

# An Economist Looks at Suicide Terrorism

Mark Harrison\*

## Abstract

Suicide terrorism has an economic aspect. The organisation of a suicide attack requires an incentive, a voluntary transaction, and a contract that is enforceable by the parties to it. A terrorist faction that competes for power in a community that is both oppressed and oppressive provides young people with an incentive to invest in an identity that is rendered more valuable by death. Suicide attacks are then the outcome of a voluntary agreement between the faction and the young person to trade life for identity. The phenomenon of the “living martyr” renders the agreement enforceable on both sides. Thus, suicide terrorism is the outcome of an individual rational choice. There are some implications for counter-measures.

---

\* Professor of Economics, University of Warwick. Address for correspondence: Department of Economics, University of Warwick, Coventry CV4 7AL, United Kingdom. Email: [mark.harrison@warwick.ac.uk](mailto:mark.harrison@warwick.ac.uk). I thank Adil Farooq, Richard Higgott, Koen Lamberts, Peter Law, Valery Lazarev, and Andrew Oswald for advice and comments on earlier versions of this paper. I am solely responsible for remaining errors and omissions.

# An Economist Looks at Suicide Terrorism

Why should economics have something to say about suicide terrorism? It is an economic problem when individuals invest their lives in killing and self-killing rather than in making themselves and their communities materially better off. Where economists see patterns of voluntary behaviour that are challenging to society they try to work out what motivates people to act in that way. Those who take part in suicide terrorism are self-evidently volunteers: they engage in it willingly, usually knowing what to expect and accepting the consequences. Most of them are not crazy and most are not being fooled. Moreover, although individuals do it, they do not do it alone. Suicide terrorism requires individuals to adopt coordinated roles: some recruit the volunteers and supply the means, while others carry out the act. In other words at the core of suicide terrorism are specialisation and exchange. The exchange is voluntary, underpinned by an enforceable contract. These matters are the business of economics.

Suicide terrorism is self-evidently a complicated thing: to understand it we must get to grips with both terrorism and suicide. First, consider terrorism. I do not claim that understanding terrorism is easy, but it is clearly easier to understand than suicide terrorism. There is some faultline in society that creates a positive return to political violence, so political factions arise and militant leaders emerge that are ready to exploit the opportunity. Then, the utility of suicide terrorism to a faction inclined to violence is also clear: it is extremely effective at killing people (Halperin, 2003). The problem is that any terrorist action involves a risk to the perpetrator, but removing the perpetrator from the scene creates a risk of failure that rises strongly with distance. The solution is an agent who, being willing to die in order to kill, can kill with much higher probability. Thus terrorist leaders might wish to invest some of their resources in the organisation of suicide attacks. But this depends on their ability to solve a further problem: how is it possible for them to induce an agent to accept certain death? Clearly, the further problem does have a solution: for more than two decades suicide terrorism has been an established fact. The puzzle is to understand how the solution works.

To do this we must focus on the individual. Specifically, the key to the puzzle is not so much the individual's willingness to kill others as the willingness to die (Merari, 1998). To find this key we must look beyond religion and nationalism, the most commonly offered explanations for suicide terrorism, because of necessity these are incomplete: they apply first of all to communities and while communities can and do endorse suicide terrorism it is only a few individuals who carry it out. Of course community issues do matter. Suicide terrorism has arisen in the context of injuries done to communities by expulsion, expropriation, or occupation. The response to such injuries is expressed sometimes through nationalism, sometimes through religion. Islam is less of a constant than is often recognised; the study of suicide bombings in Lebanon between 1983 and 1986 (Merari, 1998) has shown that the attackers identified themselves with secular organisations more frequently than on religious grounds. One group that has sponsored suicide attacks, the Tamil Tigers, is a Marxist-Leninist organisation that recruits in a predominantly Hindu community. Still, nationalism and religion taken together have clearly helped to frame the context in which suicide terrorism has emerged. But they do not explain why some step forward to play their part while others do not.

How is the individual suicide attacker selected from the community? As an economist I am professionally inclined to what is sometimes called a "rational actor"

view of the world. Rather than interpreting people's actions as driven by social and psychological compulsions, what if they are doing what they rationally choose? I do not mean that people act with *perfect* rationality; on the contrary we see that all the time people act with less than complete information, they miscalculate, and they also do things that have unintended consequences, especially when they do them for the first time. Rather, the idea of rational choice presents us with a challenge: if people do what they want, subject to the limitations of the resources and information available to them, and if we do not understand what they do, then we are missing something important and we should not be satisfied to label them as crazy or stupid.

