Hamas and Taliban:
AN ECONOMIST'S VIEW
OF
RADICAL ISLAMIC MILITIAS

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Abstract: Can rational choice modeling help explain destructive and self-destructive behavior among the *Taliban*, *Hamas* and other radical Islamic militias? This paper proposes a framework which emphasizes the function of these voluntary religious organizations as efficient providers of local public goods in the absence of government provision. The internal incentives of these groups can become extremely distorted when exogenous conditions change, making increasingly radical norms efficient for the club. This approach can rationalize seemingly gratuitous acts of violence of group members toward themselves and toward others. It has clear implications for economic policy.

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"We must examine the costs and benefits of continued armed operations."

M. Al Zahar, a *Hamas* leader,
quoted in *Al Quds,* (East Jerusalem: October 1995)[2]

I Introduction

The *Taliban*, *Hamas* and other radical Islamic groups are a puzzle for behavioral scientists who commonly assume rational choice in individual decisionmaking. How do we explain destructive acts from which individuals derive no direct benefit such as subjugation and institutional abuse of women, minorities and homosexuals, abuse and murder of prisoners, or desecration of holy sites? Perhaps more of a challenge are *self*-destructive acts in which individuals risk arrest, injury or death, or embark on suicide missions which result in almost certain death.

Yet members of the same radical groups also exhibit productive, constructive and noble behaviors: acts of piety, charity and self-sacrifice. These organizations are remarkably efficient providers of valuable local public goods. The *Taliban* restored law and order to Afghanistan, halting poppy cultivation for opium and reducing crime. By securing trade routes they restored commerce (both legal and illegal) in Afghanistan. Both the *Taliban* and *Hamas* reduce alcoholism and drug addiction among members. The *Hamas*' parent organization, the Muslim Brotherhood provides health care, schooling, welfare and community services to needy communities in Gaza and the West Bank. The Brotherhood is so efficient and honest that it was used by humanitarian agencies to distribute aid in the West Bank and Gaza.

Are these extreme behaviors due to powerful entrenched ideologies which form preferences? That argument is weakened by sharp *shifts* in declared ideology and behavior. The *Taliban* in 1994 were nonviolent clerics concerned with personal piety and replacing violent warlords with local Islamic government. By 1996 they were a militia bent on conquering Afghanistan and by 2001 they were so committed to international *Jihad* that they destroyed their accomplishments in a doomed effort to protect Al Qaeda. The Muslim Brotherhood in Palestine were a nonviolent group dedicated to an agenda of personal piety and local Islamic government till 1988, when they created *Hamas* and embarked on a violent, nationalist territorial struggle. More generally, the sanctification of individual acts of political violence as *Jihad* by radical Islam is a recent phenomenon, representing a break with mainstream Islam (Black, 2001, p. 338).[3]

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[2] Mishal and Sela (2000), p. 71.

[3]. Political violence with a religious justification by sects has a long history in Islam, as in other monotheistic religions. Yet when it reappeared in Egypt in the mid 20th century it was widely denounced.

Also remarkable is the fact that, once formed, both *Hamas* and *Taliban* became remarkably efficient militias. The *Taliban*, who were not experienced fighters, managed to conquer and hold most of Afghanistan, an accomplishment unmatched by even the Soviet military. The *Hamas* quickly evolved into an effective terrorist organization, difficult to infiltrate and more successful than its secular rival, the PLO's *Tanzim*, or the older *Islamic Jihad*.

This paper attempts to resolve those puzzles using a unified approach which assumes rational choice by individuals. Rationalization is not merely a methodological goal but also a practical one. If we cannot explain these destructive behaviors in a model in which individuals respond to incentives, what policies can we recommend that are not themselves inherently destructive?

I use a "club-good" approach to model radical Islamic groups. Consider a place where neither government nor markets function well, so that local public goods, such as public safety, law and order and welfare services are poorly provided or absent, while neither public nor private sectors efficiently deliver education, health services or insurance. It wouldn't be surprising for individuals in such a place to band together into communities which provide local public goods to each-other such as mutual insurance, public safety, education etc.. (as documented by Townsend (1994), for instance).

Iannaccone (1992) pointed out that religion is a natural organizing force in community provision of local public goods. Moreover the most puzzling features of religious sects, their propensity to limit choices (prohibitions) and to destroy resources and options (sacrifices) can be explained by the internal distortions due to a club's provision of services to members. Since club members engage in joint production of local public goods during their hours of nonmarket time, market work is a distraction with a negative externality for other members. So clubs should tax market wages. Lacking tax authority they turn to prohibitions of consumption as a crude but feasible way of lowering wages. Sacrifices are a costly signal of "commitment" to the community, or (less prosaically) of low wages which are efficient in the presence of heterogeneity in wages.

Iannaccone provides supporting evidence for the club model from Christian sects, showing that the more extreme the prohibitions and sacrifices of the sect, the greater the provision of public goods to members. In an extension, Berman (2000) shows that subsidies to sects dramatically increase distortion of incentives. Among Ultra-Orthodox Jews in Israel subsidies resulted in a fertility increase of over a child per woman and an increase in the duration of *Yeshiva* (full time religious seminary) attendance of over10 years, all within less than two decades.

This paper makes two further analytical points. First, religious clubs are well suited to running a militia. Militias are crucially sensitive to defection so that a club with method of signaling commitment has an advantage in conducting militia activity. Second, apparently gratuitous acts of destruction can both signal commitment and reinforce incentive compatibility, extending the ability of the club to provide militia services to members.

It should be stressed that there is nothing particularly Muslim about the model. Indeed, militia activity among religious sects go back at least to the Middle Ages, when the Templar Knights and the Hospitaler Knights were organized as orders to conquer the holy land during the Crusades. Like the Taliban and Hamas they had strict prohibitions and sacrifices, including vows of celibacy for instance. These groups also underwent an agenda drift. Long after the Crusades ended, the Templars were still running fiefdoms in much of France, till they were finally suppressed by the King.[4] Moreover, the analysis may apply just as well to radical Jewish militias, such as the so called "Jewish Underground," a terrorist organization of orthodox Jews which operated in the West Bank in the mid 1980s.

The next section provides background on the *Taliban* and *Hamas*, highlighting the common puzzles and drawing parallels. Section III reviews the club model for a religious sect, extending it to explain militias. Section IV applies that model to explain the jarring combination of efficiency, piety and destructiveness in these groups. Section V considers policy implications and section IV concludes.

II *TALIBAN* AND *HAMAS*: BACKGROUND

Radical Islam

The *Taliban* and *Hamas* are both highly ritualistic, extremely conservative Muslim groups. They belong to a family of radical Islamic groups whose religious behavior represents a clear break from traditional practice. They augment the prohibitions of traditional Islamic practice, such as dress codes and shaving. They tend to segregate themselves from other Muslims and to be extremely intolerant of deviation, in contrast to the tolerance of traditional Islam. These groups are often termed "fundamentalist," though that term has the misleading connotation of a return to some historic norm of practice, while these groups are actually practicing norms unprecedented in their extremism. Radical Islam dates back only to the 1920s with the establishment by al-Banna of the Muslim Brotherhood in Egypt and the subsequent founding by Mawdudi of the *Jamaat-al-Islami* in Pakistan.

Radical Islamists are an example of a group whose core beliefs clash with those of Western liberalism in their view of the place of an individual within society. In the Western liberal approach individuals derive rights and obligations from a direct relationship with the state. Radical Islam emphasizes a more historic approach in which an individuals' primary relationship is with a clan, sect or tribe, and through that with the state [Black (2001), p. 309.] Ties that might undermine the relationship with clans, sects or tribes are viewed with suspicion and contempt.

Those strong historical affiliations with clans, sects and tribes are not surprising in an environment in which government is a poor provider of local public goods such as health care,

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[4] I thank Dagobert Brito for pointing out this historical analogy.

education and public safety and the market is an inefficient provider of income and insurance. In that environment, group affiliation is a source of mutual insurance in protection, health care, income, food, clothing and the like. That economic relationship with a group much smaller than the state government must have been ubiquitous historically. It survives notably in the West in the form of radical religious sects like Ultra-Orthodox Jews and Christian Anabaptists (such as Hutterites and Mennonites) who provide extremely high levels of mutual insurance to members.

An efficient market economy and a functioning secular state are both threats to these affiliations as they reduce the need for the services which these groups provide and reduce the nonmarket hours available to members to provide services to others. Like Radical Islam, radical Christian and Jewish sects seek to distance members from market economies.

Taliban and Hamas

The *Taliban* and *Hamas* are both radical Islamic groups that turned violent. While their geographical and theological origins are distinct, they have several functional characteristics in common which suggest investigating their behavior in parallel. Before filling in the history, it may help to list those characteristics, which are summarized in Table I. Both movements arose in environments with weak local government and responded by providing an local public good. Both are militias that formed as affiliates of venerable nonviolent radical Islamic organizations, the *Hamas* from the Islamic Brotherhood and the *Taliban* from the Jamiat-e-Ulema-Islam (JUI) in Pakistan. Both received generous subsidies from abroad, for ideological reasons or in return for services. Both underwent increases in stringency of practice as they gained power. Younger members undergo some costly initiation rite of personal sacrifice in each group. Both groups changed their ideologies drastically and at great cost to members. Both developed into militias which produced local public goods using violence.

While this paper limits itself to the *Taliban* and *Hamas*, whose evolution is recent and relatively well documented, that general set of characteristics may well be shared by other religious militias, both Islamic and otherwise. Concentrating on the functional characteristics of these groups has the advantage of avoiding a discussion of their legitimacy as a national liberation movement or as an interpretation of the religion. Of course an economic model has little or nothing to add to that discussion.

Taliban

Afghanistan is a famously ungovernable country which has undergone 23 years of civil war at a cost of one and a half million lives.[5] In 1978 a Marxist coup from within the army overthrew a Soviet backed government. Rural tribes declared a holy war against the coup leaders, who were themselves engaged in a violent internal power struggle which culminated in the assassination of the new President and in the Soviet invasion of December 1979. Over the next ten years the *Mujaheddin*, a loose tribe-based alliance of Islamic militants conducted a

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[5] Rashid (2000), and Davis (1999) describe the Afghan civil war and the rise of the *Taliban*.

successful guerrilla war which eventually forced a Soviet retreat, despite a $45B military effort. The *Mujahheddin* received about $10B in military support, mostly from the U.S. and Saudi Arabia, in an effort mostly administered by Pakistani intelligence (ISI).[6] Those subsidies were remarkably effective in expelling the Soviets, but radicalized Afghani society:

> "Prior to the war the Islamicists barely had a base in Afghan society, but with money and arms from the CIA pipeline and support from Pakistan, they built one and wielded tremendous clout." (Rashid, 2000 p. 19).

