

On the supply and demand of small arms

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The purpose of this technical background paper is to discuss elementary concepts regarding supply and demand in the market for small arms. Section 1 examines the theory of the supply of small arms. It concludes that we are unlikely to see a reduction in people's willingness and ability to supply small arms to the global market. Section 2 discusses in detail the demand for small arms. It concludes that people's willingness and ability to acquire small arms is difficult to restrain. Section 3 examines the interaction of supply and demand for small arms. It assesses and makes predictions regarding the future development of this market. Section 4 summarizes.

1. The supply of small arms

The theory of supply

In economic theory, supply is a function of cost.² Defined technically, **supply is a relation between quantities that sellers are willing and able to supply at various possible prices.** The key words are **willing and able**. If the price is zero, someone may be able to supply but is unlikely to be willing to do so. Similarly, even though the price may be high enough to make someone willing to become a supplier in this market, s/he may not be able to do so (may not have the necessary expertise or may have alternative, more rewarding employment and earning opportunities). Theory predicts that existing suppliers will supply larger quantities if higher prices warrant the extra cost incurred (given that existing facilities need to be run harder). In figure 1, this is represented as a move from point A to point B (from quantity Q^* to quantity Q_2) and explains why economists maintain that supply is essentially a function of the cost of bringing product to market. Lower prices, conversely, discourage suppliers to participate in the market, and quantity supplied falls (from point A, quantity Q^* , to point C, quantity Q_1 , in figure 1). Thus, the solid line in the figure traces out supply reactions in response to changing market prices. As the definition states, variations in price call forth associated variations in quantities supplied.

Pick any one of the many possible prices, such as P^* , and assume (for now) that this price is unchanging. The associated quantity that sellers are willing and able to supply is Q^* . If, at the existing price of P^* **fewer suppliers** are willing and able to participate in the market, the quantity supplied to the market

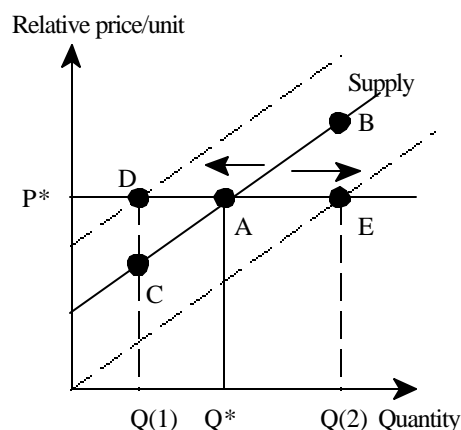


Figure 1: Supply of small arms

¹ Technical background paper for the *Small Arms Survey* project, Graduate Institute of International Studies, Geneva.

² It is also a function of the number of suppliers but, as we shall see, that in turn is a function of each potential supplier's cost of market participation.

shrinks (point D). This is indicated in the figure by a wholesale shift of the solid supply line to the left. Even though the price has not changed, the quantity supplied now is only $Q(1)$. This reduction in willingness and/or ability to supply must come about for a reason other than the change in price (which, by assumption, is held unchanged). For example, the imposition of a successful global small-arms trading regime that would permit only internationally certified suppliers to participate in the market would have such a quantity reducing effect. If, on the contrary, **more suppliers** are willing and able to participate in the market at the existing price of P^* , the quantity supplied will increase to $Q(2)$. (Point E in figure 1.) This could be occasioned by a liberalization of the market, so that no regulatory restriction is imposed on participants on the supply side.

