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International security and the virtual state: states and firms in world politics

RICHARD ROSECRANCE*

The argument

In recent years a new group of 'virtual states'—analogous to the virtual corporation—has emerged in world politics and economics. In order to concentrate upon high level services (research, development, product design, financing, marketing and transport), these countries have transferred much of their manufacturing production elsewhere. Hong Kong, Taiwan, Singapore, Switzerland, Holland, and others have earned large returns from producing abroad as home labour costs escalate. To some degree every major industrial nation has moved in a virtual direction as manufacturing declines to 20 per cent of Gross Domestic Product (GDP) and services rise to 65, 70 per cent or more.[1] This evolution conflicts with traditional security assumptions about the necessity of a powerful and compact economic base.[2] Now countries' economic potential is frequently divided between home and host nations, and security may depend upon reliable access to the economies of other states. Virtual states and nations moving in a 'virtual direction' may improve their position through economic growth in normal times, but may become vulnerable when security threats arise. In war they have to co-ordinate supply from a range of allied nations to carry on the struggle against opponents. It might be thought that their pattern of peacetime interdependence undermines their long-term security.

This is not true for three primary reasons. First, to achieve greater economic growth, other nations are also emphasising invisibles (services) and flows and de-emphasising visibles and stocks as proportions of their GDP. Potential rivals, therefore, will increasingly adopt the same productive strategy and structure, and confront the same vulnerabilities as virtual states.

Second, though force always remains possible, there are many other means to punish aggressive states besides military-territorial action. The removal of factors of production, capital, markets, and the benefits of club goods will represent significant punishment in a world which depends upon access to technology, finance, and information from other nations. China's growth, for example, rests on exports which in turn rely on foreign direct investment. If the last were removed, China's economic situation would deteriorate, and growth would falter.[3]

* This is a revised version of the 2000 BISA Conference address.

[1] See Richard Rosecrance, *The Rise of the Virtual States: Wealth and Power in the Coming Century* (New York: Basic Books, 1999), ch. 1.

[2] See Klaus Knorr and Frank Trager (eds.), *Economic Issues and National Security* (published for the National Security Education Program by the Regents Press of Kansas, Lawrence, Kansas, 1977).

[3] This is true even though consumer demand also importantly contributes to growth.

Third, and most important, a world of virtual states depends upon a pattern of economic and political co-operation that is protected by Great Power guardians. Co-operators can only succeed if 'shield powers' hold the ring against outside predators. This requirement, be it noted, varies from the traditional assumption that Great Powers protect themselves, and that others achieve security only through alliance with one or more major states. If international alignments pit one group against another, virtual states cannot lodge production outside their group, limiting economic gains. As shown during the Cold War, virtual economic connections were confined to one side of the fence, and the world economy suffered. Today virtual connections linking Hong Kong and Taiwan on the one side with China on the other violate past bloc memberships. German investment in Russia and East Europe contravenes prior Cold War alignments. How can these interbloc and worldwide economic links be protected?

The Great Powers have to work together to achieve this result. Yet, a Great Power coalition occurred only once before with the Concert of Europe from 1815 to 1848. It did not last, but crumbled when ideological differences and a waning fear of war undermined Great Power solidarity, permitting five major conflicts between 1854 and 1871. Because of American withdrawal, Russian isolation, and tension between Britain and France, it could not be resurrected after 1919. In 1946 the outbreak of the Cold War put an end to Big Five co-operation after the Second World War. It was not until the end of that conflict that such co-operation became possible once again. A world Concert of Powers remains possible, however, because major nations accept the need to achieve peaceful transitions in their relations with one another and agree that economic growth is the primary if not the sole mechanism of change.[4] As long as its requirements are met, an encompassing coalition of Great Powers can continue to function to maintain general peace and to safeguard economic links among nations.[5]

In this article, I contend that there has been a change in the organisation of states which parallels the 'thinning' of corporations, a kind of mutual virtualisation process. Corporations have become thinner because they perform fewer production functions in-house. States also diversity their production overseas. Domestically and internationally individual buyers and sellers now contract directly, bypassing both states and firms. Just as the domestic state must police and regulate its own internal market, the ungoverned international market needs a group of states to prevent chaos and maintain order. Protectors are needed to support and discipline international market outcomes.

