

Global Oligopoly, Regional Authority, and National Power:
Crosscurrents in Pharmaceuticals Today and Tomorrow

by

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It is difficult these days to avoid thinking about the global economy. If you drive a car, you are forced to worry about the impact of the global cartel on the price and availability of petrol. If you watch television or read a newspaper, you see pictures of the latest protest movement directed against globalization and the greedy global corporations, which apparently are the only parties to profit from the lowering of trade barriers, the activities of the International Monetary Fund, and the loans extended by the beleaguered World Bank Group. The number of books and articles discussing the pros and cons of the globalization process is truly heartbreaking to any scholar determined to keep up with the literature on this aspect of political economy.

To some, the proper response to these developments is a weary “ho hum.” It has happened before, this line of reasoning goes. The “skeptics,

drawing on statistical evidence of world flows of trade, investment and labour from the nineteenth century, maintain that contemporary levels of economic interdependence are by no means historically unprecedented.” In their view, globalization is a myth. It is, moreover, a myth with a clear purpose, that of rationalizing a world economy in which a sharp North/South split and traditional economic inequalities are being sustained. By accepting the myth, we are left with little choice but to accept the policy dictates of Chicago School economics.

Arrayed against the skeptics are the “hyperglobalists,” who see nation-states as outmoded, even “unnatural,” and applaud “the emergence of a single global market and the principle of global competition as the harbingers of human progress.” These are the words of authors Held, McGrew, Goldblatt, and Perraton, whose book Global Transformations, provides one of the best available excursions through the vast literature and often contradictory data of globalization. The “hyperglobalists” look to a future in which the traditional nation-state will no longer hold a central role in the world political economy.

If you don’t want to seem “hyper” and you are too positive to be a “skeptic,” you are not left out of the analysis by these four authors (who come, incidentally, from four different academic subdisciplines). Their

middle position, which is of course my position, is that of the “transformationalists.” The transformationalist sees globalization as “a powerful transformative force,” which is changing our most basic economic and political institutions. In their account and mine, however, the direction of change is uncertain, is a “contingent historical process.” It is this process that I will explore briefly, with particular but not exclusive reference to our main subject, the pharmaceutical industry.

GLOBAL OLIGOPOLY

One of the most important transformations taking place in pharmaceuticals and many other industries in the recent past is the trend toward global oligopoly. Our draft programme’s subtitle suggested that we will have to decide in the case of pharmaceuticals between “consolidation or competition?” If we do make that choice, the issue is already settled and we can all go home. There is considerable evidence that consolidation in the 1980s and 1990s has changed the structure of the industry decisively. The Pfizer/Warner Lambert combination seems finalized, as is the Glaxo Wellcome/SmithKline Beecham merger. Monsanto is joined to Pharmacia & Upjohn, as is Zeneca Group to Astra AB, Hoechst to Rhone Poulenc, Ciba Geigy to Sandoz, and Bristol Meyers to Squibb. While the pharmaceutical

industry has lagged far behind other modern, high-tech industries in the process of consolidation, it has been rapidly catching up during the last two decades. Oligopoly in various therapeutic categories is a reality.

The biotech industry, which seemed for a time to move things away from the common pattern of 20th century industry, has experienced its own form of consolidation with pharmaceuticals in the recent past. For the first time in the past one hundred years (or so), pharmaceuticals is following the same pattern of structural evolution as other leading industries, including those in metals, industrial chemicals, automobiles, electronics (software and hardware), and financial services, to mention only a few.

Why? The first “why” is, why did pharmaceuticals not evolve decisively toward national oligopoly during most of the twentieth century? Then, we need to ask another “why,” why is it now rapidly shifting toward global oligopoly? We can, I believe, start to provide tentative answers to both of these questions by exploring the special role and nature of product innovation in this industry and its relationship to realized and potential economies of scale and scope.

From the perspective of innovation, there have been four, rather clearly defined eras in the industry’s development since the early twentieth century. During the first, which ended in the early 1930s, the

pharmaceutical industry was characterized by a relatively low level of scientific knowledge, batch production with few opportunities for economies of scale, and economies of scope only in that part of the industry synthesizing compounds along lines perfected in the German industry. For much of the second half of the nineteenth century, the search for synthetic substitutes for natural substances was central to pharmaceutical innovation; during the twentieth century, the link to natural substances began to give way to the use of animal models in a relatively random search for chemical entities effective against disease.

