IV

THE ECONOMICS OF ECONOMIC INTELLIGENCE

James A. Brander

THE TRADITIONAL ROLE of intelligence services is to provide information to governments about threats to national security. Intelligence services as a group have normally focused on military, political, and potential terrorist activity. A typical intelligence service also devotes a good deal of effort to keeping track of other intelligence services. In addition, however, intelligence services have also been involved in the provision of economic intelligence. Sometimes this merely involves the compilation and analysis of publicly available information, but it may also involve economic espionage.

With the decline of East-West tensions, the relative importance of military and political intelligence has diminished. This, in turn, has raised the relative profile of economic intelligence in general and economic espionage in particular. In Canada, the major intelligence services are the Canadian Security Intelligence Service (CSIS), the Royal Canadian Mounted Police (RCMP), and the Communications Security Establishment (CSE). As described in the chapter by Anthony VanDuzer, both CSIS and the RCMP are legally limited to a defensive role with respect to economic espionage; CSE, which is the government's signals intelligence-gathering unit, at present has no statutory mandate, a fact that makes it difficult to ascribe to it a purely defensive posture. CSIS and the RCMP try to prevent foreign intelligence services or their surrogates from obtaining confidential business information, but they do not actively seek such information. As reported elsewhere in this volume, CSE's history of operations has been more ambiguous than that of CSIS and the RCMP. Nonetheless, it can be stated that Canada's primarily defensive posture on clandestine economic intelligence-gathering is in

stark contrast to the practices of some other countries. There have been widely publicized cases in which intelligence services from, for example, Russia and Japan, have stolen trade secrets from foreign firms and turned them over to domestic rivals. Several examples are described in the chapter by Samuel Porteous.

The objective of this chapter is to provide an economic analysis of economic intelligence. More specifically, the chapter considers whether there is any reasonable economic rationale for the involvement of state-supported intelligence services in economic espionage or in economic intelligence more broadly. This question is considered primarily from a national point of view, in that I ask whether one country (such as Canada) can gain from state-supported economic intelligence, but I also discuss what form international agreements over economic intelligence might take.

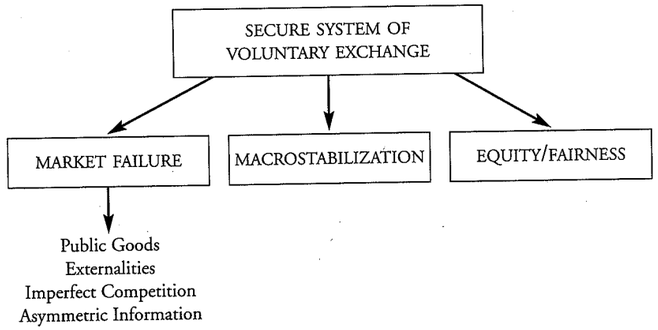
There are three types of economic argument that might provide a rationale for state-supported economic intelligence services. These three arguments are the "strategic trade policy" argument, the "public good argument," and the "police" argument. In order to make these arguments clear the first section provides some background on economic policy analysis. Sections two, three, and four discuss the strategic trade policy, public good, and police arguments respectively. The conclusion comments briefly on the evolution of intelligence service activity in response to a global environment characterized by a proliferation of non-traditional security threats, including greater incentives for economic espionage.

A PRIMER ON ECONOMIC POLICY ANALYSIS

We can think of economic policy analysis as consisting of a series of questions. The most basic question asks what kinds of economic activities the government should undertake. Then, within a general category of activity, we ask what specific projects should be carried out, and how much of each project should be carried out. Going further, we then ask how the projects should be implemented and managed. I cannot provide a very full discussion of these questions here.[1] There is, however, one key point that needs to be made: the economic rationale for government provision of economic goods and services (including intelligence services) is really quite limited.

The starting point for a consideration of the economic role of government is the assertion by Adam Smith that the private pursuit of economic self-interest has impressive efficiency properties that work in the overall collective interest.[2] Thus, as a base-line principle, Smith argued that governments should have a very limited role in the production of economic goods and services. The "default" approach to any particular economic function would be that it should reside in the private sector, although Smith did recognize some exceptions.

FIGURE 7: GOVERNMENT INTERVENTION



The work of Smith has been formalized by subsequent economists, who have shown that private enterprise has strong efficiency properties under certain conditions. The implication is that market-based economies would be expected to out-perform extensive systems of state control, such as the now dismantled Soviet-style system of central planning. However, modern economic analysis also recognizes (as did Adam Smith himself) that there are situations that call for government intervention. Figure 7 provides a schematic diagram of the justifiable economic role of government.