[4] Bjorn Lomborg and Jack Hirshleifer have offered game-theoretic results which suggest that at least two different strategies are necessary to ensure stable co-operation in the system as a whole. In Hirshleifer's terms, 'punishers' are necessary to discipline 'predators' which might otherwise upset the nucleus of co-operation at the core of the system. In the old West, 'bounty hunters' were crucial elements in the social system. They policed the 'rustlers' that otherwise preyed on 'ranchers'. Lomborg sees 'shield powers' as a necessary protection against predators who would otherwise undermine central co-operation. See Bjorn Lomborg, 'The Structure of Solutions in the Iterated Prisoner's Dilemma', Working Paper, UCLA Center for International Relations, 1993; Lomborg, 'Nucleus and Shield: The Evolution of Social Structure in the Iterated Prisoner's Dilemma', *American Sociological Review*, 61 (1996); and Jack Hirshleifer and Juan Martinez Coll, 'What Strategies Can Support the Evolutionary Emergence of Cooperation', *Journal of Conflict Resolution*, 32 (1988).

[5] See Richard Rosecrance (ed.), *A New Great Power Coalition* (Boulder, CO: Rowman and Littlefield, 2001).

The units

States and firms: the conventional theory

The conventional theory of international politics compares the rivalry among states to the competition of firms in an industry.[6] The two disciplines of microeconomics and international politics are seen to operate according to similar principles. The relevant unit, whether state or corporation, seeks to prosper in a wider market.[7] The firm was a hierarchical organisation that made products for the consumer. It designed and manufactured components and then assembled them to create a final product. Firms financed, marketed, and transported goods to prospective buyers.

Similarly in the conventional view, states were hierarchical organisations which performed services for their own members.[8] They protected their populations from outside threats and sought to guarantee domestic peace. Governments were created and instituted to provide social services for individuals. Through taxation, they offered municipal and national services to citizens in the fields of police, welfare, health, and education. They established the legal environment in which individuals and corporations could exchange goods and services.

Firms contracted with suppliers and buyers, but they also competed with other firms in the same industry, each seeking to provide a complete product to consumers. In the conventional theory, states might equally reach agreements with one another in arms control or trade, but they remained competitors for influence and power in the system as a whole. They did not willingly agree to the establishment of an hierarchy which placed one of their number above the rest; nor did they develop a stable division of labour among themselves internationally.[9] In the conventional view, states were similar units. They did not perform differentiated functions. Like firms, however, they might occasionally enter into market-sharing, collusion, or spheres of influence arrangements.[10]

[6] Kenneth Waltz contends: 'International-political systems, like economic markets, are formed by the coaction of self-regarding units. International structures are defined in terms of the primary political units of an era….Structures emerge from the coexistence of states. No state intends to participate in the formation of a structure by which it and others will be constrained. International-political systems, like economic markets, are individualist in origin, spontaneously generated, and unintended. In both systems, structures are formed by the coaction of their units'. Waltz, *Theory of International Politics* (Reading, MA: Addison-Wesley, p. 91). While Waltz sees states acting like firms, Robert Gilpin emphasises a different perspective: firms may act more like states. See his new work: *Global Political Economy* (Princeton, NJ: Princeton University Press, 2001), pp. 288–9.

[7] Waltz notes: 'In any self-help system, units worry about their survival, and the worry conditions their behavior. Oligopolistic markets limit the cooperation of firms in much the way that international-political structures limit the cooperation of states.' (*Theory*, p. 105).

[8] Waltz observes: 'Domestic politics is hierarchically ordered. The units—institutions and agencies—stand v*is à vis* each other in relations of super- and subordination.' (*Theory*, p. 81).

[9] Waltz contends: 'The states that are the units of international-political systems are not formally differentiated by the functions they perform. Anarchy entails relations of coordination among a system's units, and that implies sameness.' (*Theory*, p. 93).

[10] See for instance Jean Tirole in *The Theory of Industrial Organization* (Cambridge, MA: MIT Press, 2000), pp. 240–3.