Economists associate rational choice with the pursuit of self-interest.

Immediately, suicide terrorism suggests a paradox: how can self-destruction be self-interested? I will use the idea of an individual's identity that is valuable to show that self-interest not only does not preclude self-killing but may be promoted by it. But this seems to happen only happens under special circumstances. I will connect suicide terrorism with the ability of a terrorist faction to exploit the crisis of a young person growing up in an oppressive society. I will show that suicide terrorism is the outcome of a transaction between two parties, a terrorist principal and the young volunteer. I will explore the problem of the credibility of the resulting contract and describe its solution. Finally I will draw some implications for countering suicide terrorist threats, but no magic solution will present itself.

## The Economics of Suicide

Economists have tended to look at suicide from two different angles. One tradition stems from Hamermesh and Soss (1974), who suggested that there is an individual propensity to suicide, and predicted that it should vary inversely with the value of life foregone: suicide should become more likely as life becomes less valuable. In turn, the value of life foregone is influenced chiefly by a person's age, which determines the years of her residual life expectancy, and her economic status. There is evidence that the incidence of suicide attacks on Israelis in the early 1990s was weakly related to adverse changes in economic conditions generally in the occupied territories (Sayre, 1999). However, this contributes little to our understanding of why most suicide attackers in the Middle Eastern context are young, male, and at least partly educated; at least, they are not drawn from the poorer strata or older cohorts of society. For such individuals the expected value of life foregone should be greater, not less than for others.

Clearly, when young people throw away their lives they often disregard the value of life as a significant consideration. "Such a shame", we say, "with their young lives ahead of them". But if the value of life does *not* matter, we need a more powerful concept of what does.

A different economic approach is illustrated by the more recent literature on adolescent suicide. Cutler, Glaeser, and Norberg (2000) interpret suicide and attempted self-killing or "parasuicide" by young people as strategic action to resolve conflicts within oneself or with others. A problem is that for many young people in families who attempt suicide an attempt that fails may be a success in strategic terms, whereas for the suicide attacker a failed attempt is just a failure. However, the concept of payoffs to an individual's strategic behaviour seems more promising than an approach that restricts consideration to purely circumstantial economic factors.

Perhaps what is at stake in acts of self-killing is not life in the raw, but life processed through a person's identity (Harrison, 2003). Before a person can value their own life they must first know who they are: they must have an identity that is distinct or individual. Without an identity we cannot undertake many of the social transactions that give our life a value; thus identity itself is valuable. For the most part our identity is concerned with how we are expected to live, but not exclusively; it may also define how we should die. In particular circumstances an identity may be

made more valuable by our death and devalued or completely destroyed by our continuing to live; when those circumstances obtain, we choose to die. In such cases the choice of identity is a matter of life and death.

We choose our identities. Something that defines us as humans is our capacity for playing roles. From the earliest age we try out different roles in our search for a self that we can call our identity. Each of us decides eventually on one identity that we expect will pay better than others. By adopting a particular role consistently in the variety of situations that we encounter as we grow up, we create something that is valuable to us: our identity, made up by the set of roles that we have adopted. This identity has a value because it enables us to function in society.

The value of identity is not a new idea. Economists since Carl Shapiro (1983) have analysed “reputation” as an asset. Reputation is related to identity in the following way: it covers those aspects of my identity that I make visible to others through my actions. Why is reputation valuable? The Nobel Prize-winning economist Joseph Stigler (1961) wrote: “Reputation commands a price [...] because it economizes on search”. He had in mind the search for products or suppliers of given quality in the market place; the same may be applied to individuals in society as they search for other people of given qualities with whom to engage in social and political transactions. However, when I take into account my reputation not just with others but also with myself, I deal with something deeper, my identity, or sense of myself.

Like anything else that has a durable value, identity is an asset. We can invest in it and trade on it. “Investing” means the things we do not just for immediate advantage but for long-term expected gain, because they contribute to our sense of self and promote the identity we wish to sustain. In doing so we respond to the specific incentives that happen to be available to each of us at a particular time and place. For example, one person learns to turn up on time so that she will win both respect and self-respect as a reliable, dependable person; another learns to be habitually abrasive because he sees and wishes others to see himself as a strong, silent person upon whom others may not to make demands.

