1960s (World Bank 2000, p. 1).⁵

This stagnation and decline was often associated with, and exacerbated by, a predatory state, driven by ethnic and regional competition for the bounties of the state. Predatory rule involves a personalistic regime ruling through coercion, material inducement, and personality politics, tending to degrade the institutional foundations of the economy and state. Elites extract immediate rents and transfers rather than providing incentives for economic growth. In some predatory states, the ruling elite and their clients "use their positions and access to resources to plunder the national economy through graft, corruption, and extortion, and to participate in private business activities" (Holsti 2000, p. 251). Ake (1996, p. 42) contends that "instead of being a public force, the state in Africa tends to be privatized, that is, appropriated to the service of private interests by the dominant faction of the elite." People use funds at the disposal of the state for systematic corruption, from petty survival venality at the lower echelons of government to kleptocracy at the top.

Humanitarian crises are more likely to occur in societies where the state is weak and venal, and thus subject to extensive rent-seeking, "an omnipresent policy to obtain private benefit from public action and resources" (Väyrynen 2000b, p. 440). Cause and effect between state failure and rent seeking are not always clear. State failure does not necessarily result from the incapacity of public institutions but from the interests of rulers. While "state failure can harm a great number of people, it can also benefit others," especially governing elites and their allies (Väyrynen 2000b, p. 442). These elites may not benefit from avoiding political decay through nurturing free entry and the rule of law and reducing corruption and exploitation. Instead political leaders may gain more from extensive unproductive, profit-seeking activities

in a political system they control than from long-term efforts to build a well-functioning state in which economic progress and democratic institutions flourish. These activities tend to be pervasive in countries that have abundant mineral exports (for example, diamonds and petroleum), such as Sierra Leone, Angola, Congo-Kinshasa, and Liberia, while predatory economic behavior has a lower payoff in mineral-poor economies such as Tanzania and Togo.

The majority of countries with humanitarian emergencies have experienced several years (or even decades) of negative or stagnant growth, where growth refers to real growth in GNP or GDP per capita. Widespread negative growth among populations where a majority is close to levels of subsistence increases the vulnerability to humanitarian disasters. From 1980 to 1991, 40 of 58 Afro-Asian countries, or 69 percent, experienced negative growth, according to the World Bank's World Development Report (1993, pp. 238–239). In contrast, from 1960 to 1980, only 9 of 53 had negative economic growth, according to the earlier World Bank annual (1982, pp. 110–111). In addition, the positive growth of Latin America and the Caribbean during the 1960s and 1970s also reversed to negative growth in the 1980s, according to the same World Bank sources. The interrelationship between growth and emergencies suggests that the increased emergencies in the early 1990s are connected to the developing world's disastrous growth record of the 1980s. This disastrous growth was accompanied by state decay, as ruling elites, facing limitations in dispersing benefits to a wide-ranging coalition of ethnic communities and economic groups, struggled for control, allied with other strongmen, and strengthened their military capability to repress potential rebels and dissidents.

Econometric and country evidence indicates that, holding other variables constant, slow real GDP growth helps explain humanitarian emergencies. Humanitarian emergencies also contribute to reduced (often negative) growth (Stewart, Huang, and Wang 2001, pp. 11–41), although according to econometric tests by Auvinen and Nafziger (1999) the direction of causation is weaker than from growth to emergencies. Contemporary humanitarian disaster is rarely episodic; rather, it is usually a culmination of longer-term politico-economic decay over a decade or more. Negative per-capita growth interacts with political predation in a downward spiral, a spiral seen in African countries such as Angola, Ethiopia, Sudan, Somalia, Liberia, Sierra Leone, and Zaire (Congo).

Economic stagnation, frequently accompanied by chronic trade deficits and growing external debt, intensifies the need for economic adjustment and stabilization. A persistent external disequilibrium has costs whether countries adjust or not. But nonadjustment has the greater cost; the longer the disequilibrium, the greater is the social damage and the more painful the adjustment.⁶ Most LDCs face frequent international balance-of-payments problems, which reduce the ability of political leaders to maintain control. But abundant exports, such as minerals, together with a strong military, can provide the ruler or warlord with a modicum of security.

More than a decade of slow growth, rising borrowing costs, reduced concessional aid, a mounting debt crisis, and the increased economic liberalism of donors and international financial institutions, compelled LDC (especially African) elites to change their strategies during the 1980s and 1990s. Widespread economic liberalization and adjustment provided chances for challenging existing elites, threatening their positions, and contributing to increased opportunistic rent-seeking and overt repression. Cuts in spending reduced the funds available to distribute to clients and required greater military and police support for rulers to remain in power.

INCOME INEQUALITY

Large income inequality exacerbates the vulnerability of populations to humanitarian emergencies. Alesina and Perotti's (1996) cross-section study of 71 developing countries, 1960–1985, finds that income inequality, by fueling social discontent, increases socio-political instability, as measured by deaths in intrastate disturbances and assassinations (per million population) and coups (both successful and unsuccessful). Moreover, the policies of predatory and authoritarian rulers increase income inequality.

To measure income inequality, Nafziger and Auvinen (2003, p. 90) used Gini coefficients calculated from an expanded and qualitatively improved dataset from Deininger and Squire (1996, pp. 56–91), although we decided not to use data from studies they relied on that were based on incomparable research methodologies. We were able to find relationships between Gini and war, which World Bank researchers

Collier and Hoeffler (1998) and others, without this dataset, could not find. Collier and Hoeffler (1998, p. 563) indicate “there is insufficient data to introduce distributional considerations into the empirical analysis.” Our regressions indicate that high Gini or income concentration contributes to humanitarian emergencies.

Indeed, because of inadequate income inequality data, Collier (2000b, pp. 10–11, 13) concludes that “inequality does not seem to effect the risk of conflict. Rebellion does not seem to be the rage of the poor . . . Conflict is not caused by divisions, rather it actively needs to create them . . . However, it is the military needs of the rebel organization which have created this political conflict rather than the objective grievances.”⁷

WIDER researchers (Nafziger, Stewart, and Väyrynen 2000, both volumes), who include deaths from state violence as a part of humanitarian emergencies, examine deadly political violence more broadly than merely by focusing on rebellions, and they hold a contrasting view to that of Collier. Indeed, the WIDER approach is consistent with the finding that objective grievances of poverty and inequality contribute to war and humanitarian emergencies.