States and firms: a revised view

Yet the conventional analysis provides only one possible view of the link between economic competition and international politics. The theory of international trade (which, unlike the theory of the firm, actually deals with countries) offers reasons for nation-states to specialise in the production of goods and services internationally according to their respective comparative advantages. Countries derive benefit from free trade in which they purchase goods from others that they produce relatively less efficiently at home. According to the theory of international trade, states can achieve a division of labour internationally which is not altogether different from the economic division of labour among producers within domestic society.[11]

The theory of the firm. A new division of labour engendered by the process of market exchange could thus reshape nations and their role in the world economy in accordance with the theory of international trade. Ronald Coase held that the firm was a flexible and adaptable entity.[12] It exists only because individuals face intractable information and transaction problems in directly contracting with one another for the production of goods and services. A firm bundles a series of components or services into a complete and integrated product. By bringing together the individuals or suppliers who produce the components which make up a product, the firm provides a vital service, for which, of course, it exacts a return, earning a profit.[13] If individuals possessed enough information and contracting ability, however, they might do the work on their own.[14]

Consider a homeowner who wishes to add a bedroom or patio to her house. She may decide to perform the functions of contractor herself, or she may hire a prime contractor to oversee and co-ordinate the activities of separate subcontractors—bricklayers, carpenters, plumbers and electricians—paying the former a fee in return. If she hires a prime contractor, that contractor acts like a corporation would, integrating a series of services and products together. If the homeowner knew enough and had enough time, however, she might seek to act as her own prime contractor.

[11] See among others, Richard Caves and Ronald Jones, *World Trade and Payments.* Helen Milner shows that states are sometimes differentiated. See Milner, 'Anarchy in International Relations Theory' in David Baldwin (ed.), *Neorealism and Neoliberalism: The Contemporary Debate* (New York: Columbia University Press, 1993), esp. pp. 156–8.

[12] Coase points out that within a firm 'market transactions are eliminated and in place of the complicated market structure with exchange transactions is substituted the entrepreneur-co-ordinator, who directs production'. 'The Nature of the Firm', *Economica* (November 1937), p. 388.

[13] *The Economist* offers the following analysis of Coase's contributions: 'In 1937 Ronald Coase . . . asked why workers were organised in firms instead of acting as independent buyers and sellers of goods and services at each stage of production. He concluded that firms were needed because of the lack of information and the need to minimise transactions costs. A world without firms in which production was organised entirely through markets would require full information and no transaction costs; but in the real world it takes time and money to find out about the product being bought or sold. A firm resolves these problems. Mr. Coase argued that the size of firms is determined by the relative costs of bringing in services from outside and the overhead cost of providing them in house.' *The Economist* (28 September, 1996).

[14] Oliver Williamson makes an essential distinction between the corporation's decision to 'make or buy' a product or component. See Oliver Williamson and Janet Bercovitz, 'The Modern Corporation as an Efficiency Instrument: The Comparative Contracting Perspective' in Carl Kaysen (ed.), *The American Corporation Today* (New York: Oxford University Press, 1996), p. 334.

The size and function of the firm are always subject to change with alterations in technology, information, and transaction costs, and the willingness of individuals directly to contract with each other.[15] The firm is no more static in its contractual relationships than is the nation-state.[16] If an individual purchaser could seek out individual suppliers of subcomponents, she would not have to rely upon a corporation to provide them.[17]

One effect of information technology is to short circuit the complex communication channels of traditional firms, allowing individuals to find what they need, and to purchase it directly without engaging the services of corporate middlemen.[18] The worldwide web and the internet provide just such linkages and the requisite information. An adept individual with access to a good communications network can thus duplicate many of the functions of travel agent, banker, insurance adviser, stockbroker, and real-estate agent. Another effect of superior information technologies is to give senior managers data which they never before possessed, allowing them to dispense with the expertise and services of middle management. Finally, if physical capital can be substituted for routine work through robotics or other technologies, only the most skilled and educated workers need be retained. Partly as a result of the widespread availability of information, therefore, transaction costs have been greatly reduced, and firms have become leaner as a result, dispensing with unneeded management and labour.

