

A gang member gestures as he shows off his tattoos on the streets of a township near Upington, South Africa. February 2002.  
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# The Other Side of the Coin

## DEMAND FOR SMALL ARMS

### INTRODUCTION

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When the State loses control over its security functions and fails to maintain the security of its citizens, the subsequent growth of armed violence, banditry and organized crime increases the demand for weapons by citizens seeking to protect themselves and their property.

—UNGA (1997, para. 42)

In general the ‘demand side’ approach is promising because for many criminals the choice of whether to carry and use a gun depends in part on the consequences. Law enforcement should seek to tip the balance by making the legal consequences more severe and salient.

—Cook and Ludwig (2004, p. 605)

Between 2003 and 2004, the number of firearms deaths registered in Brazil dropped by eight per cent. This substantial fall in gun violence coincided with a gun buy-back programme that was conducted under a new disarmament statute, in force since July 2004. Greatly exceeding expectations, some 200,000 firearms had been turned in within three months of the launch of the programme. By mid-2005, this number had doubled (Kingstone, 2005; Instituto Sou da Paz, 2005; Logan, 2004, p. 1). Neighbouring Colombia meanwhile undertook a series of violence reduction and arms control programmes in the country’s largest municipalities, including Bogotá and Medellín, to reduce epidemic levels of gun violence. It was expected that the annual rate of homicides in Colombia, more than 80 per cent of which are caused by firearms, might decrease as a result (COLOMBIA). And so it did—by 11 per cent between 1994 and 2002 (Aguirre et al., 2005, pp. 15–16). How can these changes in people’s behaviour be explained in countries whose firearms death rates have been among the highest in the world? What are the reasons for their apparent success? Can these successes be replicated elsewhere?

This chapter takes stock of the emerging debate on small arms demand<sup>1</sup> and points to future directions for research and policy. It focuses on demand for firearms acquisition and possession, which is distinct from demand for violence.<sup>2</sup> A governing assumption of the chapter is that a reduction in demand for firearms can eventually lead to a reduction in firearm-related violence and deaths.<sup>3</sup> The chapter shows that firearms demand reduction may be as important as, or in certain cases even more important than, the physical collection of weapons. It situates demand reduction at the intersection of security and development.<sup>4</sup> It assumes that efforts to reduce socio-economic inequality can contribute to sustained security.

Drawing on a growing body of empirical research, the chapter highlights a number of factors that condition demand, and considers the extent to which current interventions take these factors into consideration. It aims, above all, to generate practical insights for strengthening concrete violence reduction and arms control measures. There is

little chance that measures to reduce small arms supply will succeed over the longer term if demand for these weapons remains constant. Where production constraints lead to a decrease in small arms supply, new supplies become available via other channels if demand remains constant (Muggah et al., 2005, p. 31). Moreover, if efforts to improve human security continue to be based on an expectation that the number of weapons in circulation has to be reduced, there is a clear obligation on the part of those intervening to ask why such weapons are being held in the first place, and to address these reasons.

The chapter asks the following questions:

- What are the constitutive elements of small arms demand?
- How have these elements been taken into account in specific policy and arms control interventions?
- How can a demand perspective be mainstreamed into current arms control practice?

**Demand can be understood as the interplay between motivations and means.**

There are a number of ways of framing demand. It can be examined at the macro, or state, level; at the micro level; and from the perspective of groups and individuals. Alternatively, demand can be studied through the lens of econometrics and behavioural psychology, or from international relations, anthropological, and criminological perspectives. A truly comprehensive analysis of demand must, in other words, contend with its breathtaking scale and complexity.

This chapter draws on the preliminary findings of a project initiated by the Small Arms Survey and several partners to explore the intricacies of small arms demand. It reviews the current literature and illustrates core theoretical insights with evidence from Brazil, Colombia, Papua New Guinea, the Solomon Islands, and South Africa. The chapter's principal conclusions include the following:

- Small arms demand can be described as the 'other side' of the small arms 'coin'. Analysing small arms control from a purely supply-side perspective risks misunderstanding the issue and misdiagnosing problems.
- Demand can be understood as the interplay between motivations (deep and derived preferences) and means (prices and resources). Unless interventions to reduce demand take these factors into account, they will probably fail.
- The design, implementation, monitoring, and evaluation of small arms reduction interventions must adopt a demand-sensitive perspective. Successful arms reduction is often locally hewn, is sensitive to political and social context, draws on public-private partnerships, and takes a flexible, participatory approach.
- Sustained empirical research on demand reduction is needed. At the same time, lessons from the many innovative and dynamic interventions currently under way around the world need to be learned and disseminated.

## SMALL ARMS DEMAND TO DATE

The academic literature has indirectly tackled demand issues from a variety of perspectives. Criminologists, for example, have analysed firearms crime and youth violence in the US context. One of the main conclusions of this literature is that '[g]uns intensify violence. And for that reason it is a worthy goal of public policy to keep guns out of violent encounters' (Cook and Ludwig, 2000, p. 29, emphasis in original). This research tends to support the notion that a reduction in demand for firearms can lead to a significant decrease in the *intensity* of violence, while it assumes that levels of violence do not necessarily change as a result of a reduction in firearms demand. It asserts that firearm-

related violence is more lethal than other forms of violence, resulting in comparatively higher rates of homicide (Cook, 1991). Moreover, as the COSTING chapter makes clear, firearms violence is costly and can be understood as a ‘tax’ on people’s standard of living (Cook and Ludwig, 2000, p. 8).

While rates of violence typically remain constant, it appears that derived preferences for firearms acquisition, possession, and use can be changed. Criminologists Wellford, Pepper, and Petrie examine a variety of intervention programmes that were applied in different cities in the United States. For example, policies to deter firearm-related crime, including tougher sentencing, can indirectly reduce demand. They increase the deterrent effect of the punishment, thereby raising the relative price of firearms acquisition and ultimately misuse by criminals. The effectiveness of these programmes is far from clear, however, and more empirical research is urgently needed (Wellford, Pepper, and Petrie, 2005, p. 230).

More recently, Fitzpatrick (2006) adopted an economic approach to appraising small arms demand. In his model, polarization and rent-seeking lead to a particular set of political and economic motivations, which in turn results in small arms demand. Polarization is defined as ‘a measure of the potential for conflict between groups of opposing political and economic interests’, while rent-seeking is the pursuit of income outside of labour or investment. Fitzpatrick thus explains a rise in small arms demand with an increase in polarization and rent-seeking.

By way of contrast, sociologists McIntyre and Weiss (2003) explore the motivations underpinning arms acquisition, holding, and misuse by children and youth in Southern Africa, specifically those involved in armed conflict and urban gangs. They contend that guns are preferred by such youth for three main reasons: (a) as a result of socio-economic exclusion, (b) as a ‘livelihood’ or ‘coping strategy’, and (c) due to exploitation by group leaders (McIntyre and Weiss, 2003, p. 2). The issue of small arms misuse by young men is discussed in depth elsewhere in this edition of the *Survey* (ANGRY YOUNG MEN).

