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"AN EYE FOR AN EYE, A TOOTH FOR A TOOTH." A STUDY OF POLITICAL VIOLENCE AND COUNTER-INSURGENCY IN EGYPT

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"An Eye for an Eye, a Tooth for a Tooth." A Study of Political Violence and Counter-insurgency in Egypt[*]

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Abstract

This paper analyses a newly collected time-series database measuring the dimensions of violent political conflict in Egypt. Attention is focused on the interaction between politically motivated attacks by Islamists and the counter-insurgency measures used by the Egyptian government. The intensity of security force activities responds immediately to all kinds of Islamist violence, regardless of the target of the attack. However, there are significant asymmetries in the way that the different forms of Islamist violence respond to the different security force activities.

Keywords: Egypt, Islamist violence, counter-insurgency, political rights, civil liberties

1. Introduction

Recent years have seen a large increase in the number of politically motivated violent attacks organised by Islamist movements, for example in Saudi Arabia, Tunisia, Indonesia, Kenya and Turkey. There is a large and growing literature on the socio-economic consequences of political violence, which shows that savings, investment, tourism and faith in the domestic currency suffer when political violence increases.[1] However, it is not clear how governments should respond to a rise in Islamist (or any politically motivated) violence.[2] On the one hand a crack-down by the security forces on Islamist movements acts as a potential deterrent and disrupts the organisation of terrorist groups. On the other hand a violent state response risks escalating the conflict as more civilians take up arms to avenge arrests and killing of family and friends.[3] The Human Rights Watch (1994) cites a member of the Egyptian *al-Jama'a al-Islamiyya* organisation: "Bullets against bullets, according to the law of retaliation."[4] Evidence of the effects of different approaches to resolving the problem of Islamist violence will therefore be valuable.

Egypt has a long history of political conflict between the state and Islamist opposition, with Islamist groups having been excluded or marginalised in the political process. This paper presents an analysis of time-series data on the Egyptian conflict recently collected as part of an ESRC-funded research project. We examine the effects of arrests, the shooting of (suspected) extremists and clampdowns on political rights on the violence of Islamist movements from 1988 to 2000. We also compare this with the effects of non-violent means of dealing with Islamist groups. In addition, we examine the ways in which the security forces themselves have reacted to different forms of political violence, in order to find out which forms of violence are perceived to be the greatest threat to the state.

We find that arrests of suspected Islamists can be predicted from data on violence directed against tourists and casualties among Egyptians (both civilians and security agents) in previous months. Some civilians are also killed or wounded by the security forces, mostly because of heavy-handed policing during riots and arrests; these casualties can also be predicted from past fatalities in Islamist attacks. Security force activities in turn contribute to subsequent Islamist violence. However, there are important differences between the Islamists' response to arrests and their response to an increased number of casualties in security force operations. Moreover, certain kinds of anti-state violence are also responsive to economic

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[1] See Frey *et al* (2004) for a review of this literature.
[2] See Sederberg (1995) for further discussion.
[3] See for example Yom and Saleh (2004), who discuss these issues in relation to Palestinian suicide bombers.
[4] See www.hrw.org/reports/1994/WR94/Middle-02.htm.

conditions under government control, and to Egyptians' political rights and civil liberties, which were substantially restricted in December 1992. Implicit in these results is the conclusion that economic subsidies and political freedoms (both costly to the state, but in different ways) are alternative ways to reduce the incidence of Islamist violence.

The next section of the paper briefly reviews the political history of modern Egypt, as it relates to the rise of radical Islamism. Section 3 then discusses our quantitative measures of the different dimensions of Islamist violence and the state's response. The model employed to analyse these data is presented in Section 4.

2. Historical and Political Background

Egypt is a secular state in which Islamist movements have been excluded or marginalised in the political process. Islamist movements were banned in 1954 after an assassination attempt on President Nasser. A revival of Islamist groups began in the 1970s, their long-term goal being the establishment of an Islamic republic. Having been excluded from the political process, some radical Islamist groups such as *al-Jama'a al-Islamiyya* and *al-Jihad* started a campaign of politically motivated violence. In the 1970s this was mainly inter-community violence between Islamists and the Coptic Christian minority. In 1979 violence increased in intensity in response to Egypt's rapprochement with Israel and the government's pro-Western stance. Attacks were increasingly targeted at the state, taking the form of riots, shoot-outs with the police and assassination attempts on politicians and other public figures, most notably the assassination of President Anwar Sadat and a militant uprising in Asyut in 1981.

The assassination of President Sadat was followed by mass arrests and large-scale trials of Islamist militants. Even though these arrests and trials added to the grievances of the Islamists, the years from 1983 to 1987 were relatively calm in Egypt. There was a tacit understanding that local security forces would tolerate the Islamist groups if they limited their activities to preaching in Upper Egypt. Attacks during this period were mainly by *al-Jama'a al-Islamiyya* on civilians in breach of s*hari'a* laws. In the 1987 election the non-violent Islamist opposition gained a foothold in parliament, but the political success of the moderates did not convince the radicals to follow a non-violent strategy. Instead, *al-Jama'a al-Islamiyya* and *al-Jihad* increased their violent activities and started operations in Cairo. The government responded to these violent incidents with mass arrests and the storming of mosques. This turned public opinion against the government, and the conflict between the state and Islamist movements escalated in the early 1990s. Violence decreased sharply after the 1997 killing of over 70 tourists in Luxor, which turned public opinion against terrorist activity; thereafter *al-*

Jama'a al-Islamiyya became increasingly committed to non-violence (Al Sayyid, 2003). The period of violence and counter-violence from 1988 to 2000 is the focus of this paper.

State measures against the Islamist opposition in Egypt have been twofold. On the one hand there has been political repression of varying intensity. In some periods all Islamists have been completely excluded from the political process; in others there has been limited participation by moderate Islamist groups in a polity dominated by the governing National Democratic Party. On the other hand there has been violent suppression of both moderate and (suspected) radical Islamists by the security forces.

To strengthen its hand against domestic opposition the Egyptian government has operated under continuous "emergency rule" since the assassination of President Anwar Sadat in 1981.[5] The Emergency Law grants the government exceptional legal powers that effectively void the human rights guarantees in Egypt's constitution. It allows the arbitrary arrest and indefinite detention of suspects without trial and the option of trying civilians in military courts that do not meet international fair trial standards.[6] Human rights organisations report examples of torture and the arrest of family members of wanted suspects. Emergency rule has been widely used to criminalize political dissent and to undermine the freedom of the press. It is possible that these general restrictions of political freedom have been complementary to direct action against Islamist extremists: that is, the intensity of anti-Islamist state activity has been facilitated by the legal changes. On the other hand, the arrests and attacks on Islamists might have been a substitute for the repression embodied in the legal changes.