To save on costs, companies have also reduced the number of vertical levels in their organisation.[19] Finding new and reliable suppliers, firms no longer have to produce all their subcomponents in-house. They can contract out their production, economising on endowments of plant, equipment, and land. 'Just in time' methods bring materials to the plant when a specific process occurs, saving on storage and warehousing costs. The net result is an efficient 'downsizing' of corporations, which then have extra funds for investment in new products.

At one extreme end of this continuum of downsizing lies the 'virtual corporation', an entity which performs headquarters functions—research and development, product design, financing, marketing, insurance and transport—but which does not actually manufacture products.[20] Proceeding along a route outlined by Ronald Coase, the firm subcontracts production to another company, saving on in-house costs. As this process proceeds, companies form industrial alliances to produce products. This partly mitigates the competitive relationship between them. 'Headquarters' companies design products to be made somewhere else. In the new locution of Silicon Valley, these are designated as 'fabless' firms (without fabrication

[15] Coase observes: 'The amount of 'vertical' integration, involving as it does the suppression of the price mechanism, varies greatly from industry to industry and firm to firm'. (p. 389).

[16] Coase formulated the point this way: 'At the margin, the costs of organising (an exchange transaction) within the firm will be equal either to the costs of organising in another firm or to the costs involved in leaving the transaction to be 'organised' by the price mechanism'. (p. 404).

[17] In Coasian terms 'it is clear that the dynamic factors are also of considerable importance, and an investigation of the effect changes have on the cost of organising within the firm and on marketing costs generally will enable one to explain why firms get larger and smaller'. (p. 405).

[18] See no. 11 above.

[19] See Richard Rosecrance, *The Rise of the Virtual State: Wealth and Power in the Coming Century* (New York: Basic Books, 1999), pp. 8–12.

[20] These are now emerging in Silicon Valley, Taiwan, and other placed in East Asia. See for instance, 'Pure Foundry, Pure Profit', in *Electronic Business Asia* (December, 1995).

capabilities). In response, 'foundry' (or 'fab') companies emerge—firms which produce goods for other companies, but have no proprietary products of their own.[21] Their production facilities have to be joined with other firms' product designs for a new line of merchandise to be created. Relations between 'fabless' and 'foundry' companies are even more co-operative than those between traditional companies which do contract work for each other. 'Foundries' will never compete in product design with 'fabless' firms, and thus strategic alliances with them will be more dependable.

Information technology affects transaction costs in two ways. It reduces the necessary activity of the firm itself, returning sovereignty to individual buyers and sellers of goods who can now contract directly with one another, without the intermediary of the corporation. Second, new information makes a firm more efficient, allowing it to contract with others for subcomponent production or even for production as a whole. In both instances, the market gains while in-house costs decline.

The theory of international politics. Just as firms have downsized along Coasian lines, so some states have recognised that they do not have to produce everything at home. The rapid development of foreign direct investment since World War II is in part a reflection of the new trend. At particular stages of production, states, like firms, find it convenient and economic to produce their goods within other countries, benefiting from cheaper labour and closer proximity to the international marketplace. All major industrial countries have moved in this direction, including the United States, European countries, and most recently Japan. The United States began heavily to invest abroad (particularly in Europe) in the 1960s and 1970s. In the late 1970s and 1980s, European investment reciprocated, going largely to America. Since then, both America and Europe have directed investment to East Asian countries and China. Now Japan has begun to diversify its production and to invest overseas—in the United States, the emerging markets of East Asia and also particularly in mainland China. As a result, manufacturing has fallen as a proportion of GDP in all developed countries. Services have now risen to 70 per cent or more of GDP in many first world economies. And the trend is increasing.

As we have already seen, the most dynamic new players have been countries and regions which have moved fully to embrace high technological services as their future industrial advantage.[22] These countries—and there are more on the way—have emerged as 'virtual states'—states which concentrated on headquarters or 'head' functions and which produce their goods through reliable contracts with production or 'body' nations somewhere else. The return on the high level services performed by 'head' nations has on the whole been greater than the return on manufacturing of a traditional sort.

[21] See for example, 'Services Becoming the Goods in Industry', *New York Times*, 7 January, 1997, p. C1.