Though the arms control and disarmament literature emphasizes that the small arms issue has both a supply and a demand side, the supply-side perspective nevertheless dominates most research, writing, and policy-making by arms control and disarmament agencies (Muggah and Brauer, 2004). But recent contributions to the literature have made clear that a demand perspective is crucial if efforts to reduce and prevent firearm-related violence are to have a durable impact (Muggah et al., 2005, p. 31). Small arms demand is not a new issue on the small arms agenda, but it brings a new perspective to the small arms issue as a whole and to specific issues already under discussion (e.g. transfers, brokering, national regulation). Increasingly, researchers, practitioners, and policy-makers have begun to include a demand perspective in their work. Many efforts to curb the misuse of small arms, though not explicitly labelled ‘demand-related’, are already being conducted along such lines because such an approach has come naturally to practitioners.

By and large, international policy-makers have found it easier to address the supply side of the small arms coin. Global and regional norms on arms production and transfers, for example, are much simpler to devise than comparably intangible and context-specific norms relating to demand. While the 1997 UN Panel of Experts noted the importance of demand in its report (see the first epigraph of this chapter), this observation has not yielded much in the way of international norms, although some small arms instruments do contain vague references to small arms demand and point to possibilities for demand reduction. For example, the Bamako Declaration of the Organisation of African Unity (OAU) (now the African Union, AU) recognizes that the small arms issue has both ‘supply’ and ‘demand’ dimensions (OAU, 2000, V.1.vii) and that ‘comprehensive solutions to the problem of the illicit proliferation, circulation and trafficking of small arms and light weapons . . . include . . . supply and demand aspects’ (sec. V.2.v).

Many efforts to curb the misuse of small arms have already integrated a demand perspective.

The UN's *Programme of Action to Prevent, Combat and Eradicate the Illicit Trade in Small Arms and Light Weapons in All Its Aspects* (UNGA, 2001) explicitly mentions 'demand' in paragraph 7 of its Preamble: States express their concern 'about the close link between terrorism, organized crime, trafficking in drugs and precious minerals and the illicit trade in small arms and light weapons' and emphasize 'the urgency of international efforts and cooperation aimed at combating this trade *simultaneously from both a supply and demand perspective*' (emphasis added). Otherwise, the *Programme of Action* indirectly refers to demand through its strong emphasis on prevention and by mentioning related issues such as development, the promotion of cultures of peace, conflict resolution, and security sector reform (SSR) (Regehr, 2004, pp. 4, 8; 2001).

But the most serious efforts to mainstream demand into arms control emerge from development and specialized UN and non-governmental agencies. Practitioners at the margins of the arms control and disarmament communities have started incorporating a demand approach in much of their work, especially the United Nations Development Programme (UNDP), the United Nations Children's Fund (UNICEF), the World Health Organization (WHO), World Vision, and Oxfam GB. These organizations recognize the clear linkages between socio-economic exclusion and armed violence, and many of their poverty-reduction strategies have been designed to reduce armed violence, or at the very least to avoid aggravating it (Muggah and Brauer, 2004).

**Demand is dynamic: it fluctuates with changes in motivations and means.** A series of workshops organized by the Quaker United Nations Office (QUNO) with the collaboration of the American Friends Service Committee (AFSC) since 1999 has sought to distil the experience of small arms practitioners working in various regions of the world. They have identified the following factors as especially important in shaping small arms demand: poverty and economic inequality, lack of fundamental human rights, poor governance, malfunctioning post-conflict programmes such as disarmament, demobilization and reintegration (DDR), cultural attitudes, and identity (Jackman, 2003a; Atwood and Jackman, 2005). Drawing on their analysis of five cases—also used in this chapter—Atwood, Glatz, and Muggah (2006) suggest ways of applying a demand perspective to future small arms work.

## MODELLING SMALL ARMS DEMAND<sup>5</sup>

There are undoubtedly many ways of conceptualizing small arms demand. For the purposes of this chapter, however, demand for small arms and light weapons is defined as the interaction of individual and group *motivations* and *means*. Motivations can be further disaggregated into deep and derived preferences, while means refers to real and relative prices, as well as resources. For demand to be present, motivations and means must coincide. Demand is dynamic; a decrease in either motivations or means can reduce demand, while an increase in either factor can stimulate it.

*Motivations* are preferences that are determined by an individual's beliefs and attitudes. To a certain extent, these are conditioned by the social and cultural context in which he or she lives. Individual motivations thus tend to be socially embedded. The demand model distinguishes between 'deep' and 'derived' preferences, which together constitute motivations. *Deep preferences* do not change over the lifetime of an individual. They are similar for all human beings.<sup>6</sup> By contrast, an individual has a choice of *derived preferences* that he or she can pursue to satisfy deep preferences—some of them including small arms acquisition and use, others excluding them. Intriguingly, arms availability can itself influence derived preferences. Cook (1998) has described this as a 'contagious' process, while Regehr (2004, p. 7) prefers the term 'local arms race': an increase in small arms supply within one group can lead to increased demand by others as they try to match the first group's firepower.

An example of a deep preference is security for oneself, one's family, or one's home. Small arms acquisition, possession, and use is only one possible response to situations in which security is threatened. An alternative derived preference is reliance on the provision of security by government or private security institutions. Which option is pursued (i.e. which derived preference is chosen) depends in each case on the availability of alternative derived preferences, as well as on resources and prices.

*Means* consist of resources and prices. Resources can be monetary (e.g. income, assets, and credit) as well as non-monetary (e.g. social capital, personal ingenuity, and access to small arms acquisition networks). Real and relative prices help determine an individual's or a group's purchasing power.<sup>7</sup> Changes in resources and prices influence whether an individual can fulfil specific derived preferences, thus conditioning small arms demand. An increase in supply almost always lowers prices, which in turn increases an individual's purchasing power. A decrease in supply has the opposite effect.

This chapter contends that the acquisition and possession of small arms is determined by an interplay of means and motivations. Yet the practical application of this framework poses a range of challenges. In order to measure demand, one could focus on the number and types of weapons acquired. But the motivations and means of individuals and groups must also be examined. Cases characterized by sudden demand reversals and behavioural shifts may be especially informative. In Brazil, for example, the 2003 Disarmament Statute raised firearm registration and renewal fees and introduced stricter penalties for the possession of illicit guns. In so doing, it increased the relative price of firearms acquisition and possession, both legal and illicit. At the same time, a public information campaign highlighted the dangers of keeping firearms at home. These factors undoubtedly help explain the high level of participation in the 2003–05 gun buy-back programme (Atwood, Glatz, and Muggah, 2006, p. 19; Lessing, 2005, pp. 203, 207).<sup>8</sup>

Those who acquire small arms are not always identical to those who possess and use them. In some cases, adults acquire weapons, while youth hold and use them. For example, gang leaders may acquire weapons, which are then borrowed by gang members for gang-related work. Similarly, police and military institutions acquire the weapons that officers and reservists hold and use during their shifts. In designing effective interventions, policy-makers need to be conscious of situations such as these, where the demand for firearms acquisition differs from the demand for firearms possession and (mis)use.