3. Measuring the Conflict

3.1 State control and repression

Our statistical analysis is based on a number of measures of the intensity of Islamist insurgency and the intensity of the political repression organised by the state. We first discuss our measurement of the intensity of the use of force to suppress Islamist movements in Egypt. Under the Emergency Law, the Egyptian security forces are able to respond to both Islamist violence and peaceful political dissent with mass arrests and detentions.[7] If suspected extremists resist arrests then casualties usually ensue: suspects, innocent bystanders and

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[5] See the Human Rights Watch reports on Egypt for further details.
[6] Such courts have political significance as people with criminal convictions are barred from holding political office.
[7] For example, Human Rights Watch reports that around 2,400 people were arrested and held incommunicado after the attacks on the Taba Hilton in 2004.

family members are often killed and wounded. The policing of demonstrations also often results in casualties. In consequence, such casualties turn out to be positively correlated with arrests, but the correlation is far from perfect. There is some variation in the number of casualties per arrest which may not be entirely random, if the heavy-handedness of police interventions varies in a predictable way. Security force actions are legal and officially sanctioned, so they are covered in detail by the official press, such as Egypt's largest daily newspaper, *Al Ahram*. From January 1988 to December 2000 a total of 19,915 arrests of suspected Islamists were reported by *Al Ahram*. In the same period 605 civilians were killed and 556 civilians were wounded by the security forces; 114 death sentences were carried out. Our dataset, based on the daily reports in *Al Ahram*, includes figures for the total number of political arrests and the total number of civilians killed and wounded by security forces in operations against political targets. The time series for arrests and casualties in security force operations, aggregated to a monthly frequency, are illustrated in Figures 1-2. As the figures show, the distributions of these series are left-skewed, with relatively few occasions on which there has been a very high level of activity. In the statistical analysis that follows we will use logarithmic transformations of these series and of those discussed below and illustrated in Figures 4-6.

It was not possible to construct a reliable high frequency time series indicator of the extent of more general political repression. Repression has many aspects ranging from restrictions on the free press, freedom of speech and association and the extent to which opposition groups may participate (officially or inofficially) in elections or the political process. Freedom House, however, collects annual data on political rights and civil liberties. In 1993 Freedom House revised its evaluation of political rights and civil liberties in Egypt, demoting it from "Partially Free" to "Not Free"; its rating has remained constant since then.[8] December 1992 saw a major clampdown on civil society and political participation. Firstly; the government announced that it would assume control over all of the country's mosques, in an attempt to eliminate the influence of radical Islamists at private religious institutions. Secondly the government tightened controls over elections in nongovernmental professional associations. Thirdly the People's Assembly passed an amendment to the political parties'

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[8] Freedom house assigns a rating for political rights and a rating for civil liberties based on a scale of 1 to 7, with 1 representing the highest degree of freedom. The average of a country's political rights and civil liberties ratings determines an overall status of Free, Partly Free, or Not Free. From 1993 Egypt has a "political rights" rating of 6, indicating that it is considered to be ruled by a one-party dictatorship which allows only a minimal manifestation of political rights. Its "civil liberties" rating of 6 reflects the severely restricted rights of association, and the presence of political prisoners. For further details on the Freedom house criteria for political rights and civil liberties ratings see http://www.freedomhouse.org/research/freeworld/2003/methodology.htm.

law, which barred all political activity by groups without legal status and prohibited political alliances between these groups and legal political parties.[9] The amendment excluded the opposition Muslim Brotherhood (which does not have legal status) from participating in the political process through informal alliances with other parties or independent candidates. We therefore use a binary variable distinguishing months after December 1992 from months up to this date, to indicate the change in the political climate towards a greater degree of repression.

Another dimension of the state's response to radical Islamism is the subsidy of staple foods such as bread and beans, and price controls on rent, power and fuel. These subsidies impose a significant fiscal burden on the government, but their removal is highly politically sensitive. When the Egyptian government raised the price of staples as part of the conditions of an IMF loan package in 1977, widespread food riots erupted and only ended when the government re-established the subsidies programme. Even though Egypt's main donors have repeatedly made a reduction in food subsidies a condition of loans and grants, the government has moved extremely cautiously in raising the prices of staples. Food subsidies are perceived as part of the social contract between the Egyptian government and the population. Any rises in food prices could therefore increase the support for the Islamist opposition, which has a very strong agenda for social justice and a history of charitable support for the poor (Abdo, 2000; Wickham, 2002). The bread price inflation series is illustrated in Figure 3; bread is the main staple in Egypt. As the figure shows, the distribution of inflation is highly leptokurtic; and its inclusion in our model does not yield a statistically significant coefficient. However, we will include a binary variable indicating the months in which the price of bread has risen. The interpretation of this variable is that what matters to popular sentiment is the government's decision to relax the cap on the price of bread, rather than the magnitude of the subsequent inflation *per se*.[10]

3.2 Islamist Violence

Al Ahram provides detailed accounts of politically motivated attacks organised by Islamist groups, as well as demonstrations and riots. Violent attacks can be split into three distinct categories: attacks on Egyptian civilians, attacks on security force personnel and attacks on tourists. These three kinds of attack might have different motivations, and might elicit different types of state response. The first type of attack has often been the result of an

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[9] Political parties cannot operate legally unless a license is secured from the Political Parties Committee of the *Shura* Council. This government-controlled body was established in 1977 and approved the first new political party in 2004.

[10] Adding bean prices to the model does not increase its explanatory power.

escalation of local inter-community arguments and grievances, rather than as part of a planned political campaign. The second type of attack is more likely to be interpreted as a threat to Egypt's security, and the third as a threat to its economy.

Islamist violence against Egyptian civilians has taken a number of different forms. One aspect is inter-community violence, that is, attacks on Copts or their churches and property. Many of these attacks have concerned property rights or "protection money", but have acquired political overtones. Another aspect is activity designed to impose *shari'a* laws in Egypt, involving attacks on individuals and activities considered to be "un-Islamic", such as liquor stores, beer deliveries, video-stores and cinemas showing foreign films, as well as individuals engaged in "vice". There has also been some political violence connected to elections, during which supporters of different candidates have clashed in violent street fights. Finally, there have been assassination attempts on politicians and other public figures, such as poets, authors and academics, who have been singled out for the political or religious views taken in their writing.[11] We will aggregate all these attacks into a single category, illustrated in Figure 4. There is no robust statistical evidence for any asymmetries in the way in which the different components of this series are determined, or in which they elicit a state response.