[22] The effect of information technology, though diminished in the last two years, is dazzling. According to one estimate, 'since the Second World War 60 percent of US economic growth has derived from the introduction of increasingly efficient equipment, the most important of which have been information machines. Around 1950 computers entered the economy, essentially as calculating devices, and the cost of crunching numbers plummeted. Between 1950 and 1980 the cost of a MIP (million instructions per second) fell between 27 and 50 percent annually. In the 1960s computers became labor-saving devices for storing, sorting and retrieving data, the cost of which probably fell at an annual rate of 25 to 30 per cent between 1960 and 1985.' (*Newsweek*, 28 October, 1996, p. 92).

In part, of course, this shift is simply a change in market incentives which bring corresponding changes in corporate strategy among modern firms. The state is in part a bystander in the process. At the same time, states can either accept or resist the change. Like Britain, Holland, Switzerland, Hong Kong, and Singapore, they can seek to benefit from the shift, moving to gain new comparative advantage through services and a more highly educated and technical management and work-force. Or they can try to protect domestic industry (as France, Italy, and Japan did in the past), keeping production largely at home. As states move to accommodate and foster the industrial trend, they change their role as players in international relations.

In this way there has been a growing alteration in the function of the state, analogous to the shift in the nature of the corporation or firm. In both cases, the organisation has become more horizontal and more (not less) dependent upon relationships with suppliers. As firms and states contract out production, they develop crucial economic links with foreign entities. Their stake in the continuance of such relationships rises.

Further, state control of consumer decisions declines. The market rises as a direct provider of services, and the state contracts its role in the market. This means that individual citizens are less beholden to the state for their long-term welfare. Individual sellers of their labour must rely more on themselves and the market and less on the safety-net provided by the state.

States and firms: the consequences of the modern theory of international politics

The conventional theory holds that the theory of the firm is the theoretical starting point for the theory of the state acting in international politics. When the firm undergoes a transformation in its relations with suppliers and subcontractors, the nature of interfirm competition changes. Industrial alliances emerge. There is a greater division of labour even among erstwhile competing firms. Firms are no longer entirely 'like units' but have undergone some differentiation. The firm—traditionally a vertical entity bundling all subcomponent production in-house—then emerges as a contracting, horizontal entity in which many subcomponents have to be bought from suppliers or even from competitors. Flatter firms are more efficient and more profitable, but they also depend more upon each other.

In similar ways, there is a process of downsizing affecting contemporary states which now purchase vital components abroad. They increasingly produce goods abroad. Foreign direct investment creates an interdependence based on production which is far stronger than past interdependence based solely on trade. There is a differentiation of production and the beginnings of a division of labour among states. The theory of international trade augurs in favour of such outcomes.

Ronald Coase foresaw the possibility that firms would become less necessary as transaction costs declined and information became cheaper and more available. We are now witnessing the unbundling of the state for similar reasons. The consequences for international politics are fundamental ones. The theory of the firm initially presumed no differentiation of function among firms competing in a single industry. This assumption is no longer fully true. Industrial alliances, international production arrangements, and subcontracting of component production all make the classical theory of the firm obsolescent, if not obsolete. The conventional theory of international politics also inveighed against their being any division of labour among states. The emergence of foreign direct investment, virtual states, connections between 'head' and 'body' nations show that, contrary to conventional theory, states are becoming increasingly 'unlike' units. Co-operation amongst them thus can now be founded upon the beginnings of a division of labour internationally.

In addition, the citizen emerges with a greater independence of the state and greater contracting ability. In the circumstances, citizens may be less willing to pay for state-oriented foreign policy activities if they appear to conflict with their own economic and contracting interests.

The interaction of units

In the conventional theory of international politics, states typically created a balance of power against potential aggressors. They formed alliances against states bent on political or military expansion.[23] Or they rearmed, using 'internal balancing' to deter conflict.[24] The conventional theory assumed that nation-states controlled territory and that they needed to prevent an aggressor from seizing new land, thereby upsetting the balance of power. Alliances hemmed the aggressor in, and the rearmament of target countries made it difficult to seize and hold a captive province. In the conventional approach, territory was one of the most important elements in political and military power.[25]

Stocks and flows

Few denied that nations could gain power through stocks of raw materials, population, and territory. Many wars (to say nothing of the colonial acquisitions of nineteenth-century imperialism) were based on the territorial assumption. Territory and population lent power to their holders. But stocks were not the only elements in economic or military power. If a nation controlled or could benefit from 'flows' of goods, capital, and technology, it could also become powerful.