Because of the variation in individual circumstances and predispositions, and also because each person’s choice is influenced by the choices that others have already made, each of us acquires an identity that is distinct in some way: regardless of cultural differences every society turns out to contain people who have learnt that it pays to be nice, nasty, honest, manipulative, self-reliant, dependent, reliable, roguish, and so on. Despite or because of this variation the identity of each is always very precious to that person; when damaged or destroyed, it leaves a sense of irreplaceable loss; without it, people may be completely deprived of enjoyment derived from income, physical health, marriage, or friendship.

The logic that drives voluntary self-destruction is therefore as follows. Each person who chooses the death of the self does so because at the given moment death will maintain her most valuable asset, the identity that she has selected and invested in through her life, but living on will damage it irreparably. The moment is such that by choosing life she must abandon this identity.

A mother perishes, entering a burning house to save her children, because if she did not she would have to live on without her identity as a loving parent. A father kills his wife and children to stop them leaving him, then kills himself to protect his identity as a family man. A teenager kills herself fearing that she has failed her exams, or that she has contracted a sexually transmitted disease, for the sake of her identity as a scholar and loving, responsible child of her parents. A soldier dies, falling on a grenade to save others, thereby safeguarding his identity as a brave comrade. A defendant unjustly condemned kills himself to prove his innocence because his identity as an innocent man has been taken from him. A witness to a faith accepts a death sentence rather than recant her faith, so valuable to her is her religious identity. A witness to a faith kills others and himself because he could not live and

maintain the identity of a religious martyr. In every case the person died self-interestedly so as to defend the value invested in their self-identification.

Tollison (2003), an advocate of the “rational actor” school, recently remarked: “No one can reasonably argue that [rational choice theory] is a convincing theory of human behavior at all times and under all circumstances. It cannot explain why the soldier throws himself on the grenade to save his compatriots.” However, perhaps he did not go far enough; the concept of the value of identity may hold the key to a number of puzzles presented by self-sacrificing behaviour.

## Identity and Adolescence

What leads people voluntarily to adopt an identity that will end in self-destruction? None of us is born that way. As the evolutionary biologist Richard Dawkins (1995) has argued, natural selection has programmed in all of us a powerful love of life, sex, and children. Suicide attackers are made, not born. Why should someone willingly adopt the identity of a religious warrior detached from humanity and destined for premature death under terrible circumstances? To grasp the logic of the suicide terrorist we must find the forces that drive someone to abandon the life-loving identity for which we are selected and invest instead in one that can only be sustained by premature death.

Three elements combine, evidently, to produce this outcome: young people growing up, a conflicted, oppressive environment, and a terrorist faction. The first of these is *young people* growing up. What young people do as they mature is this: through a long process of painful choices they acquire their adult identities. Every parent sees their child asking herself basic questions like “Who am I?” and struggling with the answers. Even in loving families and pluralistic, open societies, young people make mistakes and are brought repeatedly crashing down by them.

The possibility of mistakes appears essential to adolescent suicide. Life provides information about the world and ourselves, but we must make some choices before we have all the information we need. In the fraught process of selecting an identity some children will make mistakes; they invest in identities that turn out not to be viable because they aren’t pretty or clever or strong enough to carry them off. In effect they choose an identity that is based on wrong information or defined too narrowly or rigidly to cope with information that is new. At some point it becomes apparent that they must lose some part of their precious investment and, accepting the loss, undertake the difficult task of rebuilding an identity on a new basis that is more attuned to circumstances; otherwise they may perpetuate themselves as the person they intended originally, but only by dying now, and so they commit suicide.

The possibility of mistakes does not appear to account fully for suicide terrorists, who may form a conscious intention to die some time, perhaps years, before the act. Another condition that appears necessary is a *social environment* that is conflicted and oppressive to the point that it has partly crushed the life-loving aspects of the child’s nascent personality; such an environment erodes his capacity to sustain enduring affective relationships with other human beings, arousing his anger and perhaps creating a capacity to gain pleasure from the expectation of causing pain to others. What kinds of environment can have these effects? I have in mind the external oppressions and restrictions on minority communities that arise from discrimination or a state of siege, the social and family hierarchies within these communities, and specifically the very limited options of travel, employment, and association that result for young people of either sex. Of course, not every young person in such a society becomes a suicide terrorist; indeed most do not. But the probability is dramatically increased that some will.