The Soviet-backed president was overthrown in 1992 when Kabul, the capital, fell to an alliance of *Mujaheddin* from northern Afghani Tajik and Uzbek tribes. This set off an bloody internal war with a coalition of Pashtun tribes over Kabul, which had been under Pashtun control for 300 years. In 1994 General Dostum, leader of the northern Uzbeks defected to join these Pashtuns and their leader, Hikmetyar. Yet even with Pakistani backing Hikmetyar could not seize Kabul. The rest of the country had by then collapsed economically. It was run by former *Mujaheddin* warlords in warring fiefdoms ranging in size from a few provinces to single villages.

During this particularly chaotic period, the *Taliban* emerged in Kandahar, the largest city in the Pashtun south. Rashid (2000) emphasizes economic factors that lent to their formation.

> "International aid agencies were fearful of even working in Kandahar as the city itself was divided by warring groups. Their leaders sold off everything to Pakistani traders to make money, stripping down telephone wires and poles, cutting trees, selling off factories, machinery and even road rollers to scrap merchants. The warlords seized homes and farms, threw out their occupants and handed them over to their supporters. The commanders abused the population at will, kidnaping young girls and boys for their sexual pleasure, robbing merchants in the bazaars and fighting and brawling in the streets." (Rashid, 2000; p. 21.)

Banditry on the roads was an expensive obstacle for truckers based in the Pakistani border city of Quetta, who wanted to smuggle goods through Afghanistan to Iran, Turkmenistan and the rest of Central Asia. Their route from Quetta passed north through Kandahar then west through the Afghan city of Herat, which was controlled by the militia of Ismael Khan. With alternate routes in northern Afghanistan blocked by heavy fighting, this seemed the best chance for trade from anywhere in Pakistan to Iran and Turkmenistan. By the fall of 1994 the Pakistani government backed an effort by the ISI to reconstruct roads and create alliances along the Kandahar-Herat route.[7]

In October 1994 the ISI sent a trial convoy loaded with medicine from Quetta to Ashkabad, in Turkmenistan. When the convoy was held up by warlords south of Kandahar, a

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[6] Cost figures from Huntington (1996).

[7] Rashid (2000) reports that In October 1994 Pakistani Prime Minister Bhutto met with Ismael Khan of Herat and Uzbek warlord General Dostum, to negotiate a secure route (p. 27). Davis (1999), relying on several sources, also emphasizes the role of Pakistani economic interests in the formation of the *Taliban*.

small largely unknown group of radical Islamists, the *Taliban*, conveniently emerged to free it. The *Taliban* were well armed with rifles, mortars, ammunition and vehicles they had ostensibly acquired by raiding an ammunition dump two weeks earlier on the Pakistani border. By December the *Taliban* were operating the safe one-toll road through the Kandahar region that the Kandahar warlords had previously failed to offer the ISI. Convoys were safely passing from Turkmenistan to Quetta and back for the first time in years.

That evening this group of a few hundred *Taliban* captured Kandahar, the second biggest city in Afghanistan, with minimal casualties by simply bribing the local warlords to surrender. By December they had 12,000 recruits from students in the *Maddrasa* (religious schools) of the radical Islamic Juma'at al Islamiya (JUI) of Pakistan, most of them from Afghan refugee families. Within three months the *Taliban* had efficiently conquered 12 of 31 provinces of Afghanistan, mostly through a series of Coasian bargains. They collected arms and opened roads.

The *Taliban*'s version of their movements' birth stresses not safe roads but public safety of another kind. They claim to have been a group of simple students in *Maddrasa*, led by Mullah Omar, a *Mujahhedin* veteran, who were enlisted by the local population to prevent the rape of teenage girls and boys by warlords.

The rest of the story is familiar: The *Taliban* proceeded to conquer and control for years some 90% of Afghanistan, a feat unmatched by the Soviet Union. Smuggling prospered so much that it caused a $400m drop in Pakistani customs revenue between 1993 and 1997. (Rashid, p. 192). The *Taliban* protected most of the $1B Afghan-Pakistani drug trade. Their control was so complete that they could eventually ban the cultivation of opium in 2000. (Note that the *Taliban* banned *cultivation* but allowed *trade* in opium and heroin to continue.)

Beyond effectively providing law and order the *Taliban* instituted a set of destructive policies which challenge the notion of rational choice:

> "The *Taliban* immediately implemented the strictest interpretation of Sharia law ever seen in the Muslim world. They closed down girl's schools and banned women from working outside the home, smashed TV sets, forbade a whole array of sports and recreational activities and ordered all males to grow long beards." (Rashid, p. 30.)

It should be stressed that these practices are inconsistent with traditional Islam. Mohammed is known for emancipating women.

The subjugation of women and non-*Taliban* worsened as they amassed power and moved into regions outside the Pashtun south. In Kabul and Herat norms and Sharia law were enforced even more strictly: women were beaten for wearing shoes that squeaked, foreign aid workers were bullied into leaving, shutting down schools, clinics and humanitarian aid. Why would a movement aimed at spreading their religious agenda among Muslims distance those Muslims by abusing them?

Of all the allies that the ISI could have (and did) chose, why is it that the one with the most extreme religious practices was the most efficient at securing the safety of convoys and ordinary people, and at conquering and controlling Afghanistan?

Also puzzling is the *Taliban's* apparently fatal shift in preferences, from piety, public safety and Islamic rule, to their adamant support for Al Qaeda's international *Jihad* against the United States and the West. All of their accomplishments and conquests were compromised by a defiant and disastrous refusal to surrender Ousama Bin Laden to U.S. forces after the September 11th destruction of the World Trade Center. That refusal triggered an attack that would destroy many of their members and all of their success in spreading their brand of Islam.

Hamas

Just as the *Taliban* militia are a offshoot of the nonviolent JUI, the *Hamas* is a direct descendant of the Muslim Brotherhood, the first modern radical religious movement in Islam.[8] The Muslim Brotherhood was founded by Hasan al-Banna in Egypt in 1928 with the aim of reinvigorating Islam through individual piety and self-improvement, fighting the insidious force of assimilation into materialist Western culture, and the establishment of an Islamic state. Members met weekly in small groups, reinforcing a set of basic prohibitions on gambling, alcohol, adultery and usury. The Brotherhood established a broad network of mosques, boys and girls schools, youth groups, clinics, hospitals, charities, trade unions, night schools for workers, and even factories. These enjoyed considerable public support both as a social service provider and as a focus of religious and political expression.

In 1948 a splinter terrorist organization of the Brotherhood, the "Secret Apparatus," *(al-Jihaz al sirri)* carried out a campaign of bombing and political assassination, including the assassination of the Prime Minister. The government subsequently suppressed the Brotherhood and al-Banna was shot in the street, apparently by a government agent. Since then the Muslim Brotherhood has been an illegal but tolerated force in Egyptian society and politics, sometimes courted but often suppressed by the government. In 1954 Nasser imprisoned a member named Sayyid Qutb, who, while serving his sentence of enforced hard labor, developed the militant ideology of radical Islamic militias. Qutb preached that religious communities could only survive if they segregated themselves from secular culture. Moreover he held that violent revolt was a religious duty, both against the secular West and against the secular government of Egypt.[9] This was a sharp break with traditional Muslim ideology, which is tolerant of other cultures, permits warfare only in self-defense and rejects violence in religious matters.[10]

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[8] Armstrong (2000) provides a clear account of the history of the Society of Muslim Brotherhood.

[9] This interpretation of the religious requirement of *Jihad* is controversial. *Jihad* can also mean simply a personal struggle for piety, self-improvement and the service of others (Esposito, 2002, p. 27).

[10] See Armstrong (2000), pp. 241-243.

Branches of the Muslim Brotherhood appeared in the Gaza and the West Bank in the 1950s. In 1971 Sheikh Ahmed Yassin founded an affiliated organization called Congress (*Mujamah*) in Gaza. The West Bank and Gaza had a relatively secular population at the time, but Sheikh Yassin soon gained broad popular support for his movement by establishing a social service network of mosques, hospitals, schools, charities, drug treatment centers, youth clubs and sports clubs. The Congress filled gaps in the social services provided by the Israeli occupational government, charities and international organizations, especially for the poorer refugee population. These institutions were financed by tithing (*zaqqat*) and by support from the Gulf states.[11]

The declared agenda of Yassin's Congress was that of Al-Banna: personal ethical conduct, personal piety and the eventual establishment of a local Islamic government. In contrast to the secular Palestinian Liberation Organization (PLO), the Brothers saw the liberation of Palestine as a long term goal to be deferred till ethical conduct and local Islamic government were established. The Brothers were a nonviolent movement, except for some skirmishes with PLO supporters. They contributed to an increase in religious practice in the 1980s in the West Bank and Gaza: dress codes were more stringently observed and outward signs of piety increased, including the frequency of prayer. The increased stringency of practice was especially evident in Gaza which is poorer and where the Brothers have more support and institutions.

In 1988 the first Palestinian *Intifada* began, a spontaneous revolt against Israeli occupation, led by neither the PLO or the Brothers.[12] SheikhYassin's local organizers urged him to endorse the revolt and establish a militia, lest the Brothers lose popular support to the local leadership of the PLO, which was harnessing the outburst of nationalism. Yassin initially resisted but eventually agreed to establishing an affiliated secret militia, the *Hamas*, carefully separating it from the Congress to protect the Brotherhood's social service institutions from reprisal.[13]

The *Hamas* immediately began printing leaflets calling for violent opposition to the Israeli occupation. It underwent an ideological shift, adopting a nationalist position more extreme than that of the PLO, calling for immediate conquest of all of Palestine (as opposed to just the West Bank and Gaza) as a religious obligation. This was an expensive change in ideology, as it predictably provoked a campaign of arrest and suppression by the Israeli army which put members at a high risk of arrest. That ideological shift would eventually put members at risk of arrest and reprisal by the PLO after the Oslo accords.