In the economic assumptions of the post-medieval period, any successful country could control 'flows' by fiat. It could keep goods at home, and it could prevent imports from coming in. When this was seen to be self-defeating, however, mercanti-

[23] Realist scholars have usually insisted that a balance of power takes effect to discipline aggressive great powers. But see the interesting discussion initiated by John Vasquez, 'The Realist Paradigm and Degenerative versus Progressive Research Programs: An Appraisal of Neotraditional Research on Waltz's Balancing Proposition', *American Political Science Review* (December, 1997), and the discussion following. See also R. Rosecrance and Chih-cheng Lo, 'Balancing, Stability, and War: The Mysterious Case of the Napoleonic International System', *International Studies Quarterly* (December, 1996).

[24] In a bipolar world, internal balancing is likely.

[25] See for example, Hans J. Morgenthau's elements in national power. *Politics among Nations* (New York: Alfred Knopf, 1954).

list principles still dictated that a nation should run a uniform trade or payments surplus with exports exceeding imports. The country could then gain gold or foreign exchange to carry on its wars. In the nineteenth-century, countries recognised that export-led growth could be an important addition to domestic demand, facilitating rapid economic expansion. Even before Great Britain came to control about one quarter of the world's land area in 1897, it had developed rapidly to become the world's premier industrial power through exports of manufactured goods. It did so on a relatively narrow insular base. Flows were then becoming important equally with stocks.

Before World War I, Great Britain enjoyed enormous prosperity, not because of its export surplus (which by then had turned into a deficit) but because of financial flows and income from foreign investment which provided an overall surplus on current account. At that point, British power derived more from favourable flows of purchasing power than it did from stocks of raw materials, food, or population.

The 'flow' of goods, capital, and technology, therefore could at least theoretically compensate for any deficiency of 'stocks'. If a country lost a province, perhaps it could make up the deficit by rapid economic growth. It might gain access to new resources and wealth through foreign trade. The losers of World War II were deprived of territory. Japan lost her empire in East Asia and her position in Manchuria and China. Germany was divided and stripped of gains in the East. Italy was forced to disgorge Ethiopia and Albania. All the losers' colonies were taken away and distributed to others. Two or three decades after World War II, however, the losers had more than compensated for their losses of 'stocks'. 'Flows' of goods and purchasing power lent them higher growth rates than those achieved by the victors.

What difference does the pervasive shift from stocks to flows make for the interaction and 'balancing' process in world politics? It means fundamentally that losses of stocks can be compensated for in many ways, only one of which is gaining other stocks. Flows of factors of production: capital, labour, and information can provide an equilibration that does not occur in 'stocks'. No territory changes hands yet one party may gain.

The greater flexibility of interaction

The increasing emphasis upon flows means that territorial gain for one power is less important in the international scheme of things. Smaller countries may sometimes do better than larger ones. Many observers have portrayed the small countries of Europe as efficient, outwardly looking entities, ready to meet the challenge of global competition. The smaller nations of East Asia have been even more successful and productive. In contrast, larger states seeking to monopolise their own domestic markets may not feel as strong a need to develop cutting-edge industries. They may therefore fail to create industries or services of the highest quality.

This suggests that responses to presumed international 'threats' can be both more varied and less exigent than presumed in the past. Despite the apparatus of military power that Western countries mobilised against the Soviet Union after World War II, they did not seek to take away Soviet territory. The great advantage of Western and democratic nations was in their mastery of flows, not stocks. It was the failure of Russia to match the standard of world technology and economic growth that ultimately doomed the Soviet experiment. In a world in which the importance of flows may be greater than stocks, arms races, new alliances, and military threats are not the only means of regaining a balance internationally.