Severe social tensions leading to humanitarian emergencies may even arise under conditions of positive (even rapid) growth and expanding resource availability. High inequality can contribute to the immiseration or absolute deprivation of portions of the population, even with growth. Absolute deprivation during substantial growth was experienced, for instance, by Igbo political elites, dominant in Nigeria’s Eastern Region, in the early 1960s. The East lost oil tax revenues from a change in allocation by the federal government, which ceased distributing mineral export revenues to regional governments.

Moreover, through the demonstration effect of consumption levels of the relatively well off, high income concentration increases the perception of relative deprivation among substantial sections of the population, even when they do not experience absolute deprivation. The risk of political disintegration increases with a surge of income disparities by class, region, and community, especially when these disparities lack legitimacy among the population. Class and communal (regional, ethnic, and religious) economic differences often overlap, exacerbating perceived grievances and the potential for strife.

This type of wide income inequality results from historical legacies of discrimination (colonialism, apartheid, failed policies), from government policies in distributing land and other assets, taxation, and the benefits of public expenditure, from regional and ethnic economic competition, and from predatory rule. Growing regional inequality and limited regional economic integration, associated with economic enclaves, can exacerbate ethnic and regional competition and conflict.

Regional factors contributing to conflict include educational and employment differences, revenue allocation, and language discrimination, which disadvantages minority language communities. There are many examples:

- The struggle for petroleum tax revenues and employment in the civil service and modern sector in Nigeria in the early to mid-1960s
- The distribution of resources from East to West and employment discrimination against Bengalis in Pakistan in the 1950s and 1960s
- The conflict between Hutu and Tutsi for control of the state and access to employment in Burundi and Rwanda
- The contention over the distribution of falling economic resources and rising debt obligations in Yugoslavia in the 1980s and early 1990s
- State discrimination against Tamils in language, employment, and education in postindependent Sri Lanka

While high inequality is associated with emergencies, insurgency is more likely if the less advantaged can identify the perpetrators of their poverty and suffering. The examples of Nigeria in the 1960s, South Africa from the early 1970s through the early 1990s, and Chiapas, Mexico, in the 1990s (Nafziger and Auvinen 2000, pp. 105–108) illustrate the diverse patterns of how discriminatory government policies cause economic inequality, fuel social discontent, and lead to political conflict and humanitarian emergencies. These dynamics may even occur either when the nation's real per-capita GDP is growing, as in Nigeria in the 1960s, or when the disadvantaged group's economic position is improving, as for nonwhite South Africans from the 1960s through the early 1980s.

High income inequality can be a source of humanitarian emergencies in both rapidly and slowly growing countries. But, once a population is dissatisfied with income discrepancies and social discrimination, as the majority nonwhites were in white-ruled South Africa, the rising expectations associated with incremental reductions in poverty and inequality may actually spur the revolt, conflict, and hostile action from the state that increase the probability of a humanitarian emergency (Davies 1962, pp. 5–19).⁸

COMPETITION FOR NATURAL RESOURCES

Collier contends (Collier and Hoeffler 1998, pp. 568–569; Collier 2000a, pp. 92–95) that the possession of primary commodities, especially exports, increases the occurrence and duration of civil war. Mwanasali (2000, p. 145) indicates the reasons why. “Primary commodity exports present several advantages to the belligerents. Because they are generic products, rather than brand names, their origin can easily be concealed. They are usually the most heavily taxable, especially in kind, and their production or marketing does not require the complicated processes, as is the case of manufactured goods.”

Primary goods include both agricultural (usually renewable) and mineral (largely non-renewable) commodities. According to de Soysa’s statistical tests (2000, pp. 123–24), “the incidence of civil war is completely unrelated to the per capita availability of natural resources, defined as the stocks of both renewable resources . . . and nonrenewables.” But, once de Soysa refines her independent variable to include only mineral resources, her result is highly significant. She finds that “the higher the per capita availability of . . . mineral wealth, the greater the incidence of conflict” (*ibid.*, p. 124). The following, based mainly on work by WIDER researchers (Nafziger, Stewart, and Väyrynen 2000, both volumes), explains why minerals contribute to conflict and state violence.

In the struggle for allies during the Cold War, the United States and the Soviet Union provided military and economic aid for developing countries. Sovereignty provided the opportunity for newly formed African states to extract resources from the major powers in exchange for diplomatic support. Yet aid could provide the basis for supporting a

patronage system for either the state or for insurgents. When the Cold War ended in the early 1990s, nation-states and rebels in the developing world required different strategies and new sources of funds. Many countries in Africa and Asia needed control of resources to provide military and police power but needed to provide only minimal services to control territory. Indeed, with the emphasis from the International Monetary Fund (IMF) and the World Bank on the market and private enterprise, predatory rulers often undermined their own bureaucracies to build personal power at the expense of their citizens' health, education, and agricultural development (Reno 2000, pp. 231–232; Väyrynen 2000b, pp. 437–479).

The struggle for control over minerals and other natural resources is an important source of conflict. In Angola, Sierra Leone, Liberia, and Congo-Kinshasa, rulers and warlords used exclusive contracts with foreign firms for diamonds and other minerals to “regularize” sources of revenue in lieu of a government agency to collect taxes (Reno 1996, 1998, 2000). In comparison, Tanzania and Togo lacked the tradable resources to become a predatory society (Väyrynen 2000b, pp. 444–445).

