

Chapter 9

The economics of international competition

Charles Jonscher

Ithiel Pool had a keen interest in the subject of American global competitiveness and the way in which it interacts with international telecommunications policy – as he had, indeed, in all matters of international telecommunications policy. He may not have expressed the concern as one of America's competitiveness because he was more interested in maximizing social policy and not in how well one country is doing against another. I do not think that he would have been particularly taken by the question of whether America, Japan, or Germany happened to be doing best or worst in the telecommunications market, but he would certainly have been interested in whether the policy in international markets for telecommunications is moving in a direction that maximizes world wealth and consumer benefits.

Maybe the other reason why Ithiel Pool would not have focused on 'restoring American competitiveness' is that he may have had a strong intuition (he had extremely good intuitions on all matters of economic policy) that there is not a problem of restoring America's competitiveness because America is very competitive. I attended a recent meeting in Europe where economists researching this question for the OECD presented data showing, for example, that productivity per unit labor input of Japan versus the United States, and Japan's index of productivity compared with the United States', rose from 31 percent in the 1960s, one-third of the productivity, to 67 percent today. So Japan doubled its productivity in comparison with that of the United States in those twenty years, but it is still only two-thirds of that of the United States.

That might strike one as unexpected in the light of what is said about extremely efficient Japanese factories, but it is confirmed by macro-economic data. The GNP per capita of the United States in 1988 is \$21,000, and Japan's is \$22,000; by that measure Japan has overtaken

the United States. But it is important to bear in mind that the \$22,000 figure is based on an exchange rate in which purchasing power parity is far from being achieved. So the \$22,000 the Japanese are earning is not buying them as much as the \$21,000 that Americans are earning per head. There is still roughly a two-thirds differential; all the major European economies also fall considerably short of the United States, although they are doing slightly better with respect to growth rates.

If the American economy is more productive on average, who really has the best factories? It is true that some of the highly automated Japanese factories in the most efficient sectors of the Japanese economy are doing spectacularly well – better than any in North America or Europe. Taken as an average, however, the American economy is producing more goods per head than any other major economy in the world; so why is there a staggering trade deficit? The deficit is what creates the impression of non-competitiveness, and in turn leads to enormous pressures for protectionism in telecommunications and other areas in order to ensure that the United States can export more goods and services.

I shall review some basic economics to show the direct link between this phenomenon and the United States federal deficit. The equation is as follows: worldwide consumption and production of goods are close to equal; that is, more or less everything that is produced is consumed. There are adjustment factors for investment and changes in business inventories, but they do not amount to enough to affect the numbers I consider here. So, worldwide, consumption and production of goods are of similar magnitude. In any one country, though, they can differ. At present the United States is consuming considerably more than it is producing – to the tune of \$150 or \$200 billion per year in trade deficit. That is what a trade deficit is: more goods coming into the country than going out.

If the United States is consuming more than it is producing, what should we call that? We could call it a party. Why is there an excess of consumption over production? For that we have to look at one other accounting identity: borrowing equals lending. Again, everything that is borrowed by one person is lent by another. There is again an adjustment factor which is that governments can actually produce money rather than lend it. They can either print money or issue bonds to finance their part of the borrowing-lending equation. As a Secretary of the US Treasury put it, 'I make money the old fashioned way; I print it.'

To be fair, he does not print much of it. The American budget deficit is almost exclusively funded by bonds, which are debt, and the

American people as private citizens and businesses have traditionally kept the lending–borrowing equation in balance. The US government deficit is financing the party. Who buys the bonds? Foreigners. The private economy is keeping its borrowing–lending and savings–investment equations in balance.

The federal government is, however, spending \$150 to \$200 billion extra per year. This expenditure is being financed by foreigners, not just with money but with goods. The way they finance it is to ship goods into this country to the tune of \$150 to \$200 billion per year and in return they receive IOUs, which one day they will claim.

So long as the federal deficit continues in this fashion, unless there is a massive adjustment in the internal savings-to-investment ratio (i.e., unless Americans start buying government bonds, in which case interest rates would shoot up and we would probably have a recession), then foreigners will be financing the deficit. The Japanese and the Europeans are happy to produce goods and services in greater amounts than they consume them in order to export them to the United States, and hence pick up more IOUs. But that situation will generate tensions in individual sectors, such as are now boiling up in the telecommunications sector.

