RESEARCH REPORTS AND NOTES

ECONOMIC MIGRANTS OR REFUGEES FROM VIOLENCE?
A Time-Series Analysis of Salvadoran Migration to the United States*

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A heated debate has arisen over U.S. policy toward the large number of Salvadorans and Guatemalans who have come to the United States in recent years. The question is whether the U.S. government should continue to deport these individuals or should offer them some special protection. The key point of debate is the motivation of the émigrés. Officials of the U.S. Department of State and the Department of Justice have maintained that Salvadorans and Guatemalans who come here are merely economic migrants in search of a better life, and that as such, they are ineligible for any special treatment under U.S. immigration law.[1] According to representatives of the Reagan administration, the fact that many Central Americans pass through Mexico on their way to the United States is evidence of their economic motivations.[2]

132

In contrast to the administration position, legal staff members of private agencies aiding Central Americans in the United States argue that most of the Salvadorans and Guatemalans who come to the United States do so out of fear for their lives because of political violence in their home countries. Workers aiding refugees who were interviewed for this study reported that their clients moved to the United States only reluctantly and plan to return home when it is safe to do so, although most are uncertain as to when this time will come. The workers further reported that many of their clients had suffered considerable hardships, often at the hands of Mexican nationals, while traveling through Mexico and crossing the U.S. border. Mexican officials have reportedly been taking stronger measures to apprehend and deport Central Americans, possibly at the bidding of the U.S. government.[3]

It is difficult to reconcile these two diametrically opposed evaluations of the motivations behind the Central American exodus. Both sides of the debate have access to individual case information about Central American migrants, yet they arrive at opposite conclusions. The two sides have different views as to what U.S. policy should be, and their respective analyses of the situation reflect these biases. In an effort to contribute some empirical analysis of the motivations of Central American émigrés based on their actual behavior, this research used aggregate monthly time-series data on political violence in El Salvador and on Salvadoran migration to the United States. It tests the hypothesis that political violence is an important motive behind the Salvadoran exodus by examining whether a correlation exists over time between the level of political violence in El Salvador and the level of Salvadoran migration to the United States. This analysis also tests an alternative hypothesis that economic factors are an important motive by looking for correlation between economic conditions and the out-migration of Salvadorans. To anticipate somewhat, the findings strongly support the hypothesis that political violence has been instrumental in motivating Salvadoran migration since 1979. Regrettably, the quality of information on political violence needed for the kind of analysis undertaken here is unavailable for Guatemala.[4] This essay will therefore focus exclusively on the case of El Salvador, although it is my belief (and that of many who monitor human-rights conditions in Central America) that political violence is fully as threatening in Guatemala as in El Salvador.

The hypotheses tested here are admittedly simplified ones. Motivations of individuals are complex: some individuals who leave El Salvador out of fear may also hope for economic success in the United States. Economic conditions may interact with violence in a number of ways as well. Poorer areas of El Salvador may be particularly subject to political violence because their inhabitants have had more reason to mobilize politically. Conversely, violence may disrupt economic activi-

133

ties, thereby eliminating jobs and reducing pay levels. Individuals who are unemployed may be suspected of being subversives and therefore more vulnerable to attack by security forces. A definitive analysis of the connections between violence, economic conditions, and the emigration of Salvadorans would require careful attention to these complexities.[5] The present analysis is intended to test the general plausibility of assertions made by parties to a debate with important policy implications.

SALVADORAN MIGRATION TO THE UNITED STATES: PRELIMINARY EVIDENCE

Salvadoran migration to the United States did not begin with the outbreak of overt civil war in El Salvador in 1980. The dynamics of this migration during the preceding decades are difficult to evaluate, however, because the U.S. Immigration and Naturalization Service (INS) began only in October 1976 to keep separate records of the numbers of Salvadorans caught entering the United States. Prior to this date, Salvadoran entrants were included in a miscellaneous category called "Other Western Hemisphere."Although estimates of the number of undocumented Salvadoran population currently in the United States are extremely crude, roughly half a million Salvadorans have apparently arrived.[6] Salvadorans have a long-standing reputation for economic migration, especially seasonal migration, throughout Central America and Mexico. This reputation, combined with the steady decline of the Salvadoran economy since 1979, has been the primary basis for the Reagan administration's claims that Salvadorans who come to the United States are economic migrants rather than political refugees.[7]

But the annual trends in Salvadoran economic conditions, political violence, and migration suggest a more complex relationship than this theory of economic motives. These trends suggest instead that political violence may have played an important role in the flow of migrants from El Salvador. Annual INS statistics on the numbers of Salvadorans caught entering the United States show sharp increases from 1979 through 1981, followed by a decline in 1982, then renewed increases in 1983 and 1984 (see table 1). The high levels of INS apprehensions during 1980 and 1981 coincided with both a decline in real GDP per capita and a dramatic rise in political murder. Notably, INS apprehensions declined as the level of political murder dropped off in 1982, and they soared again in 1983 and 1984 when military sweep operations became larger and more frequent in El Salvador. Also, the sharp rise in INS apprehensions in 1979 coincided with increased death-squad activity and preceded the serious economic contraction of 1980.

Critics of the Reagan administration's position generally have not challenged the claim that in the past Salvadorans migrated to the

134

TABLE 1 *Indicators of Salvadoran Economic Performance, Violence, and Migration*

Year Change	Real GDP per Capita (Thousand Colóns)	Percent Change	Political Killings	Percent Change	INS Apprehensions of Salvadorans	Percent
1976	788.11					
1977	810.12	2.79			4,365	
1978	842.53	4.00			5,191	18.92
1979	811.26	−3.71	1,060		7,109	36.95
1980	692.42	−14.65	8,024	656.980	9,839	38.40
1981	619.51	−10.53	12,700	58.280	9,996	1.60
1982	569.60	−8.06	5,399	−57.490	7,398	−25.99
1983	544.36	−4.43	4,901	−9.220	9,892	33.71
1984					11,916	

United States for economic reasons. Critics point out, however, that the human-rights situation in El Salvador deteriorated rapidly in the late 1970s and worsened further under the conditions of open civil war existing in El Salvador since 1980. Observers in Central America have reported that widespread flight from El Salvador began in early 1980. Surveying these conditions, critics argue that it is more likely that the hundreds of thousands of Salvadorans who have entered the United States since 1980 are political refugees.[8]

Although it is possible that political fear played an important role in motivating Salvadoran migration to the United States throughout the 1960s and 1970s, considerable evidence for the years since 1980 suggests that political violence has been pervasive enough to make fear the primary motive. Reports by Amnesty International indicate that violent political repression existed in El Salvador throughout this period.[9] No information exists about the trends of violence over time during this period, however, making the connection between such repression and Salvadoran out-migration difficult to evaluate for most of the 1960s and 1970s. Beginning in 1979, organizations such as Socorro Jurídico (which was affiliated with the Archdiocese of San Salvador) have published comprehensive quantitative accounts of human-rights violations in El Salvador. These reports show a rising incidence of human-rights violations through 1979, followed by a massive increase during 1980 and early 1981.