Even without further analysis this connection between suicide terrorism, an oppressive society, and the adolescent choice of identity suggests possible solutions to several of the things that puzzle us. For example: why are suicide terrorists *not*

*old?* Because their choice emerges from a crisis of the young person. For the children of Israel's occupied territories martyrdom is "a teenage fantasy made real in a place where all other dreams are crushed" (Beaumont, 2003). Those who take a wrong turn at this point do not grow old. Why are suicide terrorists mainly *men*? Perhaps the range of possible identities available to them was preselected by their gender. Young women are often expected to invest in identities that emphasise their attachment to the rest of humanity through caring and nurture. Young men are limited to more rigid, introverted roles that may inhibit the formation of adult attachments and so prove more fragile and less resilient under the pressures of growing up. Why has the proportion of *women* risen recently among Palestinian suicide terrorists? By hindering normal family life and the normal formation of new families, renewed Israeli occupation may have lowered the opportunity costs facing adolescent women who choose to step outside the caring and nurturing roles prescribed by their traditional identities. Alternatively, with the rising number of male attackers the relative distinction of the identity to be won by young men may have declined, prompting a widening of recruitment to young women for whom the distinction of the first few volunteers may be higher. Why are suicide terrorists *not uneducated*? These young people have sometimes made substantial efforts to get an education but the efforts invested by each have failed to pay off in some way that is valued, which seems particularly likely in an oppressive environment; thus, suicide terrorism may be a specialisation of the partially educated and unemployed. Why may the *shame* or humiliation imposed by Israel on its occupied territories become a motive for suicide terrorism? Because shaming is another word for devaluation of the identity without which an individual has no status in society; this is why death is preferred to dishonour in many cultures. Finally, why may some suicide attackers behave irreligiously *before* they die, for example by drinking and smoking? Because their identity will be affirmed by how they died, not by how they lived.

Thus Hiba Dareghmeh, a nineteen year old student from Tubas on the West Bank, said to her mother on the morning of the day she died, killing three Israelis and wounding 48: "I feel that I am a new person. You will be very proud of me" (Ghazali, 2003).

## Trading Life for Identity

The third element that is necessary for suicide terrorism to become established as an outcome of the adolescent identity crisis is the presence of an *organised faction* led by a terrorist principal willing to exploit terror to build power in society. A UNICEF official working in Israel's occupied territories describes this capacity for exploitation as follows: "Where violence became so much a part of life, society embraced it and celebrated it. Now it has created a culture where young people believe that violent death is a good thing [...] And when they think that, they are wide open to being preyed on by the militant factions" (Beaumont, 2003).

Suicide attackers are made, not born, and they are made deliberately by organisations; suicide terrorism does not arise spontaneously. Research by Merari (reported by Sprinzak, 2000) concludes that the terrorist faction does not create the young person's predisposition to die, but it converts this predisposition into action. At the moment that the young person enters a crisis of adolescent identity and becomes receptive to the idea of the death of the self, the faction presents an alternative: to become a religious warrior and eventually die as one, winning a glorious new identity in the act. Thus the faction's indispensable role in the process is to create the specific incentive for young people to invest in an identity that will be rendered more valuable by death, and devalued by continuing to live.

From an economist's point of view suicide terrorism is the outcome of a contract between consenting parties. The suicide attacker and the terrorist principal enter voluntarily into this contract in the expectation of mutual benefit. Under the terms of

the contract the volunteer agrees to trade life for identity. He will die to promote the faction's terrorist objectives. In return the faction not only provides the means of destruction and self-destruction to distinguish this identity through violence, but also agrees to use its influence and resources to affirm the volunteer's identity in the community as a warrior martyr. As a result the faction can make an impact, and the volunteer can achieve a distinction, that would be beyond the reach of either without this agreement.

At this point the economist may spot a big problem: it is one thing to agree to a course of action beforehand, and another to carry it out. Usually, carrying out the terms of a contract requires each side to undertake a costly action from which the other will gain. But if the two sides act in sequence rather than in step, the second mover may cheat on the first by withdrawing unexpectedly while still collecting the gain from the first mover's action. Predicting this, the first mover may also withdraw. In such a case, even though both parties might expect to gain from carrying out their agreement, neither will enter into it without a guarantee of the other's good faith. The contract that gives rise to suicide terrorism suffers from a problem of this nature: it requires the death of the young volunteer who, having died, cannot then be sure of its fulfillment by the militant faction. Thus the contract may fail because it is not credible.