**Increased supply to a state, non-state armed group, or individual may influence demand by others.**

## ACTORS DEMANDING SMALL ARMS

Several types of actors may, at any given time, seek to acquire or possess weapons. Three categories are especially important when considering mechanisms to reduce weapons demand: states, non-state armed groups, and individuals (including groups of individuals). There are important interrelationships among these categories that must also be taken into account. Regehr has pointed out that often increased supply to one group creates new demand by other groups (Regehr, 2004, p. 5). For example, the procurement of weapons by a state for its armed forces or police services may stimulate demand for more sophisticated weapons by non-state armed groups. The resulting insecurity, whether real or perceived, can encourage individuals to arm themselves, or band together in militia, in order to protect themselves. There are many other variants of this process. The arming of rebel forces may prompt a government to increase its acquisition of weapons, as was the case in Haiti in early 2004 (Muggah, 2005, p. 13). The following subsections discuss demand by non-state armed groups and individuals. State demand is treated separately, in Box 1,

because its policy implications are fundamentally different from those of the other two actors. A quantitative study of state demand for small arms and light weapons is presented elsewhere in this volume (PRODUCTION).

### Non-state armed groups

Compared with state security forces, the small arms holdings of non-state groups—whether rebels, insurgents, terrorists, or organized criminal gangs—are quite modest. The Small Arms Survey estimates that such groups account for less than one per cent of total global firearm stockpiles (Small Arms Survey, 2002, p. 103). If absolute numbers are even a crude indicator of demand, their influence on global production, stockpiling, and trade is negligible. Nevertheless, the effects of arms acquisition and misuse by non-state actors reverberate at the local, national, and regional levels. Reducing demand among non-state actors is an essential component of violence prevention and improved weapons reduction efforts.

There are startling similarities between the demand expressed by politicized non-state actors in conflict situations and that by criminal gangs in ostensibly ‘peaceful’ societies.<sup>9</sup> Apart from the fluid boundaries between these two categories, particularly during ‘post-conflict’ transition periods,<sup>10</sup> both exhibit, among other things, analogous command and control structures, preference orderings for various types of weaponry, price sensitivity (both financial and deterrence-based), as well as similar resource mobilization strategies.<sup>11</sup> Armed gangs in Papua New Guinea, known



Paramilitary fighters of the AUC stand guard before a poster of the Virgin of Guadalupe during a ceremony to lay down their arms in Otu, north-west Colombia, in December 2005.  
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### Box 6.1 State demand for small arms and light weapons

States are among the primary consumers of small arms and light weapons. Annual procurement by national armed forces is about one million units (PRODUCTION). In principle, the theory of demand presented here applies to all types of buyers, but where buyers represent groups the purchasing decision is not a private, individual choice but a public, collective one. State demand is thus the sum of governmental agency demands that may or may not be coordinated in any centralized fashion.

From a traditional International Relations perspective, state-level demand is driven by exogenous and endogenous factors, such as 'concerns about internal stability, regional hostility, general insurance and the desire to project power internationally' (Levine and Smith, 1997, p. 342). In Weberian terms, the deep preferences of the state include the maintenance of its monopoly over the legitimate use of violence (internal) and national security, i.e. the preservation of sovereignty and 'core values' against threats (external), while derived preferences refer to the size and distribution of armed forces and related auxiliaries (see Weber, 1919).

The means side of state demand is determined by the financial and other resources a state has available for small arms procurement. This includes the other budget items that small arms expenditures must compete with. Furthermore, weapons prices for small arms at the time a procurement decision is made are important since they will also affect the state's ability to purchase small arms.

At the domestic level, the state has the monopoly of force, and it is the malfunctioning of the state that may lead an individual to seek small arms for his or her protection and security. At the international level, each state has to provide for its own protection and defence in the absence of an overarching authority. A state's derived preferences become a problem once they threaten the security of other states or the security of its own citizens. As indicated above, collective choice vastly complicates the study of the decision-making process, especially in the case of weapons-related choices, which are often conducted in secret. While a particular decision may be (imperfectly) observed, the underlying means and motivations are difficult to pin down. Moreover, neither state budgetary resources nor weapons prices (relative to other goods or services, whether security-related or not) are transparent. Nor is it always clear exactly who constitutes the collective that takes the weapons-procurement decision at whose budgetary expense.

In order to develop an initial understanding of state demand, it would be useful to conduct a set of case studies that would compare and contrast weapon-acquiring agencies within the same state. What procurement policies and procedures exist within and across those agencies? How are the weapons requirements of specific agencies determined? What does a needs assessment ('motivations') consist of? How does a weapons budget fit within an overall agency budget, and how is that budget integrated into the state's total budget? What budgetary control or oversight mechanisms exist at the state or agency level, and how are these enforced or circumvented? In the abstract, it is easy to speak of 'state' demand for small arms and light weapons. In practice, the answers to such questions will vary greatly, depending on the state and agencies studied.<sup>12</sup>

In policy terms, state demand also differs fundamentally from non-state group and individual demand. Policy-makers typically seek to reduce demand for small arms by non-state actors as they expect this will reduce firearms violence. The case of state demand is far less clear-cut. On the one hand, if a state increases its weapons purchases this may yield a reduction of (firearms) violence as a result of overall improvements in internal security. On the other hand, a government may use newly acquired small arms to suppress its own citizens or pursue aggressive foreign policy goals (Regehr, 2004, p. 5).

**Contributor:** Jurgen Brauer

colloquially as *raskols*, are a case in point as they sometimes operate in ways similar to organized guerrilla groups, for example the Bougainville Revolutionary Army (BRA), which fought in Bougainville province.<sup>13</sup> Armed criminal gangs in Central America are another prominent example of non-state actors with sophisticated transnational connections between members, robust revenue diversification, and similar organizational structures, just like the rebel groups that preceded them. This is also true of the guerrilla and paramilitary groups in Colombia (COLOMBIA).

The factors that condition the preferences of non-state actors include relative levels of state legitimacy and the credibility of public security sector entities. The relative stability of state institutions can also influence the real and relative prices of weaponry, while access of non-state groups to international and domestic revenue (whether legal or illicit) determines the resources available for weapons acquisition.

In Iraq, armed conflict has spurred demand for small arms among non-state armed groups and civilians alike. A power vacuum in many parts of the country has enabled various insurgent groups to exert control over territory,



increasing their demand for small arms in order to ensure its defence. Competition between different armed groups has sparked a further rise in weapons demand. Since armed groups have targeted civilians, in addition to government and US institutions, real and perceived rates of victimization and insecurity have fuelled an increase in small arms demand among civilians as well. The situation in Iraq is thus a prime example of a 'local arms race' among both armed groups and civilians (Regehr, 2004, p. 7; HRW, 2005; Jackman, 2003b). Researchers affiliated with the Boston Gun Project observed a surprisingly similar trend among urban gangs in the Boston area (Kennedy, 1997, p. 452; Braga and Kennedy, 2002).