Islamists have also killed or wounded a large number of security force personnel, including both official and secret police. These attacks are recorded in Figure 5.

Attacks on tourists (Figure 6) might help radical Islamistss to achieve a number of goals. Firstly, killing foreign nationals has ensured international publicity for the Islamist movement. Secondly, tourism is a significant part of economic activity; according to Tohamy and Swinscoe (2000), it accounts for 11.6% of GDP, if one accounts for the secondary effects of tourist spending. Disrupting the tourist industry has directly affected government revenues and foreign exchange receipts. Attacking foreigners may also have had an ideological motivation. Tourists may have been targeted as the indirect representatives of different ideological values and political cultures that are seen to threaten national culture, tradition and religious convictions, while their presence is perceived to have brought little direct benefit to local communities (Aziz, 1996).

Tourist attacks have taken the form of sniper shootings at passing cruise ships, passenger trains and tourist buses, the bombing of buses and cafes and the shooting of foreigners at tourist attractions. The main series of 25 attacks against tourists started in August 1992; attacks occurred every 2-6 months until March 1995. A further series of three

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[11] Examples include the writer and satirist Faraq Foda and the Nobel laureate Naguib Mahfouz.

attacks occurred between November 1995 and March 1996, with two final attacks in September and November 1997, the last in our sample being the shooting of 88 tourists and locals at the temple of Hatshepsout in Luxor. This massacre undermined public support for the radical Islamists, and there were no further attacks on tourists during the sample period. We will use two measures of violence against tourists. The first is a continuous measure of the number killed or wounded each month (usually zero); the second is a binary variable recording the months when a tourist attack occurred, sometimes without any ensuing casualties.

Our final measure of anti-state activity is a binary variable identifying each month in which *Al Ahram* reports "riots" or "demonstrations". In the 13 years covered by this study we observe 53 months in which Egyptian civilians took to the street, or political prisoners rioted in prisons. Mostly the reported "riots" refer to localised incidents with a relatively small number of people smashing shop windows, setting fire to cars and attacking security forces. "Riots" occur for a number of reasons, including sectarian disagreements between Christians and Muslims, protests over prison conditions, industrial disputes, supporters of different candidates clashing during election campaigns and riots ignited by deaths in custody, with family members attacking the security forces over unexplained deaths. Other "riots" appear to be sparked by the heavy handed policing of potentially peaceful demonstrations organised by political activists in universities and colleges and by attendees of Friday prayers in radical mosques. Riots are likely to be more spontaneous than, for example, planned attacks on tourists.

4. Modelling the Conflict

4.1 Modelling the intensity of Islamist attacks and counter-insurgency

Our modelling strategy is designed to address two main questions. Firstly, we wish to know how the Egyptian government's policy responses to radical Islamist activity have impacted on subsequent Islamist activity. The dimensions of policy are: the number of political arrests, the number of civilians killed or wounded in security force attacks, the general level of freedom in Egypt (as captured by the Freedom House index), and the price of bread. The dimensions of Islamist activity are: the occurrence of attacks on tourists, the number of security force personnel killed in Islamist attacks and the incidence of riots. We do not attempt to model the intensity of inter-community conflict, as captured by the number of civilian-on-civilian attacks; this is a heterogeneous category including many "spontaneous" violent incidents that are not part of any planned campaign.

Our second question concerns the way in which past violence, as measured by riots and all kinds of violence, influences the current policy of the government, as captured by the first two policy dimensions listed in the previous paragraph. (It has not been possible to model the second two: the Freedom House index does not contain enough in-sample variation and the price of bread is determined partly as a result of negotiations between the Egyptian government and international aid donors for which we do not have adequate quantitative data.) The variables in our analysis, all measured monthly over 1988-2000, are as follows.[12]

cas	Number of civilians arrested by the security forces
ckws	Number of Egyptian civilians killed and wounded by the security forces
sfkw	Number of security force personnel killed and wounded
ckwc	Number of Egyptian civilians killed and wounded by other civilians
tkw	Number of tourists killed and wounded
iftat	Binary variable = 1 if there was any tourist attack in the month
iffree	Binary variable = 1 from 1993 onwards (when the Freedom House indicator classes Egypt as "Not Free")
ifriot	Binary variable = 1 if there was a riot in the month
ifbread	Binary variable = 1 if the price of bread rose in the month

We construct regression equations for five of these variables. Equations for *cas* and *ckws* are designed to identify the factors affecting the state's response to Islamist activity; equations for *sfkw*, *ifkw* and *ifriot* are designed to identify the factors driving the intensity of the Islamist activity. Of these five dependent variables the first three are continuous, but include some zero values, while the last two are binary. So the first three are modelled by Tobit regressions, and the last two by Probit regressions. In the Tobit regressions the latent values (x_t^*) of each dependent variable (x_t) are determined by autoregressive processes of the following form.

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[12] All of the continuous variables in this list appear to be stationary in levels.

$$\ln(1+cas)_t^* = \beta_0 + \beta_1(L)\ln(1+ckwc)_{t-1} + \beta_2(L)\ln(1+tkw)_{t-1} + \beta_3(L)\ln(1+sfkwc)_{t-1} \qquad (1)$$
$$+ \beta_4 \cdot (ifriot)_{t-1} + \beta_5 \cdot (iffree)_t + \beta_6(L)\ln(1+cas)_{t-1} + \varepsilon_t$$

$$\ln(1+ckws)_t^* = \gamma_0 + \gamma_1(L)\ln(1+ckwc)_{t-1} + \gamma_2(L)\ln(1+tkw)_{t-1} + \gamma_3(L)\ln(1+sfkwc)_{t-1} \qquad (2)$$
$$+ \gamma_4 \cdot (ifriot)_{t-1} + \gamma_5 \cdot (iffree)_t + \gamma_6(L)\ln(1+ckws)_{t-1} + \eta_t$$

$$\ln(1+sfkw)_t^* = \delta_0 + \delta_1(L)\ln(1+cas)_{t-1} + \delta_2(L)\ln(1+ckws)_{t-1} + \delta_3 \cdot (ifbread)_t \qquad (3)$$
$$+ \delta_4 \cdot (iffre)_t + \delta_5(L)\ln(1+sfkw)_{t-1} + \theta_t$$

$x_t = x_t^*$ when $x_t^* > 0$, otherwise $x_t = 0$. Note the use of a logarithmic transformation. The terms in L are lag polynomial operators; ε_t, η_t and θ_t represent random errors. For the two binary dependent variables, we employ a Probit specification in which the latent probabilities Π are determined by Normal cumulative density functions of the following form.

$$\Pi(iftat)_t = F(\phi_0 + \phi_1(L)\ln(1+cas)_{t-1} + \phi_2(L)\ln(1+ckws)_{t-1} + \phi_3 \cdot (ifbread)_t + \phi_4 \cdot (iffre)_t \qquad (4)$$
$$+ \phi_5(L)(iftat)_{t-1}) + \xi_t$$

$$\Pi(ifriot)_t = F(\kappa_0 + \kappa_1(L)\ln(1+cas)_{t-1} + \kappa_2(L)\ln(1+ckws)_{t-1} + \kappa_3 \cdot (ifbread)_t + \kappa_4 \cdot (iffre)_t \qquad (5)$$
$$+ \kappa_5(L)(ifriot)_{t-1}) + \omega_t$$

ξ_t and ω_t represent random errors. In each of the five equations a lag order of two suffices to ensure that the errors are free from serial autocorrelation. Lags of a higher order are not statistically significant at conventional levels of confidence.