After the decline of aid following the Cold War, Sierra Leone became more susceptible to pressures for liberalization and adjustment from the IMF and World Bank. In 1991, the IMF, the bank, and bilateral creditors (national governments) offered loans and debt rescheduling worth \$625 million—about 80 percent of GNP—if Sierra Leone reduced government expenditure and employment. Freetown heeded the World Bank's advice (1994, pp. 22–51) to use private operators to run state services for a profit. But privatization did not eliminate the pressures of clients demanding payoffs; it merely shifted the arena of clientage to the private sector. Sierra Leone's ruling elites, needing new ways of exercising power, used foreign firms to consolidate power and stave off threats from political rivals. In the 1990s, Sierra Leonean heads of state relied on exclusive contracts with foreign firms for diamond mining to stabilize revenue, on foreign mercenaries and advisors to replace the national army in providing security, and on foreign contractors (sometimes the same mining or security firms) to provide other state services. In the process, rulers have found it advantageous to “destroy state agencies, to ‘cleanse’ them of politically threatening patrimonial

hangers-on and use violence to extract resources from people under their control” (Reno 1996, pp. 7–8, 12).

In Liberia, Charles Taylor used external commercial networks (foreign firms), some a legacy of the Samuel Doe regime of the late 1980s, to amass power, at times extending his control to the eastern periphery of Sierra Leone. Taylor’s territory had its own currency and banking system, telecommunications network, airfields, export trade (in diamonds, timber, gold, and farm products), and (until 1993) a deepwater port. All went to support arms imports. For Taylor, a warlord during most of the 1990s before being elected Liberia’s president in 1997, controlling territory by building a patronage network was easier than building a state and its bureaucracy (Reno 1995, p. 111). Indeed, from 1990 to 1996, Taylor had access to annual revenues exceeding \$100 million, with an upper limit around \$200 million (Reno 2000, pp. 243, 252).

Zaire’s President Mobutu Sese Seko (1965–1997), like other hard-pressed rulers in weak African states, mimicked the approach of warlords. But with the shrinking patronage base from foreign aid and investment, to prevent a coup by newly marginalized groups in the army or bureaucracy, Mobutu, as did rulers in other retrenching African states, needed to reconfigure his political authority. In this situation, foreign firms and contractors served as a new source of patronage networks. Indigenous commercial interests that profit from the new rules are not independent capitalists with interests distinct from the state’s, but rather clients of predatory rulers. As Reno (1996, p. 16) points out, “Those who do not take part in accumulation on the ruler’s terms are punished.” Mobutu weathered the collapse of the state bureaucracy but fell because his strategy of milking state assets had reached a limit, seriously weakening the patronage system. In 1997, his forces fell to the Alliance des Forces Democratique pour la Liberation (AFDI) of Laurent Kabila, who became president of the Democratic Republic of Congo but was assassinated in 2001 (Reno 1996, pp. 9–16; Reno 1998, pp. 147–81).

State failure, as in Sierra Leone, Liberia, and Zaire, increases vulnerability to war and humanitarian emergencies. Yet in a weak or failed state some rulers, warlords, and traders are more likely to profit from war and violence than from peacetime. Indeed, as Väyrynen (2000b, p. 442) argues, war, political violence, and state failure do not result from the incapacity of public institutions but from the fact that rulers,

warlords, and their clients benefit from the harm thereby befalling a substantial share of the population.

Relative deprivation also helps explain the increased violence by belligerents and their clients. An abrupt rush of mineral wealth raises not only the expectations of prosperity by the allies of rulers and warlords that control the resource but also the lure of combat to potential rebels that want to control the resource. Indeed, as Gurr (1970, pp. 73, 79) indicates, the intensity of deprivation felt increases with the discrepancy between potential and actual conditions, and with the length of time the deprivation persists. In Angola, Congo-Kinshasa, and Sierra Leone, the length and intensity of perceived deprivation were considerable.

DEMOCRACY AND AUTHORITARIANISM

Legitimacy is not only materially defined. Political deprivation arises from a lack of meaningful participation in making political decisions, whether this participation is prevented by law or through repression. In effect, a constant and frequent use of repression indicates lack of legitimacy and political capacity (Jackman 1993). Efficient repression may prolong authoritarian rule, as demonstrated for example by Augusto Pinochet's Chile and Hastings Kamuzu Banda's Malawi, but eventually the people are likely to challenge the regime from a "desperate bargainer" position. Democratic regimes do not guarantee the absence of conflict, but since they are likely to be more widely accepted, expressions of discontent are not aimed at challenging their basic tenets. Large-scale conflict and humanitarian emergencies are virtually nonexistent in democratic societies.

Authoritarianism and the Extent of Conflict

What are the empirical findings on the relationship between extent of political conflict and authoritarianism? On the one hand, openness in a political system encourages political actions of all kinds, and not all of them are likely to be voiced through formal institutions. Graham and Gurr show that democracies typically have more extensive "civil conflict" than autocracies. Gurr and Eckstein see chronic low-level conflict

as “a price democracies have to pay for freedom from regimentation, from the state or from authorities in other social units” (Eckstein 1980, p. 452).

Democratic political regimes do not repress their citizens or inflict severe sanctions on protestors. Authoritarian regimes are prone to repress unrest (see Hibbs 1973), and the citizens are more likely to refrain from rebellious action when these regimes are in power. Turkey (1980–1984) and Morocco (after 1984), for instance, imposed “long term and systematic repression—serious restrictions on civil and human rights, persistent arrests of suspected ‘activists,’ use of heavy prison sentencing and torture, banning of political movements and opposition trade unions—on protestors” and were spared serious unrest until the end of the 1980s (Seddon 1992, p. 49). The threshold of rebellious political action is higher, and therefore authoritarian regimes are likely to experience less political protest than democracies.

Nevertheless, authoritarian political structures are conducive to conflict because repression increases opposition group activity. By adopting coercive politics against dissidents, the regime loses legitimacy, and its actions thereby become the catalyst for the mobilization of previously neutral actors (Davis and Ward 1990, pp. 451–452). Repression may also harden the determination of members of the opposition and ignite a tougher response from rebellious groups. As a consequence, relatively innocent incidents of protest may escalate into large-scale rebellions with a large number of casualties.

