WORKING PAPERS

N° 16-700

September 2016

"Killing for the Sake of Infamy: The Herostratos Syndrome and what to Do about it"

Jean-Paul Azam and Mario Ferrero

Toulouse School of Economics

July 12, 2016

Killing for the Sake of Infamy:
The Herostratos Syndrome and what to Do about it

by

Jean-Paul Azam[1]
Toulouse School of Economics, University of Toulouse,
and
Mario Ferrero
University of Eastern Piedmont

1 Introduction

Waves of mass killings recently have been perpetrated in Europe, the US, or elsewhere by individuals with a weak or nonexistent ideological motivation, whose acts either appear to contradict their purported political cause or are admittedly driven by a quest for notoriety. The present paper explores how the so-called "Herostratos Syndrome" (Borowitz, 2005) can help us to understand what these killers sought to maximize when they launched their attacks. This syndrome has been known for more than two millennia and refers to killers and arsonists who perpetrate odious attacks for the sake of self-glorification. There is a wide diversity of killers, whose self-proclaimed objectives blend in different proportions some claims to fight for major ideological causes, ranging from Global Jihad to White Supremacy or People's Revolution, with an obvious quest for celebrity. In the name of White Supremacy, Anders Breivik massacred 77 people in Norway in July 2011, most of whom clean white kids, while Mohamed Merah killed in March 2012 three French Muslim Soldiers and three kids and a teacher in a Jewish school in Toulouse for the sake of Global Jihad.

This diversity is accommodated in the model below by assuming hybrid motivations for the potential terrorists, blending the Herostratos syndrome and the devotion to some cause in various proportions. The benefit of using such a model of hybrid killers is that many other potential applications come to mind to explain many other kinds of lethal attacks that are routinely observed all around the planet, be they self-proclaimed terrorist or otherwise. In particular, school shootings have emerged as a common type of mass killing. Massacres on

[1] E-mail : Jean-paul.azam@tse-fr.eu.

American school premises by current or former students were rare before the 1990s when they picked up and dramatically escalated in number and level of violence, leading mass media and scholars to speak of an epidemic (Larkin 2009, Rocque 2012, Agnich, 2015). The infamous shooting at Columbine High School in 1999 marked a turning point, providing an example for many subsequent followers to emulate. After Columbine, not only have actual school shootings multiplied but large and increasing numbers of planned shootings have been foiled by police or aborted for some other reasons, so that the total number of youths who set their minds on firing a weapon at their classmates has become an order of magnitude greater than in previous periods. Moreover, after Columbine, the phenomenon – previously almost exclusively American – has gone global, involving schools all over the world. A recent example is the deadly attack on a Swedish school carried out in October 2015 by a young man with Nazi sympathies but no links to any far-right organization. This was certainly a first: he wore a Darth Vader-style mask, cape, and helmet and, fittingly, his weapon of choice was a sword (Crouch, 2015).

The next section presents the model while section 3 derives its policy implications. Section 4 briefly concludes.

2. A rational-choice model of Herostratic attacks

2.1 The model

Assume that a continuum of heterogeneous potential killers $k \in [0, \infty[$ would derive the following utility from perpetrating a suicide attack:

$$U\left(\theta(k), \beta(k), n, \psi, \alpha, \mu\right) = \max_{q} \theta(k)\, v(n, q, \psi) - \alpha\, c(q) - \beta(k)\, \mu\, m(n), \quad (1)$$

where $v(n, q, \psi) \geq 0$ measures a given attack's expected impact on public opinion when n such attacks are simultaneously perpetrated and the quality of attack q is chosen. Parameter ψ captures the media environment and the sensitivity of public opinion that will make the killer's name infamous, as well as the policy tools that can influence it. This captures the "Herostratic contract" whereby infamous arsonists or killers have a high probability of being remembered for decades or centuries. Potential killer k values this contract at the subjective price $\theta(k)$, and the potential killers are ranked by decreasing values of $\theta(k)$, i.e., $\theta'(k) < 0$. Assuming that only suicide attacks are taking place, the number of attacks and the number of

killers are the same. Suicide attacks are understood broadly to include all the cases where the killer dies, whether by his own means or killed by the police with probability one a few days later as happened to Mohamed Merah in Toulouse, as in Pape (2006).