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[11] Armstrong (2000), p. 351. The *Hamas* would eventually have a leadership in exile in the U.S. which raised funds among the Palestinian diaspora as well.

[12] Schiff and Ya'ari (1989).

[13] The Lebanese Shi'ite *Amal* similarly insulated itself from reprisal by establishing *Hizbullah* as a separate entity.

The *Hamas* was soon a singularly effective militia: hard to penetrate, disciplined, adequately funded, well trained and committed. Members regularly risked arrest and endangered their lives by confronting soldiers, assassinating collaborators, organizing and carrying out terrorist attacks. *Hamas* suicide bombings of buses in Israel in 1986 delivered a close Israeli election to the right wing Likud party, critically injuring the Oslo process to which *Hamas* objected. To this day *Hamas* boasts the highest proportion of suicide bombers who carry out their objective or at least die trying.

Beyond their remarkable agenda shift and their effectiveness as a militia, the *Hamas* also display a tendency to inflict punishment on nonmembers which is puzzling for a populist movement. Beginning with the first Intifada, they forced a poor population to adhere to general strikes of commercial activity which prevented Palestinians from shopping, doing business and sometimes even from working. They even attempted a boycott on work for Israelis, which would have resulted in sacrificing perhaps a quarter of Palestinian GNP.[14] Most puzzling, they worked to cripple a peace process that was returning occupied territory to Palestinian control because the process represented collaboration with the conquerors of Palestine in 1948, precisely the opposite of the patient ideology of the pre-1988 Muslim Brotherhood.

III. EFFICIENT PROHIBITIONS AND SACRIFICE

Prohibitions and sacrifices among religious groups in general

Before tackling the puzzles of radical religious groups, even mainstream religious groups constitute a puzzle for rational choice theory: these groups prohibit common pleasurable behaviors and require sacrifices. Prohibitions include dietary restrictions, Sabbath observance, dress codes, head shaving, fidelity, driving licenses, restriction of sexual practices and refusal of medical care, for instance. Sacrifices are irreversible destruction of resources, such as burnt offerings. In the recent history of European Jewry, a circumcision irreversibly labeled a child as Jewish, an act that might put his life at risk by destroying the option of pretending to be a gentile. A vow of fidelity or abstinence is also a form of sacrifice, since it represents a permanent restriction of activities. Years of volunteer activity required of Mormons can be though of as a sacrifice of time, especially considering the foregone opportunity to accumulate human capital. Years of study in a religious institution represent a sacrifice of the alternative potential use of that time, be it in accumulation of human capital in secular studies or in accumulation of earnings.

Limiting choices and destroying resources is puzzling to an economist, yet people voluntarily join groups which enforce prohibitions and require sacrifices. These groups stubbornly defy price theory, persisting in time-intensive activities like communal worship, sabbath observance and dietary restrictions despite the historical increase in the shadow price of

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[14] That boycott was unsuccessful in 1988 though the goal was indirectly achieved. Attacks led Israel to replace Palestinians with foreign laborers in the 1990s and eventually to largely block access to Israeli labor markets in 2001.

time. Such groups show no sign of disappearing and those with the most demanding practices seem to be growing fastest.[15] Ultra-Orthodox[16] Jewry, the modern Anabaptist traditions (such as the Amish, Mennonites and Hutterites) and Radical Islam are thriving, despite a multitude of time intensive requirements.

Iannaccone (1992) offered a creative solution to the puzzles of prohibitions and sacrifices, proposing that they are efficient institutions in the context of an economic club which provides services to members. This section present a simplified version of his argument, discussing prohibitions and then sacrifices. Section IV extends the argument to cover militia activity.

Efficient Prohibitions
A social interaction model offers an explanation for these phenomena. Group members derive utility from (secular) consumption, S, and from time spent in religious activities, R, such as prayer and community service. They also gain utility from the level of a local public good A.

$$(1) \quad U_i = U(S_i, R_i, A) \quad for \ i = 1 \ to \ N \ members,$$
$$U_1, U_2, U_3 > 0 \ , \quad U_{11}, U_{22}, U_{33} < 0.$$

Good A is nonrival and excludable, making it a *club good*. It be provided by government (G) or produced by a "club" (C) using hours of religious activity as an input. Public safety is an example of a pure public good which could be provided by government or by a club, perhaps as a religious obligation. Welfare services, schools, hospitals and mutual insurance are examples of excludable, partially rival activities commonly associated with religious communities.

$$(2) \quad A = G + C(\{R_i\}) \ , \ \frac{\partial C}{\partial R_i} > 0 \ for \ all \ i \ .$$

Members maximize utility subject to time and budget constraints. A fixed allocation of time, T, is split between the religious activity, R, and work hours, H,
$$T = H_i + R_i \ .$$

Income is earned from wages w and spent on consumption of the secular good S, at price p,
$$pS_i = wH_i = w(T-R) \ .$$

A key point is that the club good C is produced by voluntary donation of time by members. This is extremely common in religious sects. Since that voluntary activity generates externalities, competitive equilibrium will result in too little religious activity R, as illustrated in Figure I. The labor supply curve to the right indicates the competitive equilibrium choice of work hours, H=T-

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[15] Iannaccone [1998] describes the growth of conservative sects including the rise of radical Islam (p. 1471).

[16] Members prefer the term Orthodox, which is also claimed by the less traditional "Modern" Orthodox, or the Hebrew term *Haredi*, which literally means "Shaker" impling a trembling, or (God)-fearing.

R, at the wage w/p. The curve to the left indicates the efficient labor supply schedule that a social planner would choose. She would prefer less work and more religious activity (at R*).[17]

$$\frac{w}{p} = \frac{U_2}{U_1} + \frac{U_3}{U_1} = MRS_{RS}(R^*) + MRS_{AS}(R^*).$$

The competitive equilibrium choice of R ignores the last term.

Welfare of group members can be improved by increasing R_i, either by subsidizing it or by taxing the alternative use of time, H_i. Religious groups often encourage R with eternal promises and the respect of one's peers. Yet R may be hard to subsidize if it is unobservable, like anonymous charity. Alternatively, consider a community that can literally control the price level faced by members through a tax. To achieve the social welfare optimum they would lower the real wage by imposing a tax $J = p^* - p$, which induces a choice of $R^* > R$.

A community without tax authority could impose and enforce *prohibitions* on types of secular consumption, thus inducing members to work less and spend more time at religious activities. Religious prohibitions can be rationalized as extreme but enforceable forms of taxation on secular activity. If the club good provided produced with the additional hours (Nx(R*-R)) is sufficiently valuable, individuals will volunteer to join a club which requires prohibitions. More generally, contact with the secular world substitutes for club activities. Thus prohibitions that limit these contacts induce members to spend more time in religious and other club activities that have positive externalities. Exclusion from access to the local public good C is a viable form of enforcement.[18]

This logic provides a rationalization for many forms of religious prohibition. For example, Sabbath restrictions induce members to spend time together on the Sabbath, dietary restrictions decrease the ability of group members to socialize with nonmembers,[19] and so forth.[20]

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[17]The level of A serves to amplify the labor supply elasticity in the upward sloping segment of the labor supply curve (Figure I) if R and A are complements. A change in wages has both the conventional direct effect on leisure (hours worked) and an indirect effect in the same direction through its effect on A. This is the "social multiplier" effect emphasized by Becker and Murphy [2000].

[18] Kandel and Lazear [1992] analyze peer pressure as an enforcement mechanism in firms where workers effort have external effects on the productivity of others. Greif [1994] describes how self-enforcing community norms may have been efficient among Medeival trading groups.

[19] That insight is not new. Hyman [1992] cites a French review of Jewish village life published in 1852, "how [can we] combine together *prescriptions that had as their goal the prevention of and mixing of the races* with the sentiments of fraternity necessary vis-a-vis fellow countrymen and non-Jewish friends?" [Archive israélites 13 (1852): 228, italics my own.]

[20] The logic is similar to an argument offered for the efficiency of restrictions placed by landowner/lenders on the access of sharecropping borrowers to other sources of credit. Limiting outside opportunities can preserve the incentive compatibility of optimal effort in the presence of moral hazard or enforcement constraints (Ghosh, Mookherjee and Ray, 2000).

This also explains the attraction of dress codes, which aid enforcement by making community members readily identifiable. As in the military, being caught out of uniform triggers sanctions.

Groups that place many restrictions on secular activities are often termed "sects" by sociologists [Weber 1946]. Adam Smith [1776], in his chapter on Church and State, uses that term to describe 18th century Christian sects. He proposed that secular "gaiety" be subsidized in order to undermine the influence of sects with "disagreeably strict" moral codes. Smith could just as well have been describing the birth of Ultra-Orthodoxy in the late 18th century, or radical Islam in the early 20th century.

Friction between club members and nonmembers resulting from a club's political agenda, for instance, may cause antagonism towards club members. An interesting implication is that *secular antagonism toward a religious community can be desirable and efficient for that community* if it discourages secular activity by club members. Antagonism provides another mechanism by which higher levels of religious activity are induced by taxing secular alternatives. *In that sense this is a theory of efficient intolerance.* Efficient mutual antagonism between two clubs is an immediate extension.[21]

Efficient Sacrifice

Sacrifices (irreversible destruction of value like circumcision, burnt offerings, and ritual bloodletting) cannot be explained as efficient prohibitions with the logic above, since they do not tax a secular good. They *can* be explained as a sort of initiation rite which signals unobserved type [Camerer 1988].

Applying a simplified form of Iannaccone's [1992] model, I introduce unobserved heterogeneity by having high wage (type 2) and low wage (type 1) individuals. High wage individuals choose less religious activity as it is relatively more expensive for them, i.e., $R^2 < R^1$. (Heterogeneity could alternatively be in both preference for religious activities at the margin and wages. Heterogeneity in wages alone is chosen mainly to simplify the exposition.) Assume that the value of the club good is given by the average of R, as would plausibly be the case in a mutual insurance club, where the average donation of time by members to mutual aid would matter.

$$C(\{R_i\}) = C(\overline{R}), \quad \overline{R} = \sum_{i=1}^{N} R_i/N$$

High wage - low R individuals would like to join the high R club and benefit from their high average level of religious activity. Members of the high R (low wage) club would rather not admit the high wage types, as the reduction in the level of religious activity will reduce club quality. Since access to the externality is excludable, the high R (low wage) group can solve this free rider problem by organizing a club with a costly initiation rite, or *sacrifice*, which will successfully exclude low R (high wage) individuals from joining, keeping C high, at R^1. Unlike

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[21] Of course, mutual antagonism may not be desirable for unaffiliated bystanders.