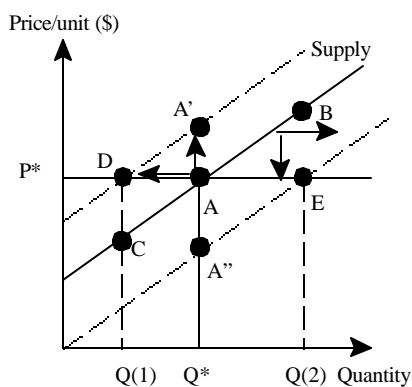


Figure 2: Supply of small arms

Importantly, we may think about the decrease or increase in quantities supplied occasioned by different regulatory environments (restrictive or liberal) as a cost-equivalency issue. An increasing regulatory burden increases the cost of participation in the market place. In figure 2, shifting the solid supply line leftward (more regulation makes fewer people willing and able to participate in the market) is thus equivalent to shifting the line upward (higher costs make fewer people willing and able to participate in the market). We move, at unchanged prices, from point A to point D: the higher cost cannot be recouped and forces some suppliers to exit the market in pursuit of other, more lucrative opportunities, and the quantity offered falls to $Q(1)$. Alternatively, we move to point A' : higher cost requires recuperation via a higher price if the same quantity, Q^* , is to be offered. In either case, the solid line shifts to become the dashed left/upward line. Similarly, liberalization of the market reduces the cost of market participation. This is equivalent to shifting the supply line down/rightward. A downward shift of the supply line (from A to A'' and B to E) is equivalent to a rightward shift (from A to E and C to A''). If the existing market price, P^* , were to remain unchanged, the quantity supplied to the market increases to $Q(2)$. In this way, **economists can monetize (express in monetary equivalents) any regulatory or institutional change in the market** since any such change affects suppliers' cost of market participation. These changes can be displayed visually with relative ease, as demonstrated in figure 2.

Implications of the theory of supply

Market participation costs can be divided into three categories: production cost, administrative cost, and selling cost (and these include the cost, to the firm, of attracting the small arms entrepreneur to enter and stay in this line of business, i.e., the "profit" this work must generate for the small arms producer or trader to remain in the industry). Consider production cost first. To be sure, there are varieties of expensive small arms, aimed primarily for sale at legal military or police markets or the vast gun collector market. But a high market price need not denote high production cost. Moreover, small arms need not be pricey to be deadly. Small arms are in fact relatively cheap to produce. The required industrial know-how to produce small arms is low, as evidenced by the many countries that produce small arms despite an otherwise undistinguished

record of industrial performance. The material input into small-arms production is minimal, as is the need for skilled labor. Similarly, the basic chemistry of explosives, and the metal-working required for shell-production is available in almost all countries. Low production cost makes more people willing and able to participate in the small arms market than would be the case with higher production cost.

Second, consider administrative costs. Payment of a license fee would be an administrative cost. Unlicensed, illegal production saves the producer the license fee. Costs are artificially low, making production more profitable than otherwise and make the supplier more willing and able to participate in the market – though it be illegal. Quantities supplied to the market therefore are larger, $Q(2)$, than otherwise would be the case (Q^*). Likewise, the absence of effective international regulation (market restriction) is economically equivalent to an unfettered trading regime. Absence of effective regulation means zero administrative compliance costs. Once more, lower cost improves profits and makes potential suppliers more willing and able to participate in the market. In contrast, global enforcement of supply-control regime of small-arms requires the establishment and financing of a global enforcement agency. This seems unlikely to come to pass. Even if it did, a rise in compliance cost would encourage black-market (illegal) production in difficult-to-monitor regions of the world.

Third, selling costs for small arms are low, too. By definition, small arms are light-weight and compact. They are easy to transport, easy to store (they do not spoil quickly), easy to smuggle, and they require no specialized handling so that transport can rely on a great deal of unskilled labor, not requiring high compensation for its services.

A further consideration concerns the emptying of stockpiles of existing small arms (rather than the production of new quantities of small arms). Released stockpiles of small arms carry residual market value. Official armies and police forces are eager to realize this residual market value to reduce the net budgetary cost of the acquisition of newly produced small arms. Even if a stockpile release is well-regulated and stockpile sales are made only to well-regarded, officially sanctioned second-hand dealers, a domino effect is nonetheless set in motion that cascades down to more shady arms dealers. Overall supply in the small-arms market has increased. (Only stockpile destruction upon acquisition of newly produced small arms will keep the net injection of small arms at zero – but this implies a higher budgetary cost of official arms acquisition by police and military forces.)

Apart from production of firearms for planned stockpile replacement, another source of supply to the market is unplanned stockpile replacement due to theft. The militaries and police forces in some countries are more notorious than in others for loss of control over their small arms inventory. But a thief would not bother to steal small arms unless there were a ready market to recycle the weapons back into circulation. The economic problem is that thievery, especially in situations of poor inventory control, is a low-cost activity so that the operation is profitable even if the stolen goods are sold at exceptionally low market prices. At almost any price, profit can be made. This permits the hoisting of large numbers of small arms on large numbers of people since their outlay on the weapons would be correspondingly small.