The number of attacks n has a potentially ambiguous impact on the public's collective memory. While repeated attacks of a given type increase the public's sensitivity to these attacks by creating an enhanced level of anxiety and a kind of addiction, beyond a point, the public might lose its interest for these "déjà vu" events. This ambiguity is captured by a bell-shaped impact of n on $v(n, q, \psi)$. In contrast, the attack's quality q has a monotonically positive impact with diminishing marginal returns, while its cost $\alpha c(q) \geq 0$ is increasing and convex. The positive parameter α is reflecting the security environment in which the potential killer operates, e.g., the effectiveness of the legal apparatus restricting the purchase of firearms and its degree of enforcement. Then, (1) also includes $\mu m(n) \geq 0, m'(n) > 0$, which captures the negative externality entailed by the attacks. For example, repeated killings of Jews in Europe increase the migration of other Jews to Israel that furthers the interests of Zionists to the detriment of Palestinians. These negative spillovers, or "collateral damage", are valued at the subjective price $\beta(k)$ by potential killer k, reflecting the degree of commitment in favor of a cause that might be damaged by the attack.

2.2 The Herostratic competition

The model determines who does perpetrate an attack and who refrains from it, and thus the number of attacks *n*. This in turn determines $q^* = q(\theta(k), n, \psi, \alpha)$. Azam and Ferrero (2016) provide a simple condition that gives to the quality of attack a tournament property within a certain range, namely that the Herostratic killer will invest more in the quality of his attack, the larger the number of attacks occurring in the same period. This is illustrated by Mehdi Nemmouche who declared: "Je vais faire cinq fois Merah au 14 juillet" (I will do five times Merah on French National Day, translation by JPA). Significantly, Nemmouche sought to compete with Merah on the Jew-killing front, while he did not attempt any strategic moves like killing French Muslim soldiers as did Merah to deter French Muslims from getting integrated in their society and to incite them to join Global Jihad instead.

Lastly, there is an opportunity cost of perpetrating a suicide attack captured here by a value of life $\lambda > 0$, assumed constant for all. Then, *k* will perpetrate the attack if $U\left(\theta(k), \beta(k), n, \psi, \alpha, \mu\right) > \lambda$ and will refrain from it otherwise. This assumes free entry in the killing activity, ruling out pre-emptive police interventions that could take people into custody on the basis of their profiling as "dangerous potential killers", e.g., because each individual's preference parameters $\left\{\theta(k), \beta(k)\right\}$ are unobservable. As this decision to kill depends on *n*, each potential killer must work out the equilibrium number of attacks to make his own decision.

2.3 The equilibrium number of attacks in the Herostratic equilibrium

We use the standard Nash equilibrium concept, which rules out any direct coordination among the potential killers. This also neglects the sequential occurrence of attacks that can be observed in reality, for the sake of simplicity. One might argue that Herostratic killers want to be remembered for a very long time, as Herostratos himself who is still cited more than two millennia after his arson. Then, a lag of a few weeks or a few months between successive Herostratic attacks is unlikely to matter for their long-run reputation impacts. Let us assume that $\beta(k)$ is continuously differentiable, which entails that people having similar preferences regarding the Herostratic contract also have similar preferences regarding collateral damage, irrespective of the direction in which they change across neighboring individuals. Then, the killer's (subjective) profit function is:

$$\pi(k, n, \psi, \alpha, \mu, \lambda) \equiv U\left(\theta(k), \beta(k), n, \psi, \alpha, \mu\right) - \lambda. \qquad (2)$$

Potential killer *k* will perpetrate the suicide attack if $\pi(k, n, \psi, \alpha, \mu, \lambda) > 0$ and will refrain from it otherwise. The Herostratic equilibrium is a Nash equilibrium where the n active killers are the ones with the largest values of $\theta(k)$. Azam and Ferrero (2016) spell out a set of conditions for this case to hold. Figure 1 represents such an equilibrium where $n^* = k^*$ and $\pi(k^*, n^*, \psi, \alpha, \mu, \lambda) = 0$.