Equations (1-2) are designed to estimate the magnitude of the state response to (i) past violence directed at Egyptian civilians, (ii) past violence directed at tourists, (iii) past violence directed at security force personnel and (iv) the incidence of riots. In this way, we will be able to determine whether a particular form of Islamist insurgency represents an especially large response because it is perceived to be the most serious form of threat to the state. The equations are also conditioned on the Freedom House index. On the one hand, we might expect the security force response to have been more muted in the early 1990s, when the Egyptian legal system was still guaranteeing some limited political freedom.[13] On the other, the sort of security force activity recorded in our *cas* and *ckws* variables might have been a substitute for more general forms of repression, and therefore higher in the early 1990s.

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[13] A small part of the index is determined by the number of political prisoners, so there is a potential concern about its independence in equation (1). However, given the changes in the legal system after December 1992, a lower number of prisoners is unlikely to have mitigated the decline in Egypt's freedom rating.

Equations (3-5) are designed to estimate the size of the response of different dimensions of insurgency to the recent policy of the security forces, as captured by (i) the number of political arrests and (ii) the number of casualties in police attacks. They will also capture the extent to which insurgency is affected by (iii) an economic factor, the price of bread and (iv) the general decline in the level of freedom in Egypt in December 1992.

Note the difference between the (lagged) tourist attacks variable *tkw* on the right hand side of equations (1-2), which is continuous, and the binary dependent variable *iftat* in equation (4). The use of *iftat* is motivated by the fact that there have been only 19 attacks on tourists in which at least one foreigner was killed or wounded. There were a further 11 attacks (recorded as ones in the *iftat* series and zeroes the *tkw* series) in which no foreigner was hurt, but the intention to harm was clearly present. It is unlikely that extremists exactly premeditated the number of people to be killed in attacks, so there is little information about Islamist strategy in the actual number killed or wounded. However, the security forces are likely to respond to successful attacks in a more energetic way than they are to unsuccessful ones, and to large massacres of tourists in a much more energetic way, so we retain the continuous variable *tkw* in equations (1-2).

4.2 Results

Table 1 presents some descriptive statistics for the variables of interest. It can be seen that there is some variation across variables in terms of the fraction of observations that are strictly positive; however, the distributions of the positive values of the continuous variables are quite similar. Tables 2-5 report our regression results. The sample consists of monthly observations from 1988 to 2000; with two lags this gives us 154 observations.[14] In addition to the regressions corresponding to equations (1-5), the tables show the results of more parsimonious regression specifications selected to minimize the Akaike Information Criterion. Those coefficients significantly different from zero in the unrestricted regressions generally remain so in the restricted regressions (the exceptions being noted below), and none of the estimated coefficients is significantly different across the two alternative specifications, so we are reasonably confident of the overall robustness of our results. Tables 2-4 report the estimates of the coefficients in equations (1-5). Table 5 reports the marginal probabilities – that is, the sample means of the partial derivatives of the fitted probability functions – implicit in the Probit models in Tables 3-4 and in the Probit part of the Tobit models in Tables 2-3.

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[14] In the equations in which *ifbread* appears the sample is only 143 observations, because bread prices are missing for January-July 1988 and February-July 1989.

Table 2 shows the regression results for the anti-Islamist activity of the state: (i) arrests and (ii) civilians killed and wounded by the security forces. In the arrests equation the sum of the *ckwc* coefficients is 0.45 (and the second lag is significantly different from zero at the 1% level). The coefficients on lags of the dependent variable are close to and insignificantly different from zero, so a sustained increase in the number of deaths and injuries in civilian-on-civilian attacks by one percent could eventually be expected to increase the number of arrests by just under half of one percent (assuming that the initial number of arrests is positive). The corresponding figures for the other forms of Islamist violence, security force casualties *sfkw* and tourist casualties *tkw*, are 0.63 and 0.86 respectively; the latter is significantly larger than the *ckwc* figure. This suggests that tourist casualties are viewed more seriously than Egyptian casualties, and possibly that Egyptian police casualties are viewed more seriously than Egyptian civilian ones. Nevertheless, there is a substantial reaction to all forms of Islamist violence.

In the unrestricted regression for civilians killed and wounded by the security forces, the sums of the coefficients on *ckwc*, *sfkw* and *tkw* are 0.31, 0.39 and 0.43 respectively. All are significantly different from zero (*tkw* marginally so), but not from each other. The coefficient on the first lag of the dependent variable is a little over 0.3 and also statistically significant. So a temporary increase in Islamist activity leads to an increase in the number of casualties in security force operations that is proportionately smaller, but more prolonged than, the corresponding increase in arrests.

The coefficients on the riot variable *ifriot* are negative in both the arrests equation and the civilian casualties equations. However, the coefficients are never significant at the 5% level, so there is not strong evidence that riots have any systematic impact on policing policy. The coefficient on the political freedom variable *iffree* is also negative in both equations, but statistically insignificant in the civilian casualties equation. In the unrestricted arrests equation it is significant at the 1% level (the point estimate of the coefficient is -0.73), although the t-ratio drops sharply in the restricted arrests equation. So there is some evidence that the decline in political freedoms in the 1990s was associated with a lower number of arrests. This result is consistent with the conjecture that arrests are in some sense a substitute for the more general forms of political repression captured by *iffree*.