In Papua New Guinea and the Solomon Islands, as in many other countries of the South Pacific, some armed groups were motivated to acquire weaponry due to widespread misgivings about ethnic biases in the armed forces and police. Grievances also arose over the imposition of national legal regimes that trumped existing customary norms, further undermining public confidence in the state and the meting out of justice locally. Moreover, as Alpers (2005) and LeBrun and Muggah (2005) have shown, the costs of acquiring a weapon declined significantly in both countries due to systemic police corruption (including the leaking of weapons to kinsmen)<sup>14</sup> and the tendency of political elites to foster stockpiling and personal possession among constituents. According to Alpers, '[i]n the Southern Highlands, this same elite of politicians, civil servants and conflict entrepreneurs is also responsible for the proliferation and misuse of small arms—especially at election time' (Alpers, 2004, p. 9).

### Individual demand

The majority of all known stockpiled firearms—approximately 60 per cent—are in the hands of civilians. This figure includes legal as well as illicit weapons (Small Arms Survey, 2002, p. 104). Small arms demand as expressed by individuals is thus a vitally important piece of the puzzle. Yet individual demand is socially embedded; it cannot be isolated from collective preferences or collectively-determined prices and resources (Brauer and Muggah, 2006).<sup>15</sup> While, like supply, individual demand for small arms can be influenced by national regulation, such rules must address the factors that condition demand if they are to be effective. The reverse also appears to be true. Cukier (2001) has argued that national gun control legislation 'not only reflect[s], but also shape[s] prevailing social values'. National laws typically stipulate the conditions under which civilians are permitted to acquire and hold firearms, whether for self-defence, hunting, collection, or other purposes. At the same time, national legislation may reflect broad social norms defining acceptable civilian demand. In most US states, for example, rules governing firearms ownership are relatively lax, in contrast to those adopted in Australia, Canada, and the UK (see LCAV, 2004; SAFER-Net, 2002; 2003; 2004; OSI, 2000).

**Civilians hold about 60 per cent of all known stockpiled firearms.**

Individual small arms demand is also influenced by the legitimacy of the state and, above all, by the state's ability to ensure public order and security. Where firearms legislation is strict and legal penalties for firearms misuse high, the strength of demand for firearms—at least for criminal purposes—can decrease considerably (see second epigraph). This is particularly true where the perceived probability of punishment, rather than its severity, is increased (Cook and Ludwig, 2004, p. 604).

In contrast, where state security services are perceived as ineffective or predatory, preferences for self-protection (against armed criminals or even police and soldiers) are likely to increase. For example, in the Garissa district of Kenya, where state presence is minimal, nomadic and pastoral communities have filled the security gap. Clan members have acquired weapons in order to protect their livestock and property and to exert control over natural resources, including water (Mkutu, 2003; Haji Aden, 2001; see also Eavis, 2002, p. 253).

## MOTIVATIONS AND MEANS: INDICATORS OF SMALL ARMS DEMAND

This section examines demand for small arms by non-state armed groups and individuals, using a series of major indicators (see Table 6.1). As described above, demand can be analysed through the prism of motivations and means. On the motivations side, the section is structured according to the following deep preferences: personal security; social and economic security; individual status; and political identity, representation, and group status. Derived preferences include a desire for small arms, which may be replaced by other choices to realize a particular deep preference. For each deep preference, examples from Small Arms Survey case study research are cited that illustrate how and why small arms acquisition and possession were chosen over other possible derived preferences.<sup>16</sup> On the means side, the section is divided into the following subsections: relative monetary value of firearms; individual cost of/benefit from illicit possession and misuse; social cost of/benefit from (legal and illicit) firearms acquisition and ownership; difficulty/ease of access; and income and wealth, including credit. Table 6.1 offers a provisional framework designed to sketch the relationships between motivations and means on the one hand, and interventions designed to influence demand on the other. Table 6.2 provides an overview of the case studies, the measures that were deployed, and their effects on small arms demand.

It is important to note that small arms demand is always a product of several factors. For demand to exist, both motivations and means have to be present, but this is only a necessary—not a sufficient—condition of demand. At this stage, it is not possible to formulate general rules that determine, for any given situation, whether small arms demand will be present. For example, high unemployment rates on their own do not always foster higher demand for firearms. Other factors have to be present, with the combination of factors needed to spur demand differing from case to case. It thus makes sense to speak of demand ‘indicators’ when rendering conclusions about an increase or decrease in demand. Indicators are considered separately in order to identify specific entry points for interventions.

**Firearms demand is often related to a deep preference for personal security.**

### Motivations

*Personal security.* Firearms acquisition and possession, and thus firearms demand, are often related to a deep preference for personal security. This deep preference cannot be changed, but it can be satisfied by a broad range of derived preferences other than firearms acquisition and possession. Depending on the circumstances, these alternatives can include state police and judicial services or private security companies. If a government fails to provide security, citizens may choose to acquire and hold firearms in order to fill this gap (Bendaña, 2001, p. 65).

Strong individual demand for firearms to ensure personal security has been seen in many places, including Brazil, Colombia, Papua New Guinea (PNG), and South Africa. Since the negotiated settlement in 1994, South African citizens have increasingly reported that they feel insecure and do not trust the state to provide for their security. Negative reactions among licensed gun owners to the new gun-control legislation in 2005 have confirmed that perceived insecurity remains high (Carroll, 2005). This has been paralleled by evidence of ineffective policing in several local cases (Kirsten et al., 2006).

Similarly, middle-class citizens in Brazilian cities have expressed a lack of confidence in the country’s police and judiciary. In responding to a 2002 survey, 61 per cent of Brazilians said ‘the police do not do a good job controlling crime’ in their neighbourhood (Lessing, 2005, p. 205). The judiciary allegedly focuses on crimes committed by relatives or acquaintances of the victims, while crimes committed by career criminals are seldom investigated (Soares, 1996, p. 239; Lessing, 2005, p. 205). This perception has helped spur a strong derived preference for firearms acquisition

Table 6.1 Small arms demand indicators and possible policy responses<sup>17</sup>