Most research (see Auvinen 1996, p. 79) has detected an inverted U-curve relationship between type of regime and political conflict: mild repression incites conflict, and only intense repression deters it.⁹ The rationale behind the inverted U-curve is that, on one end of the curve, the severe costs of rebellion in an extremely repressive political system inhibit resource mobilization by dissident groups; on the other end, the availability of reasonably effective peaceful means of political action in a nonrepressive political system makes rebellion an undesirable strategy of opposition for most people; but in the middle, rebellion is likely to be the preferred strategy of opposition for many dissident groups in a semirepressive political system in which resource mobilization is possible and peaceful opposition typically is ineffective (Muller and Weede 1990, p. 627).

A distinction is sometimes made between structural or institutionalized repression and behavioral repression. Structural repression refers to the repressive capability of the regime, while behavioral repression refers to actual acts of coercion by the government or parts thereof. The two are not necessarily the same because even the most democratic regimes do not guarantee the absence of repression. This is demonstrated by the occasional use of repression by Western democracies (Henderson 1973, p. 133). Nevertheless, Muller and Weede (1990) found that the inverted U-curve applies to both structural and behavioral repression.

Muller and Weede suggest that an inverted U-curve relationship supports a theory of belligerents as rational actors. An actor who calculates utilities and, particularly, costs of action, takes into account the probability that when the level of repression is high, the expected benefits of either rebellion or peaceful collective action will be relatively low because of high costs and a low expectancy of success. When repression is low, the expected benefits of rebellion will be exceeded by the expected benefits of peaceful collective action. When repression is moderate, the expected benefits of rebellion will exceed those of peaceful collective action (Muller and Weede 1990, p. 628). This explanation of conflict as a function of rational actors calculating costs and benefits provides some support to Collier's greed theory, even if only political and not economic benefits are evident. However, Muller and Weede admit that you may arrive at the same proposition from a relative deprivation perspective (1990, p. 647), which corresponds to grievance theory.¹⁰

Authoritarianism and the Form of Conflict

Authoritarian regimes are more susceptible to rebellion than to political protest. In Gurr and Lichbach's study (1986, p. 69), autocratic governments faced proportionally three times as much revolutionary opposition as democratic governments, but were less likely to hear reformist demands. In Chile, the coup d'état of 1973 interrupted a long tradition of democratic rule. Legitimate opposition was disallowed and repressed, which led to the development of new and radical forms of political resistance.

The prevailing norms of political regimes, whether democratic or authoritarian, influence the tactics of dissidents and the responses of the

elites to them. Democratic elites are disposed to make appreciable concessions to protest, whereas authoritarian regimes, be they of the left or the right, are more likely to rely on repression. In democratic countries, this reinforces the utility of protest over rebellion, whereas in autocracies it increases the relative usefulness of rebellion for challengers who are desperate enough to act at all (Gurr and Lichbach 1986, p. 12).

Democracies may not discourage political protest, but they are successful in eliminating or strongly reducing the probability of rebellion. Gurr and Lichbach found that in democratic countries, dissidents rarely had revolutionary objectives; reformist demands were 10 times as common (1986, p. 69). Civil conflicts are also less deadly in democracies than in autocracies (Graham and Gurr 1969). Hibbs (1973) shows this by employing Cutright's (1963) index of political development, although the relationship disappears if economic development is controlled for.¹¹ Hazlewood divides political systems into polyarchic, centrist, and personalist. He finds that in polyarchic systems the number of revolutions, guerrilla wars, and assassinations was smaller but the number of governmental crises and riots was larger, compared to the sample mean. Personalist states were above the mean for all states on these five conflict indicators and above the mean for each of the other groups on all indicators except riots. Centrist systems had the lowest mean values on all indicators except revolutions (Hazelwood 1973, p. 184).¹²

Authoritarianism and Irregular Executive Transfer

The chances of peaceful regime change are limited under authoritarian rule. In the 1980s, before the end of the Cold War, political liberalization was infrequent. The most common mechanism for changing an authoritarian regime was by force, sometimes through mass rebellion or revolution but more commonly through a coup d'état by the elite. Authoritarianism was the most important determinant of political instability in Central America, save in Costa Rica, where peaceful and routine procedures for the transfer of power were established. In such coups, Lindenberg says, "The seeds of discontent for the next crisis cycle have been planted during the period of stable military rule without concurrent mechanisms for channeling this discontent into peaceful regime change" (1990, pp. 416, 419). In autocratic regimes, coups are invariably the preferred mode of succession. More than 80 percent of

the countries in sub-Saharan Africa experienced at least one successful or unsuccessful coup from the 1950s to the early 1980s (Johnson, Slater, and McGowan 1984). In most cases, authoritarian regimes followed one another. More than two-thirds of the executive transfers between 1965 and 1987 were “irregular” (Hughes and May 1988). Adelman and Hihn conclude that “the possibility of political instability, or that of discontinuous political transitions, can be greatly reduced if governments make a conscious effort to pursue a development process that leads to greater social mobility and is combined with increased political participation” (Adelman and Hihn 1984, p. 20).

In closed political systems, elites are the main contestants for political power and enrichment. The main elite groups may unite to support the government if economic growth is sufficient to accrue benefits to all of them. On the other hand, economic hardship is likely to affect distribution and form cleavages within the elite, so that the threat of a coup d'état by relatively deprived groups increases. Democratic regimes imply more open decision-making. Political participation and competition should reduce the exclusiveness of opportunity for enrichment in political office. The elite is more likely to be divided into different pluralist power centers that compete for political power within democratically functioning institutions (Morrison and Stevenson 1971, p. 349). Of course, elites may use democracy's liberties for personal enrichment and corruption. Nevertheless, democratic regimes are likely to discourage coups, even while encouraging political protest as a favored mode of dissent.