Following Figure 7, one economic rationale for government action is to provide a secure system of voluntary exchange, because having such a system is what allows the efficiency properties of market-based private enterprise economies to occur. (This is discussed more fully in the fourth section of this chapter.) Even when such a system is in place, governments

may still reasonably intervene to deal with macroeconomic stabilization or to undertake economic redistribution for reasons relating to equity or fairness. Also, there are so-called "market failures." These are situations in which private markets fail to achieve efficiency even with a secure system of exchange in place. There are four sources of market failure: public goods, imperfect competition (or "market power"), externalities, and informational asymmetries. Governments may, of course, have legitimate non-economic objectives that lie outside economic analysis, but there is no economic rationale for intervention other than those given in Figure 7.

Very often in political debate one hears that the government should intervene in some industry because it is "important," or that it should carry out some project because the private sector would not do so. These rationales are spurious. Economic importance is no reason, in itself, for government intervention, and the mere observation that the private sector fails to do something (like growing bananas in the Yukon) is, in most cases, a good indication that it should not be done at all, not an argument that governments should do it.

In the case of intelligence services, there are no macroeconomic stabilization issues to consider, and equity-based rationales seem to have modest relevance. This leaves us with the market failure rationales and with overall exchange security. Two of the three arguments, I have suggested, the strategic trade policy argument and the public good argument, derive mainly from market failure considerations. The police argument mainly concerns exchange security, although it also relates to market failure.

ECONOMIC INTELLIGENCE AS STRATEGIC TRADE POLICY

The meaning of the term "strategic trade policy" is not completely self-evident, and different researchers have used the term in slightly different ways. A standard definition is that strategic trade policy is a trade policy that conditions or alters a strategic relationship between firms. This definition implies that the existence of a strategic relationship between firms is a necessary precondition for the application of strategic trade policy.

A strategic relationship between firms is one in which firms have a mutually recognized strategic interdependence. More formally, the payoffs (profits) of one firm must be directly affected by the individual

strategy choices of other firms, and this must be understood by the firms themselves. Strategic trade policies would therefore not arise under perfect competition, nor under pure monopoly unless potential entry were an important consideration. Strategic trade policy amounts to the study of trade policy in the presence of oligopoly. In other words, strategic trade policy applies in industries in which a small number of firms are engaged in imperfectly competitive rivalries. Thus it is the "imperfect competition" type of market failure that creates a potential role for government policy of this type.

The analysis of strategic trade policy is part of a broader research agenda that has been very active since the beginning of the 1980s.[3] Since then, international trade economists have sought to incorporate oligopoly and other forms of imperfect competition into the formal analysis of international trade and trade policy so as to make contact with important empirical regularities and policy concerns. The central insight of strategic trade policy is that intervention to alter the strategic interaction between oligopolistic firms can itself be an important basis for trade policy. Economic espionage by state-supported intelligence services is a type of government intervention that can play the role of affecting strategic interactions between oligopolistic rivals.

As is often the case in economics, the academic use of the term strategic trade policy differs from the way the term is used in political debate, where it has at least two other distinct meanings. First, strategic trade policy sometimes refers to trade policy that has direct military implications. Second, the term strategic is sometimes used simply as a synonym for important; thus strategic trade policy is trade policy targeted toward industries that are thought to be important for some reason. An industry that is "strategic" by one of these definitions might also be strategic in the game theoretic sense used here, but neither of these definitions is relevant to the analysis presented here.

The basic idea of strategic trade policy is that government policy can be used to increase the domestic share of the above-normal profits that may be available in imperfectly competitive industries. The simplest case to consider arises when there is just one domestic firm and one foreign firm in an oligopolistic rivalry in world markets. Profits in the world market are the target of the espionage activity. Economic espionage that favours the domestic firm may enhance its competitive position and increase its profits, at the expense of rivals, sufficiently that there is a

net gain to the domestic economy over and above the direct cost of the espionage activity. A simple example should make the point clear.

Suppose that two countries are capable of producing a particular good. For concreteness, let us call the good a 150-seat passenger aircraft and let us call the countries America and Europe. Also, assume that there is one firm in each country that can produce the good. We will call the firms Boeing and Airbus respectively. Suppose that the internal market for this product is small in both countries, and that most consumption of the product is in other countries (as it might well be for a particular type of aircraft). We can then take the profit earned as the appropriate measure of national benefit from this product for each of the two countries.

We assume that each firm must choose either to produce the product or not. We also assume that the market is profitable for one firm if it is the only entrant, but that the market will be unprofitable if both firms enter and must share the market. The profits or "payoffs" are shown in the following table. The first number in each cell is the payoff to Boeing (and "America"), while the second number is the payoff to Airbus (and Europe).