According to Socorro Jurídico, more than one thousand Salvadorans were killed by military and paramilitary "security forces" in 1979. In 1980 this number multiplied to almost eight thousand; in 1981 almost fourteen thousand Salvadorans were murdered.[10] It appears that although elements of the FMLN (the Frente Farabundo Martí de Liberación Nacional) killed some civilians, most violence against the general

135

population has been carried out by the Salvadoran military and by paramilitary death squads.[11] For example, for the second half of 1982, guerrilla forces were responsible for twenty-six killings, according to Tutela Legal (the organization that replaced Socorro Jurídico in early 1982 as monitor of human rights for the archdiocese). In contrast, the "security forces" killed 2,340 civilians during the same period.[12] Killings by military and paramilitary forces have been accompanied by widespread torture, rape, forced "disappearance," and the destruction of vital crops and property. Much of the violence has been random, designed to terrorize the population into submission.[13]

Because civilians living in or near guerrilla-controlled areas are considered guerrilla supporters, the army generally treats them as legitimate targets.[14] In fact, Salvadoran army officers have admitted that their main tool for convincing rural inhabitants to stop helping the guerrillas is terror.[15] This tactic is documented by reports from church agencies containing many eyewitness accounts of acts of terrorism by the military against unarmed civilians.[16] Recent reports from Americas Watch and other human-rights monitors indicate that targeted killings have been fewer during the last two years but that the Salvadoran military has stepped up indiscriminate attacks against civilians to drive inhabitants out of the areas where FMLN forces operate. As a result, many civilians in rural areas have been injured or killed by shelling, bombing, and small-arms fire by the Salvadoran military. In many cases, these attacks are directed against groups of civilians who have already lost their homes and are living under deprived conditions in the hills, where they seek greater safety. Several military massacres of unarmed civilians have been documented by investigators of human-rights groups and journalists. Interviews conducted by Americas Watch with residents of displaced persons' camps confirm that these military attacks on the civilian population frequently cause inhabitants to abandon their home areas and seek shelter where displaced persons congregate. Government attacks have not been the only cause of displacement. Reports from Americas Watch, along with press accounts, indicate that for several months in early 1984, the FMLN engaged in forced recruitment in rural areas, contributing to the displacement of Salvadorans from several areas.[17]

Mass displacement began most dramatically in March 1980, when the land reform proclamation, accompanied by the declaration of a state of siege in rural areas, precipitated violent military and paramilitary sweeps through the countryside. These sweeps caused large numbers of rural Salvadorans to flee to neighboring departments and countries.[18] Several organizations have tried to estimate the number of displaced Salvadorans within El Salvador as well as Salvadoran refugees in other countries. A U.S. Senate staff report estimated that four hun-

136

dred and sixty-eight thousand persons are displaced within El Salvador, a figure based on persons registered with Catholic, UN, and Red Cross agencies providing relief to the displaced. The real number may be twice that many, according to one Salvadoran Red Cross worker.[19] The office of the UN High Commissioner on Refugees (UNHCR) reported that over two hundred and forty-four thousand Salvadoran refugees reside in other Central American countries and Mexico.[20] Combined with the estimated five hundred thousand Salvadorans in the United States, these figures indicate that roughly a quarter of the Salvadoran population is either displaced or out of the country.[21]

Reports of Catholic, Red Cross, and UNHCR agencies providing services to displaced persons and refugees indicate that few men, especially young men, feel safe in the displaced persons' camps in El Salvador or in the refugee camps in Honduras. Security forces in both countries tend to assume that male youths found in these camps are active insurgents. The guerrilla forces may have contributed to this problem by using camps as refuges for their fighters. In El Salvador, such suspicions are often tied to the military draft, which is enforced in a random and discretionary fashion by the armed forces. A young man who is not in the armed forces (or able to show evidence of prior service) may either be spontaneously drafted or killed on suspicion of being an active insurgent.[22] With serious civil conflict in progress in Guatemala, conditions are similarly risky for Salvadoran men there.[23] Not surprisingly, a large majority of the Salvadorans who end up in the United States are young men.[24]

As mentioned above, U.S. officials have claimed that Salvadorans' decisions to journey onward to the United States indicate a primary interest in seeking better economic opportunities rather than fleeing violence.[25] It should be remembered, however, that Salvadorans who flee to Mexico for political reasons must find work before their resources run out because their ability to remain outside El Salvador depends on their economic success. Economic conditions in Mexico are extremely difficult for Mexicans, and all the more so for newly arrived Salvadorans. Mexican law contains no provisions for recognizing refugees or providing them with special status. As Sergio Aguayo points out: "These people are weak economically and extremely vulnerable from the legal point of view. . . . [T]hey try to disguise themselves as Mexicans (buying forged documents and obtaining information on daily life in Mexico) because they are extremely vulnerable to extortion by minor officials."[26] Understandably, many decide to travel straight through to the United States. Moreover, Aguayo and staff members of refugee aid organizations in the United States have reported that in 1984 Mexican officials adopted stricter measures to apprehend and de-

port Salvadorans, effectively increasing the pressure on Salvadorans in Mexico to travel on to the United States.[27]

MODELING SALVADORAN MIGRATION

To test the hypothesis that Salvadorans who have been coming to this country since 1979 have been motivated by fear of political violence, I used a multivariate linear regression model to predict the month-to-month variation in Salvadoran migration into the United States based on indicators of political violence in El Salvador. On an individual level, the hypothesis employed is that a person leaves El Salvador when someone close to him or her has become a victim of political violence or when the individual is directly threatened with such violence. On an aggregate level, it is hypothesized that monthly fluctuations in the levels of political violence in El Salvador will be reflected by corresponding fluctuations in the numbers of Salvadorans entering the United States in subsequent months.

Measures of Salvadoran Migration

Because most Salvadorans enter the United States without immigration inspection, no completely reliable data exist on the numbers of Salvadorans who enter in a given month. Since October 1976, however, the INS has kept records of the numbers of Salvadorans apprehended trying to enter the country.[28] The INS estimates that of the Salvadorans who enter the United States illegally, 25 percent are eventually caught.[29] These figures are broken down according to the length of time the Salvadorans remained in the United States before being caught. For purposes of this analysis, I have used only the figures for those caught at entry or within seventy-two hours of entry in order to have a stable indicator of the relative numbers of Salvadorans trying to enter the United States from one month to the next (see appendix 1).