Another consideration is to focus on the willingness part of the “willing and able” phrase. If one’s ability to participate in the market is cost-driven, and influences one’s willingness, another avenue to influence willingness is by moral suasion, to make the occupation of small arms supplier and dealer so odious that the moral cost of participation rises. I am skeptical that this can be achieved. In a world of more than six billion people it is not realistic to believe that a few handfuls of people will not be found willing to bear the

moral cost of social opprobrium.

Taking these factors in conjunction, my assessment is that one cannot well address the small-arms problem from the supply side. Economic theory states that the only way to dissuade market participation is to raise its (monetary or non-monetary) cost. But the cost of market participation in the small arms market is low and cannot feasibly be raised. Hence, we observe that many players are in fact willing and able to participate as small-arms market suppliers. As I have argued in a different context (Brauer, 1991, 2000), it is time to examine the demand side for small arms to learn if it may be any easier to intervene on this side of the market.

2. The demand for small arms

The theory of demand

In economic theory, demand for any good or service is expressed as a function of preferences, resources, and relative prices. Demand may change over time and space, but at any given time and location, the only determinants of demand are preferences, resources, and relative prices. This makes the theory exceedingly compact, even as it admits – as we shall see – of great flexibility and complexity. Defined technically, **demand is a relation between quantities that buyers are willing and able to acquire at various possible prices.** The key words are **willing and able**. The willingness aspect relates to people's individually determined and therefore subjective preferences to acquire this or that good or service, and the ability aspect relates to one's objectively available resources with which to pay the asked price. The relevant price is the relative price, namely the price of small arms relative to the price of other desired goods or services. Relative prices and resources serve as constraints to the unlimited fulfillment of one's wishes (preferences) and make it necessary to choose how one allocates one's resources among competing ends.

With regard to small arms, willingness is determined by one's preference for the possession of small arms. Even if the relative price of small arms were zero, so that neither prices nor resources would pose a binding constraint, many people would still prefer not to acquire firearms. Their preference for firearms is zero. Others, no doubt, would obtain one or more firearms, but just as one does not drink unlimited quantities at a party where the beer is free, the weaponry acquired would be limited by the extent of one's preferences. If price is greater than zero, willingness and ability to acquire small arms is determined, in addition to preferences, by resources (income, wealth, grants, and credit) and the price of small arms relative to the prices of other goods and services one desires. When the market price of small arms falls relative to the price of other goods and services, theory predicts that buyers are more likely to purchase firearms. For example, when the provision of community security services becomes relatively more expensive as when local police services are distant, slow, inefficient, or corrupt, theory predicts that the average penetration of the community with small arms, especially firearms will increase.³ This is an important example conceptually because it states that the price of local police (or other) services need not be a monetary price at all. The *absence* of effective police services means that their *presence* is costly. To

³ Firearms are one category of small arms. Other categories include weapons with which to stab, slash, or thrust (such as knives, machetes, clubs, spears).

ensure that these services are nearby (instead of distant), are delivered fast (instead of slowly), are efficient (instead of inefficient), and are honest and impartial (instead of corrupt) all would require a higher price to be paid in terms of effort and time, and perhaps of money as well. Thus, the effective absence of police services implies that the *relative price* of firearms has fallen even if the *absolute price*, the nominal price of firearms, has not changed at all.

Conversely, when the relative price of firearms rises, buyers are less likely to purchase – even when their level of willingness and their resources are unchanged. Thus one generates the solid demand line in figure 3. From an arbitrarily chosen starting point A, with relative price P^* and a quantity of small arms sought of Q^* , a higher relative price discourages people to participate in the market as buyers (point B) and the quantity demanded falls to Q_1 . In contrast, a lower relative price encourages people to participate in the market (point C) and the quantity demanded rises to Q_2 . This depiction would appear to capture in its entirety the very complex observations made empirically in the field.