Table 2 shows the state security forces responding to all forms of Islamist violence. Table 3, which shows the fitted models corresponding to equations (3-4) above, indicates that there is more heterogeneity in the forces driving the Islamist violence itself. The arrests variable *cas* is the only one that is significantly different form zero in the tourist attack

equation and the only one that is insignificantly different from zero in the security force casualty equation. Attacks on tourists are more likely in the wake of an increase in the number of political arrests, but security force operations that lead to civilian casualties do not in themselves make tourist attacks more likely; nor does the price of bread or the Freedom House measure of political freedom. Implicit in the marginal probability estimates in Table 5 is the prediction that a sustained 1% increase in the number of arrests would increase the probability of an attack by over 0.07%.[15] In contrast, the number of security force casualties in Islamist attacks does not depend on the number of arrests, but rather the past number of casualties in security force attacks *ckws* and whether there has been an increase in the price of bread (captured by *ifbread*). A percentage point increase in the past number of casualties in security force attacks can be expected to increase the current number of security force casualties by around one half of a percentage point. A bread price increase raises security force casualties by over 40%. There is also a marginally significant negative coefficient on the freedom index *iffree*, slightly smaller than the corresponding coefficient on *ifbread*.

The results suggest that attacks on security force personnel are partly revenge attacks in response to casualties inflicted by the security forces themselves in the past. We saw in Table 1 that security force attacks increase in response to higher past casualties among the security forces, so there is a "circle of violence" linking Islamist attacks and security force operations. However, the response coefficients are well below unity in both cases, so the effect of shocks that increase *sfkw* or *ckws* will die away eventually. Moreover, attacks on the security forces are also highly responsive to the price of bread, so economic conditions do have a role to play in the circle of violence. The results are consistent with the hypothesis that attacks on the security forces are driven largely by grievances about injuries caused in heavy-handed police operations, and about the cost of living. By contrast, attacks on tourists depend just on the number of political arrests, and are in this sense more politicised. Recall from Table 1 that the number of tourist casualties is the variable with the largest influence on the number of arrests, so there is a second distinct loop connecting the intensity of state and anti-state activity.

Finally, Table 4 provides some evidence on the factors that make riots more likely. The price of bread has no impact on the likelihood of a riot in the next month; the impact of the number of arrests and casualties in security force operations is small and of marginal statistical significance. The incidence of riots appears to be almost entirely random, except for

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[15] The sum of the *cas* coefficients in the *iftat* column in Table 4 is 0.0267 + 0.0514 = 0.0781.

the fact that they have been significantly less frequent since the reduction in political freedoms at the end of 1992, as captured by the *iffree* dummy. The changes to the Egyptian constitution that limit legitimate forms of expression have led to an increase in more violent forms of protest.

5. Summary and Conclusion

In this paper we investigate the reaction of both Islamist extremists and the Egyptian security forces to past events using a new dataset on political violence in Egypt during 1988-2000. The analysis suggests that violent conflict in Egypt had the potential to escalate. Islamists increase attacks on the security forces in response to civilians being killed and wounded by the security forces. The security forces in turn intensify anti-Islamist attacks in response to increases in Islamist violence.

While arrests of Islamists do not appear to influence violence against security forces in the following months, they do raise the probability of attacks on foreigners. This is consistent with the conjecture that tourist attacks are intended at least partly as a political gesture in response to a perception of greater political repression by the state. Moreover, arrests made by the armed police are also often associated with civilian casualties, both among the suspected Islamists and innocent bystanders. These casualties in turn fuel further violence against the security forces, which can lead to an escalation of violence.

The police react particularly strongly to deaths among foreigners and members of the security forces. The more muted response to Islamist attacks on civilians suggests that there was some toleration of Islamist movements regarding their aims to impose *shari'a* laws, as long as these violent activities were not directly harmful to the state.

The evidence on the effect of political liberties is less clear. There is some evidence that the armed struggle of Islamists against the security forces has increased since 1993, while the probability of riots and demonstrations (at least, of reported riots and demonstrations) has decreased. Given that riot policing has often resulted in large-scale arrests and casualties, a decrease in demonstrations would improve political stability. On the other hand the results are could be interpreted as indicating a shift from essentially non-violent means of protest (demonstrations) to armed conflict.

Finally, there is some evidence for a direct link between increases in poverty and the intensity of radical Islamist activity. (Although in this case the activity appears to be directed against the organs of the state rather than against foreigners.) When the price of bread rises, the subsequent months see a rise in Islamist violence. The removal of bread subsidies has

been motivated by budgetary concerns, mainly at the behest of international aid donors. Our results suggest that this may be a false economy. The government budget surplus derived from removing subsidies is offset by the cost of the anti-state violence that results.

In conclusion, Egypt's experience with the suppression of Islamist movements suggests that a strategy of state-sponsored violence has not been effective in creating political stability. Any gains from withdrawing political dissidents and armed extremists from circulation through death or imprisonment appears to have been offset by increased public support for the violent Islamist movements. The evidence from Egypt, which also seem to tally with the evidence from the Israeli / Palestinian conflict, suggests that countries with a more recent history of political violence (such as Saudi Arabia) might be well advised to consider better ways of engaging with the Islamist movements.

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Table 1: Some Descriptive Statistics

variable	fraction of zero observations	mean of positive observations	standard deviation of positive observations
ln(1+*cas*)	17/156	3.94	1.62
ln(1+*ckws*)	63/156	2.10	0.98
ln(1+*sfkw*)	58/156	1.99	0.91
ln(1+*ckwc*)	78/156	2.07	0.87
ln(1+*tkw*)	137/156	2.04	0.99
iftat	126/156		
iffree	60/156		
ifriot	103/156		
ifbread	71/143		

Table 2: Anti-Islamist Activity Regression Coefficients

Robust standard errors are in parentheses

	Tobit for arrests, ln(1+*cas*)$_t$		Tobit for civilians killed / wounded by security forces, ln(1+*ckws*)$_t$	
	unrestricted	*restricted*	*unrestricted*	*restricted*
[dependent variable]$_{t-1}$	-0.0119		0.3075	0.3854
	(0.0982)		(0.1582)*	(0.1268)***
[dependent variable]$_{t-2}$	0.0673		0.1554	
	(0.0893)		(0.1577)	
ln(1+*ckwc*)$_{t-1}$	0.0892		0.1941	0.2797
	(0.1406)		(0.1324)	(0.1207)**
ln(1+*ckwc*)$_{t-2}$	0.3628	0.4062	0.1221	
	(0.1472)**	(0.1428)***	(0.1353)	
ln(1+*sfkw*)$_{t-1}$	0.3880	0.3630	0.0963	
	(0.1580)**	(0.1445)**	(0.1759)	
ln(1+*sfkw*)$_{t-2}$	0.2417	0.2764	0.2905	0.4359
	-0.1590	(0.1446)*	(0.1722)*	(0.1264)***
ln(1+*tkw*)$_{t-1}$	0.4935	0.5345	0.1672	
	(0.2024)**	(0.1980)***	(0.1816)	
ln(1+*tkw*)$_{t-2}$	0.3635	0.3566	0.2668	0.2922
	(0.2058)*	(0.2016)*	(0.1785)	(0.1752)*
ifriot$_{t-1}$	-0.4001		-0.5614	-0.4908
	(0.3653)		(0.3348)*	(0.3069)
iffree$_t$	-0.7329	-0.5417	-0.2188	
	(0.3618)**	(0.3287)	(0.3524)	
intercept	2.3496	2.3208	-0.4169	-0.4695
	(0.4050)***	(0.2639)***	(0.3125)	(0.2685)*
residual s.d.	1.7642	1.7775	1.5530	1.5713
	(0.1102)***	(0.1111)***	(0.1241)***	(0.1256)***
observations	*154*	*154*	*154*	*154*
pseudo R²	*0.090*	*0.086*	*0.124*	*0.118*
log likelihood	*-293.3*	*-294.5*	*-215.2*	*-216.8*