		Airbus	
		Enter	Not Enter
Boeing	Enter	-5 -5	100 0
	Not Enter	0 100	0 0

In this example, if both and Boeing and Airbus choose to enter, we can see that they both lose 5. If one firm enters and the other does not, the entering firm gets a net benefit of 100, whereas nothing happens to the other firm. Given this payoff matrix, the outcome is indeterminate. If either firm enters, the other would prefer not to. If, for example, Boeing entered while Airbus did not, then Boeing would earn a return of 100 and Airbus would earn nothing. If Airbus did enter, its return would be -5, so it would prefer not to enter. Similarly, if Airbus enters and Boeing does not, then Boeing would prefer not to enter. What can government policy do? Suppose that the European intelligence services are able to obtain the results of early product development by Boeing and turn these results over to Airbus, thereby saving Airbus the cost of doing

the early development itself. Suppose this cost is 10. This has the effect of lowering Airbus costs by 10 and therefore increasing its net benefit by 10 if it actually produces the product and enters the market. In other words, this cost saving is just enough to allow Airbus to be profitable even if both firms ultimately enter the market. Assuming that the original payoffs for Boeing were net of its early product development costs, its payoffs are unchanged and the new payoff structure is as follows.

		Airbus	
		Enter	Not Enter
Boeing	Enter	-5 5	100 0
	Not Enter	0 110	0 0

In this case, the outcome is clear: Airbus will enter. Furthermore, once Boeing realizes that Airbus is committed to entering, it should cut its losses and decide not to enter at all. The basic reason for this outcome is that the higher benefits derived from stolen information makes entering a "dominant strategy" for Airbus. Entering is the best strategy for Airbus no matter what Boeing does. If Boeing enters as well, Airbus still earns 5, which is better than the zero it gets if it does not enter. If Boeing does not enter then Airbus gains 110 by entering. Thus Airbus should certainly enter. Knowing that Airbus will enter for certain, Boeing should not enter, for it will lose 5 for certain (over and above whatever costs have been sunk in early product development) if it does. Thus Airbus will earn 110 and Boeing will earn nothing.

To make the example very stark, let us suppose that the cost of the espionage activity is very high. Suppose, in fact, that the cost of getting the information through espionage is 10 (the same amount that the information would cost to produce directly). Even in this case, the espionage activity leads to a net benefit of 100 to Europe (which equals 110 minus the subsidy of 10). Profits have been shifted to Airbus by the espionage activity. Even if we assumed that the base case (without the subsidy) gave Airbus a 50 percent chance of getting the market to itself, the espionage still provides net "expected benefits" to Europe.

Note that the espionage activity acts just like a subsidy.[4] Whether the European intelligence service obtained the information by espionage or simply subsidized Airbus to generate the information itself, the effect is the same. The existing work in strategic trade policy considers the sub-

sidy instrument. The new observation in this chapter is that espionage acts much like a subsidy in this setting.

It should be emphasized that the discussion provided here is just an illustration. It does not prove anything formally. However, the corresponding formal analysis of subsidies and other trade policy instruments is contained in the literature cited in endnote 3. The extension to the case of espionage follows directly from this work. The basic point of this example is to demonstrate that one country will typically have a unilateral economic incentive to engage in economic espionage so as to shift profits from foreign to domestic firms. This is true even if the cost of the espionage is as high as the cost of producing the information in the first place. The effect is even stronger if, as one suspects, espionage is a relatively inexpensive way of obtaining information.

Unilateral incentives are not the end of the story, of course. It is fairly clear that the other government, in this case the U.S. government, would also have an incentive to undertake espionage activities. It would have incentives to try to prevent the success of European espionage, but it would also have incentives to undertake direct espionage of its own against the European firm.

It is instructive to consider the effect of successful direct espionage by many governments. Suppose that intelligence services around the world became very good at obtaining confidential economic information. Suppose that they became so successful that it became very difficult for companies to keep R&D results confidential, or to keep product development information from rivals. The net effect would be to reduce the system-wide incentive to undertake R&D and product development. The problem is exactly the same as the problem that would arise if there were no patent protection. Once it becomes difficult for the innovator to obtain a reasonable portion of the benefits arising from innovation, we would expect much less innovation. The formal economic details are a little beyond the scope of this chapter, but it is easy to show that such an environment gives rise to substantial inefficiency.

Thus, in a world where aggressive economic espionage is widespread and successful, each country faces a unilateral incentive to undertake such espionage, but all countries together are made worse off. This is a classic "prisoner's dilemma." (The prisoner's dilemma game has been extensively studied, but one particularly interesting investigation of prisoner's dilemma games is Axelrod [1984].)[5] Thus there would be advantages to entering into international agreements to prevent economic espionage.

