

# Chapter 95

## A Moral Analysis of Effective Prediction Markets on Terrorism

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### ABSTRACT

*Predicting terrorist attacks with prediction markets has been accused of being immoral. While some of these concerns are about the likely effectiveness of prediction markets on terrorism (PMsoT), this paper discusses the three main reasons why even effective prediction markets on terrorism might be considered immoral. The authors argue that these three reasons establish only that PMsoT cause offense and/or fleeting mild harm, and that, even taken together, they do not constitute serious harm. The moral issues considered are that PMsoT: 1) create character-affecting perverse incentives, 2) desensitize society to tragic events, and 3) disrespect important ideals. In addition to arguing against the force of these three potential moral problems, it is also argued that societies and governments already endorse intelligence-gathering methods that are clearly more immoral than PMsoT in the relevant respects. The authors also argue that some circumstances require governments to cause non-serious harm to some people in order to protect and promote the rights and welfare of its citizens. The authors conclude that a government's obligation to protect and promote the rights and welfare of its citizens outweighs the non-serious harm that could be caused by effective PMsoT. As a result, we recommend that the likelihood of PMsoT being effective is investigated more closely.*

### 1. INTRODUCTION

Major terrorist attacks can have devastating effects on infrastructure, economies, and, most importantly, human life. Modern developments in communications and weapons technologies have supported access by non-state actors to destructive

weapons (Shubik, 1997), enabling major terrorist attacks, such as 9/11, the 2002 Bali bombings, and the 2005 London Underground bombings. More recently, the Boston Marathon bombing has acted as a reminder of the continuing threat posed by terrorism. Regardless of the scale, in most cases of terrorism, intelligence agencies

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fail to identify key information that was available prior to the attack and could have aided in preventing it (Negroponte & Wittenstein, 2010). What more can governments—who already spend billions on national security—do to help prevent terrorist attacks?

One option available to governments is to set up prediction markets on terrorist attacks. Prediction markets (PMs) are marketplaces in which traders can trade shares in predictions of real-world outcomes, such as political, economic, or social events (Weijers, 2013). For example, a prediction market may allow a trader to buy or sell shares in the prediction that ‘A Republican candidate will win the 2016 US presidential election.’ The PM will then pay out a set amount, say \$1, for each share held by a trader if that prediction is realised, and \$0 for each share held in an outcome which is not realised. The share price represents an aggregate of investor’s perceived likelihood of the prediction being realised, such that if the share price was 55c in a prediction that paid \$1 per realised prediction, the aggregate perceived likelihood of the prediction being realised would be 55%.

In the wake of 9/11, the Defense Advanced Research Projects Agency proposed such a solution in the form of the Policy Analysis Market (PAM) (Hanson, 2007). PAM was intended to operate as a public market in which traders could invest real money on political and economic variables, such as US GDP, as well as specific events, such as assassinations and military attacks.<sup>1</sup> DARPA’s interest in prediction markets followed the success of the Iowa Electronic Markets, which were launched in 1988 and had been more accurate than traditional forecasting methods, such as polls, in predicting the outcomes of national elections (Berg, Nelson, & Rietz, 2008). However, the reliability of prediction markets as an anti-terrorism intelligence-gathering tool remains unknown. Building up to the trial of PAM, Senators Byron Dorgan and Ron Wyden heard about the project and publicly decried it as “horribly offensive”

and a “federal betting parlour on atrocities and terrorism” (Wyden & Dorgan, 2003). As a result, the program was shut down two days later. The comments made by Dorgan and Wyden brought PAM to the attention of politicians and the media, and the repugnance expressed by these groups about PAM has been widely identified as the main justification for the withdrawal of PAM’s funding.<sup>2</sup>

Why was this kind of market, and these sorts of transactions, thought to be so repugnant? Much of the initial reaction consisted of claims that the program *just was* “morally wrong,” “disgusting,” “offensive,” “grotesque,” “very sick,” and “morally reprehensible.”<sup>3</sup> However, some justifications were given. Robin Hanson (2006)—an economist involved in the development of PAM—has identified three main concerns: first, that PAM would rely on citizens who, due to their lack of training, would be unable to competently undertake or supplement the work of trained intelligence officials; second, that terrorists could mislead intelligence agencies through the market; and third, that terrorists would be able to profit from the market.

The first concern is an important one. Public spending decisions should not be taken lightly, and \$1m had been allocated specifically for PAM – a project which would rely on untrained, ordinary civilians to predict terrorist attacks. In addressing this concern, it is important to note the research that points towards potential for PAM to be effective at intelligence-gathering. While it may seem counterintuitive that a group of non-experts could make a better prediction than an individual expert or a group of experts, the benefits of collective intelligence and the accuracy of prediction markets have been well-documented.<sup>4</sup> For example, Wolfers and Zitzewitz (2004, p. 1) note that PMs have out-performed “moderately sophisticated benchmarks” in several domains, including domestic politics, the success of forthcoming movies, and sales of consumer goods. They also report on how a prediction market on whether Saddam Hussein would be ousted as leader of Iraq was

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