Statistical Controls

Variations over time in the number of persons caught by the INS are partly a function of fluctuations in INS border patrol efforts and their effectiveness. Temporary or long-term increases in INS patrols might boost the numbers of Salvadorans being caught without any real increase in the numbers of Salvadorans trying to enter the United States. It is therefore possible that INS apprehensions are not a valid indicator of actual Salvadoran migration. To control for this potential confounding of enforcement efforts and actual migration flows, I use the level of INS apprehensions of Mexicans in the model as an indepen-

138

dent variable. Because both Salvadorans and Mexicans enter the United States via the Mexican border, fluctuations in INS patrol strength should affect both groups about equally. Some variation in the number of Mexicans apprehended is the functional result of fluctuations in INS enforcement. By using Mexican apprehensions as an independent variable in a multiple regression, I controlled statistically for the portion of variance in Salvadoran apprehensions that is merely a product of variations in the effectiveness of INS patrols.[30]

While the primary hypothesis I hope to test is that Salvadoran migration to the United States results from political violence in El Salvador, a multivariate model, to be correctly specified, must account for other kinds of incentives, including economic incentives, possibly affecting Salvadoran migration. I have therefore used the independent variable of Mexican apprehensions in a second role in the model—that of controlling for the economic pull of the the U.S. labor market, which probably affects Mexicans and Central Americans in roughly the same way. The Mexican variable therefore controls approximately for some of the economic incentives that motivate Salvadorans. It clearly does not control for economic push caused by the deterioration of the Salvadoran economy. But as will be noted, tests were conducted of variables reflecting Salvadoran economic and employment conditions. The results were found to be statistically insignificant.

The Mexican apprehensions series is highly seasonal: time plots of Salvadoran and Mexican apprehensions reveal some degree of seasonality in both series but a much clearer pattern in the Mexican series. This pattern probably results from the heavy role of Mexican migrant labor in U.S. agriculture. In contrast to Mexicans, Salvadoran migrants are more heavily concentrated in major urban areas and work in urban industrial and service industries. It is likely, therefore, that the seasonal pattern evident in the Salvadoran series is an artifact of seasonal fluctuation in INS enforcement in response to Mexican migration. To check whether this seasonality distorts the regression results, I seasonally adjusted the Salvadoran and Mexican apprehensions series and repeated the regression analysis using these adjusted series. The results are discussed below.[31]

Measures of Political Violence

To construct an indicator for incidents of political violence, I utilized data provided by two Catholic agencies in El Salvador. From 1979 to mid-1982, Socorro Jurídico collected monthly statistics on political murders and other human-rights violations by the Salvadoran military and paramilitary forces. Beginning in 1982, this task was taken over by the newly formed organization known as Oficina Tutela Legal. The

139

Archdiocese of San Salvador set up Tutela Legal to succeed Socorro Jurídico because church officials felt that Socorro Jurídico was under-reporting human-rights violations by the FMLN.[32] It should be noted that while Socorro Jurídico was indeed guilty of ignoring FMLN violations, the incidence of such violations subsequently reported by Tutela Legal has been minimal in comparison with the violations committed by the security forces. Therefore, while the archdiocese was correct in principle in requiring that FMLN abuses be reported, the addition of such information to Tutela Legal's reports has not resulted in a significantly different picture of human-rights conditions in El Salvador than was provided by Socorro Jurídico.[33]

For purposes of this analysis, the data gathered by these two groups will be treated as a single time series, given that both organizations performed the same role and used the same methodology. Both required testimony from eyewitnesses or immediate family members before recording a case of murder or forced disappearance.[34] The main difference between the organizations, other than their policy on reporting FMLN abuses, was that Tutela Legal initially had a smaller staff than Socorro Jurídico.

As the main indicator of the overall level of political violence in El Salvador, I have used the Socorro Jurídico and Tutela Legal data on political murder. Data on other kinds of violence, such as disappearance or imprisonment, are not used because political killings are highly correlated over time with other kinds of violence and can therefore serve to indicate the levels of other kinds of violence. The decision to use only political killings was partly a technical one: use of multiple, highly correlated independent variables leads to difficulty in statistical estimation due to multicollinearity. In addition, Tutela Legal reports indicate that most forced disappearances end in killings that are often recorded in Tutela Legal's tally of political killings. Other kinds of violence, such as rape and torture, are also excluded because they have not been as consistently documented and counted. But reports of the activities of Salvadoran security forces indicate that killings typically accompany other kinds of violence, so that it is safe to assume that the level of political killing is a consistent indicator of the level of other kinds of violence.

Socorro Jurídico and Tutela Legal have collected most of their information in urban areas because the fluid lines of battle impeded taking testimony in rural areas on a consistent basis. As a result, their statistics should be assumed to be conservative. In particular, the two sources are likely to understate the number of victims of violence in rural areas. For example, Socorro Jurídico and Tutela Legal have excluded from their statistics some victims of several massacres that were well documented in the press (and corroborated by the agencies' inves-

140

tigators) because they were unable to obtain independent sworn testimony from eyewitnesses identifying the specific victims.[35]

Because of this underreporting of violence in rural areas by Socorro Jurídico and Tutela Legal, I found it necessary to use other sources in constructing an indicator that explicitly accounts for rural violence. To this end, I consulted *Latin America Weekly Reports* to identify months in which major military sweeps took place in the countryside that might have caused inhabitants to leave El Salvador. I then included three separate dichotomous "dummy" variables in my model to account for these violent events. Actions on the part of the security forces thus identified were: one, the sweeps of the countryside in March 1980 accompanying the land reform declaration, for which I included a dummy variable called "Reform";[36] two, the military sweep operations of five to six thousand troops that took place in the department of Morazán in October 1980[37] as well as sweeps in the departments of Morazán and Chalatenango in January and February of 1983, for which I fitted a dummy called "Sweep5";[38] and three, the much larger military sweeps of more than ten thousand troops that took place in eight departments beginning in December 1983, for which I fitted a dummy called "Sweep10."[39] A summary of the construction of the variables included in the model may be found in appendix 1.

Numerous smaller operations were also reported by the press. But such operations have regrettably become a "normal" condition in El Salvador since the onset of civil war, and the killings they caused are to some extent reflected in the Socorro Jurídico and Tutela Legal data. I therefore chose to include in the model only particularly large operations.[40]

I fitted dummy variables as well for the major FMLN offensives on the theory that increased fighting resulting from these actions could displace some civilians and lead to increased migration to the United States. None of these dummies proved statistically significant, however, so I dropped them from the model. This result may have emerged because the FMLN, unlike the military, does not seek to drive residents out of the areas in which it operates and has conducted its military operations in a hit-and-run fashion, focusing on economic targets such as electric plants and facilities that process export commodities.