Some readers might be aware that the role of intellectual property rights has been a very important subject of negotiation within the World Trade Organization (WTO) in recent years. Economic espionage is a direct affront to the spirit of recent agreements on intellectual property rights, and may be grounds for sanctions under international trade law, although there are no test cases to date.

The case in which espionage is directed at technological information is important, but espionage may also be directed at other types of information, such as bargaining positions, maximum willingness to pay for contracts, and other commercial information that might be useful to a competitor, buyer, or supplier. Provision of all of these types of information by an intelligence service acts like a subsidy to the beneficiary firm, and there are efficiency costs to the international system from this activity over and above the direct cost of undertaking the espionage activity. In addition, covertly acquiring such information violates norms of fairness or ethical conduct. There is, of course, a grey area. If, for example, an intelligence service happens to come across information about market opportunities that it passes along to domestic firms, it is not doing anything very different from what trade missions and consular offices do to help domestic firms. The information still is much like a subsidy, but the detrimental effects of the activity are not so obvious as with the other types of espionage discussed previously.

The discussion so far has been devoted to aggressive or direct economic espionage (using intelligence services to obtain confidential information from rivals) rather than defensive espionage. The analysis here suggests that defensive espionage might be a good thing. Defensive espionage has the effect of protecting intellectual property rights more securely and thereby would be expected to increase the incentives to innovate. Furthermore, it acts as a deterrent to aggressive espionage in the first place. Thus, from a worldwide point of view, there is reason to support the use of defensive counter-espionage.

In addition to the question as to which activities should be undertaken, governments and intelligence services also face the question of how much of each activity to undertake. Thus, even if we decide that defensive espionage is an appropriate activity in principle for intelligence services to carry out, we still need to do a cost-benefit calculation to consider how much, if any, such activity is actually warranted. This is just an example of standard economic policy analysis. Any activity, such as

counter-espionage, should be carried out as long as the marginal (or extra) benefits of the activity exceed the marginal costs. In any particular case, an empirical judgment must be made. In this case we must ask whether economic counter-espionage has sufficiently low costs and sufficiently high benefits that it is worth doing.

The main insight of this section is that the theory of strategic trade policy suggests that there is unilateral incentive for governments to provide state-supported aggressive economic espionage so as to shift economic profits or "rents" from foreign to domestic beneficiaries. If followed by many national governments, however, we would expect everyone to be worse off under such a regime, as with a standard prisoner's dilemma. Unilateral incentives do not necessarily maximize collective benefits in "games" of this type.

INFORMATION AS A PUBLIC GOOD

The previous section provides an analysis of economic espionage. This section focuses primarily on acquisition of general economic information. The basic idea is that there is a rationale for governments to provide public goods, and some types of information can be viewed as public goods.

A public good is a good that is "non-rival," which means that many people can consume it without "using it up," and it is "non-exclusive," which means that it is difficult to exclude people from using the good. A classic example of a public good is lighthouse services. When one person sees the light and is warned away from a rocky shore, the services of the lighthouse are not used up. Other people also see the signal. Furthermore, it is very difficult to imagine excluding potential users from the lighthouse services. Anyone in range of the lighthouse will see the signal.

A public good causes market failure because it will not be produced by the private sector, or at best will be underproduced, even when its economic value is very high. This is because of the "free rider" problem associated with public goods. Since they are non-exclusive, users do not need to pay to use them. It would be very difficult for a private sector lighthouse to collect enough revenue from users to survive. For this reason, there is a strong rationale for governments to arrange for the provision of public goods.

It is important to realize that the term "public good" has a strict meaning in economics that, like the term "strategic trade policy," differs from the way the term is sometimes used in ordinary language. Thus a public good is not simply a good that is publicly provided. Goods like health care and education are not public goods, for example, even though they might be publicly provided. A public good is a good that meets the two strict conditions given here: non-rivalry and non-exclusion.

Information is not a strict public good, but it is close to being a public good in some cases. It is non-rival in that information does not get "used up," so it meets one of the two criteria, but it is not completely non-exclusive, as certain types of information can be protected and released only to some users. However, it is often difficult to keep users from passing the information along to others, so information is close to being to a public good. The extent to which people can be excluded from information depends mainly on how difficult the information is to interpret. Information that is easy to understand, such as "the interest rate on government bonds is 7 percent" is hard to keep exclusive, because it is easily transmitted and understood. On the other hand, technical information about the design of a computer processor is easier to keep secret, because most people could not understand the information sufficiently to transmit it accurately.