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

Table 3: Islamist Activity Regression Coefficients

Robust standard errors are in parentheses

	Tobit for security forces killed / wounded, $\ln(1+sfkw)_t$		Probit for tourist attacks, $iftat_t$	
	unrestricted	*restricted*	*unrestricted*	*restricted*
[dependent variable]$_{t-1}$	0.1565		0.3283	
	(0.1515)		(0.3376)	
[dependent variable]$_{t-2}$	0.0791		0.7200	0.7932
	(0.1558)		(0.3586)**	(0.3431)**
$\ln(1+cas)_{t-1}$	0.0490		0.1411	0.2082
	(0.0768)		(0.0962)	(0.0948)**
$\ln(1+cas)_{t-2}$	0.0561		0.2717	0.3076
	(0.0778)		(0.1180)**	(0.1101)***
$\ln(1+ckws)_{t-1}$	0.3020	0.4468	0.0989	
	(0.1346)**	(0.1052)***	(0.1147)	
$\ln(1+ckws)_{t-2}$	0.1863	0.2978	-0.0215	
	(0.1366)	(0.1062)***	(0.1108)	
$ifbread_t$	0.5034	0.5625	0.1820	
	(0.2436)**	(0.2435)**	(0.2924)	
$iffree_t$	0.3600	0.4510	0.1167	
	(0.2853)	(0.2721)*	(0.3171)	
intercept	-0.8487	-0.5817	-3.1424	-3.2162
	(0.3791)**	(0.2789)**	(0.5382)***	(0.5069)***
residual s.d.	1.3432	1.3567		
	(0.1073)***	(0.1084)***		
observations	*143*	*143*	*143*	*154*
pseudo R^2	*0.124*	*0.116*	*0.328*	*0.327*
log likelihood	*-199.9*	*-201.5*	*-49.36*	*-51.10*

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

Table 4: Riots Regression Coefficients

Robust standard errors are in parentheses

	Probit for riots, $ifriot_t$	
	unrestricted	*restricted*
$ifriot_{t-1}$	-0.3214	-0.3595
	(0.2767)	(0.2678)
$ifriot_{t-2}$	-0.0696	
	(0.2869)	
$\ln(1+cas)_{t-1}$	0.1448	0.1286
	(0.0738)**	(0.0670)*
$\ln(1+cas)_{t-2}$	0.0298	
	(0.0790)	
$\ln(1+ckws)_{t-1}$	0.1832	0.1653
	(0.1159)	(0.1004)*
$\ln(1+ckws)_{t-2}$	0.0175	
	(0.1180)	
$ifbread_t$	0.0104	
	(0.2431)	
$iffree_t$	-1.3526	-1.3798
	(0.3014)***	(0.2539)***
intercept	-0.4625	-0.1867
	(0.3637)	(0.2611)
observations	*143*	*154*
pseudo R²	*0.156*	*0.150*
log likelihood	*-74.53*	*-84.09*

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

Table 5: Marginal Probabilities in the Unrestricted Regression Equations

The table reports the sample means of the partial derivatives of the fitted probability functions

implicit in the Probit models (Tables 3-4) and the Probit part of the Tobit models (Tables 2-3)

	dependent variable				
	$\ln(1+cas)_t$	$\ln(1+ckws)_t$	$\ln(1+sfkw)_t$	$iftat_t$	$ifriot_t$
$\ln(1+cas)_{t-1}$	-0.0006		0.0101	0.0267	0.0424
$\ln(1+cas)_{t-2}$	0.0035		0.0116	0.0514	0.0087
$\ln(1+ckws)_{t-1}$		0.0603	0.0625	0.0187	0.0537
$\ln(1+ckws)_{t-2}$		0.0305	0.0385	-0.0041	0.0051
$iftat_{t-1}$				0.0622	
$iftat_{t-2}$				0.1363	
$ifriot_{t-1}$	-0.0209	-0.1101			-0.0942
$ifriot_{t-2}$					-0.0204
$\ln(1+ckwc)_{t-1}$	0.0047	0.0381			
$\ln(1+ckwc)_{t-2}$	0.0189	0.0240			
$\ln(1+tkw)_{t-1}$	0.0257	0.0328			
$\ln(1+tkw)_{t-2}$	0.0190	0.0523			
$\ln(1+sfkw)_{t-1}$	0.0202	0.0189	0.0324		
$\ln(1+sfkw)_{t-2}$	0.0126	0.0570	0.0164		
$iffree_t$	-0.0382	-0.0429	0.0745	0.0221	-0.3965
$ifbread_t$			0.1041	0.0345	0.0030
intercept	0.1226	-0.0818	-0.1756	-0.5950	-0.1356