To solve this problem requires a mechanism to enforce the contract. The enforcement mechanism exists and the evidence for it is in Merari's research (reported by Martin, 2001): it is the promotion of the "living martyr". A few days before the event the volunteer records a final statement of joy at becoming a martyr in photographs, videos, and letters to friends and relatives and from then on is considered to be gloriously dead, only temporarily still among the living. When the recording has been distributed and the letters and photographs have been sent each side is fully committed and neither can draw back since each will now lose more by breaking the contract than by implementing it.

The promotion of the "living martyr" may also meet the need of the suicide attacker for an audience, noted by Merari (1996): the audience is assembled in advance, before the event.

Finally, money plays a small but significant role in the trade of life for identity. In the case of Palestinian suicide attacks on Israelis the money comes from a variety of sources including Iran, Syria, Saudi Arabia, the UAE, and, until recently, Iraq. Channeled mainly through the terrorist factions it is received by the families of the "martyrs"; the Palestinian Authority also makes small sums available to families. The total from all sources may run to tens of thousands of dollars per family (Human Rights Watch, 2002). What part does it play? Clearly money cannot be a prime motive for one who is about to die; rather, it underpins community endorsement of suicide terrorism by giving material expression to the social honour associated with martyrdom. It also buys the collusion of parents and relatives in reassuring the young volunteer and sustaining his or her determination to carry through their suicidal intention.

## **Breaking the Cycle**

How can the cycle of suicide terrorism be broken? The economic analysis of suicide terrorism has some implications for policy. Some are relatively banal while others may provide food for thought.

It seems that counter-measures, to be effective, must change the payoffs to both individuals and leaders. For the long run there is some good news: there may be some natural limits to suicide terrorism. Merari (1996) explains the waning energy of suicide attacks in Lebanon in the second half of the 1980s as follows: at a given time the number of potential attackers is small in proportion to the limited population from which they are recruited, and the supply was used up. Another possible mechanism

would have the same effect: each new martyr must compete for distinction with all existing martyrs who are currently remembered. Thus the distinction attached to a martyr's identity may diminish with the number of recent martyrs. Diminishing returns may gradually depress the incentive to invest in a martyr's identity. As a result, particularly in the absence of political results it may become increasingly difficult to recruit new suicide attackers. On the other hand some responses to suicide attacks, particularly those that increase repression of the whole community, may raise the incentive again and renew the supply.

For the terrorist organisation, widening the sphere of recruitment to entirely new communities and categories of recruits such as women and children would seem to be an especially promising response. The number of female suicide attackers may have grown recently because, being few in number in the past, they may expect to attract special distinction in their communities.

More generally a long-term prerequisite for reducing the potential for recruitment of suicide terrorists must be the easing of communal oppression in the societies from they may be recruited. The social conventions and political controls common to many Middle Eastern societies that restrict and stifle the emerging personalities of young people should be recognised as especially negative. Resolving fundamental conflicts such as the Palestinian issue should be a positive goal because reducing communal polarisation must lower the organisational gains from terrorism. This is something that the western sponsors of the various parties should note, but of course it is hardly a new message for them.

In the short run there are only difficult choices. Deterrence is sometimes said to be better at combating terrorism than punishment because there is little evidence that retaliatory raids have any permanent effect on levels of terrorism (Sandler and Hartley, 1999). It is not easy, however, to see how volunteers can be either punished or deterred once they have entered into a suicide contract, since the threat of punishment can only strengthen their sense of self as martyrs. Measures to punish the families of previous suicide attackers have helped to deter recruitment of new ones (Halperin, 2003). Thus Hiba Daraghmeh's cousin Murad remarks: "I will never be an *Istishahdi*. I have brothers and sisters. The army would arrest them. And the army would destroy my family house" (Ghazali, 2003). Beyond this, however, counter-measures must be aimed at the incentives offered to potential recruits from the resources of recruiting organisations, rather than at individuals.

The ability of a terrorist organisation to recruit suicide attackers ultimately relies on its capacity to promote the identity of the martyr by supplying both military means and means of distinction in society. Therefore the weakening of organisation and the removal of financial means are clearly of critical importance. In World War II Japanese suicide pilots stopped their attacks when there was nothing left to fly and their emperor ordered them to lay down their arms. The will of the most fanatical Japanese nationalists and German Nazis was eventually eliminated only by the military destruction of the criminal organisations for which they had fought, followed by its judicial exposure in war crimes trials. More recent experience from Israel's occupied territories to Afghanistan shows that merely impoverishing and isolating the communities from which terrorists operate is not enough to destroy a terrorist faction; occupation is better, but at first may only reduce activity to a lower level.