Americas Watch reported that FMLN recruitment drives caused the displacement of some fifteen hundred persons in the department of San Miguel in April and May of 1984.[41] Such activities continued through July and August of 1984, virtually ending in September of 1984.[42] These recruiting drives fall outside of the time bounds of the model (determined by the availability of data at the time the statistical analysis was undertaken). Preliminary attempts to fit a model to more recent data suggest that a dummy variable should probably be included

141

to account for these recruitment drives, although their impact will be difficult to separate from that of ongoing military sweeps in the northeastern departments.

In time-series analysis, dummy variables are typically assigned values of 1 for the time periods in which the event they represent took place. In this case, however, the events represented by the dummies are likely to affect the dependent variable over an extended period of time. The length of time elapsing between an incidence of violence and the arrival at the U.S. border of a person fleeing that violence can vary greatly. Different individuals have different degrees of tolerance for violence and personal danger. Furthermore, according to staff of refugee aid agencies, the length of time it takes Salvadorans to reach and cross the U.S. border varies from two weeks to three months, depending on individual resources. Poorer persons must earn from several hundred to a thousand dollars, either along the way or before they go. Some migrants walk much of the distance, but they still need money for bribes, false documents, and help in crossing borders.[43] As a result, even Salvadorans who intend to travel straight through to the United States in many cases end up spending from several weeks to several months in Mexico. In order to account for the delayed impact of military violence on migration caused by all these factors, I assigned to the three dummy variables values of 1 not only for the months in which the events they represent took place but also for three months following.

I expected that the murder variable, like the dummies, would involve a lag of several months. I found that lags of two, three, and four months were each significant predictors of the numbers of Salvadorans apprehended, when combined with Mexican apprehensions and the dummies. Due to problems with multicollinearity, lag two was dropped from the model. Lags of three and four months are included in the model because they had the highest partial correlation with the dependent variable when the other variables were included. Lags zero and one were not significant.[44]

One would expect a difference between persons who flee individualized violence and those who flee military sweeps. Sweeps are often preceded by warning, either through FMLN intelligence or intentional warning from the military. Persons forced to flee from sweeps do so promptly, often before the sweep begins. In contrast, persons who leave because they have been personally threatened or because someone close to them has been killed (the kind of circumstances reflected by the murder variable) must often go into hiding to prepare for their escape, thus delaying their migration to the United States. A lag in the impact of the murder variable on migration also results from the way these data are collected. Socorro Jurídico and Tutela Legal record killings in the months in which they are reported. Consequently, some

142

TABLE 2 *Regression Results Using Uncorrected Series, May 1979 through March 1984*

Variable Name	Coefficient Estimate (Std.Error)	T-Statistic	Beta-Coefficient Final Model	Contribution to corrected R-squared[a]
Constant	154.11 (71.36)	2.16	.00	.00
Mexicans	0.01 (0.00)	5.68	.42	.28
Murder(−3)	.16 (0.05)	3.66	.23	.13
Sweep10K	468.37 (75.33)	6.22	.46	.13
Reform	350.17 (73.19)	4.78	.34	.07
Sweep5K	209.30 (51.33)	4.08	.29	.08
Murder(−4)	0.12 (0.04)	2.77	.31	.04

Note: The Durbin-Watson statistic equals 2.03; the sample size is 59. For purposes of this presentation, regression was stepwise ordinary least squares with the Mexican variable entered first and the remaining variables entered according to their partial correlations with the dependent variable. The Mexican variable must be entered first because it controls in part for possible measurement error in the dependent variable. It should be emphasized that this stepwise procedure was used in order to evaluate the contributions to corrected R-squared of each of the variables, not as a method of choosing regressors.
[a]The corrected R-squared equals .72; the uncorrected R-squared equals .75.

killings are recorded a month or more after the event took place because witnesses and families of victims must travel to San Salvador or other cities to report their losses.[45]

The regression model for the numbers of Salvadorans apprehended includes the Mexican apprehensions control variable, the three dummy variables representing military sweeps, and the murder variable at lags (-3) and (-4). In scalar notation, this model takes this form:

$$SAL = B0 + B1(MEX) + B2(MURDER(-3)) + B3(SWEEP10) + B4(REFORM) + B5(SWEEP5) + B6(MURDER(-4)) + e$$

This analysis uses data from January 1979 (the beginning of the Socorro Jurídico and Tutela Legal series) through March 1984 (the latest available data from the INS at the time this analysis was undertaken). The bounds for the regression were from May 1979 to March 1984, taking into account the four-month lag in the murder variable. The statistical results for the model above are presented in table 2.

143

The findings constitute strong empirical evidence that political violence in El Salvador contributes largely to Salvadoran migration to the United States. The corrected R-squared (the indicator of percent reduction in error) is .72, meaning that the model as a whole accounts for 72 percent of the monthly variation of Salvadoran apprehensions. In a stepwise regression in which the Mexican apprehensions control variable was added first, followed by other variables according to their partial correlations with the dependent variable, the combined contribution to variance explained (R-squared) of the violence variables is 44 percent. Variance in the numbers of Mexicans apprehended over time (presumed here to represent major variations in INS enforcement and economic factors shared by Salvadorans and Mexicans) accounts for only 28 percent of the variance in Salvadoran apprehensions. The remaining 27 percent of the variation in Salvadoran apprehensions is presumably attributable to factors not included in the model, the combination of which (based on visual inspection of the residuals) approximates random noise. The standardized regression coefficient (beta weight) for just one of the violence variables, the dummy variable for the sweep operation of ten thousand troops (.46), is larger than that of the Mexican control variable (.42). The other violence variables have beta weights of .31, .34, .29, and .23. Taken together, the political violence variables clearly contribute most of the explanatory power of the model. The violence variables explain even more of the actual variation in Salvadoran migration than first appears because some of the variation accounted for by the Mexican control variable is measurement error in the dependent variable (variations in enforcement) rather than actual variation in Salvadoran migration.