Motivations	Deep preferences (unchangeable)	Possible policy responses (leading to derived preferences other than acquisition of small arms and light weapons)
	Personal security	<ul style="list-style-type: none"> <li>• institute or strengthen community policing</li> <li>• reform justice (courts, penal) and security (police, military) sectors</li> <li>• take firearms out of circulation</li> <li>• improve public infrastructure (e.g. street lighting)</li> <li>• promote gun-free zones in schools, workplaces, churches, markets, shopping places, and sporting facilities</li> </ul>
	Social and economic security	<ul style="list-style-type: none"> <li>• provide education and employment opportunities, particularly for youth</li> <li>• stigmatize corruption</li> <li>• support reintegration of ex-combatants and ex-criminals</li> </ul>
	Individual status	<ul style="list-style-type: none"> <li>• challenge norms of violent masculinity and offer alternatives</li> <li>• reverse the role of media, entertainment, and recreation in normalizing and endorsing gun possession and misuse</li> <li>• encourage social customs dissociating guns from power, pride, and manhood</li> </ul>
	Political identity, representation, and group status	<ul style="list-style-type: none"> <li>• improve public access to and participation in government at the municipal and national levels</li> <li>• acknowledge and act to redress inequalities, injustice, and human rights abuses, which can influence recourse to (armed) violence</li> <li>• increase capacity for non-violent conflict resolution</li> </ul>
Means	Prices	Possible policy responses
	Monetary value of firearms (relative to other goods, particularly substitutes)	Restrict supplies and thereby effect an increase in the prices of small arms
	Individual cost of/benefit from illicit possession and misuse	<p>Increase the penalties of illicit possession and misuse:</p> <ul style="list-style-type: none"> <li>• strengthen national gun control laws to ensure small arms ownership is subject to specific criteria (e.g. age, proof of need, safe storage, spousal approval, background checks, trigger and safety locks), renewable licensing, and universal firearms registration</li> <li>• improve response and efficiency rates of police to requests for assistance from citizens</li> </ul>
	Social cost of/benefit from firearms acquisition and ownership	<p>Make gun acquisition and ownership more costly by strengthening social and customary controls:</p> <ul style="list-style-type: none"> <li>• engage communities in development and disarmament schemes (e.g. weapons for development programmes) rather than buy-backs</li> <li>• initiate public education programmes to stigmatize guns and gun violence and to generate support for alternative behaviour (e.g. through the establishment of gun-free zones)</li> </ul>
	Resources	
	Income and wealth (including credit)	<ul style="list-style-type: none"> <li>• combat illicit trafficking in drugs</li> <li>• cautionary use of monetary incentives</li> </ul>
	Social capital	<ul style="list-style-type: none"> <li>• reinforce social controls (council of elders, women's associations)</li> <li>• support for non-violent conflict management</li> <li>• introduce community policing, neighbourhood watch</li> </ul>

Map 6.1 South Africa



Map 6.2 Colombia



and possession among certain segments of the Brazilian population.

The case of Bogotá (Colombia) provides another example of strong firearms demand driven by the perceived failure of governmental authorities to satisfy a deep preference for security and protection. Following several mayoral violence reduction and disarmament programmes during the 1990s that drew on innovative legislation described in Box 6.2, these perceptions changed remarkably; 66 per cent of respondents to a 2003 'Quality of Life Survey' stated that the mayoral interventions had improved their perception of security. According to respondents, this was partly due to a stronger police presence, along with the renovation of old police stations and the construction of new ones (Aguirre et al., 2005, p. 24). The combination of increased enforcement and changing perceptions appears to have contributed to a reduction in firearms demand (COLOMBIA).

In PNG as well, dysfunctional police and judicial systems have led to an increased civilian preference for firearms acquisition and possession for purposes of self-defence and protection *against* police or defence forces (Alpers and Twyford, 2003, p. 118). There is considerable evidence of widespread corruption within the public security forces, along with numerous cases where members of the police and of the defence forces have reportedly committed human rights violations using firearms (PAPUA NEW GUINEA).

*Social and economic security.* Another deep preference that is potentially important for firearms demand is social and economic security. If educational and professional

opportunities are lacking, in particular for male youth, firearms acquisition and possession may be the derived preference of choice for income generation. Unemployment can thus be used as a proxy for firearms demand in certain contexts. In South Africa, firearms are demanded by male youth who do not have access to education and the formal economy (Kirsten et al., 2006). In PNG as well, high unemployment rates appear to have contributed to firearms demand (PAPUA NEW GUINEA).

In the Brazilian *favelas*, poverty and lack of educational and professional opportunities are prevalent, and the drug trade is the only way to obtain income and status and thereby fulfil the deep preference for social and economic security. Lessing argues that in the *favela*, when joining a drug faction, an individual also ‘decides’, albeit indirectly, to acquire a firearm. This is true even though the individual does not actually own the gun. It is the faction that collectively owns firearms, loans them to faction members for gang-related work, and controls the ammunition (Lessing, 2005, p. 214).

*Individual status.* Demand for firearms can also stem from a deep preference for individual status. This deep preference is closely linked to social and economic security. Income often determines individual status. If other derived preferences—such as professional opportunities—are unavailable, firearms are chosen as a means of achieving power, social status, and masculinity.

In South Africa, for example, firearms have come to symbolize masculine identity and power. In this context, the Gun-free Zones (GFZ) project has not only sought to reduce firearms demand by making communities more secure, but has also allowed male youth to contribute actively to that process. They have, in other words, been offered an alternative route to acquiring individual status (Kirsten et al., 2006). In Brazil, disarmament campaigns, such as those conducted by the NGO Viva Rio, have attempted to disassociate masculinity and firearms by promoting such messages

as ‘Real men don’t need guns’ and ‘Choose gun-free: your weapon or me’, or ‘Mothers, disarm your sons’. Such initiatives seek to wean traditional male or family roles from their frequent association with weapons (Lessing, 2005, p. 204).

*Political identity, representation, and group status.* Political factors may also serve as demand indicators, in particular deep preferences for political identity, representation, and group status. If alternative options for achieving these deep preferences do not exist or are not sufficiently attractive, people may well choose to acquire and hold (and perhaps use) firearms. In PNG, for example, violent tribal conflict has a long history and dates back to the time before the introduction of firearms in the 1980s. The introduction of firearms only exacerbated the violence

Map 6.3 **Brazil**





Fighters on the front line in West Honiara, Solomon Islands, 2000. © Bryn Evans/Panos Pictures

resulting from tribal conflict (Capie, 2003, p. 92). In the Solomon Islands, an important factor driving firearms demand has been group pressure, a result of the *wantok* system<sup>18</sup>. This can work both ways, however. Positive group pressure has contributed to the success of the Weapons-free Village (WFV) campaign (Nelson and Muggah, 2004).

In South Africa, firearms have come to symbolize political power, citizenship, and political identity during the apartheid era and after. During apartheid, the state was highly militarized, with weapons held by white government soldiers, white civilian-military commandos, and leaders of homelands. In the 1980s, members of the liberation movements, including young members of self-defence or self-protection units, acquired weapons as well, which then served as symbols of freedom. Even in the post-apartheid period, this emotive attachment to firearms has continued to be influential (Kirsten et al., 2006).