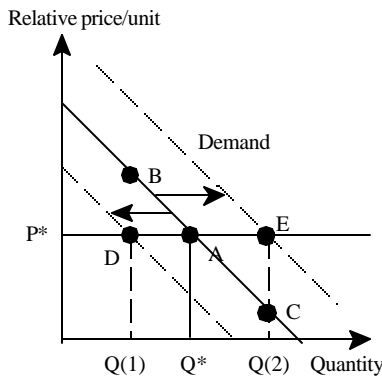


Figure 3: Demand for small arms

Note: The relative price includes monetary and non-monetary aspects (e.g., time and effort).

Pick any one of the many possible relative prices on the vertical axis of figure 3, such as P^* , and assume that it will remain unchanged. Now ask why in spite of an unchanged relative price the associated quantity demanded of Q^* might either fall to Q_1 (point D) or rise to Q_2 (point E). Evidently, such changes in market participation must occur for reasons other than relative price (since the relative price is held unchanged by assumption). The quantity of small arms sought may be reduced to Q_1 – in spite of an unchanged relative price – if the preference for the possession of arms falls, or if the resources needed to acquire them dry up. For example, the preference for arms acquisition by individuals might fall if the community in which they live figures out an effective self-policing scheme that operates in spite of an inefficient formal police force. Alternatively, the degree of arms acquisition is predicted to fall (from point A to

point D) if the resources necessary for their acquisition fall (lower income, wealth, grants, and credit). Even if local police services are lacking and one has developed a willingness to acquire arms to defend one’s person, family, and belongings, in the absence of sufficient resources one has little option but not to participate in the small arms market where otherwise one just might have. This, too, is an important conceptual point for it indicates that underlying preference for small arms acquisition can be “hidden” by resource scarcity. Should resource scarcity be lifted (e.g., diaspora financing of conflict), small arms acquisition may increase drastically not because people have “suddenly” become more hostile or aggressive, but because the resource constraint has been lifted. In this case, the quantity sought increases from Q^* to Q_2 (point A to E). A change in the same direction can occur if preferences change. For example, if in addition to ineffective local police services (an unchanged condition), bandits enter one’s community (a new condition, perhaps stimulated by the knowledge of ineffective policing), the theory would predict increases in the average level of arming by members of the community.

As even these few examples show, the great advantage of the theory of demand is that it admits, with ease, an infinite variety of contextual complexity into a compact yet flexible analytical framework. The

complexities may well be better described by disciplines other than economics, such as psychology, anthropology, sociology, and political science, but the choice behavior, revealed when small arms are either acquired or not, is most compactly captured by the theory of demand. Everything that can possibly happen “on the ground” can be translated with the theory of demand (preferences, resources, and relative prices) into observed demand for small arms.

In addition to compactly express complexity, the theory of demand offers two other highly valued advantages. The first is that the theory guides field work. Comprehensive, rather than partial, research would address preference formation, relative prices, and resource availability as well as changes in preferences, relative prices, and resources, both monetary and non-monetary. The theory is not only compact while being complex, it is also complete. The second advantage is that the theory serves as a control on the hypothesized effects of any proposed intervention mechanism on small arms demand. If for instance one were to propose “economic development” as an intervention mechanism, on the notion that economic opportunity will reduce predatory behavior, the theory would remind one that such development also increases people’s available resources so that the net effect on small arms acquisition is ambiguous (reduced preferences reduce demand but higher income increases demand).

The economic theory of demand is a general theory.⁴ It describes choice behavior with regard to material and immaterial goods and services, as well as “bads” and “disservices”.⁵

Implications of the theory of demand

In what follows, I provide a non-exhaustive number of examples, classified by preferences, resources, and relative prices. The first regards preferences. “Preference” is an economist’s shorthand for an amalgam of factors that refer to people’s needs and wants, fads and fashions, likes and dislikes, etc., that is to a person’s subjectively determined perception. In the case of small arms, generalized insecurity in one’s neighborhood, village, region, or country, occasioned by interstate war, civil war, tribal war, ethnic war, rebellion, banditry, or the absence of an effective presence of law and order all increase the probability of victimization of oneself, one’s family, and one’s property. Unsurprisingly, the preference to arm, or be near those who are armed, or join in a coalition of the armed, increases. Of course, a weapon to a Pashtun or Yemini is like beer to a German or a game of baseball to an American – there are societies in which fire arms are an integral part of a culture. Preference shifts here are those that substitute one type of weapon (e.g., a dagger) with another (e.g., a rifle). The modern-day small-arms problem arises mainly in countries that previously have had no close affinity with small arms, such as in most of sub-Saharan Africa. Preference shifts here arise from new insecurities. Conversely, genuine resolution of conflict will reduce people’s preference for small arms, just as genuine resolution of an illness will reduce my preference to

⁴ The theory of demand is empirically well confirmed and describes human and nonhuman behavior (as experiments with laboratory animals confirm; see, e.g., Kagel, Battalio, Green, 1995).