When seasonally adjusted Salvadoran and Mexican apprehensions data are used in the same model, the overall R-squared of the model is lower, but the contribution to R-squared of the violence variables is higher at .56. In other words, indicators of political violence explain more than half of the variance in Salvadoran apprehensions. According to these findings, fear of political violence appears to be the dominant motive for Salvadoran migration during the period covered by this analysis. Using the seasonally corrected Salvadoran and Mexican apprehensions series, the beta weight of the Mexican variable was only .21, while those of the dummy variables for sweeps of ten thousand troops, sweeps of five thousand troops, and the agrarian reform period were .49, .39, and .24, respectively. The beta weights for the political murder variable at lags -3 and -4 were .34 and .28, respectively (see the seasonally adjusted regression results in table 3). The contribution to R-squared and the beta weights of violence variables are stronger in the seasonally corrected version of this model because the strong seasonality of the Mexican variable in the uncorrected model conceals

144

TABLE 3 Regression Results Using Seasonally Adjusted Salvadoran and Mexican Apprehensions between May 1979 and March 1984

Variable Name	Coefficient Estimate (Std.Error)	T-Statistic	Beta-Coefficient Final Model	Contribution to corrected R-squared[a]
Constant	348.29 (113.95)	3.06	.00	.00
Mexicans[b]	0.00 (0.00)	2.11	.21	.05
Murder(-3)	.14 (.05)	3.30	.34	.20
Sweep10K	391.57 (72.95)	5.37	.49	.14
Sweep5K	220.04 (47.55)	4.63	.39	.13
Murder(-4)	0.12 (0.04)	2.79	.28	.03
Reform	194.87 (73.19)	2.75	.24	.05

Note: The Durbin-Watson statistic equals 1.92; the sample size is 59. As with the first regression results presented in table 2, the results presented here are from stepwise ordinary least squares regression with the Mexican variable entered first and the remaining variables entered according to their partial correlations with the dependent variable. The Mexican variable must be entered first because it controls in part for possible measurement error in the dependent variable.

[a]The corrected R-squared equals .61; the uncorrected R-squared equals .65.
[b]Seasonally adjusted.

some of the impact of political violence on Salvadoran migration. Some seasonal peaks in the Mexican series fall shortly after periods of high violence in El Salvador and therefore "explain" some positive variation in the Salvadoran apprehensions variable actually attributable to violence.[46]

Among the political violence variables, the dummy variables for military sweep operations as a group contribute more to the total variance accounted for than the two lagged political murder variables together (.27 versus .17 in the uncorrected model, and .32 versus .23 in the seasonally adjusted model). Thus it appears that military sweeps may outweigh death-squad killings as a cause of Salvadoran flight to the United States. This finding makes intuitive sense in that the purpose of these sweeps is to drive civilians out of areas in which the FMLN operates. Furthermore, larger sweep operations appear to generate more refugees: the coefficient estimate for the dummy variable for sweeps of ten thousand is roughly twice that of the dummy for the sweeps of five thousand troops. All of the refugee aid workers inter-

145

viewed for this study reported that proportionally more rural inhabitants have been coming to the United States since the end of 1983, primarily because of increases in military attacks in their areas.[47]

These findings suggest that current U.S. policies in El Salvador may produce undesired consequences for the United States in terms of increased refugee flows. While the Reagan administration has pursued a successful policy of pressuring the Salvadoran military to reduce death-squad killings, it has simultaneously provided enough military aid to increase the size of the Salvadoran army from thirty-two thousand in 1983 to forty-three thousand in 1984.[48] Given the prominence of military operations in generating refugee flows, as demonstrated above, this dual policy of cleaning up and expanding the Salvadoran military may well cause a net increase in the number of refugees coming to the United States.

Motivations Other Than Political Violence

Fear of being drafted probably motivates many young men to leave under the prevailing conditions of civil war. This situation is not exactly the same as being personally threatened by targeted or indiscriminate violence. Some young men may be afraid of being killed or wounded in combat; some may want to avoid the draft on moral grounds in view of the frequent attacks by soldiers on civilians. Fear of the draft may therefore be another mechanism by which the level of political violence causes individuals to decide to leave. Whether one considers fear of the draft a legitimate reason for fleeing and seeking refuge in another country depends on how one evaluates the legitimacy of the Salvadoran government and its use of violence against the civilian population. These questions have been the subject of an intense debate too lengthy to fit into this context.

Another possible motive for migration is that the ongoing civil war has damaged the economy so that jobs are scarce and buying power is low. Notably, however, even annual data show that the flow of migrants has fluctuated along with the level of violence, while the economy has shown a steady decline since the onset of civil war. Given the sharp differences in the trends of economic performance and violence on an annual level, it is improbable that economic conditions fluctuate along with the level of political violence on a month-to-month basis. Because Salvadoran economic indicators have demonstrated a steady decline since 1979 (see table 1), the general impact of Salvadoran economic conditions on migration can be approximated in multiple regression by a simple time variable for which a slope or trend effect is estimated. Such a time variable was added to both versions of the model presented above. It was not statistically significant and fails to be significant even when the political violence variables are excluded.

146

To test more directly for the impact of employment conditions on migration, I obtained monthly figures for 1977 through 1983 on job supply, demand, and placement through Salvadoran government employment offices.[49] Because these offices are located in towns, their figures probably do not indicate effectively employment conditions in rural areas, except to the extent that unemployed rural workers seek employment in town. I tried two indicators of job scarcity: the difference between the number of workers requesting employment and the number of jobs registered with the employment offices, and the difference between the number of workers looking for jobs and the number actually placed. Both of these indicators have zero-order correlations with INS apprehensions of Salvadorans (not controlling for other variables) of around .3. But when the numbers of Salvadorans apprehended are regressed on either of these employment indicators plus the Mexican control variable, with or without the political violence variables, the employment variables are not statistically significant.

By arguing that the correlation between violence and migration is robust, and that available economic variables are statistically insignificant, I am not claiming that economic motivations play no role. Even persons who genuinely flee because of political persecution may hope that they will be economically successful elsewhere.Some economically motivated migration is accounted for in the model presented here. The Mexican control variable accounts for an element of economic motivation, particularly the pull of the U.S. labor market. The intercept term obtained in the regression estimation indicates the level of apprehensions that one would expect if all of the regressors included in the model were zero. It therefore represents some proportion (dependent on the INS apprehension rate) of the base level of Salvadoran migration that would exist in the absence of political violence or whatever economic considerations are accounted for by the Mexican variable.

CONCLUSION

The key conclusion to be drawn from these findings is that political violence is at least an important motivation of Salvadorans who have migrated to the United States since the beginning of 1979. The fact that political violence variables account for more than half of the variance in Salvadoran apprehensions in the seasonally adjusted model suggests that fear of political violence is probably the dominant motivation of these migrants. With regard to the policy debate over how to respond to the Salvadoran influx into the United States, these findings support the arguments urging that the United States provide special protection from deportation for Salvadorans.