## Means

*Relative monetary value of guns.* An important determinant of small arms demand on the means side is the relative monetary value of firearms. This value is relative because it depends on the trade-off one has to make in purchasing a firearm against the purchase of such other goods as food or clothing. At face value, the higher the relative monetary value of a firearm, the less likely a person is to choose the firearm over other goods that are crucial for survival. However, simply raising relative prices through supply-side measures is clearly insufficient from a demand perspective. If other factors are stimulating demand for firearms, people will tend to acquire weapons that have a lower relative

### Box 6.2 Background: firearms regulation in Colombia

The main pillar of the current regulatory framework in Colombia is state ownership of all firearms and limited civilian access. Only the state is authorized to produce, import, and sell firearms. Under National Government Decree 2535 of 1993, the carrying of arms must be authorized by the state; it is not an inherent right. The Decree distinguishes three types of firearms: those that can only be used by the armed forces (*uso privativo*), guns the use of which is restricted (*uso restringido*), and civilian guns (allowed for self-defence, sports shooting, or collection). What is more, the license for holding or carrying a firearm can be given, suspended, or removed whenever the competent authority deems necessary (Pardo, 1995, p. xxv). Consequently, civilians and firms must demonstrate the need for a firearm before receiving a licence. Licences are issued by the Ministry of Defence Office for Control and Trade of Arms (OCCA).

Previously, the system of record-keeping was very poor. Decree 2535 tightened controls over civilian arms possession, encouraging civilian registration through a special amnesty, which included a buy-back programme and temporary gun permits regardless of a holder's legal situation. Around 190,000 permits were issued under the amnesty. All licences issued before 1993 also had to be updated (Bulla Rodríguez, 1995, p. 239).

Decree 2535 stipulates that a gun permit authorizes its owner to hold a weapon in a declared building that may be his or her residence or place of work. A civilian can obtain only two such licences of ten years' duration. An individual must justify wanting to carry a gun. A restricted-use gun licence can be given to individuals who can show they face a risk of death. Article 4 of the Decree specifies that, although the state is the sole owner of the firearm, the licensee is fully responsible for its use.

The Colombian regulatory framework also enables political and administrative authorities, under an agreement with the military and police, to temporarily restrict or even ban the carrying of firearms in order to control urban crime (Bulla Rodríguez, 1995, p. 238). This has been one of the main forms of arms control in the city of Bogotá.

**Source:** adapted from Aguirre et al. (2005, p. 8)

value. Supply-side measures thus need to be complemented with demand-side ones. Weapons acquisition can also represent an economic investment where a firearm enables its owner to acquire other goods at a lower relative price. This, then, lowers the relative price of the firearm.

In PNG, prices are high for factory-made firearms because they are in short supply. As a result, many home-made weapons, which are less expensive in relative terms, have been substituted for factory-made ones. More recently, the supply of factory-made weapons has increased (PAPUA NEW GUINEA). In Colombia, the monetary prices of

legal firearms are much higher than those of illicit guns. A legal firearm may cost several times the minimum wage, while the price of an illegally obtained weapon may be as little as ten per cent of its legal market price (Aguirre et al., 2005, p. 6).

*Individual cost of/benefit from illicit possession and misuse.* Penalties for illicit weapons possession and misuse can be an important component of demand reduction measures. In Brazil, the December 2003 Disarmament Statute increased the costs of weapons registration and renewal, and strengthened penalties for illicit possession. These measures can have unintended consequences, however. An increase in registration and

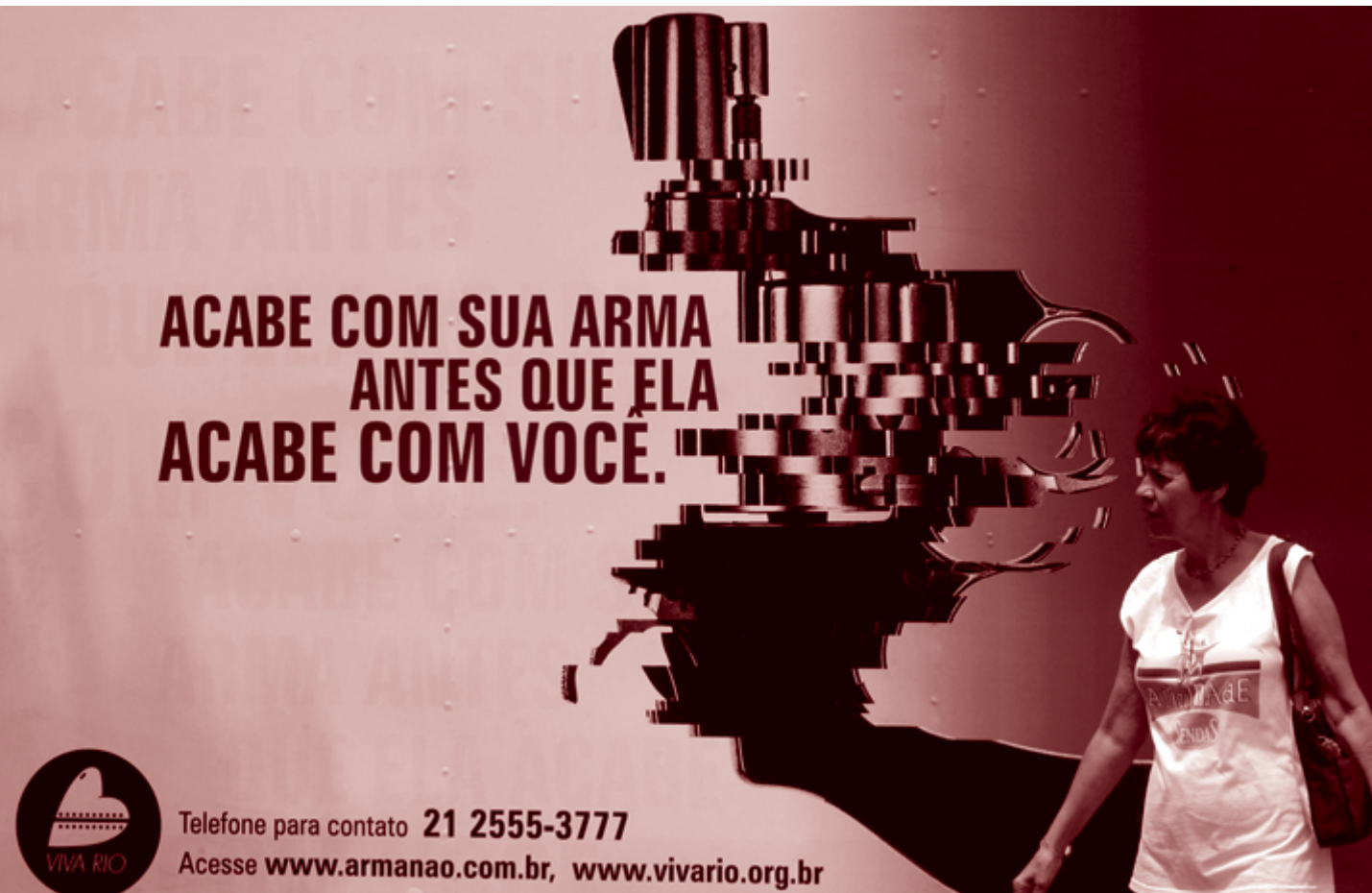
Map 6.4 Papua New Guinea



renewal costs may have led to an increase in the number of unregistered weapons among lower-income classes rather than a reduction in demand. Overall, it appears that increased registration and renewal costs account for only part of the recent reduction in firearms demand in Brazil (Lessing, 2005, pp. 207–08). In Colombia, registration and renewal costs are also rather restrictive (see Box 6.2), but not enough data is currently available to assess the impact they may have on demand.