During the second major era of discovery, which extended from the 1930s through the 1960s, advances in organic chemistry made possible a much higher level of scientific innovation even though there was still very little understanding of the disease process or the precise targets of therapeutic intervention. There were now greater opportunities for economies of scale in the production of pharmaceuticals, as Hoffmann-La Roche demonstrated by its dominance of the vitamin market; there were as well potential economies of scope due to the importance of building and maintaining a first-rate research establishment with capabilities that could extend across a broad range of therapeutic categories. While a relatively small number of leading organic chemists could still run a highly successful

laboratory employing hundreds of less talented researchers, economies of scope in research and development began to lead toward a higher degree of concentration in particular therapeutic categories. Dominant firms within categories began to emerge on the basis of their capabilities in R&D, as well as distribution. This was true in antibiotics (where Pfizer established a powerful position on the basis of its capabilities in fermentation chemistry) as well as a more standardized product such as vitamins.

Product innovation was such a crucial element of success during this era that it still appears to have overshadowed economies of scale or scope as factors shaping structural evolution in most of the industry's markets. But the beginnings of concentration can be traced to the beginnings of a higher level of scientific capability in drug discovery and to the related improvements taking place in pharmaceutical distribution. In the production of drugs still covered by patent, improvements in the efficacy of the therapies actually worked in the opposite direction, fostering modular plants that could be quickly shifted from one product to another. Large, dedicated facilities were no longer economical for most products used in human patients.

In the third era of pharmaceutical innovation, during the 1970s and 1980s, when biochemistry and enzymology began to reshape the industry by

drastically altering the innovation process, these trends accelerated. Instead of making the established style of medicinal chemistry obsolete, the new medical sciences forced firms that desired to remain at the industry's cutting edge to maintain their existing capabilities while adding new personnel and new specialties to their laboratories. As enzyme inhibition became central to the process of discovery, scale and scope efficiencies in pharmaceutical research and development steadily became more important. The pressure to be first or second to market became more intense, and the requirements of successful marketing and sales in markets that were increasingly global began to drive merger and acquisition (M&A) activity throughout the industry in the 1980s. Regulatory and distribution capabilities became important chips to play in consolidation or in the development of strategic alliances. In the very large U.S. market for prescription drugs, health maintenance organizations and pharmaceutical benefits managers (PBMs) restructured the wholesaling and retailing of drugs. Today, the leading PBM (Merck-Medco) operates an automated pharmacy that can dispense more than 5,000 prescriptions an hour!

Close on the heels of targeted enzyme research came molecular genetics and rDNA technology, followed by combinatorial chemistry and bioinformatics. Again, the new capabilities had to be added to and blended

with the existing matrix of scientific talent and programs. Little wonder that large pharmaceutical firms increasingly explored licensing and other alliance strategies during the first phase of the biotech revolution in medical science. This was the first wave of change since the 1930s that was not initially dominated by the large pharmaceutical firms, all of which appear for a time to have lagged behind their smaller biotech competitors in the process of innovation employing the new science and technologies. Over time, however, superior resources and economies of scale in the regulatory process, production, and especially in global distribution enabled the large pharmaceutical companies to enhance their own capabilities in biotech and to bring the small specialized firms into their orbits through a variety of strategies. These included close strategic alliances, licensing agreements, and acquisitions, which have in toto transformed the biotech sector in recent years. Here too the pattern of global oligopoly in therapeutic classes seems to be the wave of the present and future.

To many, oligopoly along these lines will seem to present a threat to the public interest, but the history of this industry and indeed of most of the advanced high-tech industries in the world suggests otherwise. Virtually all of the industries which have provided the major impetus to growth have been highly concentrated. Competition has been changed by consolidation,

but certainly not eliminated. Oligopolistic or strategic competition has sustained innovation and promoted operating efficiency over the long run. Industrial organization theory suggests that we should be suspicious of oligopoly, but the economic and business history of the twentieth century indicates otherwise. The dynamics of innovation have been particularly evident in pharmaceuticals, an industry in which research and development is extremely expensive, introduces substantial risk and takes place over a very long period of time—all conditions that firms have been able to cope with in an increasingly oligopolistic industrial structure. There is no reason to believe that the economic performance of global oligopoly in pharmaceuticals will be significantly different than national oligopoly has been for many decades.