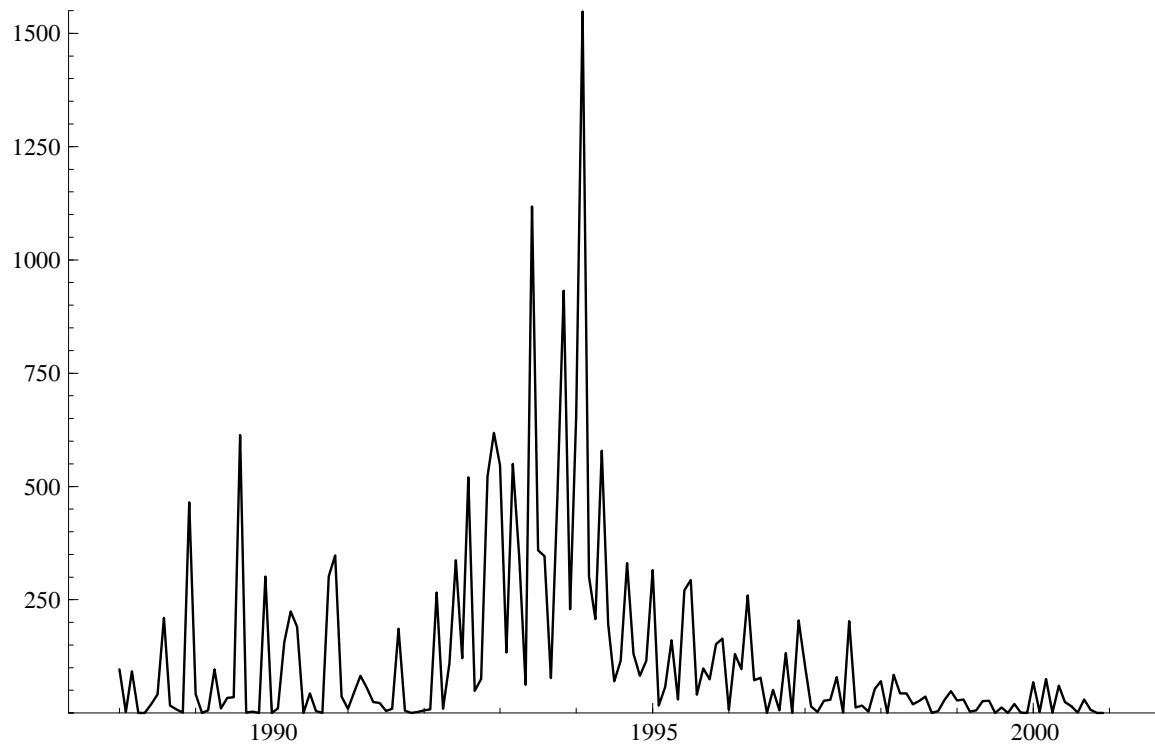**Figure 1: Monthly Political Arrests (*cas*)**

Figure 2: Monthly Civilians Killed or Wounded by Security Forces (*ckws*)
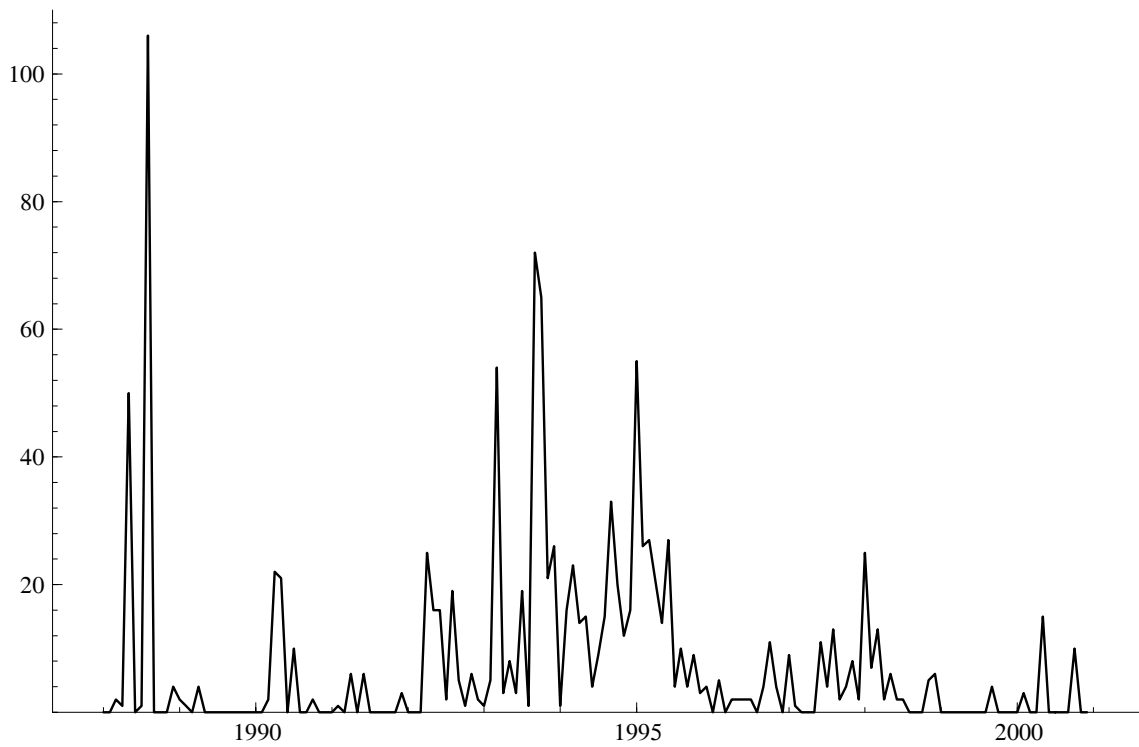
Figure 6: Monthly Bread Price Inflation, in Percent
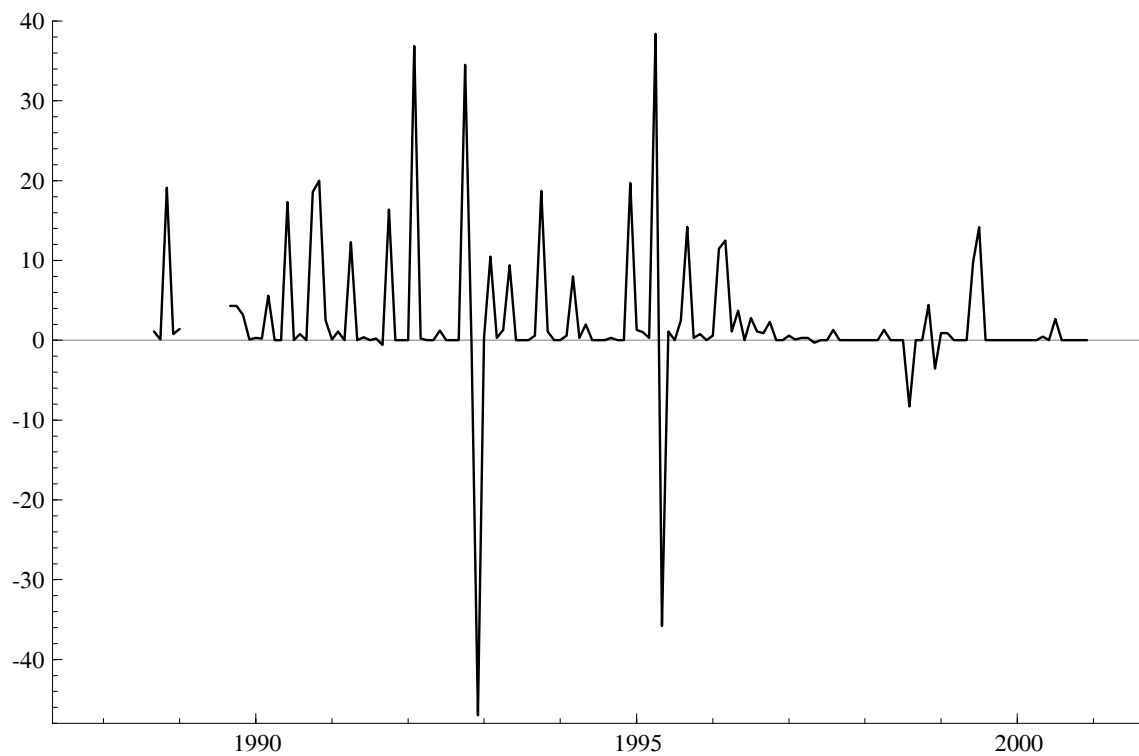