R, the sacrifice benefits no-one except through its role as a signal. Though type is unobserved, a well-designed initiation rite will force individuals to signal their type by their willingness to sacrifice time.

Figure II illustrates the imposition of an efficient sacrifice of time and the resulting increase in utility for the low wage club.[22] (For a formal derivation see Appendix 1 in Berman (2000)) The horizontal axis shows the allocation of time between work hours, religious activity and sacrifice. The vertical axis measures utility. The two higher curves represent the utility of high wage types and the two lower curves the utility of low wage types. High wage types in a low C environment choose point A2. Low wage types in a low C environment choose A1 at a higher level of R than high wage types. Low wage types improve their outcome by establishing a club which admits only members who sacrifice an amount of time 6*. By excluding high wage types they achieve the higher level of utility at B1, where the sacrifice of time is more than compensated by higher level of local public good $C(R^1)$. A sacrifice inducing only low wage types to sacrifice is a separating equilibrium. The efficient sacrifice is the smallest 6 that induces separation, leaving high wage types indifferent between the high $C(R^1)$ and sacrifice (B2), and the low $C(R^2)$ without sacrifice (A2).

The low wage, high R group is better off with the institution of a sacrifice and will accept anyone who makes the sacrifice into the group, since a sacrifice reliably signals a high level of religious activity. This setup is analogous to other forms of costly sacrifices which signal type, such as initiation rites in the military, hazing in fraternities, Spence signaling in schooling, or frivolous engagement gifts [Camerer 1988].

Applying this model to the behavior of radical Islamic groups yields some immediate insights. It allows us to rationalize the common *Taliban* practice of years of attendance in religious seminaries which offer little or no training in marketable skills. While indulging in the study of holy texts might not be surprising as a leisure activity for relatively wealthy individuals, it is a puzzling choice for impoverished Afghan refugees in Pakistan. Yet as a sacrifice of time which allows access to a desirable club, that behavior may be quite sensible.

The puzzling sacrifice among the *Hamas* is of a different nature. Members show a surprising willingness to risk arrest by organizing and conducting low level violent activity. Since arrest often implies protracted jail terms, this activity can also be understood as a sacrifice of time.
Suicidal acts are not viewed as a sacrifice in quite this context, though they are treated in the next section on militias.

Subsidy and Sacrifice

In the presence of sacrifice, a subsidy to the club is largely wasted as it induces a larger sacrifice, further distorting labor supply. Figure III illustrates this amplified distortion. The

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[22] Figures II and III are constructed by simulation using the function $U(S,R,A) = [S^\$ + (R^" A^{(1-")})^\$]^{(1/\$)}$.

unsubsidized separating equilibrium is described by points A2 and B1 (as in Figure II). A subsidy enhances the utility of club membership, which would shift the point B2 vertically upwards and destroy the separating equilibrium if the sacrifice K were unchanged. To protect the club from low R free-riders the efficient sacrifice σ^* is increased to $\sigma^{*\prime} = \sigma^* + \Delta\sigma$ which is just enough to keep high wage types from joining. (They are indifferent between joining (at C2) and not joining (at A2)). That is, a subsidy induces a countervailing increase in the optimal sacrifice of $\Delta\sigma$, a tax on club members which further distorts labor supply.

To illustrate the extreme distortion due to subsidizing an exclusive club, consider a subsidy which potential entrants value more than club members. In that case the efficient countervailing increase in sacrifice, $\Delta\sigma$, will be exactly enough to dissuade entry of high wage types, but *makes club members worse off with the subsidy than they were without it*. (This is not the case illustrated in the Figure, in which club members have a net benefit from the subsidy. Their utility is higher at the new optimal choice (C1) than it was at the old (B1).)

This modest insight is an innovation on Iannaccone [1992]. For the *Taliban*, such a subsidy could come in the form of transfers from their sponsors, Pakistani intelligence and Bin Laden or from increased revenues from controlling smuggling and the drug trade. For *Hamas* outside subsidies come mostly from the Gulf states and from the Palestinian diaspora. In both cases, subsidies exacerbate the free-rider problem by making the club more attractive, which in turn create a requirement for a more extreme signal of commitment, such as acts that trigger even longer jail sentences.

IV MILITIAS

Why do radical Islamic groups so often create militias and why are those militias so effective? Define militia activity as co-ordinated capture of rents involving violence.[23] Attacking an occupying army, providing law and order, organizing and carrying out clandestine activity (like terrorism) are examples. This activity often involves personal risk. A key aspect of militia activity is its sensitivity to defection. The basic argument of this section is that religious sects have an advantage in militia activity because the signaling mechanisms adopted for the provision of other public goods allow them to select members unlikely to defect in a militia.

Consider a standard assignment in the imposition of law and order, *securing a trade route*. Imagine a road with N checkpoints at which a convoy can easily be robbed (perhaps from Pakistan to Turkmenistan on the Kandahar- Herat route). The convoy is worth B at the last stop but worth nothing at the first, to emphasize returns from trade. A club member at each checkpoint allocates time to either R or H. $R_i + H_i = 1$ and R_i is binary. Member i can either "defect" and steal B ($R_i = 0$) or remain "loyal" and protect B ($R_i = 1$).

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[23] Violence not so much an inherent feature of these activities as it is a symptom of the fact that the return to effort in capture exceeds that in production. Terrorism, discussed below, is generally a negative sum activity.

The public good technology is

$$\textbf{(4)} \quad C(\{Ri\}) = C(\prod_{i=1}^{N} Ri),$$

where C(1) is a safe road and C(0) is an unsafe road, so that C(1) > C(0).

A convoy will choose to set out only if all R_i equal 1. If the convoy reaches the last stop, the club extracts the entire surplus B and shares it equally among members. If member 'i' defects he loses access to the safe road (the public good C) as punishment, but earns the outside option wage w_i . That member will remain "loyal" if an incentive compatibility constraint holds:[24]

$$\textbf{(5)} \quad U(\frac{B}{NP}, 1, G+C(1)) \geq U(\frac{B+w_i}{P}, 0, G).$$

If the incentive compatibility constraint fails this is an N player prisoner's dilemma, resulting in an unsafe route, no convoy and no rents to extract.

Consider heterogeneity and adverse selection. If there are two unobserved types (as above), with parameter values such that incentive compatibility in (5) holds only if $w_i < w'$, for some w' such that $w^L < w' < w^H$. That is, low wage types remain loyal and high wage types defect. A club with a costly sacrifice as an initiation rite which successfully excludes all high wage types can consistently secure the trade route and extract the rent, B. A group without a method of excluding high wage types will fail to secure the route.

In Afghanistan, this approach resolves the puzzle of how the inexperienced *Taliban* successfully secured trade routes for Pakistani interests while combat hardened warlords and former *Mujaheddin* could not. Groups with less demanding sacrifices may not be able to consistently enforce incentive compatibility. The more radical the religious group in its norms of sacrifice, the more capable it is of imposing public order in the face of a holdup problem.

The multiplicative technology in (4) generally describes a wide variety of militia activities in which success is critically dependent on the loyalty of all members. Moreover, in cases where members endanger themselves their very survival may depend on the loyalty of others. Consider two further examples of militia activities: co-ordinated assaults and clandestine attacks.

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[24] The model is cast as static for simplicity. In a more realistic dynamic setting under standard assumptions the resulting incentive compatibility constraint is similar: Assume an infinite horizon, with a time-consistent club strategy of never forgiving defection, and a defector smoothing consumption by consuming rB + w_i each period for some rate of interest r>0. In a stationary equilibrium the future for a loyal member always looks the same, and the incentive compatibility constraint is just like (5) but with 'rB + w_i' replacing 'B + w_i' on the right hand side. The results in the rest of the paper for the static case follow as long as r>1/N. The only clear insight the dynamics yields is that good investment opportunities for defectors weaken incentive compatibility. Time inconsistency by the club may also weaken incentive compatibility through the prospect of future forgiveness.

In a *co-ordinated assault* on some target, soldiers (or units) alternate between advancing and providing cover fire. A defection by the unit providing cover fire leaves other units exposed, causing the assault to fail. Assume that the target is worth B, both to the attacker and to the potential victim. Assume also that B can be divided as income among attackers (as would literally be the case for mercenaries). The potential victim will be willing to pay up to B to induce defection. In Afghanistan there was a going rate to buy defections of this type. A successful assault is a club "good" to members, perhaps because it rids them of some occupying enemy. The payoff setup is then identical to the trade route case described above, with an assault succeeding only if the incentive compatibility constraint (5) holds.[25] If (5) fails, no assault is carried out and no rent is captured.

This approach can explain the remarkable fact that the *Taliban* was more successful than more experienced, larger, but less radically Islamic former *Mujaheddin* in conquering Afghanistan. It was easier to ensure the commitment of *Taliban* members because they had signaled limited outside opportunities w_i .

Clandestine militias such as guerrillas and terrorists also share the multiplicative technology in (4). Assume an attack on some target where the potential victim can induce defection at any point, from planning stages until the attack. Any of N conspirators, including planners, can defect or remain loyal. This may be a negative-sum activity as the replacement value of the damage to the victim, D, may far exceed the value to conspirators, B, so that B<D, while B(D) is an increasing function. Also, the N conspirators enjoy B in a nonrival manner. Assume also that they have income from some outside sponsor (who values B). That income is small but proportional to D, $"$ D, where 0<$"$ <1. In this case the incentive compatibility constraint for an individual member is

$$(6) \quad U(\frac{\alpha D}{NP}, 1, G+B+C(1)) \geq U(\frac{D+w_i}{P}, 0, G).$$

As in the other examples, assume that there is some cutoff wage w' below which incentive compatibility will hold and that $w^L < w' < w^H$. A club with the capacity to extract signals of commitment (low wages) can implement this technology while other groups cannot. This interpretation may explain why *Hamas* quickly became so effective at suicide bombings, even without the experience of older groups such as the *Islamic Jihad.*

Conspiracies evoke the painful topic of suicide bombings. This analysis may help us understand them in two ways. First, suicide bombing is a particularly effective method of protecting conspirators, since the perpetrator cannot inform on the conspirators after the fact. Second, the act of suicide can be individually rational, even in the narrow sense of (6) if the

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[25] Considering the danger involved, we could relax the zero-sum assumption and allow the victim to lose more than B from an assault. That only worsens the defection problem as the victim will be willing to pay more than B to a defector.

perpetrator assigns little enough value to his (her) consumption (low U_1) and/or is sufficiently motivated by duty or by the public good (high U_2 or U_3). A belief in the hereafter is not necessary, though believing in a hereafter where duty and public goods matter but income does not would reinforce a decision to remain "loyal" and suicide (see footnote 24 above for a dynamic interpretation). Interviews with failed suicide bombers reveal that they do have a strong belief in the hereafter. In fact their primary concern is not with death but with the pain of dying (Hassan, 2001).