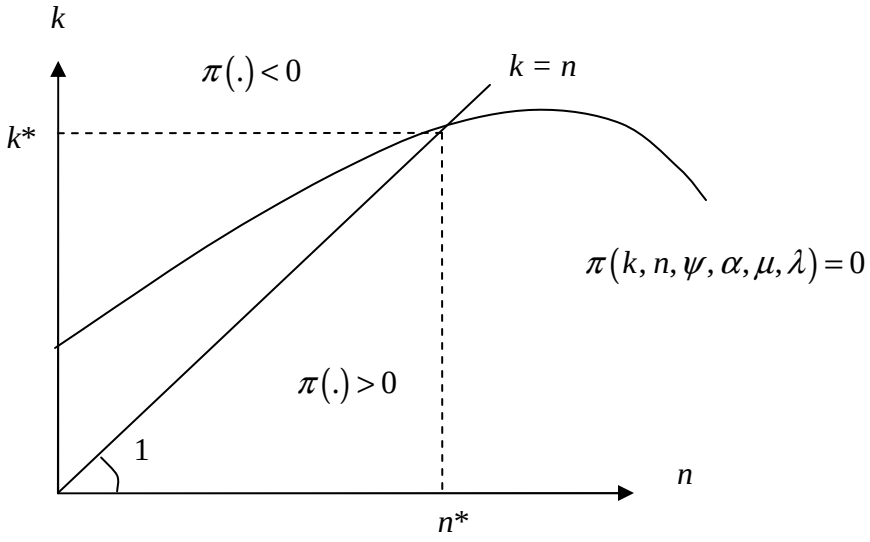

Figure 1: The Herostratic Equilibrium

The bell-shaped curve represents the locus of the $\{k, n\}$ pairs such that $\pi(k, n, \psi, \alpha, \mu, \lambda) = 0$. All the $\{k, n\}$ pairs above this locus are such that $\pi(.) < 0$ while all those below it have $\pi(.) > 0$. The Herostratic equilibrium is found where this locus intersects the 45° line. All the active killers are found below the locus while all the potential killers whose *k* lies on or above this locus refrain from killing. This is not a symmetric equilibrium, as each killer chooses a $q^*(\theta(k), n^*, \alpha, \psi)$ that depends on her subjective price $\theta(k)$. To get a feel for the model's logic, let us start from a point on the $\pi(.) = 0$ locus above the $n = k$ line. Then, this individual k is not an active killer, but she crosses the line if n increases, moving the point horizontally strictly inside the $\pi(.) > 0$ set. It can be shown that she will increase her q^* in this case. The school shootings epidemic fits this picture well, as the quality of attacks increases with their (cumulative) number. The resulting increase in the subjective profit from the attacks as their number increases captures the bandwagon effect that lures in individuals with increasing participation thresholds à la Granovetter (1978).

3 Some policy implications

Public policies to counter the Herostratic threat in this model work through four channels of impact: (i) by affecting directly the impact of the attack on public opinion (ψ), (ii) by affecting its opportunity cost (λ), (iii) by affecting the cost of choosing a more

spectacular attack (α), or (iv) by affecting the perceived cost of collateral damage (μ). As n^* and q^* are jointly determined, the four policy tools affect both outcomes simultaneously. Figures 2 can be used to work out their impacts on n^*. A look at equation (1) shows that an increase in λ, in α, or in μ, and a fall in ψ, would shift down the $\pi(k, n, \psi, \alpha, \mu, \lambda) = 0$ locus and drive some potential killers into inaction, as shown by Figure 2. The arrows show how the $\{k^*, n^*\}$ pair would respond, were the $\pi(.) = 0$ locus to shift downwards as shown by another arrow, the new equilibrium being marked by thick broken lines.