The basic economic rationale for organizations such as Statistics Canada is the public good nature of information. Statistics Canada gathers information about national income, demography, labour markets, and a host of other things and makes this information widely available. Thus, voters can, in principle, make informed judgments about the economic performance of governments without having to hire private information-providers or undertake extensive research on their own. Note that most of this information is relatively easy to understand and interpret, so it would be close to being non-exclusive. We would therefore expect the private sector to underprovide this type of information.

Governments are one major user of the information provided by Statistics Canada. If information were not a public good (that is, if it were a normal private good), then it might make sense for governments in Canada to buy information from private sector suppliers. After all, Canadian governments use a lot of computers but do not need to be in the computer-manufacturing business. The fact that information is not a normal private good, that it has public good properties, is what allows

an economic rationale for government information services. We think of the government providing information much as it provides lighthouse services. These services have a value much higher than the cost of production, but would not be adequately produced by the private sector, because of the free rider problem associated with public goods.

This particular rationale for government-provided information is not very persuasive in providing an economic rationale for intelligence services. Intelligence services do not provide information to the general public, or to a wide range of other users. They provide information to governments for confidential use. Thus, the information they provide is proprietary, and does not have a public good character. Therefore, the public good nature that much information has is not very relevant for the operations of intelligence services.

Intelligence services could acquire general economic information that might be made available to a range of users (as the CIA does), but it is difficult to imagine that intelligence services could provide better general economic information than is provided by national statistical organizations such as Statistics Canada or international (publicly funded) organizations such as the World Bank, the Organization for Economic Cooperation and Development, the International Monetary Fund, and various UN agencies. There are also some private organizations, notably the Economist Intelligence Unit, that provide general economic information for a fee.

Overall, a basic economic analysis of the public good argument as applied to economic information provides a rationale for some kind of government-supported information-gathering activity such as that carried out by Statistics Canada and by publicly funded international organizations. It does not provide much of a rationale for provision of general economic information by intelligence services. If there is an important distinction between intelligence services and other information providers (such as Statistics Canada), it has to do with the confidentiality and even secrecy associated with intelligence service activities. However, this very secrecy implies that the information involved cannot be a public good. Thus the public good nature of some information provides only a very weak potential rationale for the activities of intelligence services.

THE POLICE ARGUMENT

What I refer to as the police argument has two logical steps. The first step is the claim that state supported police services are best provided by the public sector. The second step is the observation that the counter-espionage component of economic intelligence can be viewed as a police-like service. The second step could be put slightly differently by saying that covert acquisition of economic information is an essential and inseparable component of important police-like activities.

Most readers would probably take the first step in the argument for granted. It might come as a surprise that economists regard it as necessary to provide an economic rationale for publicly supplied police services. We can note, however, that it is possible to imagine situations short of anarchy without publicly provided police services. In such a situation we would expect extensive use of private security services. In many countries, including Canada and the United States, a substantial fraction of police-like activity is in fact provided by private security services, and most economic counter-espionage activity is undertaken by firms themselves. Nevertheless, modern states depend heavily on state-supplied police services. The economic rationale for public police is not entirely obvious. It rests on three principle components. One component is a public good argument, one is an equity-based component, and the third (and most important) component relates to overall exchange security.

The public good component can be explained as follows. Many police services are substantially non-rival and non-exclusive. Thus, for example, if police apprehend a violent criminal, many people are protected by this act. It is, moreover, impossible to even identify who the next victims would have been. It would be very difficult for private police to obtain income from potential victims if victims cannot even be identified. We could imagine that private police might sign contracts with potential victims of certain types of crime (such as theft from stores), but most potential areas of police activity would be subject to the free rider problem. What private individual would pay police to carry out traffic control, for example? If we are to have an efficient level of policy activity, it will have to be through collective action of some sort, and government provision is the primary form of collective action in modern economies.

There are also equity-based arguments for making police services part of the public sector. Note that many of the interactions people have with the justice system are involuntary. Suspected criminals may be held against their will, and many other participants (jurors, witnesses, etc.) are brought into the system because of a legal obligation, not because of voluntary action. The equity-based argument is that when people interact in a coercive environment, it is very important that the environment be impartial. Thus, for example, there is no market failure reason why court cases could not be conducted by hired judges who compete as free agents in the marketplace. However, we make the collective judgment that judges should be provided by the state in an effort to provide impartiality. (There are, incidentally, areas of law in several countries where private judges are used.)