⁵ A “good” is a desired, material or physically tangible outcome (say, a meal); a “service” is a desired intangible, immaterial outcome (e.g., making a monetary or in-kind contribution to charity); a “bad” is a generally undesired outcome (for instance, pollution); and a “disservice” is an undesired immaterial outcome (say as religious persecution). Of course, what is a good or one, may be a bad for another.

purchase medical care.

In research we may need to consider that those purchasing small arms may not acquire an economic bad but – by the purchase of a security tool – may be trying to acquire an economic good. A private good can be a social bad, however, much like the purchase and use of a motor car is a private good that contributes to the production of social bads such as traffic congestion and ambient pollution. People would likely prefer a social good that provides private benefits (peace) but in the absence of the social good purchase private goods that, in the aggregate, can become social bads.

Another consideration with regard to preferences is that fire-arms represent an efficient way of carrying out conflict. They are cheaper, faster, more accurate, more deadly, easier to carry and brandish, and operate over a longer distance than any other weapon such as shouting matches, jostling and wrestling, fist fights and kicking or the use of close-contact weapons such as knives, machetes, and clubs, or long-distance thrusting weapons such as spears. Weapon-substitution in disfavor of traditional weapons and in favor of fire arms marks a preference shift and would be noted as a right/downward shift of the demand line in figure 3, even if the relative price stays unchanged at P^* .

Preferences for small arms may change not only for “genuine” security reasons but also for less noble ones. For example because of the just-mentioned qualitative advantages of small arms, they may encourage predatory behavior, also leading to a preference shift resulting in a right/downward shift of the demand line. Relatively cheap fire arms in an economic environment that offers few alternatives to earn an honest living become an attractive option for aspiring entrepreneurs. Gun-point banditry becomes a way of running a business. In this case, an increasing preference for small arms is a reflection of a requisite input into the banditry-business. The small arms problem then is not primarily an issue of consumer demand (final demand for a product) but of producer demand (intermediate demand for an input in the production of banditry). The acquisition of small arms then is not an expense competing at the household level with expenditure on other desired goods and services but is an expense that needs to earn a return on investment. Since small arms are so cheap, and make banditry so easy, the likelihood is that the return is high. High returns of entrepreneurship encourage imitators to join the business, further fueling the demand, until profits (the average loot) are driven down by lack of prey. Fewer prey support poorer predators. The economist would predict that as the returns from non-banditry dry up (per capita incomes in many African countries have fallen), the returns from banditry will fall as well, and only then will the preference for small arms stabilize.

Banditry deprives the nominal state of tax revenue. It is no coincidence that the small arms problem is prevalent in countries with weak or failed state institutions. Where the state cannot provide security, it cannot appropriate tax revenue. It abandons appropriation to bandits. Unlike states, who husband citizens in order to secure future appropriation (a “settler” form of appropriation), bandits engage in one-time raids. They follow a nomadic “slash-and-burn” form of appropriation. Once the territory covered by bandits incurs high travel costs, they find it economically advantageous to form a rebel government, where looting is converted to taxation. Instead of the anxiety of random looting, people suffer the certainty of steady taxation. It becomes part of the self-interest of the new rulers to form a dynasty of tax extraction. Once legitimized, their preference for small arms may fall as the system of resource extraction becomes institutionalized. Realizing this, it becomes the interest of the state to provide conditions for economic growth, so as to increase the tax take. Citizens will happily go along, as economic growth also increases

the remainder left to them. This can encourage a new round of banditry. (On banditry, see Olson, 1993, and McGuire and Olson, 1996.) The point of these examples is to suggest avenues for research on existing and changing preferences for small arms in developing countries. Uncovering what drives small arms preference may not, in the end, uncover levers of policy intervention but without uncovering preferences, we will not learn either whether policy intervention may or may not work.