Regional Authority

While the industry is thus becoming increasingly global, the most important change in the political economy of pharmaceuticals appears to be the growth of regional authority. Three major regional entities have emerged or are emerging—one in Europe, another in the Western Hemisphere, and a third in Asia. Most completely developed to date is the European Union, which has already become a powerful entity guiding the

regulatory, antitrust, and fiscal/monetary policies of its member states. I do not need to rehash the history of the EU for this audience. It will suffice to say that now and for the foreseeable future, the executives guiding the development of any global pharmaceutical firm must give substantial consideration to the goals and specific policies of an authority controlling access to one of the largest markets in the world.

The regional politics of the Western Hemisphere are still in a very early stage of development. The North Atlantic Free Trade Area (NAFTA) brought the United States, Canada, and Mexico into much closer economic alignment, and there is considerable potential to extend that agreement to other nations in the hemisphere. Dollarization is likely to become the first step in the next wave of change; it is under consideration in a number of Latin American countries, all of which are seeking to promote trade and investment by removing doubts about the value of their currency. The swiftness with which currency fluctuations take place in the present global economy is promoting serious consideration of dollarization, just as it is promoting serious reconsideration of the role, structure, and governance of the International Monetary Fund.

Least adumbrated and institutionalized at present is the Asian regional bloc. It is not clear which of the leading Asian economic powers, Japan or

China, will become the center of this regional entity or whether the Asian pattern of regionalization will be similar to that of either the EU or the Western Hemisphere economic region. Rapid market integration, rather than strong institutional integration, is currently the most significant centralizing force in this third region, and that phase of development may continue for several decades. If the EU and the Western Hemisphere entities continue to coalesce, however, they will place increasing pressure on the Asian nations to seek closer economic relations and to achieve bargaining power against Europe and the Americas.

Regionalization introduces one of those important “contingent historical processes” mentioned at the beginning of this talk. While, as we have noted, pharmaceutical firms are rapidly coming up to scale for global competition and have to a considerable extent coalesced with the new biotech sector, the political side of political economy is moving far more rapidly toward regional than toward global orientation. The rift can be seen in regulatory as well as antitrust and subsidy policies and the contrasting styles of the EU, Western Hemisphere, and incipient Asian systems have the potential for generating significant inter- and intra-bloc struggles in the next few decades. This may merely be a transitional phase in institutional development, but if that is the case, one would expect to see more substantial

signs of change in global institutions than is currently the case. The beginnings may be there in the structure of international organizations created after World War II. But I can't see much creativity there right now.

National Power

Instead, what seems most evident is the manner in which national goals and national power, leading elements in the traditional world of international affairs, have retained their hold on our imaginations and our perceptions of the world. In the United States at the present time, one of the hottest political issues is the price of pharmaceutical products. The issue is highlighted by the contrast between prices in other countries and in the U.S. market. One way to look at this issue is in global terms: the U.S. is a very wealthy nation which, since its remarkable recovery in the 1980s and 1990s, has one of the most successful and competitive economies in the world; surely its citizens can afford to pay higher prices than citizens in New Zealand for their pharmaceuticals. Since the margin between U.S. prices and those in other countries also helps enable the U.S. industry to continue cranking out a large majority of the world's innovative pharmaceuticals, it can also be argued that this lopsided system helps the U.S. economy by attracting foreign investment in pharmaceuticals and sustaining America's

most innovative pharmaceutical firms. The New Jersey economy would certainly suffer without them! So too would all of the U.S. patients who benefit from new therapies.

But of course the rub is that patients in New Zealand benefit from the same new therapies—at a lower price! Here the political imagery is extremely powerful: we see a gray-haired American couple who are clearly living on social security tottering into the local drug store and shelling out a large percentage of their monthly income to buy the newest and most effective drugs, maintenance pharmaceuticals, that their physicians have prescribed. With that image in mind, it does not take much imagination to come to the conclusion that there is a free rider problem in global pharmaceuticals. Is it equitable to force the elderly American couple to pay for the innovations that benefit patients in New Zealand and much of the rest of the world? The nationalistic answer is of course: NO!