The most interesting component of the rationale for police services is what I have referred to as the "exchange security" component. The efficiency properties of private sector economic transactions are based on the principle of voluntary exchange. The main reason why Adam Smith and subsequent economists have been able to demonstrate the benefits of private economic transactions derives from the very simple principle that if two parties to a transaction participate in the transaction voluntarily, it is because they both expect to gain from it. Thus, using Smith's example, when I buy bread from the baker, we both gain from the transaction. In a system where all economic transactions are voluntary, each transaction benefits both parties. This creates a strong force that operates in the direction of overall system efficiency (although the story is a little more complicated that just this). If, on the other hand, the government instructs the baker to supply me with bread, and instructs me to consume the bread, there is little assurance that we will be better off. Perhaps I do not like bread and would prefer rice, and the baker might not receive enough compensation from the government for providing me with bread for it to be worthwhile for him to do so. This is the fundamental problem with command economies such as the former Soviet system.

An even worse alternative is anarchy, where the strong simply take from the weak. The real problem with this is that the weak will not bother to produce much if they cannot protect it, and most people will devote most of their resources to protecting their property rather than producing new things of value.

The principle of voluntary exchange is at the heart of the efficiency of market-based economies. In order for voluntary exchange to work, however, participants in the system must be protected from coercion. If I can go to the baker and demand bread at gunpoint, then the efficiency properties of the system break down. Thus the state needs to provide the environment in which voluntary exchange can take place. This consists of doing things like enforcing contracts, protecting individuals from direct coercion, protecting private property, and the like. In order to achieve this, however, the state must use some coercion. It arrests people, incarcerates them, seizes their property, etc. If the state withdrew from this role and allowed private sector agents to carry out such actions, there is no reason to believe that efficient economic transactions would result. This is where libertarians and classical economists part company. Classical economists implicitly presume a coercive role for the state that serves to protect the principle of voluntary exchange in private transactions.

In any case, these three components of the argument for police imply that there is a role for state police services. I am using the term "police services" broadly to include the entire apparatus that protects the system of voluntary exchange. Part of this apparatus involves the provision of information, and much of the information is inseparable from the police services themselves. For example, police investigate crimes, which is an information-gathering activity. Much of this information is economic in nature, especially in crimes involving economic matters, such as financial fraud. This information is not normally of the public good type, so there is no market failure reason for acquiring it through the public sector. However, we can observe that, simply from a "production" point of view, acquiring information is necessarily linked to police service activities that should be carried out in the public sector and cannot be readily or efficiently contracted out. In other words, a certain amount of information production is an inseparable part of the police activity. As we have agreed that police activity should reside primarily in the public sector for reasons beyond simple market failure, this implies an information-gathering role even when market failure is not present.

So far we have established that police services belong in the public sector and that information acquisition is a necessary part of police services. The final step in the argument is then to observe that some economic intelligence activities that might be carried out by intelligence services are part of a legitimate police activity that is important for

overall system security. In the case of counter-espionage this seems a fairly easy case to make. In the discussion of espionage as strategic trade policy we presumed that the information in question was technical information. Protecting this information is just an extension of the basic idea that the state should protect the property rights of private economic agents. In addition, espionage might well be focused on other types of information that might be used to blackmail or intimidate senior executives, and this too should be prevented to the extent that illegal coercion is involved. As a result there is a clear rationale to use counter-espionage to protect participants in international business transactions from such threats.

Counter-espionage of this type might be focused on mitigating or stopping the effects of foreign intelligence agencies. In addition, however, it might be focused on the activities of firms themselves, foreign and domestic.

ECONOMIC INTELLIGENCE AND THE GLOBAL ECONOMY

During the past two decades the term "globalization" has come into popular usage to describe an important trend in economic affairs. This term refers to the increasing interdependence and interconnectedness of the world economy. Globalization has already had an important impact on several distinct areas of government activity, and is likely to have a major impact on security intelligence services.

Traditionally, intelligence services were supposed to protect "national" security, which, stripped to its essentials, means protecting "us" (domestic nationals) from "them" (everybody else). For example, in the discussion of strategic trade policy we assumed that intelligence services will provide advantages to "domestic" firms at the expense of "foreign" rivals. However, one effect of globalization is that it has become increasingly difficult to distinguish between "us" and "them."

As described by Hart, developments in communications technology and transportation systems, combined with international agreements, have led to fundamental changes in business organization.[6] Large firms are increasingly internationalized. A relatively simple product such as a shoe may have components from several countries, and a car may have components from a few dozen. Sales for large corporations are increasingly

diversified around the world, as is ownership. It is therefore very hard to identify corporations with countries. Even quintessentially American companies such as General Motors or Coca-Cola have widely diversified production, sales, and ownership around the world. The same is true of large Canadian corporations, such as Alcan and Cominco, and many of the largest "Canadian" corporations (such as General Motors, Chevron, IBM, and Macdonald's) are foreign-owned subsidiaries in any case. Therefore, when a firm is helped or harmed by espionage activity it is increasingly hard to attribute this cost or benefit to workers or shareholders in a single country. This factor may weaken the national incentive to undertake aggressive espionage, and, more importantly, it causes confusion about exactly whose "side" intelligence services are on.