Although democratic political regimes may be less susceptible than authoritarian regimes to elite instability in general and to irregular executive transfer in particular, they too have been overthrown during periods of economic hardship. On the basis of Latin American developments in the 1960s and 1970s, the bureaucratic-authoritarian approach postulated a causal link between economic crises and political authoritarianism in countries at middle levels of economic development (O'Donnell 1973, 1978): the military took political power when it perceived that democratic regimes were incapable of coping with the social consequences brought about by economic decline. This argument lost much credibility in the 1980s when democratic regimes replaced authoritarian regimes in Latin America (see Frieden 1989, p. 123). O'Donnell explained this new development by those countries' citizens attaching an increased intrinsic value to democracy. The populace brought about this value change in two ways:

first, by discrediting groups that sought a violent and immediate route to socialism, and second, by reflecting on experiences with authoritarian regimes that, despite using unprecedented repression and violence, failed to bring about economic progress (O'Donnell, Schmitter, and Whitehead 1986, pp. 15–17). Democracy became a preferable alternative to authoritarian rule.

In fact, Latin American democracies were more durable than autocracies during the debt crises of both the 1930s and the 1980s. No democratic government was brought down in the 1980s as a result of continued debt outflow (Drake 1989, pp. 53–54). In Asia, the countries of Pakistan, South Korea, and the Philippines all moved toward more democratic rule. In some African countries the trend was slightly different. Ghana (1981), Nigeria (1983), and Sudan (1989) experienced a shift from fairly democratic to authoritarian regimes as a result of coups d'état. Notably, in Ghana a democratic paralysis had brought the economy to the brink of collapse before the coup. Overall, however, the recent empirical evidence runs contrary to the bureaucratic-authoritarian argument.

Authoritarian regimes have been able to cling to power during periods of relative prosperity, but they are more prone to collapse during economic crises than democracies. All of the breakdowns of authoritarian regimes discussed in the collection by O'Donnell, Schmitter, and Whitehead (1986) were accompanied by economic crises (Bermeo 1990, p. 372). Dictatorships have a narrow base of legitimacy and support, which makes them dependent on being able to keep an efficient economy and an orderly society (Drake 1989, pp. 53–54). But democracies gain legitimacy from electoral, not merely effectual, means.¹³ Compared to democracies, authoritarian regimes are also more dependent on foreign lenders to stay in power. Neither Turkey nor Morocco experienced social unrest in the context of macroeconomic stabilization and structural adjustment policies; both were generously supported by IMF, the World Bank, and other lenders. This “made possible a degree of ‘cushioning’ in the economy which would otherwise have been impossible” (Seddon 1992, p. 49).¹⁴

OTHER FACTORS

Military centrality, as indicated by the ratio of military expenditure to GNP, contributes to humanitarian emergencies through several dynamics. On the one hand, military resources may be used to support predatory and authoritarian rulers, who generate desperate action and military response by the opposition. Under political deprivation and in the absence of political mechanisms to settle grievances, full-scale rebellion becomes more likely. Alternatively, a strong military may overthrow either a democratic or an authoritarian regime, which may lead to political instability and humanitarian crisis. Powerful armed forces constitute a constant threat to civilian regimes in less-developed countries. Particularly during economic austerity, the regimes are afraid to cut back on military spending; they may even strengthen the military to stave off threats from the opposition. This, in turn, entails heavy socioeconomic costs for the population, inducing further discontent and increasing the risk of rebellion. In very poor countries, an increasing budget allocation for the military may produce downright starvation and destitution.

Citizens adapt to a certain acceptable level of violence through the cultural experience of violence. A tradition of intensive political violence makes societies more susceptible to war and humanitarian emergencies.¹⁵ Countries with a history of mass political mobilization for conflict, such as Rwanda, Burundi, and Colombia, are likely to be more susceptible to conflict in humanitarian emergencies than other, historically more peaceful countries. A tradition of conflict is an indicator of the legitimacy of political violence.

In empirical studies, including conflict tradition in the model helps improve model specification. Auvinen (1997, p. 187) found that levels of previous political protests, rebellions, and irregular transfers were related to present levels.

ETHNICITY

Ethnic identity is not a primordial given. Ethnicity, when implicated in humanitarian emergencies, is created, manifested, combined, and reconstituted in struggles to share benefits from modernization and self-

government but is not a source of these struggles (Nafziger, Stewart, and Väyrynen 2000, both volumes). As Widner says (1999, p. 406), “Ethnic identities are socially constructed, highly malleable, and situationally defined.” For example, the concept of the Yoruba people in Nigeria expanded under British reorganization after the beginning of the twentieth century, when Yoruba referred only to the people of the Oyo kingdom. Elites use identification with ethnic and regional communities, and even accentuate them, to transfer potential hostility toward themselves, because of inequalities and power disparities within their communities, to the elites and subjects of other communities. Alexander, McGregor, and Ranger (2000, pp. 305–306) argue that “the salience of ethnic antagonism in some recent wars cannot be explained as the inevitable resurgence of ancient tensions—rather, [such tensions] are the product of a reworking of historical memories in particular political contexts . . . Ethnicity is widely understood to be unnatural, to be historically ‘invented,’ ‘constructed,’ or ‘imagined,’ and used ‘instrumentally’ by politicians.” In many instances, ethnic antagonism emerges during conflict rather than having been the cause of conflict.

In 1980s South Africa, ethnic consciousness and cleavages were deliberately aroused as part of the government’s strategy of divide and rule implemented through the security apparatus. Chief Mangosuthu Buthelezi of the Zulu-based Inkatha Freedom Party used cultural symbolism to strengthen his and his party’s political power. During the most violent phase of conflict, 1991–1993, ethnic identities became further strengthened and reified, and their relevance as sources of political mobilization increased (Auvinen and Kivimäki 1998, p. 42; 2001; Taylor and Shaw 1994). In a similar way, former Yugoslav President Slobodan Milosevic redeemed Serb nationalism by evoking the account of the Kosovo Polje battle of 1389—still painful to Serbian pride 600 years later. In Somalia, President Siad Barre succeeded in holding power for 13 years after his failed military campaign in the Ogaden in 1977–78 by manipulating clan identities and thus dividing the opposition into several different movements. This strategy, however, led to his ousting in 1991. By having fueled clan antagonisms, Barre made the instrumental use of clan affinities much easier for his opponents, who turned his work to their advantage (Auvinen and Kivimäki 2000, pp. 187–230).