The uncertainty of interaction: the inability of governments to command flows

There is a further reason for nations not to despair if a rival appears to do well. In liberalising societies, governments cannot simply command key flows of production and purchasing power. They cannot force multinational corporations or labour power to migrate to their shores. They cannot command finance to do their bidding. Mobile factors of production can leave an economy as well as enter it if the environment is not a hospitable one. If flows are as or more important than stocks, therefore, it is often unclear which nations are winning and which losing. In the 1970s many thought the Soviet Union was gaining. But it was not. It failed to command or attract the mobile factors of production and information capital that ultimately proved to be all-important in deciding its competition with the West. Those who believe that there must be a conflict between the United States and Japan or the US and China also bank too much on particular trends in growth rates or political attitude. These can and have been frequently reversed. Increasingly uncontrolled by governments, changes in flows can be of enormous significance. One does not need to 'balance' against a nation which is losing factors of production to other countries.

Flows and modern nation states

There is a relationship between the 'flatness' of the corporation or the state and its reliance upon stocks and flows. Vertically organised corporations depend least upon contractual arrangements with other firms to purchase components. IBM for a considerable time produced all its own components. So did GM. Territorial states producing all needed commodities at home have little use for international trade or finance. But as firms and states covet greater efficiency, they become streamlined and downsized. They find it in their economic and political interest to contract for some of the things they need from outsiders. The importance of flows rises in comparison to territorial stocks.

International conflict and the modern state

It does not follow that countries benefiting from a division of labour that is sustained by flows between them will never engage in conflict. Some countries are still at the territorial stage (with land as the major factor of production), and their quest for power involves seizure of other peoples' stocks of population and resources. The Gulf War represented such a quest on behalf of Iraq's Saddam Hussein. Few believe that large countries will never again become aggressive in world politics. Some think that China will sometime embark on a career of international expansion. The stability of Russia's fragile political institutions is in doubt, and a new Russian nationalism cannot be ruled out for the long-term future. In certain respects, Russia confronts a loss of ethnically Russian populations analogous to the loss of German territories after 1919. There are some who contend that the collective representatives of Islamic Fundamentalism will eventually try to assault the liberties of the system and initiate a new cultural clash with Western and democratic states.[26]

New means of coping with conflict

The major difference between the past potentiality for major conflict and the situation today and in the coming century is that the instruments to combat or dissuade such conflicts are far more numerous and powerful than in the past. At the same time the instruments that military aggressors possess (to conquer, for example, a province or an oil-field) are much less efficacious ones.

To take the second first. Aggressors must be convinced that a military assault will yield commensurate political and economic dividends before they strike. They must also believe that control of new territory conveys a particular boon. This will not always be true. Larger states are sometimes weaker and less effective competitors than their smaller brethren. At the theoretical extreme, perhaps some states will one day seek to disgorge territory to become more efficient units.[27] Some Germans continue to question whether the addition of East Germany has made Western Germany a more effective trading state. But even if new territory contributes more to strength than weakness, perhaps it cannot be governed. Israel has spent a great deal of time trying to extract benefit from its rulership of the West Bank and Gaza, almost entirely without success. Mobilised and subject populations resist. An imperial ruler of today's Afghanistan would inherit a hornets' nest. Who would want to try to conquer and assimilate Southeast Asia or Africa in the contemporary era?

But if we assume that conquest somehow pays, how can expansion be deflected? There are many ways in which possible target states can strengthen themselves, and not only by the traditional means of raising arms or concluding new alliances. Economic development is their longer term means of strengthening the mobilisation base, and that development can be secured through flows of capital and technology, as well as through internal demand. Indeed, the most subtle means of deflating an aggressor's presumption is by providing incentives that will lead critical factors of production to flow elsewhere. This is not some purely hypothetical example. It is precisely the means that will be used against China if it mistreats Hong Kong or bullies Taiwan. Foreign direct investment could leave China in a mass exodus,

[26] See Samuel Huntington, 'The Clash of Civilizations?', *Foreign Affairs* (1993).
[27] This is the thesis of Jane Jacobs, *Cities and the Wealth of Nations* (New York: Random House, 1985).

undermining the competitiveness of her export industries and deflating her growth prospects. China would be materially weakened.