Divided or unclear loyalties at the individual level are an even greater problem than at the corporate level. Traditionally, intelligence services concentrated on protecting a well-defined national group. Particularly in countries with large immigrant populations like Canada, it is now far from obvious where the loyalties of intelligence services should lie. Take the example of those in Canada who hold dual Canadian and Hong Kong citizenship. Much of this population was born in Hong Kong, and lives and works in Hong Kong. What is the appropriate role of CSIS with respect to this population? Should CSIS be policing it, trying to address tax evasion and other potential problems, or should it perhaps be making plans to protect this population from possible problems that might arise now that control of Hong Kong has reverted to China. With regard to economic assistance, should CSIS help a Hong Kong firm run by a Canadian national in Hong Kong? What if that firm is in competition with a Canadian company that actually operates in Canada? In a world of divided loyalties and divided nationalities it is difficult to choose sides.

In addition to weakening national identification, the rapid evolution of communications and information processing technology has a more direct potential effect on the demand for intelligence services. The volume and flow of commercially-relevant information through electronic media is growing rapidly, especially across international borders, and potential theft or misuse of this information will be an increasing threat to firms, governments, and individuals. Information security has become a major public policy concern. It is possible that existing specialized communications security agencies will grow and gradually

displace traditional intelligence services. However, it is also possible that traditional intelligence services will find an expanded role in this area.

We think of globalization as deriving from technological changes, but we should not forget that there is another very basic force underlying globalization, and that is simple crowding. World population continues to grow very rapidly. World fertility is falling, but is still far above the level needed to stabilize population, particularly in Africa. As a result, the world continues to become an increasingly small and crowded place, with some parts, particularly sub-Saharan Africa, facing greater impoverishment than ever before.

The effects of these pressures are made worse by the significant market failures (mostly of the externality type) that affect the natural environment. Responding to these problems are a growing number of governmental and non-governmental international organizations and regimes. In recent years there have been international agreements reached on ozone depletion and, within the North American Free Trade Agreement, on a range of environmental issues. However, international agreements and conflicts over environmental issues remain in their very early phases. The key feature of these conflicts is that they are international in scope. When Spanish or Portuguese fishing vessels overfish ocean-going stocks of Atlantic turbot, this has major implications for Canada. Even something that is apparently an "internal" matter, such as the deforestation of the Amazon jungles in Brazil, has important potential effects on climate and rainfall that would affect neighbouring countries.

I would predict that environmental conflict, with significant ramifications for national and international economic development, will be the major area of conflict in the next century. In the Middle East, for example, it seems likely that religious and ethnically based conflict will decline, but it may be partially replaced by major conflicts over water use and water supplies. Thus, intelligence services could play a major role in conflicts generated by resource use issues. They could, for example, play a role in detecting cheating on international environmental agreements by national governments and by private firms, although it is possible that other specialized agencies will take over this role.

The following quotation from Hart makes an important general point. "We have reached the stage at which economics is increasingly global, but politics continues to be intensely local. Markets today are local, regional and global, that is, anything but national, while governance

continues to be national."[7] Security intelligence services are currently focused on aiding national governments. However, as argued by Hart, the scope of national governments is declining. The monitoring of international environmental agreements or international information flows may well require that intelligence services serve supranational governmental bodies, rather than national governments. One could even imagine that intelligence services might serve an array of clients, including national governments, but also including sub-national governments and supranational bodies. Presumably, the ultimate authority would have to be a national government, but one could imagine that a national intelligence service might, in effect, contract out its expertise to other jurisdictions.

CONCLUSION

This chapter has provided a conceptual statement of the rationale for economic intelligence service activity. I have argued that there are three general arguments related to economics that might be considered. One argument is the strategic trade policy argument, which shows that individual nations might well have incentives to use espionage to further the interests of domestic firms so as shift benefits from foreign to domestic claimants. Viewed in this way, espionage is much like a subsidy to domestic firms and is formally very similar to a subsidy. At this international level, such activity tends to be harmful to innovative activity as a whole. In essence, when one country gains from economic espionage, the damage done to other countries exceeds the benefit to the country that gains. This suggests that the world as whole would gain if countries could agree not to undertake direct economic espionage.