According to Collier (2000b, pp. 12–13): “Ethnic grievance is actively manufactured by the rebel organization as a necessary way of

motivating its forces. As a result, where conflicts occur in ethnically diverse societies, they will look and sound as though they were caused by ethnic hatreds . . . Conflict is not caused by divisions, rather it actively needs to create them. When such conflicts are viewed during or after the event, the observer sees ethnic hatred. The parties to the conflict have used the discourse of group hatred in order to build fighting organizations. It is natural for observers to interpret such conflicts as being caused by ethnic hatred. Instead, the conflicts have caused the inter-group hatred and may even, as in Somalia, have created the groups.”¹⁶

CONCLUSION

This paper examines the way various factors within the political economy lead to humanitarian emergencies, characterized by war, state violence, and refugee displacement. A major factor responsible for the increase in emergencies in the 1990s was the developing world’s stagnation and protracted decline in incomes during the 1980s, which contributed to state decay and collapse. Economic decline and predatory rule that fail to provide state services lead to relative deprivation, or to a perception by influential social groups of injustice arising from a growing discrepancy between conditions they expect and those they can get. Relative deprivation spurs social dissatisfaction and political violence. Poor economic performance undermines the legitimacy of a regime, increasing the probability of regime turnover. Political elites use repression to forestall threats to the regime and capture a greater share of the population’s declining surplus. Repression and economic discrimination trigger further discontent and sociopolitical mobilization on the part of the groups affected, worsening the humanitarian crisis. Protracted economic stagnation increases the probability of population displacement, hunger, and disease.

Slow or negative per-capita growth, which is often accompanied by a chronic external disequilibrium, necessitates stabilization and adjustment; those countries whose adjustment policies fail, so that they do not qualify for the IMF “Good Housekeeping seal,” are more vulnerable to humanitarian disaster.

Another factor, high inequality in income, contributes to regional, ethnic, and class discrepancies that engender crises. In addition, the

competition for mineral resources by warlords and traders in weak states increases vulnerability to war and state violence. Authoritarianism is related to emergencies but not in a linear fashion; instead, emergencies first increase with authoritarian repression, then decrease along an inverted U-curve. Another explanation for emergencies is military centrality, found more frequently in decaying states. Military centrality can spur conflicts as well as increase poverty. Furthermore, a tradition of violent conflict, in which violence becomes normatively justifiable in a society, increases the risk of a humanitarian emergency. Contrary to a commonly held view, ethnicity is not usually a source of conflict and state violence but often emerges during conflict, sometimes as an invention or construction of politicians.

Since low average income, slow economic growth, high income inequality, and a decaying state are important contributors to emergencies, Third World states, with the support of the international community, must strengthen and restructure the political economy of their own poor, inequalitarian, and weak states. The major changes governments of less developed countries need to make are economic and political institutional changes—the development of a legal system, enhanced financial institutions, increased taxing capacity, greater investment in basic education and other forms of social capital, well-functioning resource and exchange markets, programs to help weaker segments of the population, and democratic institutions that accommodate and co-opt the country's various ethnic and regional communities. Institutional and infrastructural development increases the productivity of private investment and public spending and enhances the effectiveness of governance.

Industrialized countries and international agencies bear a substantial responsibility to help developing nations by modifying the international economic order to enhance those nations' economic growth and adjustment. Developing regions, for their part, must demand greater consideration of their economic interests within present international economic and political institutions. The interests of the Third World can generally be served by the following means: the enhancing of its flexibility and self-determination in designing paths toward adjustment and liberalization; a shift in the goals and openness of the IMF and World Bank; the restructuring of the international economic system for trade and capital flows; the opening of rich countries' markets; more technological trans-

fer by foreign companies, bilateral donors, and international agencies; a greater coherence of aid programs; and increased international funding to reduce food crises, directly help the poor, ameliorate external shocks, and write down debt burdens.

A number of countries vulnerable to humanitarian emergencies are not amenable to political economy solutions. Policies of governing elites are indeed at the root of most emergencies, and usually some powerful faction of society benefits from them. Yet a large number of countries vulnerable to emergencies have the will to change. Thus there is a substantial scope for international, national, and nongovernmental economic and political actors to coordinate their long-term policies to reduce the developing world's vulnerability to humanitarian emergencies.¹⁷

Notes

1. A weakening or decaying state is one experiencing a decline in the basic functions of the state, such as possessing authority and legitimacy, making laws, preserving order, and providing basic social services. A complete breakdown in these functions indicates a failing or collapsing state (Holsti 2000, pp. 246–50; Zartman 1995, pp. 1–7).
2. Regression models include ordinary least squares (OLS), generalized least squares (GLS or Prais-Winsten), two-stage least squares, fixed and random effects, tobit, and probit models. See Tables 3A.1–3A.4 for the results of a few of these regressions.
3. Queen Elizabeth House is the University of Oxford's center for development studies.
4. This study is more applicable to preventing terrorism by the state or by warlords, the most frequent contributor to deaths from humanitarian emergencies, than to preventing terrorism by those trying to undermine the state. Falk (2002, p. 11) indicates that the word terrorism initially “describe[d] political violence derive[d] from the government excesses that spun out of control during the French Revolution.” He deplors “the regressive narrowing of the concept of terrorism to apply only to violence by nonstate movements and organizations, thereby exempting state violence against civilians from the prohibition on terrorism . . . Such a usage is ethically unacceptable, politically manipulative and decidedly unhistorical.”
5. Nafziger and Auvinen (2003, p. 201) found, like Collier and Hoeffler (1999, 2000), that the incidence of armed conflict in Africa exceeded the incidence in other developing regions in the 1990s. If Africa's economic performance had been as high as that of non-African LDCs, Africa's incidence of conflict would have been similar to that of other developing regions (*ibid.*). Collier and Hoeffler's finding is similar to ours. Stewart, Huang, and Wang (2001) indicate that

Africa had by far the greatest number of deaths (direct and indirect) from conflict during 1960–1995 as a proportion of the 1995 population—1.5 percent, compared to 0.5 percent in the Middle East, 0.3 percent in Asia, and 0.1 percent in Latin America.