A more targeted approach, applied in the United States, focuses on increasing penalties for the *criminal use* of firearms. The assumption is that increased legal liability for firearms misuse has a deterrent effect on criminals and leads them to substitute firearms for other weapons or to alter their behaviour. While it may not always be possible to distinguish individual criminal from non-criminal demand for firearms, the Boston Gun Project/Operation Ceasefire, which specifically targeted criminals, was associated with a clear reduction of firearms violence (Braga and Kennedy, 2002, pp. 276–77). The project increased the risk of prosecution for firearms misuse, for example through tracing or the collection of ballistic information before sale (Cook and Ludwig, 2004, pp. 603–04).<sup>19</sup> In the Solomon Islands, the Regional Assistance Mission to the Solomon Islands (RAMSI), deployed in 2003, has worked to enforce new arms control legislation by raising the cost of illicit firearm possession and misuse through deterrence based on strong penalties (Nelson and Muggah, 2004).

A woman walks past a mobile gun collection station in Rio de Janeiro, Brazil, in November 2004. The sign reads: 'Finish with your gun before your gun finishes you off.' © Douglas Harrison Engle/World Picture News



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Map 6.5 Solomon Islands



*Social cost of/benefit from (legal and illicit) firearms acquisition and ownership.*

This indicator overlaps in large part with the motivations-side indicator 'individual status', discussed above. This complex of issues can be analysed in straightforward cost-benefit terms. Whether an individual decides to acquire (or forgo acquiring) a weapon is determined by the social cost or benefit that he or she is likely to experience as a result of such an acquisition (or non-acquisition). For example, the WFV campaign in the Solomon Islands has increased the social cost of acquiring and possessing firearms. Building on a strong tradition of customary regulation,

the WFV campaign has transformed norms sanctioning firearms acquisition and possession into norms that condemn both (Nelson and Muggah, 2004). The campaign by the NGO Viva Rio in Brazil, which targeted the traditional association of guns and masculinity, as well as the GFZ project in South Africa (both cited above), have had a similar effect.

*Difficulty/ease of access.* This indicator is closely linked to the relative monetary value of firearms. The more difficult it is to gain access to firearms supplies, the higher the relative monetary price of firearms. As mentioned above, in PNG factory-made firearms have become increasingly available. When access to factory-made firearms was difficult, demand was satisfied through the production of home-made firearms (Muggah, 2004).

Rebel Papua New Guinea Defense Force soldiers guard the entrance to the sleeping quarters of a barracks in Port Moresby, March 2001.  
© Torsten Blackwood/AFP/Getty Images



Table 6.2 Intervention programmes targeting small arms demand

Location	Intervention programme	Duration	Target group(s)	Main deep preference(s) as proxy for demand	Outcomes/effects
Brazil (Lessing, 2005)	Disarmament Statute, including national buy-back programme; referendum on ban on civilian ownership	Since December 2003; referendum on 23 October 2005	General population	Security; protection; social and economic security	Buy-back programme successful, indicating a decrease in demand (people wanted to get rid of their weapons and obtain financial compensation). Ban on civilian ownership rejected in referendum: the 'no' vote may reveal a general discontent with government rather than a preference for firearms.
Colombia (Bogotá) (Aguirre et al., 2005; see also Atwood, Glatz, and Muggah, 2006)	Various mayoral disarmament programmes based on new 1993 constitution	Since 1993	Urban population of Bogotá	Security; protection	Improved real and perceived levels of security and a reduction in firearms homicides translate into a reduction in demand.
South Africa (Kirsten et al., 2006)	Gun-free Zones (GFZ) project; Firearms Control Act (FCA), including Firearms-free Zones (FFZ)	Since 1995 2000 (in force since 2004)	General population	Political identity and representation	Reduced firearms demand in areas where GFZ are located.
PNG (Muggah, 2004)	Mendi Peace Agreement	3 May 2002	Armed non-state tribal groups; general population	Group status	Few successful demand reduction efforts.
Solomon Islands (Nelson and Muggah, 2004)	RAMSI WFV Campaign	Since July 2003 Since 2002	Armed non-state tribal groups; general population	Group status	Demand reduction successful through the combination of voluntary measures (WFV campaign) and enforcement (RAMSI).

Licensing provisions in national firearms legislation largely determine the difficulty or ease of access to firearms. An example is the 2000 South African Firearms Control Act (FCA; in force since 2004). It has increased the legal age of firearms ownership from 16 to 21, stipulates that most people may hold only one weapon for self-defence and up to four others for hunting and other purposes, and requires licence applicants to undergo a training course and police background check (Carroll, 2005). In Colombia, licensing is even more restrictive under the 1993 legislation (see Box 6.2; Aguirre et al., 2005, p. 8).

*Income and wealth (including credit).* While this factor certainly plays a role, it is perhaps the least promising of the demand-reduction intervention entry points. All case studies show that low earned income does not prevent arms acquisition and possession if other demand factors are strong. Those who have a strong desire for firearms will find some means of obtaining them. In PNG, for example, incomes have generally been low, but firearms demand has nevertheless remained high. As discussed above, in the Brazilian *favelas* firearms themselves represent an investment in income generation. Income results from the drug trade and membership in a drug faction is directly linked to weapons acquisition (Lessing, 2005, p. 213). Though raising a host of difficult ethical dilemmas, a decrease in people's income could, in fact, lower demand.

## CONCLUSION

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Demand reduction is increasingly recognized as an integral element of arms control and disarmament. Though consciousness of its importance has been slow to evolve in multilateral negotiations, practitioners on the ground have begun to incorporate, at least implicitly, a demand perspective in their small arms work. This chapter has provided a general overview of current debates on small arms demand and distilled a number of lessons from Brazil, Colombia, Papua New Guinea, the Solomon Islands, and South Africa. It shows that arms control interventions must endeavour to incorporate both supply- and demand-side approaches if they are to achieve meaningful, sustainable results.