At the same time, military occupation and other repressive measures aimed at weakening a terrorist organisation may also raise the background levels of polarisation and oppression in society that stimulate the flow of volunteers and contributions and promote the terrorists' monopolisation of power in the locality. To that extent, in the long run they may bolster indirectly the same activities that they are designed directly to curtail. This suggests that regardless of the efficiency of modern methods of intelligence and policing there are limits on the effective power of states to repress suicide terrorism without addressing underlying the fundamental conflicts from which they spring.

From an historical point of view the emergence of suicide terrorism in the 1980s appears to have resulted from bringing together two inventions. The first dates from the late nineteenth century, when high explosives first enabled modern terrorism to take the place of assassination. The second came about more recently when a terrorist principal and an agent first devised the terms of a voluntary self-enforcing agreement for the agent to carry out a suicide attack. Thus, the enforceable contract for suicide terrorism can be seen as an invention with its own place in the history of technology. Contractual innovations in the field of profit-making and sharing have been of great significance for global economic developments over the last millennium, and some particular forms of contracts have proved extremely durable. The devising of a form of contracting for suicide terrorism is likely to prove similarly durable while international society is so organised that significant returns from political violence may continue to be harvested and shared. In short, suicide terrorism is out of the box.

## References

- Beaumont, Peter (2003). "The Lost Children of Rafah." *The Observer Magazine*. London, 9 February.
- Cutler, David M., Edward L. Glaeser, and Karen E. Norberg (2000). "Explaining the Rise in Youth Suicide." Cambridge, MA: National Bureau of Economic Research, Working Paper no. 7713.
- Dawkins, Richard (1995). *River Out of Eden: a Darwinian View of Life*. London: Weidenfeld & Nicolson.
- Ghazali, Sa'id (2003). "The Story of Hiba, 19, a Suicide Bomber. Can the Road-Map Put an End to All This?" *The Independent*. London, 27 May.
- Halperin, Uri (2003). "Suicide Attacks: Implications and Approach." Conference on "Weapons of Catastrophic Effect: Confronting the Threat", Royal United Services Institute for Defence Studies, London, 12 to 14 February.
- Hamermesh, Daniel S., and Neal M. Soss (1974). "An Economic Theory of Suicide." *Journal of Political Economy*, 82(1), 83-98.
- Harrison, Mark (2003). "The Logic of Suicide Terrorism". *Royal United Services Institute Security Monitor*, 2(1), 11-13.
- Human Rights Watch (2002). *Erased In A Moment: Suicide Bombing Attacks Against Israeli Civilians*. New York, NY: Human Rights Watch.
- Martin, Susan Taylor (2001). "Willing to Kill and Die, but Why?" *St Petersburg Times*. St Petersburg, FL, 29 November.
- Merari, Ariel (1998). "The Readiness to Kill and Die: Suicidal Terrorism in the Middle East." In Walter Reich, ed., *Origins of Terrorism: Psychologies, Ideologies, Theologies, States of Mind*, 192-207. Second edition, Washington, DC: Woodrow Wilson Center and Johns Hopkins University Press.
- Olson, Mancur (1993). "Dictatorship, Democracy, and Development". *American Political Science Review*, 87(3), 567-76.
- Sandler, Todd, and Keith Hartley (1996). *The Political Economy of NATO: Past, Present, and into the 21st Century*. Cambridge: Cambridge University Press.
- Sayre, Ward (1999). "The Economics of Suicide Bombing." University of Texas at Austin.
- Shapiro, Carl (1983). "Premiums for High Quality Products as Returns to Reputations." *Quarterly Journal of Economics*, 98(4), 659-80.
- Sprinzak, Ehud (2000). "Rational Fanatics." *Foreign Policy*, 120 (September-October), 66-73.
- Stigler, George J. (1961). "The Economics of Information." *Journal of Political Economy*, 69(3), 213-225.
- Tollison, Robert D. (2003). Review of Amartya Sen, *Rationality and Freedom*. EH.net. URL: <http://eh.net/bookreviews/library/0589.shtml>