Comparative Statics

Figure IV illustrates the relationship between the utility of defectors, the utility of loyal members and the value B of the convoy or target. Label *B* the "project value" to generally describe the rent captured by various types of militia activities.. If members sufficiently value the benefits of the club good and religious activity then at low project values it is easy to construct parameter values such that loyalty dominates defection.[26] As B increases defection becomes more attractive till some maximum incentive compatible project size, B*, where defection dominates loyalty. For projects larger than B* members will defect.

Figure IV also illustrates how any increase in the value of the club good, C(1), increases the maximum incentive compatible level of *B, B**. Intuitively, a member who was on the margin of being bribed into defection at B* will be induced to remain loyal by the attraction of an increased value of the club good. A much larger potential bribe, B**, is now required to induce defection. Augmenting the club good may increase militia activity in two ways. First, for a given B in the range between B* and B**, incentive compatibility can be achieved where it was previously absent, allowing rent extraction (in the convoy example) to increase from zero to B. Second, if the club can choose projects to undertake, (i.e. targets to attack or convoys to allow on the road) it can now expand the range of projects from (0,B*) to (0,B**), increasing the value of projects undertaken.

Thus clubs that are more productive at one club activity can exploit the induced cohesiveness by allowing themselves more militia activity in the sense of a higher project value B. In this way efficient provision of nonviolent club goods, such as health care, mutual insurance or educational services, complement the ability of these same clubs as militias. This may explain why *Hamas* is a more effective militia than Islamic Jihad and other groups with much more experience at violent activity but with less nonmilitia club goods.[27]

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[26] The figures are simulated using utility function $U(S, R, A) = (S^\$ R^\$ A^\$)^{1/\$}$, $\$ = 1/3$.

[27] There is nothing particularly Muslim about this logic, of course. Indeed Jewish terrorists on the West Bank tend to come from among the minority of settlers who belong to religious sects. For example, the terrorists who attempted to detonate a bomb beside a girls' school in East Jerusalem in April 2002, come mostly from among the Ultra-Orthodox settlers of Bat Ayin, a small settlement outside Hebron. (John Kifner, New York Times, May 8, 2002.)

A subsidy which augments C(1) or which provides cash payments to members can induce a discrete increase in militia activity for project values in the (B*, B*') range. This may explain why relatively small cash payments to families of suicide bombers, or small increases in the prestige that the public rewards those families with[28], can induce large increases in co-ordinated militia activity.

In this context it is important to distinguish subsidies to the club good and subsidies to the government provided public good, *G*, which is available to both members and nonmembers. Subsidies to C increase militia activity by reinforcing incentive compatibility and increasing B*'. In contrast, subsidies to public goods accessible by both member and nonmembers *G reduce* militia activity. The reason is that these services will be accessible to defectors as well as to loyal members. Since the utility function exhibits diminishing returns to public goods, increases in government provision of the public good G makes potential attritors less desperate for the club good. This in turn diminishes the influence the club has on members with the threat of exclusion from access to the club good. That situation is illustrated in Figure V. When government provides a high level of public good services, the maximum incentive compatible project value is B**, which is smaller than B*, the maximum project value when government provides a lower level of public goods.

The maximum project value B* is also influenced by the outside options of club members should they choose to defect. In both (5) and (6) outside options are represented by w_i, the wage. Militias prefer lower wage members because they are less prone to defection. This point is illustrated in Figure VI, which graphs utility against project values for both defectors and loyal members. Since loyal members earn no wages ($R_i = 1$), their utility is unaffected by their wages. High wage defectors have higher utility than low wage defectors at all project values. In the interval (B*, B**) high wage members will defect while low wage members will remain loyal. This could explain the advantage of building a militia of young men with little labor market experience who were educated in the Maddrasah of Afghan refugee camps, rather than choosing combat veterans from among the former Mujahhedin. It may also explain why, once formed, the *Taliban* were such a successful militia.

The comparative statics of equations (5) and (6), as illustrated in Figures IV, V and VI, can be summarized as follows: The maximum incentive compatible level of the target *B** increases in the value of the club good *C(1)*, and the price level *P*, while it decreases in the members' wage, w_i, in the level of government services *G* and in the number of members splitting *B, N*.

Policy Options for Militias

To the extent that a club can manipulate parameter values, it will aspire to efficiently increase its militia activity through both constructive and destructive acts.

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[28] Prestige could have the very concrete interpretation of preferred access to local public goods.

Constructive Efficiency :
1) raising C(1), through some other investment that augment club goods (welfare, hospitals, etc.),
2) making cash payments to members, (payments to families of martyrs),
3) investing in a technology to provide the club good with a lower number of participants, N.

Destructive Efficiency:
4) lowering w_i, the outside options of members, (Madrassah, jail time, secluding women, harassing nonmembers, destroying or banning access to Israeli labor markets),
5) limiting B (ban on heroin cultivation),
6) reducing G , the public good available to members and nonmembers, (expulsion of NGOs providing humanitarian aid, closing schools and hospitals, assassination of judges and public officials,)
7) raising P (general strikes, access to goods markets).

Perhaps the most disturbing aspect of the club's incentives is that it is not only efficient for members to be self-destructive, it is also efficient for them to destroy the utility of nonmembers. The clearest mechanism is through the destruction of *G*. The argument is simply the converse of that illustrated in Figure V. At a lower general level of government services, potential defectors value the club good more at the margin, making them less likely to defect. That logic can explain the assassination of judges and public officials in Egypt by the *Muslim Brotherhood*, and harassment of humanitarian aid workers in Afghanistan by the *Taliban*.

A subtler mechanism by which the club benefits from damage to nonmembers is through it's effect in reducing outside options, w_i. The most difficult acts to rationalize by the *Taliban* are those that appears to be gratuitously destructive. One might expect that a religious organization intent on instituting a government based on ethical practices would attempt to make itself popular with the local population. Yet, the *Taliban* seemed to do their best to alienate the local population. They repeatedly massacred civilians (Rashid, p. 70). They beat women in Kabul, Herat and Jalalabad for the slightest offense, eventually secluding the women of Kabul in their homes with windows blackened to keep them out of sight.[29] When humanitarian aid workers protested and threatened to cut off aid, the *Taliban* commanders reportedly explained that the seclusion of women was necessary in order to control their own troops. (Rashid? , p?).

This type of destructive behavior can be interpreted as an attempt to lower w_i, broadly interpreted as the outside option of a defector. If a club member knows that he will find no sanctuary among the citizens he is policing, the outside option is lowered and incentive compatibility in (5) is strengthened. In contrast to other forms of destroying outside options, like sacrifices, self-mutilation or destruction of human capital, alienation of the local population imposes direct costs not on members but on nonmembers. The interpretation of gratuitous

[29] Note the inconsistency with mainstream Islamic tradition. One of the Prophet Mohammed's first goals was to emancipate women.

destruction among innocent nonmembers as an incentive is reinforced by the fact that Sharia restrictions were enforced more strictly in the conquered cities of Kabul and Herat than in the provinces or in the *Taliban*'s home city of Kandahar (Rashid 2001, p. 40).

The same argument can be made at the level of a local governor. Afghanistan has a long history of warring factions and sub-factions defecting in return for some payment by an outside sponsor. The *Taliban* apparently had a practice of rotating local governors to the front or back to Kandahar if they seemed to be consolidating a local power base (Rashid, pp 101-103). Governors who alienated the local population fared better (Rashid, p. 105). In the model that system is also interpreted as a limit on w_i.

Lowering of w_i took a much more literal form for *Hamas* members. From the organizations' inception in 1988 they called on Palestinians to stop working for Israeli employers, which would have amounted to an extreme sacrifice, especially among Gazans for whom day labor in Israel accounted for up to 40% of GNP. That demand was ignored by the general population and dropped at the time, though it was eventually achieved indirectly, when Israel responded to suicide bombings by closing access to her labor markets for day workers. An important difference between *Hamas* and the *Taliban* is that the former managed to lower the outside options of members without alienating nonmembers, when suicide bombings eventually became popular among the local population.

Agenda Drift

Referring back to Table I, the club good model with a militia technology can rationalize the puzzles of self-destructive behavior among club members and behavior that appeared to be gratuitously destructive of nonmembers. (The latter category does not include acts of terrorism, which members view as club "goods" since they advance a collective political agenda.) What remains to be explained is the phenomenon of agenda drift, which I argued above was evidence against an ideological explanation for the puzzles of destructive behavior. Among both the *Taliban* and the *Hamas*, ideological shifts can be rationalized as a form of sacrifice.

The *Taliban* ideology shifted dramatically and catastrophically over just a few years. They began from an emphasis on piety and local Islamic government as an alternative to brutal warlordism. As they gained territory, income and power, the *Taliban* became more extreme, welcoming payments from Bin Laden and Pakistan in exchange for establishing training bases for radical Islamic militias (Rashid, 2000). Their reported ideological support for Bin Laden's terrorist "Jihad" on the West was so extreme that they were willing to risk all of their accomplishments rather than deport him in the wake of September 11th, 2001.

In the context of this model, the *Taliban*'s catastrophic support for Bin Laden is not puzzling if viewed as a mechanism of destroying the outside options of members. Once the *Taliban* controlled Afghanistan, defection would have required migration. What more credible way to destroy the outside option of stealing B and establishing a restaurant in Chicago, say, than declaring your absolute support for a global Jihad? In Figure IV, that would appear as a downward shift in the utility of a defector necessitated by an increase in B. When viewed in this

way, it is not surprising that in October 2001, despite the pleas of their Pakistani sponsors, there was no serious discussion of deporting Bin Laden among the *Taliban*. Raising the issue would have suggested a predisposition to defect.