The chapter conceives of small arms demand as a function of motivations (deep and derived preferences) and means (resources and prices). It analyses a series of specially commissioned case studies with the use of a range of demand indicators. In addition to accounting for the resources and prices associated with arms acquisition, the chapter finds that DDR, arms control, and violence-reduction programmes must also address the question of preferences. While arms buy-back programmes can have an indirect effect on means by raising the relative prices of firearms, they must be complemented by explicit measures designed to reshape derived preferences if they are to generate any dividends. Individual demand can be curbed through national gun-control legislation combined with disarmament and citizenship campaigns, as in the cases of Brazil and Colombia. Group pressure can push individual members of a society to dispense with firearms, as has occurred in Papua New Guinea, the Solomon Islands, and South Africa.

Small arms demand is a complex issue that touches upon virtually every aspect of the vast small arms agenda. This chapter has attempted to point the way to future research and policy work that is more resolutely informed by a demand perspective. With respect to research, more case studies from a variety of national and local settings are needed, including contexts in which no efforts have been made to influence demand. Such 'control studies' would facilitate the comparison of demand patterns between intervention and non-intervention settings and improve overall understanding of the effectiveness and efficiency of intervention measures. A larger, more thematically and

geographically diverse set of case studies would also help to distinguish case-specific findings from lessons that could be applied to general programme design.

A major obstacle to research on small arms demand is the issue of measurability. The indicators examined in this chapter provide a useful starting point for examining small arms demand. This framework should be refined through the inclusion of more specific indicators to facilitate an assessment of demand in quantitative terms. In particular, specific aspects of demand need to be untangled in future research, including: demand by weapon model or type (for light weapons as well as small arms), demand for small arms ammunition (as opposed to the weapons themselves), demand aspects of small arms transfers (authorized as well as illicit), and demand according to societal group (men/women, youth/adults, first-time owners/current owners, collectors/users).

On the policy side, the case studies have shown that intervention programmes work best where they are designed from the bottom up in a participatory fashion. In such cases, affected populations must feel ownership of the intervention programme in order for it to be successful. Government–civil society partnerships are critical to the effective implementation of demand reduction programmes, as exemplified by the GFZ project. A participatory approach can help identify derived preferences that satisfy deep preferences, but do not involve firearms. ■

## LIST OF ABBREVIATIONS

<b>AFSC</b>	American Friends Service Committee	<b>PNG</b>	Papua New Guinea
<b>AU</b>	African Union	<b>QUNO</b>	Quaker United Nations Office
<b>BRA</b>	Bougainville Revolutionary Army	<b>RAMSI</b>	Regional Assistance Mission to the Solomon Islands
<b>DDR</b>	disarmament, demobilization and reintegration	<b>SSR</b>	security sector reform
<b>FCA</b>	Firearms Control Act (South Africa)	<b>UNDP</b>	United Nations Development Programme
<b>FFZ</b>	Firearms-free Zones	<b>UNICEF</b>	United Nations Children's Fund
<b>GFZ</b>	Gun-free Zones	<b>WFV</b>	Weapons-free Village
<b>OAU</b>	Organisation of African Unity	<b>WHO</b>	World Health Organization
<b>OCCA</b>	Office for Control and Trade of Arms (Colombia)		

## ENDNOTES

- 1 The term 'small arms demand' is used here interchangeably with 'firearms demand' and refers to demand for small arms as well as light weapons.
- 2 Firearms can be used—and demanded—for purposes other than armed violence: for example, for hunting or sports shooting.
- 3 To be sure, a reduction in demand for firearms *acquisition* refers only to weapon flows and thus may not necessarily lead to a reduction in firearm-related violence if individual and collective stocks remain high. After all, firearms are highly durable goods. Depending on context, however, firearm flows can be crucial in sustaining violence. For example, Cook and Ludwig point out that in the United States firearm acquisition and use are closely linked. This holds true especially for firearms used in crime, which are usually acquired through illicit channels shortly before use (Cook and Ludwig, 2004, p. 602).
- 4 The close link between development and security was emphasized by the UN High Level Panel on Threats, Challenges and Change (UN, 2004, p. viii).

- 5 This section is based on Muggah and Brauer (2004) and Brauer and Muggah (2006).
- 6 Here the model follows the framework proposed by Stigler and Becker (1977), who contend that 'tastes' (or human preferences) typically remain stable, even if phenomena such as addiction, habitual behaviour, advertising, and fashion suggest otherwise.
- 7 Standard economic theory states that supply and demand determine the price and quantity traded of the relevant good. Yet in this demand model price is understood as a factor which itself helps determine demand. The two types of demand are in fact very different. Whereas the model is used to measure the demand of an individual person or group, prices vary as a function of the *aggregated* demand of a whole society.
- 8 While a majority of Brazilians voted against banning most civilian gun sales in a 23 October 2005 referendum, most analysts attribute this decision to general discontent with the government (personal communication with Benjamin Lessing, formerly Viva Rio, December 2005).
- 9 For more on the motivations of armed groups, see the separate chapter on this issue (ARMED GROUPS).
- 10 See, for example, Small Arms Survey (2005, ch. 10) for a critical review of 'post-conflict' environments and the morphing of insurgent groups into organized criminal gangs.
- 11 This assessment is based on Demetriou, Muggah, and Biddle (2001), Dowdney (2003), Godnick (2002), Hillier and Wood (2003), and Aguirre et al. (2005), among others.
- 12 Paul Collier identifies five factors that determine military expenditure, and thus state demand for weapons. These factors vary across countries: '1. Active international warfare, 2. Peacetime military budget inertia, 3. Neighbourhood effects (arms races), 4. Internal rebellion or civil war, 5. Beneficiaries and vested interests' (Collier, 2006, p. 10).
- 13 Bougainville was granted autonomy in June 2005.
- 14 Large amounts of weaponry have been leaked by the Papua New Guinea Defence Forces (PNGDF) to politicians and criminals over the past decade (Alpers, 2005, p. 26).
- 15 A wide range of individuals may demand small arms, including hunters and sports shooters, those wanting small arms for self-defence, and criminals. As previously indicated, demand for small arms is not identical to demand for violence.
- 16 The cases of Brazil, Colombia, PNG, the Solomon Islands, and South Africa are presented in more detail in Atwood, Glatz, and Muggah (2006).
- 17 This table is based in large part on Atwood, Muggah, and Widmer (2005, pp. 100–1).
- 18 'The term "wantok" (one talk) in Melanesian Pidgin literally means someone who speaks the same language. In popular usage it refers to the relations of obligation binding relatives, members of the same clan or tribe, as well as looser forms of association' (Dinnen, 1997, p. 12).
- 19 To be sure, this kind of measure focuses first and foremost on reducing the misuse of firearms. Yet this often implies a reduction in firearms demand itself: as criminal behaviour is reduced, demand for firearms that are sought for criminal purposes decreases as well.

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## ACKNOWLEDGEMENTS

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### Contributors

Katherine Aguirre, David Atwood, Jurgen Brauer, Jackie Cock, Philip J. Cook, Nicole Haley, David Hemenway, Adèle Kirsten, Benjamin Lessing, Carol Nelson, and Jorge A. Restrepo