Policy objectives versus *policy instruments*

Jan Tinbergen stressed that policy instruments have to be sufficiently numerous and varied to attain requisite policy goals. Internationally in the past, the major means of balancing an aggressive power was by making war. This, however, was the least sophisticated method, and it was a generally unsatisfactory means of international adjustment. Alternatively, a state could rearm and seek to acquire allies. Now and in the future there are many other ways of strengthening oneself or weakening the potential adversary. To change the repertoire of stocks requires military methods. But flows can be redirected in many other ways. Economic competition is one such means. Interest rates, inflation rates and stable currencies are in this respect weapons of war. Brain drains are an arrow in the military quiver.

Aggressors may also fail to benefit in the system as a whole. Saddam Hussein conquered Kuwait, but could not hold it against an international coalition which included the United States, Europe and Japan and which benefited from the abstention of China and Russia. Kosovo was part of rump Yugoslavia, and yet it could not be subjected to Milosevic's repression. Macedonia is supported by an international force which may, if necessary, get larger if ethnic violence escalates. International coalitions find a way to redress the evil. If connections obtain among major states, a new Concert of Powers may make aggression less successful. The prospect of such a coalition has been discussed for years, but only now are its requirements being put into place.[28]

In addition, in the information age one country can retaliate upon another. Terrorists are ultimately discovered and punished. Nations hosting terrorists can pay a large price, as Libya has found. Information warfare can disrupt networks in an aggressor country. Afghanistan remains as one of the few host nations for terrorists. With Russia and America tightening the sanctions screws, it will not prosper.

This does not mean that the future will not witness conflict among economic and political rivals. But it will be conflict *sotto voce*. Information warfare is a game which two can play. Industrial espionage gives intelligence organisations something to do in a future in which economic sophistication and strength will be critically important. But even these possibilities merely transfer the state into a realm already populated by corporations, who certainly engage in peaceful, if strenuous competition with one another.[29] The chairman of Daimler/Chrysler still does not decide to kill the head of Toyota.

Even state rivalry transformed into something akin to industrial competition does not strike the same sparks it used to do. Flattened corporations have to contract with one another. Less omnicompetent nations also need economic alliances with

[28] See Richard Rosecrance (ed.), *A New Coalition of Great Powers* (Boulder, CO: Rowman and Littlefield, 2001).

[29] This of course was not true in the 17th and 18th centuries when the Dutch and British East India companies were in effect fighting organisations.

other countries as production and capital moves overseas. As Ronald Coase foresaw, corporations adjust as information proliferates, and transaction costs decline. Smaller corporations and streamlined states efficiently become more dependent on outside suppliers and sometimes even competitors. Individuals pursue international interests aside from government. Conflict among states continues but it also pales in comparison with the violence of yesteryear.

In certain respects the anti-globalisation movement today even forces states closer together. This effort by non-governmental organisations has the opposite effect of, say, the anti-Vietnam war protests of the 1960s and early 1970s. Then the anti-war movement had coherent and realisable purposes—to get the United States to withdraw from Vietnam. Today, the agenda of the anti-globalisation protestors varies from sensible attempts to help poorer nations to rejection of the modern corporation as such and vilification of any attempt at international agreement between what are deemed to be international 'elites'. Surrounded by shouting protestors, embattled state representatives try harder to reach agreement, lessening the differences among them.

The twenty-first century

The return on services is now higher than the return on land or the return on manufacturing. Following this trend, most modern nations have diminished or relocated their manufacturing capabilities. While 'head nations' have been created in consequence, new 'body nations' have arisen to do the world's manufacturing. Few countries today have within their own territorial confines all the requisites of a sophisticated industrial, mining, and service existence. They have learned instead to depend upon each other. When a Chinese textile or fashion house turns out dresses for the autumn collection, they embody French, American, and Italian designs. When Ford places its name on a car, it may include 80 per cent foreign components. When IBM or Compaq stamps its company name on the computer, the product may have been put together by Ingraham or another middle-man assembler. As nations and corporations become thinner, flows between countries and firms become thicker. As specialisation proceeds in both realms, interdependence rises. It is therefore possible that in the twenty-first century there will be no new omnicompetent national leader of the system, a new number one supplanting the United States, but rather a variety of nations and regions (like Europe) in which no one entity does everything well. An encompassing coalition of Great Powers will permit enhanced co-operation at the centre of the system. Nations will perform different functions and play different game-theoretic roles. If so, the very unitary notion of 'power' will be dissassembled into components, perhaps never to be put together again.