The establishment of the *Hamas* was in itself a sharp ideological change in the stance of the Muslim Brotherhood in Gaza. Their traditional emphasis was on personal piety and the establishment of local Islamic government. While Palestine should eventually be an Islamic state, that battle could wait till after their primary goals were established. With the first Intifada in 1988, the Muslim Brotherhood feared losing support to the PLO, the secular opposition to the occupation, and so they took a strategic decision to establish a militia and violently oppose the occupation themselves. The Brotherhood could have opposed the occupation with minimal territorial demands such as those of the PLO and restricted their attacks to the West Bank and Gaza, which would have exposed their members and institutions to much less risk. Yet, they chose a large and expensive ideological shift, claiming as their goal the liberation of all of Palestine (including all of present Israel) and carrying out attacks on civilians in Israel as well as in the occupied territories. That shift in ideology undoubtedly contributed to increased effort by Israel to arrest and detain militia members, resulting in years sacrificed in jail time.

This model can rationalize that expensive shift in ideology, again through the logic of incentive compatibility. While the Muslim Brotherhood is a conventional religious sect with a conventional club good technology $C(\{R_i\}) = C(\overline{R})$, the *Hamas* is a militia with the club good technology $C(\{Ri\}) = C(\prod_{i=1}^{N} Ri)$. Since the militia technology is much more sensitive to defection it isn't surprising that the militia requires a much more expensive signal of commitment. The declaration by members of their intent to destroy the State of Israel would increase the expected amount of jail time sufficiently to provide the necessary signal.

Other testable implications
The militia model is designed to explain the puzzles in Table I. One way of testing its' relevance is to draw out implications beyond the Table. A few implications have been mentioned in the discussion above.

The strongest implications are for similar groups. The model clearly implies that radical religious militias will be active when government provision of public goods is weak and when nonmilitia market opportunities are poor. That seems to be the case currently in Somalia, Nigeria, Algeria, Chechnya, Afghanistan, Kashmir, Tajikistan, Yemen, Bosnia and the Philippines. Radical religious militias have especially thrived during periods of weak government in Lebanon, Afghanistan and Egypt. Collapse of Soviet government authority was accompanied by an increase in radical Islamic militia activity throughout Central Asia, just as the collapse of Tsarist Russia was seven decades earlier (Rashid, 2002). The militia model also implies that subsidies to militias can dramatically increase not only militia activity but also the intensity of prohibitions. That has been true in Afghanistan since the early 1980s, when massive

Saudi and Western subsidies to the *Mujaheddin* apparently turned a relatively secular population into radical Islamists, long before the organization of the *Taliban*. Similarly, subsidies from Iran have exacerbated radical religious practice and militia activity by *Hizbullah* in South Lebanon, eventually forcing an Israeli withdrawal.

V POLICY IMPLICATIONS

This economic model of radical Islamic militias has clear policy implications that flow directly from the analysis of the incentive compatibility condition (5) (or (6)) and the discussion of Figures IV, V and VI. Any intervention that weakens incentive compatibility will lower B*, the maximal project value that a militia can undertake. Thus, a government with empathy for nonclub members can reduce militia activity, increase attrition from militias and reduce self-destructive sacrifices by members by:
A. reducing subsidies to clubs operating militias which are spent on services provided only to members, i.e., lowering C;
B. improving alternative provision of local public goods accessible to both members and nonmembers, i.e., raising G;
C. reducing the smuggling or other rents that clubs operating militias can aspire to capturing, i.e., limiting access to B;
D. improving outside options, i.e., raising w.

It is worth stressing the contrast between outside subsidies to club goods and outside subsidies to government provided public goods. While both increase the flow of public goods to the local population, subsidies to clubs can create an incentive to increase militia activity. The critical difference is that government provision of public goods is nondiscriminatory, in the sense that it is not conditional on some norm of behavior, which could be a destructive norm.[30] For that reason raising C increases militia activity, as it increases the influence clubs have over members, while and raising G decreases influence and reduces militia activity. In both Afghanistan and Palestine, this is an argument for outsiders to avoid the temptation of supporting insurgents against a central government.

This raises the following dilemma faced by foreign aid organizations and well-meaning foreign governments (Keating, 2001): What if the "government" behaves like a club, limiting public good provision to loyal members, as the *Taliban* generally did? Then there is no essential difference between aid to the "government" and aid to the club. Any transfer which increases the leverage of that government with members has the potential to increase destructive behavior as long as the governing club has the concern with defection expressed in equation (5). In Palestine and especially in Afghanistan, aid organizations attempt to provide nondiscriminatory transfers (of food, education, health and welfare services) to a needy population, essentially becoming the

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[30] That is literally true only in the model. Efficient governments often do exclude access to public goods as a means of law enforcement, but have less distortionary sanctions at their disposal as well, such as taxes and an impartial judiciary.

government in the model. Clubs, including the *Taliban*, try to capture those transfers to increase their influence. This situation puts the humanitarian organizations and the clubs in an inevitable conflict, as aid (G) weakens the influence of the club. In extreme cases the *Taliban* chose to halt aid to an impoverished population rather than agree to nondiscriminatory application of that aid.

The model indicates no solution to this dilemma as long as a single club has the power to block aid (G) as the *Taliban* did. In the case of multiple clubs which act as aid distribution organizations, it may be possible for foreign aid organizations to create competition between them. That competition could bid down the "price" of access to aid which is paid by recipients in conforming to norms of prohibition and sacrifice. Unfortunately, that competition could also become violent.

A clearer course of action for foreign powers involves access of clubs to economic rents (B) waiting to be captured. In the Afghan case many of these rents are due to the drug trade and incentives to avoid duties and tariffs. Any reduction in demand for heroin in Europe, which is the primary use of Afghani opium, will reduce rents available for Afghan militias to capture. A particularly distorting institution is the Pakistani-Afghan agreement on goods imported in bond. Goods bound for Afghanistan can be imported into the Pakistani port of Karachi free of Pakistani duties and tariffs. They are then trucked legally into Afghanistan and almost inevitably smuggled back into Pakistan, creating rents for Afghan smugglers and militias (Rashid, 2000).

Finally, the single most important factor in weakening militias may be raising the wages due to productive economic activity. It is important to point out that this can be true even if individual terrorists are not disproportionately poor, a finding reported by Krueger, and Maleckova (2002) in a survey of the literature. A club which is strengthened by its' ability to provide local public goods may attract members for any number or reasons, and select leaders and combatants from among those members according to characteristics other than poverty. The most effective militias do seem to require large infrastructures, which are disproportionately located in places with poor market opportunities and poor government.

None of these options are unfamiliar. Yet it is worth emphasizing that the success of a model grounded in rational choice in explaining the behavior of radical religious militia groups underlines the ability of essentially constructive policies to limit their militia activity. It argues at the very least for a two-pronged strategy at countering terrorism and other militia activity. One prong would be conventional intelligence, infiltration, deterrence and counterattack. The other would be essentially constructive policies such as economic development and aid to stable government which provides local public goods in a nondiscriminatory manner. The pervasiveness of radical religious sects currently providing social services throughout the world suggests that without a seriously constructive effort, the war on terrorism may a very long one.

VI CONCLUSIONS

Can rational choice modeling help explain destructive and self-destructive behavior among the *Taliban*, *Hamas* and other radical Islamic militias? This paper has argued that these puzzles can be resolved in a club good model which emphasizes the function of these voluntary religious organizations as efficient providers of local public goods in the absence of government provision. This is the same approach that can rationalize the puzzling behavior of Christian religious sects (Iannaccone 1992) and Ultra-Orthodox Jews (Berman 2000).

It is efficient for these organizations to extract signals of commitment in order to prevent free riding. Those signals of commitment make those nonviolent organizations excellent candidates for militia activity, in which defection is a major concern. The internal incentives of these groups can become extremely distorted when outside opportunities are reduced, governments weaken or subsidies increase, making increasingly radical norms efficient for the club. This approach can rationalize seemingly gratuitous acts of violence of group members towards themselves and toward others.

Destructive and even self-destructive militia activity can be explained as the choices of self-interested, rational individuals. This is hopeful news for policy interventions based on constructive incentives. The recommended policies are fairly standard: economic development, and support for governments that consistently provide basic social services, including law and order in a nondiscriminatory manner.

One question that might come up is, if the model is so compelling, why did radical Islamic militias spring up in the 20th century, but not earlier? Standard microeconomic theory would predict a decline in time-intensive religious activity prevalent among sects as wages increase. Berman (2000) addresses this paradox, arguing that signaling behavior was not necessary in the absence of a strong outside option to mutual insurance. It is the advent of high wages in the secular economy that creates the need to signal commitment, a signaling mechanism which eventually makes strong militias incentive compatible. In that sense, radical Islam is the backlash of a mutual insurance club against the threat markets pose to their survival: that strong wage opportunities will induce selective attrition of their most able members. That backlash creates a supportive environment for militias.

The other special characteristic of the last few decades is technological change in militia activity, particularly in terrorist attacks. The ability of a small number of conspirators to do a devastating amount of damage and to publicize their act almost instantly has dramatically increased their ability to provide a public "good" to their constituency with low risk of betrayal.

This paper has tried to make the case for a functional, economic view of radical religious militias. It should not be understood as arguing that ideology and theology are not important, though their role has been carefully avoided in the discussion in order to see how far a functional approach can take us. Indeed, radical religious militias show broad similarities with secular organizations with violent rent-capture technologies. Street gangs and well-organized criminal organizations (such as the Hell's Angels) often practice self-destructive norms such as prohibitions on legal work. These groups often show behavior which is clearly misogynous or in other ways destructive of others, which could be interpreted as (efficiently) destroying outside

options. This territory, which economists have generally ceded to sociologists and anthropologists, might benefit from re-examination using the club good model.

One way to think about ideology within the context of this model is to introduce some political ideology, such as a desire for self-determination, into an individuals' utility function and to think of it as a public good that a government or club could provide. (Strictly speaking, self-determination would be a club good only if it is excludable, which is inconsistent with democracy but may occur nonetheless.) In this context it is worth stressing that a popular desire for self-determination strengthens a club (or government) which promises that public good. This paper should not be understood as arguing that improving market opportunities alone will be enough to overcome a desire for self-determination. The paper does argue that a government which effectively provides public goods, including political goods such as representation, will find it easier to mitigate holdup problems with renegade militias.