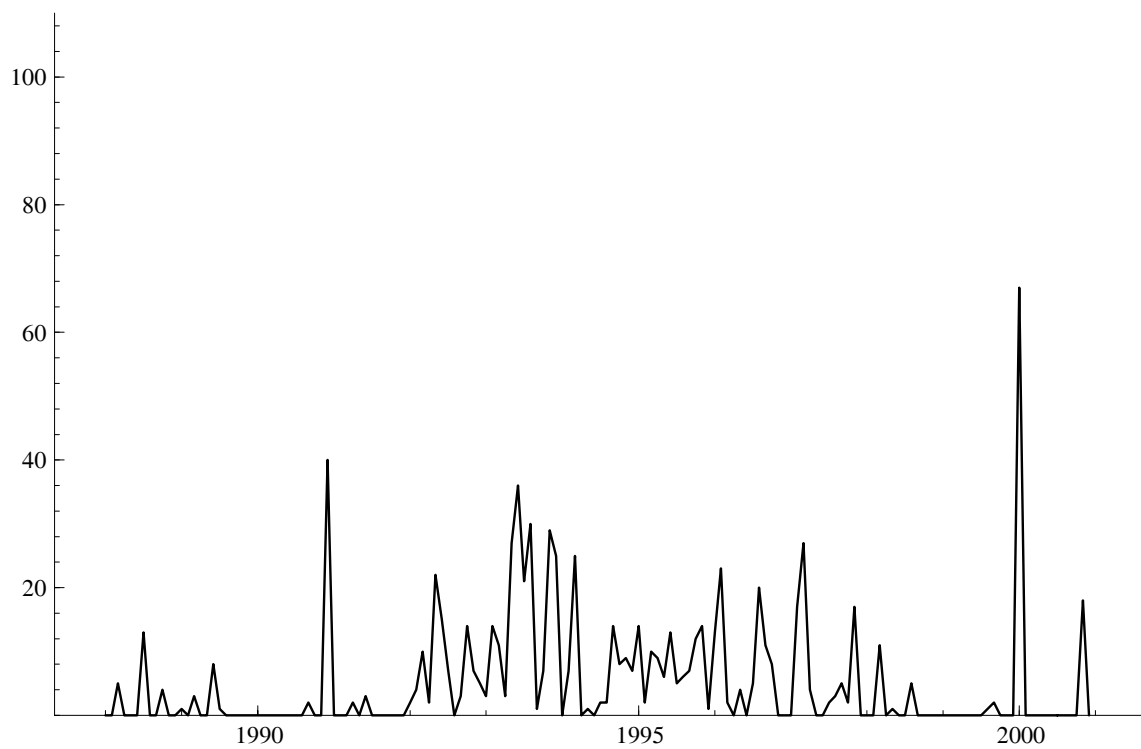**Figure 6: Monthly Civilians Killed or Wounded by Civilians (*ckwc*)**

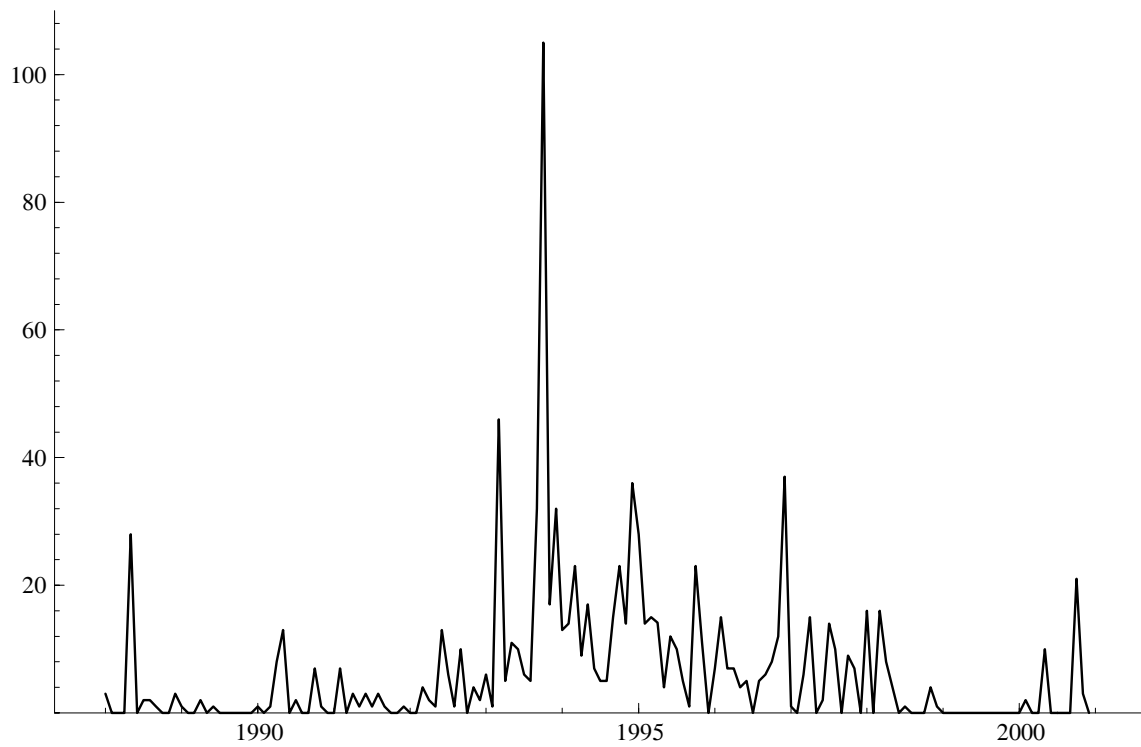**Figure 5: Monthly Security Forces Killed or Wounded (*sfkw*)**

Figure 6: Monthly Tourists Killed or Wounded (*tkw*)