These findings have more general implications for the debate on

147

U.S. policy in El Salvador as well. One of the philosophical underpinnings of the Reagan administration's policies in Central America is the view articulated by Jeane Kirkpatrick (in "Dictatorships and Double Standards") that what she calls "traditional authoritarian" regimes, such as the one in El Salvador, are preferable to totalitarian leftist regimes. One reason that she finds them preferable is that authoritarian regimes do not generate many refugees whereas totalitarian revolutionary regimes do. To illustrate the "damning contrast between the number of refugees created by Marxist regimes and other autocracies," she points out that "more than a million Cubans have left their homeland since Castro's rise (one refugee for every nine inhabitants) as compared to about 35,000 each from Argentina, Brazil, and Chile."[50] Yet now roughly a million Salvadorans (one person in four) have become either internal or external refugees, a figure that calls into question Kirkpatrick's general assertion. Historical precedent exists for thinking that the violence used by authoritarian regimes to fight major insurgencies is particularly likely to generate refugees. According to the U.S. State Department, two hundred thousand Nicaraguans fled their country in 1978 and 1979. Most returned after the war. Thirty to forty thousand Nicaraguans have left and remained outside the country since the Sandinistas came to power.[51] These figures, combined with the findings presented here, provide reasons to question arguments justifying current U.S. policy in El Salvador as necessary to prevent a flood of illegal immigrants.

APPENDIX 1

VARIABLE SUMMARY

SAL: Salvadorans apprehended by the U.S. Immigration and Naturalization Service at entry or within seventy-two hours. INS statistics are broken down into persons caught at entry, within seventy-two hours, four to thirty days, one to six months, seven months to one year, and over one year. The indicator I used was the sum of apprehensions at entry and within seventy-two hours. Figures for individuals caught between four and thirty days after entry were not used because these figures are less directly connected to the flow of migrants across the border; a higher proportion of these apprehensions results from workplace raids by the investigative branch of the INS. The mean equals 768, the standard deviation equals 255.

SSAL: The SAL series described above, adjusted for seasonality using a ratio-to-moving-average technique. This correction involves the

148

following steps: first, a moving average of one year centered on each current observation is calculated; second, the ratio of the series to the moving average is calculated; third, the average of the ratio is taken over all the years in the sample for each month (these are the seasonal effects); fourth, the reciprocal of the seasonal effects is used to adjust the series. This process does not remove all seasonal peaks from the series; years during which seasonal effects were particularly strong will still show seasonal spikes, but the series is smoothed and less dramatic seasonal peaks are removed. The mean is 762, the standard deviation, 199.

MEX: Mexicans apprehended at entry or within seventy-two hours of entry. The construction of this series was identical to that of the Salvadoran series described above. The mean is 61,106, the standard deviation, 17,347.

SMEX: The MEX series adjusted for seasonality, as above. The mean is 60,675, the standard deviation, 11,584.

MURDER: Salvadorans killed by the security forces, including death squads and military forces. These figures do not include killings by the armed Left in El Salvador but include civilians killed during military sweeps in conflictive areas in cases in which Socorro Jurídico or Tutela Legal were able to obtain testimony from eyewitness or family members identifying the individual victims as noncombatants. The mean equals 524, the standard deviation, 481.

REFORM: A dummy (dichotomous) variable that has a value of 1 for March through June of 1980 to account for military and paramilitary sweeps of the countryside in March 1980 associated with the land reform proclamation. Numerous press and human-rights monitor reports indicated that the military operations taking place in the countryside were particularly aimed at killing leaders of farm labor unions and other rural organizers. It is fairly clear that a mass exodus of rural Salvadorans resulted from these events, although the operations were of such magnitude and so widely dispersed that specific incidents and victims were not well documented. As explained in the text, the dummy variable must have a value of 1 not only for the month in which the events took place but also for three months following to account for the delayed impact of a given event in El Salvador on the flow of migrants into the United States.

SWEEP5: Dummy variable for two military sweeps of five to six thousand troops reported in *Latin America Weekly Reports*. Another sweep of this size was not included in this variable, as explained in note 38. The sweeps represented took place in October 1980 and January and February of 1983. This variable has a value of 1 for October 1980 through January 1981 and for January through May of 1983.

SWEEP10: Dummy variable for one large sweep of ten thousand

149

troops in eight departments in December 1983 and January 1984. It has a value of 1 for December 1983 through April 1984.

APPENDIX 2

CORRELATION COEFFICIENTS

	SAL	MEX	MUR −3	MUR −4	SWEEPS 5K	SWEEPS 10K	REFORM
SAL	1.0						
MEX	.54	1.0					
MUR(−3)	.33	−.08	1.0				
MUR(−4)	.30	−.03	.56	1.0			
SWEEPS5	.27	.14	.03	.00	1.0		
SWEEPS10	.47	.27	−.08	−.07	−.11	1.0	
REFORM	.18	−.02	−.14	−.18	−.11	−.07	1.0

CORRELATION COEFFICIENTS WITH SEASONAL ADJUSTMENT OF SALVADORAN AND MEXICAN APPREHENSIONS

	SSAL	SMEX	MUR −3	MUR −4	SWEEPS 5K	SWEEPS 10K	REFORM
SSAL	1.0						
SMEX	.25	1.0					
MUR(−3)	.38	−.27	1.0				
MUR(−4)	.35	−.19	.56	1.0			
SWEEPS5	.35	.14	.03	.003	1.0		
SWEEPS10	.47	.39	−.08	−.07	−.11	1.0	
REFORM	.014	−.25	−.14	−.18	−.11	−.07	1.0

NOTES

1. Bernard Weintraub, "U.S. Is Condemned on Salvadorans," *The New York Times*, 21 May 1983, p. 5, col. 1. Quotas and a structured set of preferences apply to normal immigration to the United States. Special exceptions are provided under the Refugee Act of 1980, allowing immigrants to be admitted to the United States if they face persecution in their home countries or in the countries in which they habitually reside. The term *refugee* is applied to persons outside of the United States who convince U.S. officials abroad that they face persecution. Quotas set by Congress on the basis of administration recommendations govern the total number and the geographic distribution of refugee admissions. In practice, refugee status has been granted primarily to persons from Indochina. Central Americans almost never apply for or receive refugee status, their typical pattern being to enter the United States without inspection and apply for political asylum once here.
2. Ibid. See also Philip Shenan, "Salvadoran Refugees in New York Region Struggle for Asylum," *The New York Times*, 25 July 1983, p. A1, col. 5.
3. "'Young Male' Salvadoran Documentation Material," mimeo, National Immigration Project of the National Lawyer's Guild, Boston, Mass. See in particular the affidavit of Sandra Gutiérrez, 3 Nov. 1981, Redwood City, Calif. I interviewed staff members

150

of organizations providing legal assistance to Central American refugees, selected from the *Directory of Central American Organizations* (Austin, Tex.: Central American Resource Center, 1984). I gave priority to groups in border areas because they have a better opportunity to observe the dynamics of the flow of Central Americans over time. Interviews were conducted by telephone, the number of interviews being constrained by cost. Interviewed were Juan Rascón of the Central American Refugee Project in Phoenix, 26 Nov. 1984; Jack Elder of Casa Oscar Romero in San Benito, Texas, 27 Nov. 1984; Linton Joaquín of the Central American Refugee Center in Los Angeles, 27 Nov. 1984; Claire Shurkowshi of Proyecto Libertad in Harlingen, Texas, 29 Nov. 1984; and Sister Rose Marie Cummins of Centro Presente in Cambridge, Mass., 9 Oct. 1984.