One difficulty in getting general agreement about espionage is that the role of different countries is highly asymmetric in the international espionage "game." Most countries have relatively little to lose from industrial espionage, because their domestic firms have few secrets. The largest potential loser from industrial espionage is the United States, primarily because it provides a disproportionately high share of the world's innovation and therefore has a lot to protect. Also, the United States has both a relatively open society and business community, making it even more difficult to protect sensitive information. At the level of patent and trademark protection, the Clinton administration is at odds with with

countries, especially China, that illegally "pirate" various products. The same problems arise over the role of economic espionage. Canada's role is not dissimilar to that of the United States, although Canadian firms have somewhat less innovation to protect, even after adjusting for the relative sizes of the countries, than do U.S. firms. Therefore, countries such as the United States and Canada will have to undertake more vigorous defensive espionage activities. Intelligence services, for example, could play a role in responding to such issues as the "pirating" of domestic products, patent infringements, trademark infringement, and the like.

The second argument for economic intelligence is the public good argument. The public good argument provides a strong case for the existence of national and international statistical agencies such as Statistics Canada and the Statistical Office of the World Bank. These agencies collect and provide general economic information to governments and to many other users. It is hard to see how covert intelligence services can contribute to this, however. Therefore, while the public good argument provides a rationale for the collection of what might be referred to as economic intelligence, it does not suggest a role for intelligence services.

The third argument, which I referred to as the "police" argument, concerns primarily the role of intelligence services in contributing to the overall security of the system of secure voluntary exchange that underlies the efficiency properties of modern market economies. Most such activities, such as police, courts, and the like, are carried out by the domestic justice system, but there does seem to be an important residual role for intelligence services. In this way, we can see intelligence services as an extension of domestic police services. This is, of course, consistent with the structure of the RCMP, which deals with police and intelligence matters directly.

The chapter also considers three important continuing trends in the world economy and their possible impact on intelligence services. The main point of this section is that the world is becoming a more crowded and more integrated place in which it is increasingly difficult to distinguish between "us" and "them" on a national basis. As a result it will be more difficult for intelligence services to base their activities on an adversarial model of world affairs. Intelligence services will, in my view, have to become more like police. They would start with domestic and international law and would concern themselves mainly with violations of this law. For example, in the economic espionage area they would seek

to prevent theft of trade secrets, regardless of the nationalities of the firms involved. Thus the motive would not be to "help" a domestic firm and harm a foreign firm, but rather to enforce a more efficient overall world economic system. The "national" component of national security will not completely disappear, but as we move from an era of geopolitics to one of geoeconomics there will be a greater effort to understand and, in the case of intelligence services, to respond to the economic dimensions of old and emerging national security threats. Canada's intelligence services will likely not be immune from such a trend.

NOTES

1. See James Brander, *Government Policy Toward Business* (Toronto: John Wiley, 1995), for an introductory textbook level treatment.
2. Adam Smith, *An Enquiry into the Nature and Causes of the Wealth of Nations* (Dublin: Whitstone, Chamberlaine, etc., 1776).
3. Some of the early papers associated with this line of analysis are James Brander and Barbara Spencer, "Tariffs and the Extraction of Foreign Monopoly Rents Under Potential Entry," *Canadian Journal of Economics* 14, 3 (August 1981), 371-89; James Brander and Barbara Spencer, "Export Subsidies and International Market Share Rivalry," *Journal of International Economics* 24, 3 (May 1985), 83-100; Paul Krugman, "Important Protection as Export Promotion: International Competition in the Presence of Oligopoly and Economies of Scale," in H. Kierzkowski, ed., *Monopolistic Competition and International Trade* (Oxford: Clarendon Press, 1984); Avinash Dixit, "International Trade Policy for Oligopolistic Industries," *Economic Journal* 94, supplement, 1-16. And see also James Brander, "Strategic Trade Policy," in G. Grossman and K. Rogoff, eds., *Handbook of International Economics* (Amsterdam: North Holland, 1995), for a survey of the area.
4. Samuel Porteous discusses this in his monograph, "Economic Espionage," *Commentary*, No. 32 (Ottawa: Canadian Security Intelligence Service, 1994).
5. Robert Axelrod, *The Evolution of Cooperation* (New York: Basic Books, 1984).
6. Michael Hart, "What's Next: Negotiating Rules for a Global Economy," in American Zampeti and Pierre Sauve, eds., *New Dimensions of Market Access in a Globalising World Economy* (Paris: OECD, 1995), 221-42. See also Michael Hart, "A Multilateral Agreement on Foreign Direct Investment: Why Now?" Occasional Paper No. 37, Centre for Trade Policy and Law (Ottawa: Carleton University, 1996).
7. *Ibid.*, 22.