6. Auvinen and Nafziger (1999, p. 278) found that there was an inverse relationship between IMF credits, as a percentage of GNP, and emergencies. Some of the explanation may stem from the IMF's refraining from funding "basket cases" devastated by war and displacement. In that case, the negative coefficient would be picking up a reverse causal relationship. Indeed, our two-stage least squares results, using the IMF credits/GNP variable, confirmed this reverse causality. Moreover, when the IMF variable was used as a predictor for lagged values of dependent variables, its coefficients were larger than for the OLS regression, indicating that perhaps emergencies keep away the IMF rather than vice versa (Auvinen and Nafziger 1999, pp. 280–281). Thus, a potential emergency reduces the likelihood of receiving IMF and other international support for adjustment programs.

A major contributor to nonadjustment is the distortion from an overvalued domestic currency. Nafziger (1988, pp. 150–160) argues that African governments resist adjustments to market prices and exchange rates that interfere with state leaders' ability to build political support, especially in cities.

7. Berdal and Malone (2000) ask whether greed or grievance drives contemporary civil wars. Our answer is that *both* greed and grievance (from deprivation and inequality) are consistent with most of their contributors. This view is at odds with that of the World Bank's Collier, who holds that "the only result that supports the grievance approach to conflict is that a prior period of rapid economic decline increases the risk of conflict" (2000a, p. 97). But Collier, who apparently did not use Deininger and Squire's dataset, finds that inequality "has no effect on the risk of conflict according to the data . . . The grievance theory of conflict thus finds surprisingly little empirical support" (Collier 2000a, pp. 97–98). Can we really argue that the East Timorans, the Kashmir mujahidin, Chechnyans, Palestinians, the Hutu, Nuba, and southern Sudanese, to name just a few, are motivated only by greed and not also by grievance?
8. The International Federation of Red Cross and Red Crescent Societies (1994) indicates that 3,750 people were killed in internal repression and resistance in South Africa in 1993. Moreover, Wallensteen and Sollenberg (1996, 1997, 1998) classify South Africa from 1991 to 1993 as a war.
9. This thesis was introduced by Buss (1961, p. 58) and was developed in Gurr's relative deprivation model (1970), where "utilitarian and normative justifications"—views on the utility and appropriateness of collective violence—affected the likelihood of political violence. Utilitarian and normative justifications were secondary to relative deprivation, which was a necessary condition for political violence. A squared term has been used to capture the curvilinearity of the relationship (see, e.g., Boswell and Dixon (1990).
10. Whereas in resource mobilization/rational actor theories the inverted U-curve relationship relates to the opportunities for resource mobilization and to the calcula-

- tion of costs and benefits by rational individuals, in frustration-aggression/relative deprivation theories it is viewed as being analogous to the concept of punishment in psychological theories (see Markus and Nesvold 1972, p. 235).
11. On difficulties related to Cutright's index, see Bollen (1980).
 12. The sample consisted of 83 developing and developed countries in 1958–1960; African countries are not included in the analyses.
 13. “Their [the dictatorships’] legitimacy often rests largely on their purported ability to provide economic efficiency and social order. Depression and debt disaster severely undermine those capabilities . . . More significant . . . may be the advantages of democracies. One virtue is that they have other sources of legitimacy. They can claim to be elected, representative, popular, and fair. They can convey a more equitable image of the distribution of sacrifices. In the absence of ‘economic goods,’ democracies can distribute ‘political goods,’ such as freedom of speech and assembly, which also provide safety valves for discontent” (Drake 1989, 53–54).
 14. For more detail on how authoritarianism and democracy have affected emergencies, especially in the 1990s, see Nafziger and Auvinen 2003, pp. 114–131.
 15. Auvinen and Nafziger (1999, pp. 278–279, 286) find a direct association between the number of deaths from intrastate violence in the 1960s and 1970s and humanitarian emergencies in the 1980s and 1990s.
 16. This view marks a departure from Collier and Hoeffler (1998, p. 567), in which one variable explaining civil war and its duration is the extent of ethno-linguistic fractionalization.
 17. Nafziger and Väyrynen (2002) provide detail on policies to prevent humanitarian emergencies.

Appendix 3A

Results of Regression Analyses

Table 3A.1 Humanitarian Emergencies: OLS Regression Models

Explanatory variables	LDEATREF	LHUMEMER	LCOHE
Constant	7.31*** (2.67)	4.27** (1.85)	15.07*** (2.51)
LGDPGRO[-1]	-1.83*** (0.55)	-1.16*** (0.38)	-2.54*** (0.52)
LGINI[-1]	0.29** (0.12)	0.18** (0.08)	0.36*** (0.11)
LGNPCAP[-1]	-0.15*** (0.03)	-0.07*** (0.02)	-0.19*** (0.03)
LIMFGNP[-1]	-0.10*** (0.03)	-0.05*** (0.02)	-0.06** (0.03)
LCPIDIFF[-1]	0.26*** (0.06)	0.20*** (0.04)	0.27*** (0.05)
LMILCENT[-1]	0.18*** (0.03)	0.16*** (0.02)	0.15*** (0.03)
LDEATRAD	0.04*** (0.01)	a	0.02* (0.01)
R square	0.18	0.16	0.19
N	663	663	663
DW	0.34	0.31	0.38

NOTE: The figures are parameter estimates and, in parentheses, standard errors. OLS stands for ordinary least squares. LGDPGRO = ln real GDP growth; LGINI = ln Gini index; LGNPCAP = ln GNP per capita; LIMFGNP = ln use of IMF credit/GNP; LCPIDIFF = ln consumer price index, annual change; LMILCENT = ln military expenditures/GNP; LDEATRAD = ln deaths from domestic violence 1963–77. Except for LDEATRAD, all explanatory variables are lagged one year [-1]. Coefficient significance: * significant at the 0.10 level (two-tailed test); ** significant at the 0.05 level (two-tailed test); *** significant at the 0.01 level (two-tailed test); a = not significant. DW = Durbin-Watson test statistic for serial correlation.