4. Americas Watch Committee, *Guatemala: A Nation of Prisoners*, (New York: Americas Watch Committee, 1984), 1–10.

5. Such an analysis would include examining patterns of political violence to establish whether poorer areas are more frequently attacked, whether the unemployed are more frequently targeted than the employed, whether economic conditions have deteriorated more rapidly in the worst areas of political violence, and which political and economic groups are most frequently targeted. Personal characteristics of victims of political violence could be compared with the Salvadoran population in general to identify groups that are particularly persecuted. Ideally, some sort of sample survey of Salvadorans outside of El Salvador would be conducted, although their lack of legal status in most countries would make this undertaking extremely difficult. The Moakley-DeConcini bill (H.R. 822/S. 377) under consideration at this writing calls for a combination of temporary legal status for Salvadorans and a study of the conditions from which they fled to come to the United States.

6. Patricia Weiss Fagen, *Applying for Political Asylum in New York: Law, Policy, and Administrative Practice*, New York Research Program in Inter-American Affairs Occasional Paper no. 41 (New York: New York University, 1984), 33.

7. Most economic indicators for El Salvador showed some decline from 1980 onward. GDP per capita in constant dollar terms has declined steadily, although the estimates of populations used to establish per capita performance do not acknowledge the large numbers of Salvadorans who are out of the country because the figures are based on projections from previous censuses and historical population growth rates. See United Nations Statistical Office, *Monthly Bulletin of Statistics* (New York: UN Statistical Office, 1985).

8. Weiss Fagen, *Applying for Political Asylum*, 33.

9. See Amnesty International, *Report on Torture* (New York: Farrar, Straus, Giroux, 1973, 1975), 220–21. See also the annual *Amnesty International Report* (London: Amnesty International), 1975–76, pp. 110–11; 1977, pp. 140–41; 1978, pp. 120–22; 1979, pp. 61–63.

10. See Socorro Jurídico del Arzobispado de San Salvador, *Solidaridad: Boletín Internacional*, no. 40 (15 May 1983):3–6; reproduced in *Health and Human Rights in El Salvador* (New York: Committee for Health Rights in El Salvador, 1983), 24–26.

11. Human-rights groups argue that the death squads have operated under the command of elements of the armed forces and in many cases have involved active armed forces personnel. This assertion has been vigorously denied by the U.S. State Department. But the dramatic drop in death-squad killings in response to U.S. pressure appears to confirm the argument that the death squads are under military command and control.

12. See Oficina Tutela Legal del Arzobispado, Comisión Arquidocesana de Justicia y Paz, *Informe Anual 1982* (San Salvador), cited in *Health and Human Rights*, 27–29. See also *Free Fire: A Report on Human Rights in El Salvador* (New York: Americas Watch Committee and Lawyers Committee for International Human Rights, 1984), 3–5.

13. See Americas Watch Committee and American Civil Liberties Union, *Report on Human Rights in El Salvador* (New York: Random House–Vintage, 1982), 157–61. See also *Free Fire*, 1–46.

14. See *Third Supplement to the Report on Human Rights in El Salvador* (New York: Americas Watch Committee, 1983), 25.

151

15. *Report on Human Rights in El Salvador*, 196. See the testimony of Reps. Gerry Studds, Barbara Mikulski, and Robert Edgar, U.S. Congress, House Subcommittee on Foreign Operations, *Hearings: Foreign Assistance and Related Programs Appropriations for 1982*, 97th Congress, 1st Session, 25 Feb. 1981, p. 29. The Salvadoran army officers quoted are not named.
16. See *Third Supplement to the Report on Human Rights in El Salvador*, 117–18, 219. Eyewitnesses have identified the U.S.–trained Atlacatl and Ramón Belloso batallions as having perpetrated rape, torture, murder, and several massacres.
17. See *Free Fire*, 54–59.
18. *Latin American Regional Reports: Mexico and Central America* (hereafter cited as *LARM*), RM-81-02 (Feb. 1981), p. 4. Also *Report on Human Rights in El Salvador*, 158, 160; and Philip Wheaton, "Agrarian Reform in El Salvador: A Program of Rural Pacification," in *Revolution in Central America*, edited by Stanford Central America Action Network (Boulder: Westview, 1982), 251–52.
19. *El Salvador's Other Victims: The War on the Displaced* (New York: Lawyer's Committee for International Human Rights and Americas Watch Committee, 1984), 29–31.
20. Weiss Fagen, *Applying for Political Asylum*, 38.
21. *El Salvador's Other Victims*, 31.
22. *LARM*, RM-81-05 (5 June 1981), p. 6. *Report on Human Rights in El Salvador*, 166–72. *Third Supplement to the Report on Human Rights in El Salvador*, 45–47.
23. National Immigration and Alien Rights Project of the American Civil Liberties Union, *Salvadorans in the United States: The Case for Extended Voluntary Departure* (Washington, D.C.: ACLU, 1983), 42–49. *LARM*, RM-84-02 (17 Feb. 1984), p. 5. Also, Linda S. Peterson, "Statement of the Representative of the Bureau of the Census," in *Central American Refugees*, Hearing before the Subcommittee on Census and Population, Post Office and Civil Service Committee, U.S. House of Representatives, 27 June 1985, p. 7 (Washington, D.C.: U.S. Government Printing Office, 1985). Peterson estimates some seventy thousand Salvadoran refugees in Guatemala, although the male proportion is not reported.
24. See affidavit of Sandra Gutiérrez in National Lawyers Guild "Young Male" case materials, cited in n. 3.
25. See Shenan, *New York Times* article cited in n. 2.
26. Sergio Aguayo, "The Central American Exodus," p. 9. This manuscript has recently been published as *El éxodo centroamericano: consequencias de un conflicto* (Mexico City: Consejo Nacional de Fomento Educativo, 1985).
27. Several of the staff members of refugee aid agencies heard reports from reliable Mexican sources that the U.S. Department of Justice has urged the Mexican government to take such measures in an effort to stem the flow of Salvadorans to the United States. If such pressure has been applied to the Mexican government, it contradicts repeated Reagan administration statements that Salvadoran refugees can remain safely in Mexico and therefore do not need to come to the United States.
28. "Monthly Report of Deportable Aliens Found in the U.S. by Nationality, Status at Entry" (October 1976 through June 1984), mimeo, Form G.23.18, available from Immigration and Naturalization Service, Statistics Division, 425 I St. N.W., Washington, D.C. 20536.
29. Weiss Fagen, *Applying for Political Asylum*, 33. Many INS apprehensions of Salvadorans take place not at the border but in raids of workplaces. The proportion of workplace apprehensions to border apprehensions varies considerably from month to month. Only border apprehensions (persons caught at entry or within seventy-two hours of entry) are used in this analysis. The percentage caught at the border is probably well below 25 percent, although the INS appears to be getting more effective.
30. Prior to 1982, a relatively small number of Salvadorans were able to enter the United States on nonimmigrant visas, which they regularly overstayed. Some of these individuals entered the United States by air. The vast majority of Salvadorans have entered without inspection via the Mexican border throughout the period examined by this analysis.
31. See *Free Fire*, 2.