Second, consider the influence of resources on one's willingness and ability to acquire small arms. Resources include earned income, depletion of savings, grants, and credit. Once more, we need to consider the issue both from the point of view of the consumer of small arms, for whom small arms are an input into the production of individual and family happiness, and the point of the potential producer of banditry, for whom small arms are an input into entrepreneurship and profit. Almost certainly, grants and credit will not be available to final consumers to purchase arms. But inasmuch as they free up or supplement income, grants and credit are fungible and can be directed into purchases the grantor or creditor did not intend to finance. Throughout the developing world, incomes and savings are small but the price of small arms apparently is often low so that the cost of arms acquisition as a percentage of available incomes may not be onerous. This would be true even more so if the value of non-traded production were monetized as income. For example, economic statistics that compute GDP per capita capture only market-based income. Household agricultural production would not necessarily be reflected in GDP numbers. Thus, a household's actual resource availability is usually higher than resource availability as measured by GDP. While measured GDP per capita has declined in many African nations over the past two decades, it is not clear to what degree actual resource availability has changed. Expensive household-level expenditure and income surveys would be able to establish that, but it would be difficult to generalize the findings across communities, regions, and countries. My impression is that it is unlikely that the demand for small arms would have shifted right/downward because of increased availability of resources.

Third, consider the influence of prices other than those for small arms, including prices for other types of weapons (spears) or implements that may be used as weapons (machetes). If prices for these goods have been increasing, the relative price of small arms would have decreased, thus inducing substitution of one type of weapon for another even as the price of a particular fire arm itself may not have changed at all (in figure 3, the price is still at P^*). For example, if the price of a firearm is 1, and that of a spear is 1, then the relative price is 1:1. If the price of a spear increases to 2, the relative price is 1:2 so that the firearm is in effect half as expensive as before. If spear and machete production were highly industrialized production activities, their market price might be low, but I suspect this is not the case. Likewise, if the market price of daily necessities increases, the relative price of small arms rises (it become more expensive to afford arms, even if their absolute price is unchanged). It would be a question of thorough field-based research to find out how changing relative prices affect the demand for small arms. The three factors – preferences, resources, and relative prices – work simultaneously. For instance, even if the preference for small arms increases, lower incomes and higher relative prices of other goods may nonetheless exert a net effect such that the overall quantity of small arms sought is reduced.

Producers of banditry and rebellion need implements to carry out their profession. In developing countries, I suspect this is by far the larger part of the demand for small arms. Even producers of crime need to consider their cost and the return on their investment in criminal activity. Small arms are by far the cheapest means rob, pillage, loot, and cause mayhem. From the point of view of the bandit, it is also the

safest – and the best means of defense should the bandit be resisted. In the absence of effective regulation of social behavior (law and order), banditry becomes a plausible and profitable occupation. Just as for the small arms suppliers, the absence or corruption of regulation lowers the cost of business and induces more people to become willing and able participants in the market. Even if the price of small arms were high, so long as the anticipated earnings from crime are higher than those of non-crime, an economist would expect the demand for small arms to pick up (shift right/downward in figure 3).

There is a wrinkle in this story worth noting. Unlike final consumers, producers of banditry might well be able to count on credit to finance arms purchases, just like in some countries beer companies underwrite the establishment of public houses (pubs) under a long-term supply contract that obligates the pub to serve only a certain company’s beer. A local arms dealer can likewise supply firearms free of charge – so that the bandit’s cash outflow is zero – in exchange for a cut of the eventual loot. Credit repayment is enforced by threat of injury or death to delinquent debtors. The arms dealer may of course be conceptualized as a local war lord handing out weapons and offering food, shelter, a semblance of community, and perhaps even a monetary reward to a gang of firearm-wielding thugs. The dealer may be conceptualized as a rebellion movement, a revolutionary force, or even a counterrevolutionary cause – for example, in Colombia. This, finally, suggests not just the availability of *credit*, but the generation of (plenty of) *income* from which to finance the acquisition of small arms.