SOURCE: Nafziger and Auvinen (2003), p. 23.

**Table 3A.2 Humanitarian Emergencies: GLS (Prais-Winsten)
Regression Models**

Explanatory variables	LDEATREF	LHUMEMER	LCOHE
Constant	-2.69*** (0.81)	1.18a(0.73)	2.82*** (0.58)
LGDPGRO[-1]	b	-0.29**(0.14)	a
LFOODGRO [-1]	-0.19* (0.12)	a	b
LGINI[-1]	0.97*** (0.16)	0.14* (0.08)	0.56*** (0.14)
LGNPCAP[-1]	-0.14*** (0.04)	-0.07*** (0.02)	-0.21*** (0.03)
LIMFGNP[-1]	a	a	a
LCPIDIFF[-1]	0.16*** (0.04)	a	0.19*** (0.04)
LMILCENT[-1]	0.19*** (0.04)	0.10*** (0.02)	0.19*** (0.03)
LDEATRAD	0.05*** (0.01)	0.02*** (0.007)	0.03*** (0.01)
Rho	0.86***(0.02)	0.88***(0.02)	0.83***(0.02)
N	600	753	732
DW	1.93	1.64	1.98

NOTE: The figures are parameter estimates and in parentheses, standard errors. GLS stands for generalized least squares. LGDPGRO = ln real GDP growth; LFOODGRO = ln growth of food production per capita; LGINI = ln Gini index; LGNPCAP = ln GNP per capita; LIMFGNP = ln use of IMF credit/GNP; LCPIDIFF = ln consumer price index, annual change; LMILCENT = ln military expenditures/GNP; LDEATRAD = ln deaths from domestic violence, 1963–77. Except for LDEATRAD, all explanatory variables are lagged one year [-1]. Rho = coefficient of autocorrelation. Coefficient significance: * significant at the 0.10 level (two-tailed test); ** significant at the 0.05 level (two-tailed test); *** significant at the 0.01 level (two-tailed test); a = not significant; b = not included in the equation. DW = Durbin-Watson test statistic for serial correlation.

SOURCE: Nafziger and Auvinen (2003), p. 24.

Table 3A.3 Humanitarian Emergencies: Fixed (LSDV) and Random Effects (GLS) Models

Explanatory variables	LDEATREF		LHUMEMER		LCOHE	
	Fixed	Random	Fixed	Random	Fixed	Random
Constant	3.52*** (0.85)	3.68** (1.46)	0.69** (0.32)	0.11a (0.27)	11.10*** (1.56)	8.61*** (1.19)
LGDPGRO[-1]	a	-0.45* (0.27)	a	a	-0.72*** (0.26)	-0.53** (0.25)
LGINI[-1]	-0.90*** (0.23)	-0.44** (0.19)	a	a	-0.50** (0.23)	a
LGNPCAP[-1]	a	a	-0.11** (0.05)	-0.07** (0.03)	-0.19*** (0.05)	-0.22*** (0.04)
LCPIDIFF[-1]	a	a	a	0.07** (0.03)	a	a
LMILCENT[-1]	0.23*** (0.03)	0.20*** (0.03)	0.17*** (0.03)	0.17*** (0.03)	0.24*** (0.03)	0.23*** (0.03)
LDEATRAD	a	0.05** (0.02)	a	a	a	a
No. of units	69	62	91	77	61	83
R square	0.08	0.07	0.04	0.10	0.10	0.18
N	885	775	1,102	933	752	996

NOTE: The figures are parameter estimates and, in parentheses, standard errors. LSDV stands for least square dummy variable. GLS stands for generalized least squares. LGDPGRO = ln real GDP growth; LGINI = ln Gini index; LGNPCAP = ln GNP per capita; LCPIDIFF = ln consumer price index, annual change; LMILCENT = ln military expenditures/GNP; LDEATRAD = ln deaths from domestic violence, 1963–77. Except for LDEATRAD, all explanatory variables are lagged one year [-1]. Coefficient significance: * significant at the 0.10 level (two-tailed test); ** significant at the 0.05 level (two-tailed test); *** significant at the 0.01 level (two-tailed test); a = not significant. R square is for “within effects” in the fixed effects model and for “overall effects” in the random effects model. Number of units = number of cross-sectional units taken into account by the analysis.

SOURCE: Nafziger and Auvinen (2003), p. 25.

Table 3A.4 Probabilities of Humanitarian Emergencies: Probit Models

Explanatory variables	LDEATREF	LHUMEMER
LGDPGRO[-1]	-0.82* (0.45)	-0.41** (0.20)
LGINI[-1]	0.25*** (0.10)	0.12** (0.05)
LGNPCAP[-1]	-0.13*** (0.03)	-0.03** (0.01)
LIMFGNP[-1]	-0.07*** (0.03)	-0.014 (0.011)
LCPIDIFF[-1]	0.05 (0.04)	-0.01 (0.02)
LMILCENT[-1]	0.05* (0.028)	0.02* (0.01)
LDEATRAD	0.04*** (0.01)	0.01*** (0.003)
Obs. P	0.33	0.08
Pred. P	0.30	0.05
Log likelihood	-309.79	-136.60
Chi squared	95.40	35.42
N	562	562

NOTE: The figures are changes in probabilities and, in parentheses, standard errors. LGDPGRO = ln real GDP growth; LGINI = ln Gini index; LGNPCAP = ln GNP per capita; LIMFGNP = ln use of IMF credit/GNP; LCPIDIFF = ln consumer price index, annual change; LMILCENT = ln military expenditures/GNP; LDEATRAD = ln deaths from domestic violence, 1963–77. Except for LDEATRAD, all explanatory variables are lagged one year [-1]. Coefficient significance: * significant at the 0.10 level (two-tailed test); ** significant at the 0.05 level (two-tailed test); *** significant at the 0.01 level (two-tailed test). Obs. P = observed probability; Pred. P = predicted probability at the mean of the dependent variable. The statistical significance of the model is tested against the value of Chi squared with 7 degrees of freedom.

SOURCE: Nafziger and Auvinen (2003), p. 26.

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