32. See David Asman, "Behind the Human Rights Tallies," *The Wall Street Journal*, 10 Feb. 1984.
33. Figures for 1979 through 1981 were taken from the Socorro Jurídico tables reproduced in *Health and Human Rights*. Data were unavailable for three months—October through December of 1979. I used linear interpolation to fill in these missing observations, a reasonable procedure in this case because the level of death-squad violence showed only moderate variance during the first nine months of 1979. Furthermore, multiple sources cite a steady increase in death-squad killings during the final months of 1979 (the same trend obtained by interpolation), and the annual figure for 1979 from Socorro Jurídico matches closely that obtained using the interpolated figures. Figures for 1982 onward come from the five supplements to the Americas Watch and ACLU *Report on Human Rights*.
34. *Supplement to the Report on Human Rights in El Salvador* (New York: Americas Watch Committee, 1982), 12–13.
35. Ibid., 13. *U.S. Reporting on Human Rights: Methodology at Odds with Knowledge* (New York: Americas Watch Committee, 1982), 12–13; *Free Fire*, 1–46. *Supplement to the Report on Human Rights*, 106–7; and *Supplement to the Report on Human Rights in El Salvador* (New York: Americas Watch Committee, 1982).
36. *Latin America Weekly Report* (hereafter cited as *LAWR*), WR-80-07 (21 Mar. 1980), p. 12; *LAWR*, WR-80-13 (28 Mar. 1980), p. 1; *LAWR*, WR-80-32 (15 Aug. 1980), p. 8; *Report on Human Rights*, 157–60.
37. *LAWR* WR-80-42 (24 Oct. 1980), p. 1; *LAWR*, WR-80-44 (7 Nov. 1980), p. 2.
38. *LAWR*, WR-83-03 (21 Jan. 1983), p. 12; *LAWR*, WR-83-04 (28 Jan. 1983), p. 6; *LAWR*, WR-83-05 (4 Feb. 1983), pp. 6, 11.
39. *LAWR*, WR-84-01 (6 Jan. 1984), p. 4.
40. Another incident not represented by a dummy variable in the model was an operation of about five thousand men near the Chinchontepec volcano in the department of San Vicente during June 1980. Unlike other sweep operations designed to drive civilians out of FMLN-controlled areas (and thus deny the guerrillas food and other supplies), this sweep was conducted to ensure that no FMLN combatants remained in an already depopulated area being readied for the immediate settlement of thirty thousand persons previously displaced from other areas. See *LAWR*, WR-83-24 (24 June 1980), p. 4. I judged therefore that it was unlikely to have generated net out-migration in the same way as the other military sweeps represented in the model.
41. *Free Fire*, 54–57. According to State Department estimates, which may be biased upwards, ten to fifteen thousand persons have fled into Honduras to escape FMLN recruiting drives. How the causal relationship is established between this refugee flow and FMLN recruitment (as opposed to ongoing combat in and around "controlled zones") is unclear.
42. *Draining the Sea: Sixth Supplement to the Report on Human Rights in El Salvador* (New York: Americas Watch Committee, 1985), 59–61.
43. See the interviews cited in n. 3. All staff interviewed had dealt with hundreds of Salvadoran clients, and all estimated travel time as taking from two weeks to three months.
44. Although the variance in the murder variable is high (the Pearson correlation coefficient between the level of murder and the same variable lagged one month is +.56), it contains sufficient multicollinearity to allow including only two, rather than all three, of these lags in a regression equation. If all three are included, lags 2 and 4 become insignificant, reflecting the high standard error of estimates caused by multicollinearity. The partial correlations of lags 3 and 4 with the dependent variable were the highest, so these two lags were used in the model presented. Unlike the dummy variables, the murder variable is not significant for the first two months (lags 0 and 1). This result holds regardless of whether lags 2, 3, or 4 are included in the equation, indicating that lags 0 and 1 do not belong in the model.
45. *Free Fire*, 2.
46. Initial model estimation was done using MicroTSP; the stepwise regression was performed with SPSS. The findings were verified using the TROLL econometrics system at MIT. The Durbin Watson statistic for the regression was 2.03, indicating

153

very little probability of first order serial autocorrelation. I also checked for other kinds of autoregressive and moving-average processes and found none. Scatter plots of the residuals against each independent variable appeared homoscedastic. To address the seasonality of the Mexican and Salvadoran apprehensions series, I estimated the same model using seasonally adjusted transformations of these two variables. Adjustment was performed using the ratio-to-moving-average technique for both series from October 1976 through March 1984. The results of the regressions using the adjusted series are presented in table 3. They are consistent with the findings obtained without the seasonal correction.

47. Interview with Jack Elder, Casa Oscar Romero.
48. *LARM*, RM-84-05 (8 June 1984), p. 5. These figures came from *Strategic Survey* (London: Institute of International Strategic Studies, 1983.
49. See *Indicadores sociales y económicas* (San Salvador: Estadística y Censos y Ministerio de Planificación y Coordinación del Desarrollo Económico y Social) for the years l977 through 1983.
50. Kirkpatrick, Jeane, "Dictatorships and Double Standards," *Commentary* 63, no. 5 (Nov. 1979):34–45.
51. See the statement by Linda S. Peterson in *Central American Refugees*, p. 14