Public economics has generally adopted as a working assumption the classical liberal approach of Smith and Hume, assuming that individuals have a direct relationship with the state and with markets. This paper follows Iannaccone (1992) in arguing for an approach to public policy that takes seriously the more complex relationship that individuals have with clans, sects, tribes and other groups, which often mediate or compete with an individual's relationships with states and markets.

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Table I: Summary of Sect Characteristics

|	*Hamas*	*Taliban*
Local public goods	schools, hospitals welfare, militias	law and order, militias
Subsidy	Gulf states Muslim diaspora	Saudi donations, Pakistani intelligence smuggling revenue
Increased stringency	dress codes, personal piety, worship	subjugation of women, homosexuals, nonbelievers, massacre of civilians
Sacrifice	risking arrest, injury or death	madrassa attendance
Agenda drift	active nationalist opposition to occupation, maximalist territorial demands, terrorism	support for Bin Laden's "Jihad" on West,
Militia activity	enforcement of strikes, assassination of informants, attacks on Israeli civilians and Israeli military	guarded smuggling routes, heroin trade, conquered 90% of Afghanistan
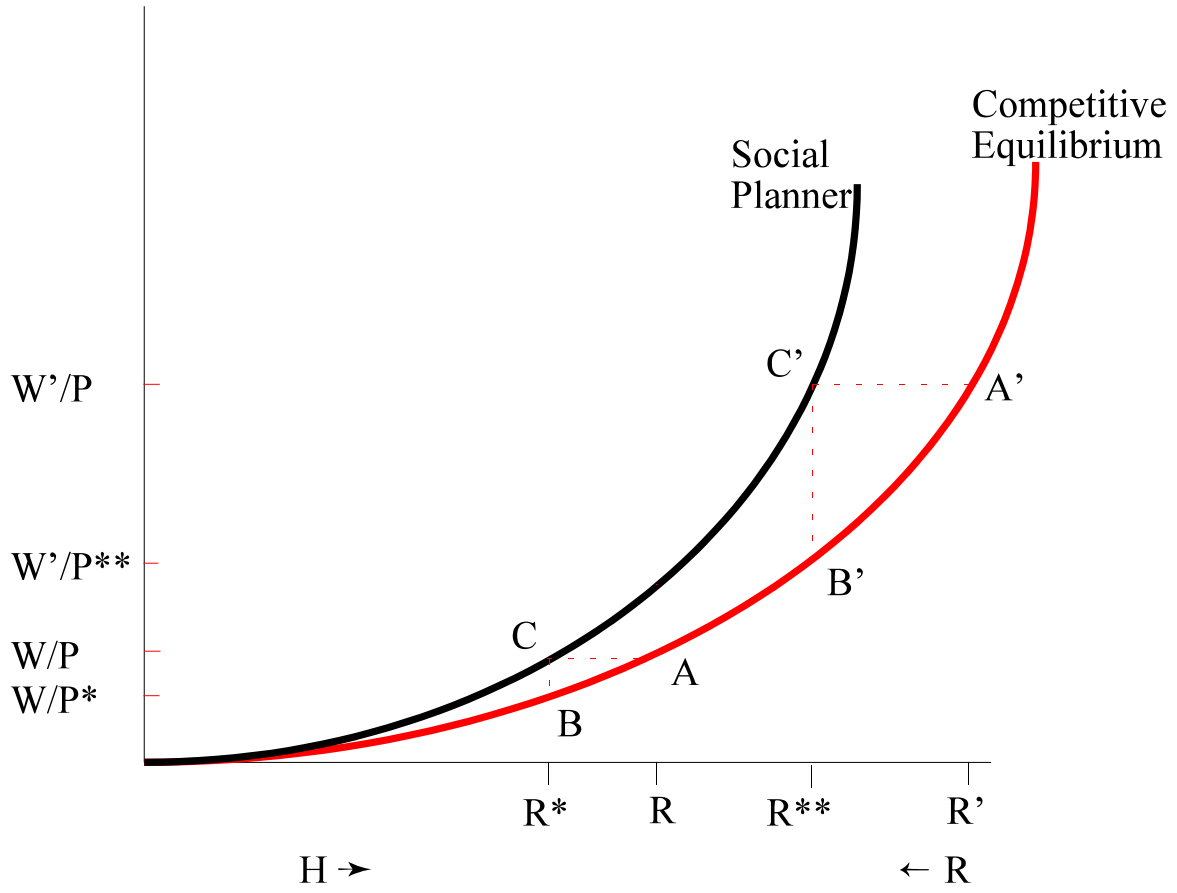
FIGURE I
OPTIMAL TAXATION THROUGH PROHIBITION
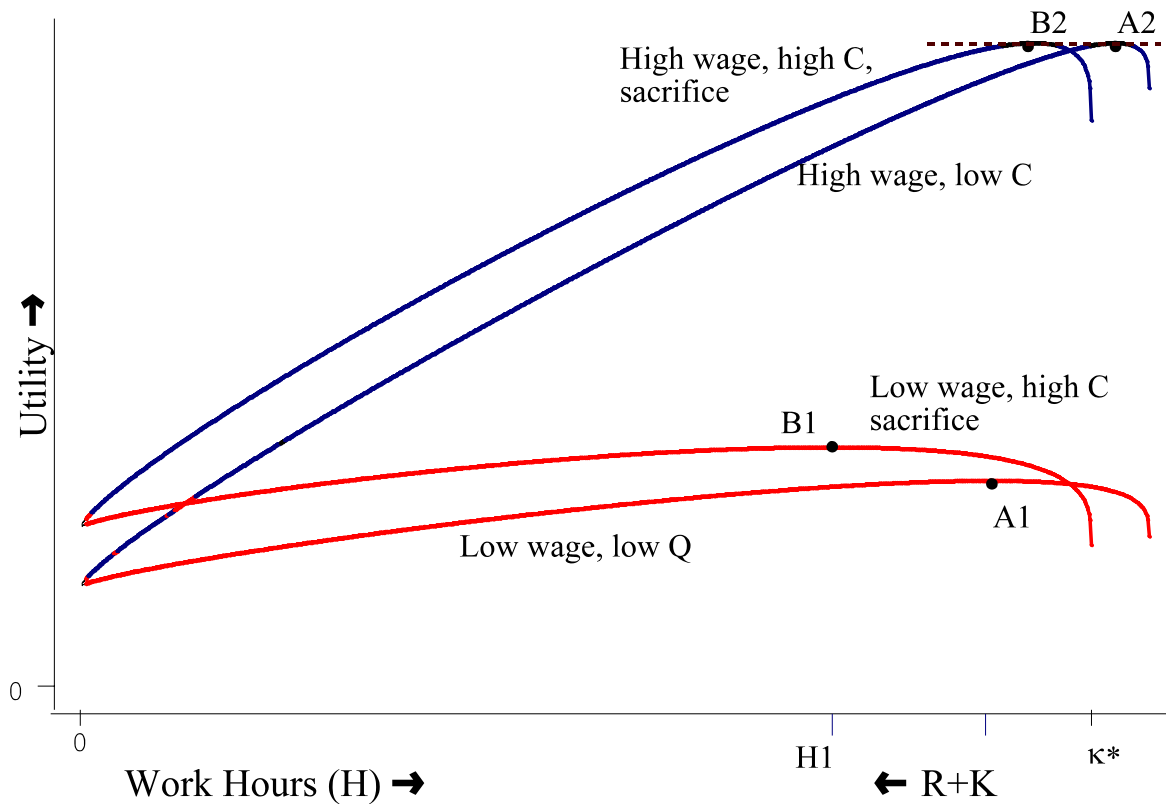
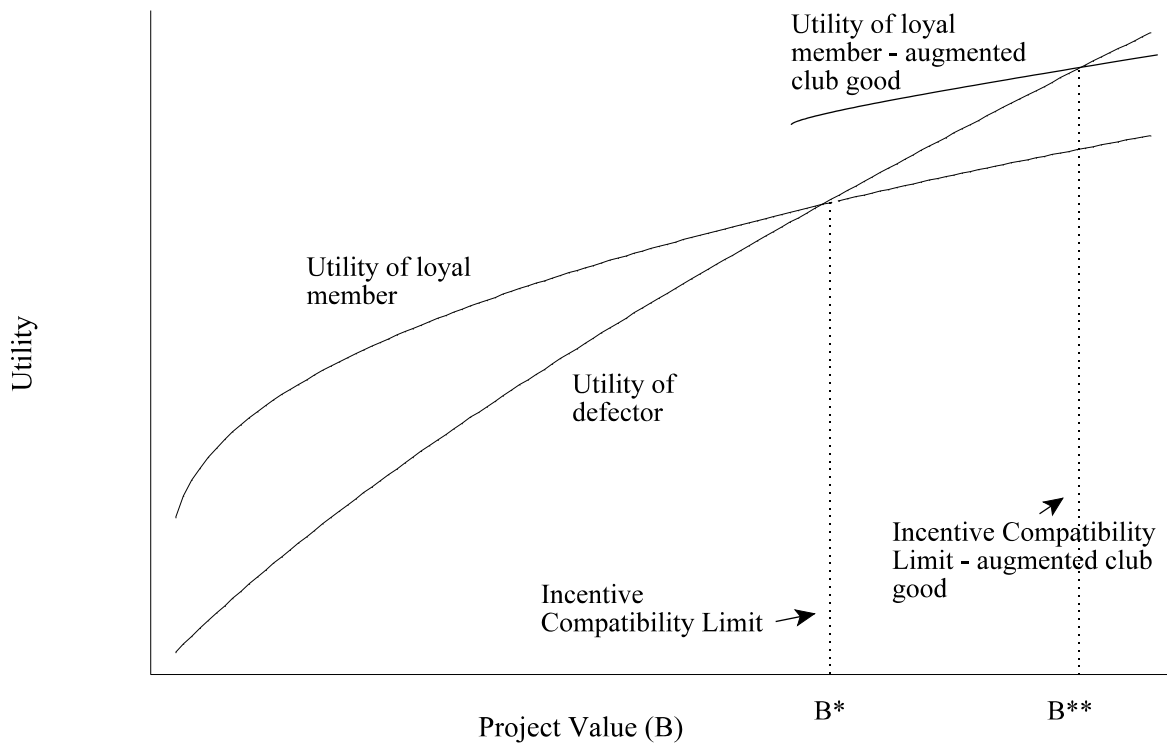**FIGURE II**
EFFICIENT SACRIFICE