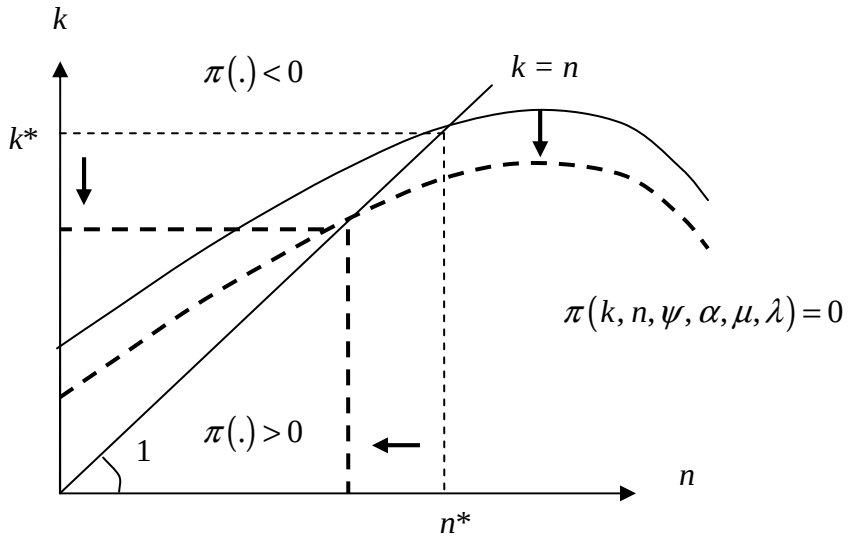

Figure 2: Policy Implications

Work on the shift parameter ψ, which controls the $v(.)$ function, specifically targets the Herostratic syndrome and at the same time minimizes the negative side effects. The aim is to credibly oppose the eternal shame that the killers long for from getting established. This looks difficult to implement in the age of the internet as restricting media freedom by censoring the sensational reports of Herostratic attacks seems politically and technically infeasible. More promising would be to sponsor a convincing campaign showing that these killers all belong to the same type of psychopaths who deserve compassion more than infamy or hatred, thus downgrading their reputation and frustrating their quest. However, there are milder methods of spoiling the Herostratic killers' names that might have some marginal impact. The objective is in fact to trivialize these attacks, instead of sensationalizing them as the media tend to do today. A possible solution might be a centralized record-keeping of the different types of such attacks that would give them a serial number. Then, the media would

only mention their code numbers, while the names of the perpetrators could be found on a web page in the list of all those who perpetrated similar crimes before. For example, EJK2678 would mean "the 2678th killer of European Jews", SCK136 would mean "the 136th killer of children at school", or PC59 would mean "the 59th plane crasher". The aim would be to make potential killers realize how far to the right we already are in figure 1.

4 Conclusion

This paper has made the perfectly obvious point that rational agents can have very weird preferences. This has been done by embedding in a game-theoretic framework the Herostratos syndrome that some authors have identified as a potential explanation for some odious crimes. The latter are perpetrated by individuals who prefer to be known for their infamous crimes rather than remaining anonymous. This framework sheds some light on a series of events that shook European countries in the 2010s, when various individuals perpetrated spectacular lethal attacks. The key point is that in some of these cases, the killers are perpetrating some attacks that contradict their proclaimed objectives. In some others, they openly admit that the quest for infamy is their only motive. Although this behavior may be diagnosed as psychopathic, because of the weird preferences that it reveals, the game-theoretic model analyzed shows that it would be highly misleading to invoke any form of irrationality to explain it. We have finally offered some policy suggestions that focus on ways and means to reduce the publicity the killers enjoy and thus frustrate their quest for notoriety.

References

Agnich, L.E. (2015), A comparative analysis of attempted and completed school-based mass murder attacks, *American Journal of Criminal Justice*, 40 (1), 1-22.

Azam, J.-P., Ferrero (2016), Jihad against Palestinians? The Herostratos syndrome and the paradox of targeting European Jews, paper presented at the NEPS 2016 Meeting, Catholic University of Milan.

Borowitz, A., 2005, *Terrorism for Self-glorification: The Herostratos syndrome*, Kent (OH): Kent State University Press.

Crouch, D., 2015, "Sweden school attack: Police treat killing of pupil and teacher as racist hate crime", *The Guardian*, October 23.

Granovetter, M., 1978, "Threshold models of collective behavior", *American Journal of Sociology*, 83 (6), 1420-1443.

Larkin, R.W., 2009, “The Columbine legacy. Rampage shootings as political acts”, *American Behavioral Scientist*, 52 (9), 13309-1326.

Pape, R., 2006, *Dying to win. The Strategic logic of suicide terrorism*, New York: Random House Trade Paperbacks.

Rocque, M., 2012, “Exploring school rampage shootings: research, theory, and policy”, *The Social Science Journal*, 49 (3), 304-313.