Having said NO loudly, we are faced with two possible political responses, one global and one national. Hoping to preserve and encourage a highly innovative pharmaceutical industry, nations around the world could move their healthcare systems toward the U.S. semi-market model and thus equalize global conditions. There would be some secondary benefits from this choice, including a more innovative and thus globally competitive

pharmaceutical sector in nations other than the United States. But the nationalistic solution probably has more political appeal; in that case the free riders will continue to ride free and the United States will use some form of monopsony to bring the retail prices of pharmaceuticals in America down closer to global averages. This is what appears to be happening right now.

There are other ways in which the tensions between globalism, nationalism, and regionalism are being played out in pharmaceuticals. Within the EU, there is substantial interest in spurring innovation in this and other high-tech, high-science industries. That goal is laid out very clearly in the British government's 1998 white paper on competitiveness and the subsequent report "Our Competitive future: UK Competitiveness Indicators 1999." Read from a U.S. perspective, both reports are extremely interesting. It is of course heartening to see so much attention in both documents devoted to the United States. In that regard, the British reports closely resemble American commentaries from the 1970s and 1980s, which spent many of their pages looking over their shoulders at what the Japanese and Germans were doing. But of course that is no longer true in the United States, which seems to have found ways to be competitive without creating a national institution like MITI, the Japanese Ministry of International Trade and Industry.

One of the “lessons” to be learned from the U.S. recovery is that each nation needs to chart its own distinct path to economic progress, a path dictated by its resources, culture, and political system. Applying that lesson to the Blair reports, one might conclude that they devote too much attention to imitating the United States and too little attention to distinctive British factors, including those that have made British services so successful in global competition.

The Blair reports also use a national, not a regional EU approach to innovation. Thus, one assumes, each of the national economies will strive to duplicate the U.S. experience in recent years. Instead of specialization framed in terms of national competitive advantage, they will in pharmaceuticals and other advanced industries each try to mimic the much larger U.S. innovation system. Currently, several EU nations seem to be adopting this goal in biotechnology. Fearful of being left behind, Germany is subsidizing the biotech sector, playing catch-up with an American sector that is very well advanced by now. In this case, too, a private sector is being promoted even though the kind of research-university, basic-research base that fostered U.S. biotechnology is much smaller and less diverse than its American counterpart.

My point is a simple one. The traditional approach to national competition is still very much alive and is likely to remain an important factor shaping public policy and economic performance for many years to come (if not forever). Within the EU, there is thus tension between the regional policy of free trade and regulation of drug adoptions and the retention of national systems of purchase and pricing for pharmaceutical products. There you have the kind of on-going tension that I believe is characteristic of our current-day, global political economy. The “hyperglobalists” I mentioned at the beginning of this talk are apparently ignoring these tensions by not reading the newspaper these days. While we have seen national power conditioned by, for instance, the activities of the World Trade Organization and the EU, we are a long way from a situation in which we can use words such as “atrophy” to describe the nation-state. Nation-states still have all of the armies, and as long as they do, they are unlikely to consider themselves “unnatural” forces in a competitive world system.

Conclusion

The “transformationalist” perspective on pharmaceuticals today and tomorrow thus looks to a long transitional phase in which regional, rather

than global, institutions become the most important factors shaping the political environment for economic activity in this industry. In each case, however, regional institutions will have to fight their way to power, ridge by ridge, issue by issue, against national institutions and leaders who have shown little inclination to yield their power gracefully. There will also continue to be tensions (mention the banana war) between regions. We do not currently have effective political institutions for resolving problems like the free-rider issue that I mentioned earlier. Nor do we have the means of developing common approaches to antitrust and regulatory issues.

If increasing regionalization does not foment intense struggles between the three large blocs, we may see the long period of rapid economic expansion envisaged by the most ardent supporters of the WTO and free trade. In the meantime, we will have to deal with the tensions that arise between global oligopoly, regional authorities, and still powerful nation states.