The figure illustrates the incentive of a low wage group to exclude members of a high wage group from their club. A nonselective club will have low quality and provide low wage members with low utility at A1. Imposing a required sacrifice of time $6*$ on club members is sufficient to induce exclusion of of high wage individuals (who are indifferent between points B2 and A2) , allowing the establishment of an exclusive club for low wage individuals with higher utility at B1. The induced separating equilibrium is (B1, A2).
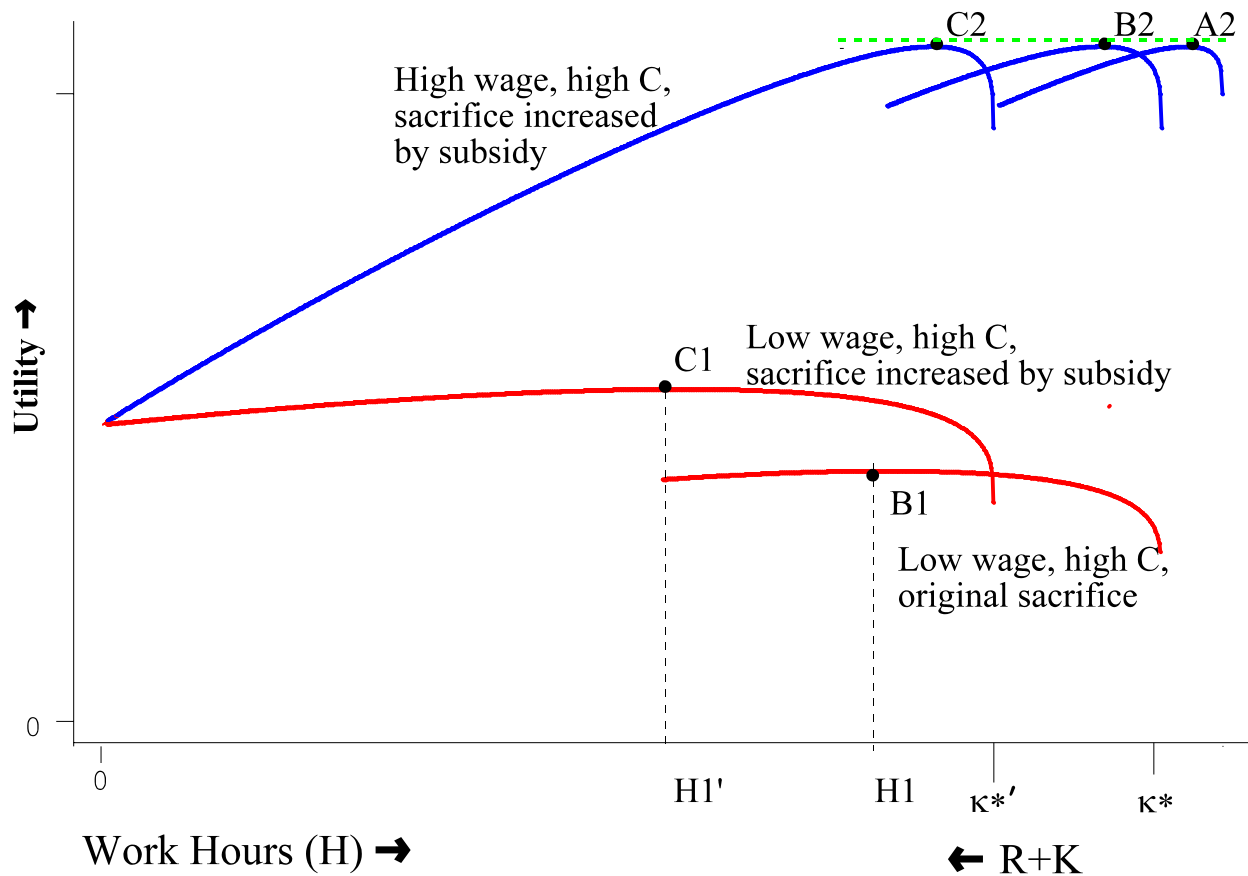
FIGURE III
**SUBSIDY INDUCES INCREASED SACRIFICE**

The figure illustrates the effect of subsidy in the efficient sacrifice. B1 and A2 describe the equilibrium in Figure II. The introduction of a subsidy to club members is reflected in the upward shift of the leftmost utility curves for both high and low wage types. To exclude high wage members the low wage club must compensate for the increased attractiveness of the club by raising $6*$ to $6*$', which preserves the indifference of high wage types between joining and remaining outside (comparing C2 to A2). The new separating equilibrium is (C1, A2).

Figure IV: Incentive Compatible Projects for Militia

33
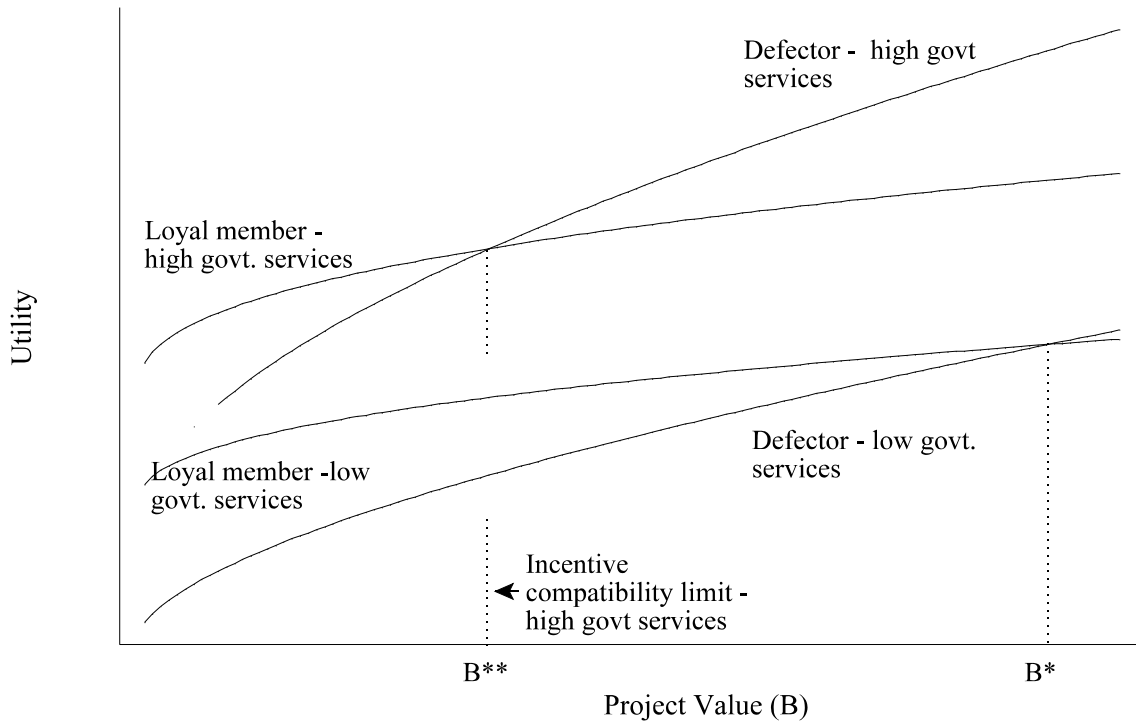
Figure V: Government Provision of Public Goods Lowers Militia Activity
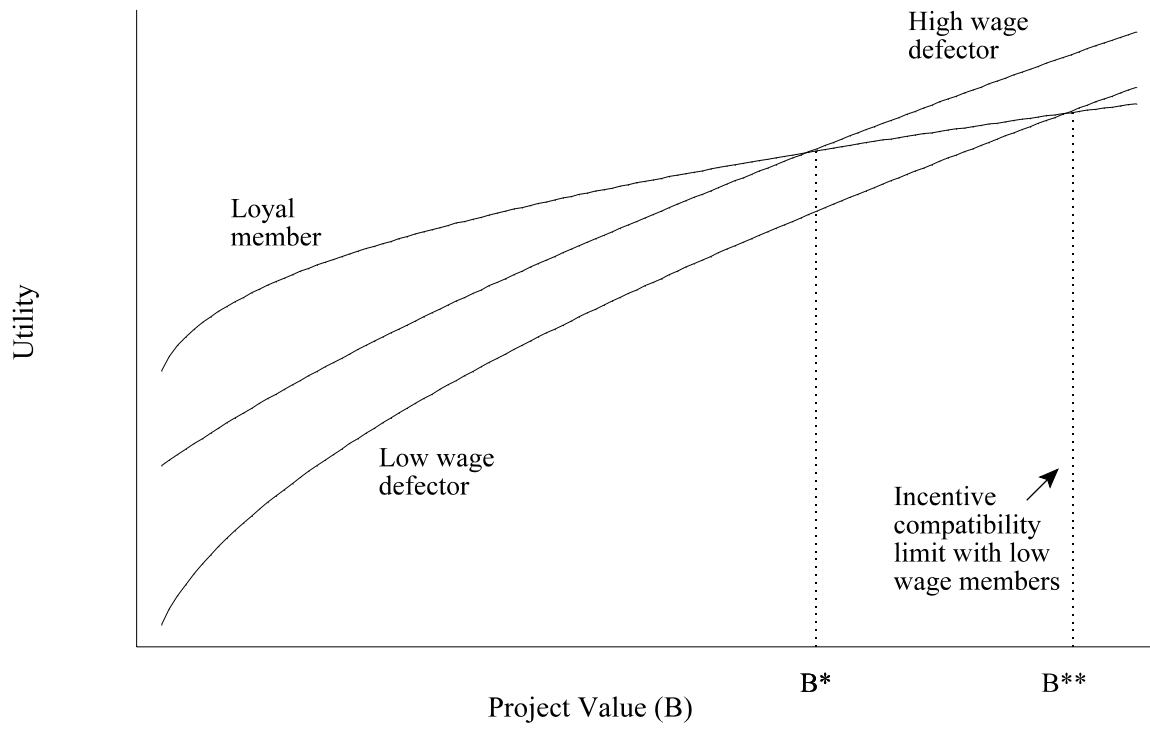
Figure VI: Low Wage Membership Allows Larger Projects