My impression is that the demand for small arms is driven not by final consumers but mainly by the production of various forms of banditry for which small arms are a highly productive input. These producers’ preference for banditry are encouraged by lack of effective law and order functions provided by government which make banditry a profitable economic alternative to other forms of earning a living. Moreover, banditry in the face of weak law and order enforcement generates income with which to purchase more arms. Also, the relative price of arms is low, relative to other expenditures in the banditry business.

3. The market for small arms

The theory of supply and demand

Having examined some aspects of supply of small arms and demand for small arms independently of each other, I now briefly examine their interaction. In figure 4, the solid supply and demand lines interact to yield some average small arms relative price, P^* , and an overall quantity traded of Q^* . In section 2, I argued that the cost of market participation has dropped for suppliers so that the supply line is depicted as shifting down/rightward to become the dashed supply line. Similarly, in section 3, I argued that the desire to participate in the market as a demander has increased – primarily by those who use small arms as an input into the business of banditry – so that the solid demand line shifts up/rightward to

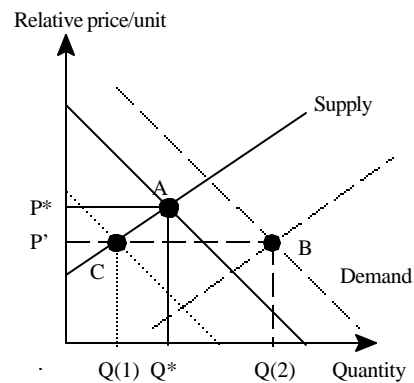


Figure 4: Small arms supply and demand

become the dashed demand line. The intersection of the dashed lines provides the new market outcome, a lower market price, P' , and a larger quantity traded, Q_2 . Both supply and demand have increased, but supply more markedly so, whence there is downward pressure on the market price of small arms.

Implications of the theory of supply and demand

I mentioned in section 2 that I am skeptical that there is much that can be done about the supply side of the market. So long as production, administrative, and selling costs are low, and falling, I do not foresee feasible ways to intervene in the market. As I argued, raising the administrative cost to producers by imposition of a global small arms supply control agency is probably not feasible, in part because the establishment of such an agency itself is costly and requires high coordination cost among the participating states. Each state, in turn, would need to carry enforcement costs. This is unlikely to happen. Moreover, as soon as the cost of small arms production is driven up, it becomes enticing to operate in the unlicensed, illegal, or black market.

The only remaining alternative is to think about avenues for intervention on the demand side of the market. Note what would happen in the small arms market if demand fell (the dotted demand line). As drawn in figure 4, the market price would remain at P' but the quantity traded would fall to $Q(1)$. But demand is a function of preferences, resources, and relative prices. Those devising policy options must therefore think with care about how to reduce the preference for acquiring small arms, how to increase the price of firearms relative to other goods, and/or how curtail the resource base from which small arms are acquired.

Small arms are so plentiful and cheap that I do not believe that changes in their relative price will count for much. It is probably more effective to think about preferences and resources. Regarding preferences, my view is that a bandit's preference for small arms stems from the economic opportunity (the loot) small arms make possible. Thus, policy intervention would need to focus on destroying opportunities for banditry. For instance, it is well-known that the drug business generates much of the resource (income) base for gun purchases. Part of the small arms problem can be addressed by addressing the drug-problem. Legalization of currently illegal drugs, many economists argue (even "conservative" economists), would lead to lower drug prices, destroying the business's huge profit margins, and undermine the demand for small arms in this part of the small arms market. Not unlikely, however, this may lead to a search for an equally lucrative substitute economic activity, such as domestic banditry and looting, of the sort frequently observed on the African continent, or the establishment of war lords' regional spheres of influence such as in Pakistan and Afghanistan.

Policy intervention would therefore consist of a two-pronged approach. First, to much improve opportunities for socially desirable forms of economic activity and, second, to frustrate opportunities for socially undesirable forms of economic activity. Of course, the regions and countries most affected are precisely those where this policy approach is most difficult to implement. This observation does not, however, invalidate the analytic conclusion.

4. Conclusion

The small arms problem emerges both from the supply side, very low cost of participation in the market, with little chance of increasing that cost, and the demand side which I view as a derivative problem stemming from the illicit drug business and the failure of effective governance structures in developing states that open up opportunities for unfettered banditry. The solution to the small arms problem is simply (but not easily) to encourage economically desirable activity and discourage undesirable activity.

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