In relation to the telecommunications industry, one must have sympathy with the argument that America has liberalized its market in terms of access to foreign supply much more than almost any other country in the world. But so long as there is a deficit, there will be a trade imbalance somewhere: if not in telecommunications, then in steel, or machinery, or textiles, or somewhere. With regard to telecommunications there is a hope that countries around the world are gradually discovering that the traditional approach they took to procurement, when pushed to excessive extremes, has resulted in unnecessarily inefficient and subsidized telecommunications industries within their own shores. According to the old Adam Smith argument we have heard for 200 years, we all would benefit from the liberalization of markets.

Liberalization of procurement policies is being closely linked to liberalization in internal competition policies on the provisions of networks, value-added service, and terminal equipment, although there is no absolutely logical link. You could liberalize procurement of the PTT while still making it a monopoly. Even so, there tends to be a strong coupling between the two.

I have carried out research that bears on how liberalization of network infrastructure, terminal equipment, and value-added services has been faring and what its impacts have been. Two colleagues,

Michael Tyler and Thomas Watts, and I have conducted a comparative study of telecommunications liberalization in the United States, the United Kingdom, and Japan. We examined closely the impact of liberalization on interests within these countries.

Ideally, we would like to have analyzed the social and economic effects of liberalization policies in those three countries, but we concluded before we even started that it would be too big a task. Determining the economic outcome of telecommunications liberalization with any degree of quantitative rigor is a mammoth task, so we did not attempt it. Instead, we investigated the impact on intermediate variables such as the range, quality, and price of telecommunications goods and services. We did not attempt to see how these variables in turn fed through to economic benefits, although we may yet try to do so.

Our results indicated that there are no simple answers. If Ithiel Pool himself were conducting such a study, he would contend that it is extremely unlikely to come up with a simple, single answer, and we certainly did not find one. By and large, the range and quality of telecommunications services available to consumers rose in the three countries at the time of the transition to telecommunications competition. Moreover, the prices came down. Not all of them, however; nor did all people benefit. Another recent study that I completed with colleagues in Hong Kong is an attempt to apply the techniques of benefit-cost analysis to the question of whether there should be one or two local telecommunications carriers. An interesting circumstance of this study was that whereas a competitive telecommunications network policy had been introduced in the United Kingdom, the United States, and Japan, this was the first time a government actually wanted a quantitative benefit-cost analysis of the situation. How much of the analysis they use in their decision may be unknown, but at least they commissioned it and are using it as an input to the policymaking.

What we did in Hong Kong was to look at the major single cost and the major single benefit. The major single cost was undoubtedly duplication of engineering and operational resources through running two networks rather than one. On the benefit side, the situation was more subtle and complex. Our evaluation of benefits used a method to forecast the likely tariff reductions that would arise following the introduction of competition. We kept in mind the extent to which competitive pressure would be brought to bear on the main telecommunications carrier in areas where the competitor was coming in. To elaborate on this study, in evaluating the cost side we listed all the cost elements required to create a second telecommunications network that would be

competing with the main one. For each cost element (e.g., maintenance, cabling, duct work, switching exchange, gateway to the international exchange) we investigated what percentage of that cost was a wasteful duplication, in the sense that to do it in the main network would have cost less, and to what extent it was simply the same as the cost of doing it in the main network. The result was that we arrived at a measure of the economies of scale and of the excess engineering and operational costs.

On the benefit side, we took the revenue of the main telecommunications carrier, the Hong Kong Telephone Company, and divided it into components, including international, residential, leased line, data services, business telephony services, and residential telephony services. Then we forecasted the cost and benefits over a twenty-year period and determined what proportion of that revenue stream was subject to competitive pressure. For instance, inland residential telephony would not be subject to competitive pressure because this telecommunications service would not serve the residential market; but certain kinds of business services would be, international services would be, and so forth.

For the element that would be subject to competition, we showed illustrative price reductions; for example, we used the numbers 10 percent and 15 percent as typical of experience internationally. A methodology was applied to convert from user benefits to real economic resource benefits; I will not elaborate on that here.

The results of the exercise provide a cost-benefit balance for a number of different stages of liberalization, ranging from allowing the local network to become competitive to allowing all local and international services to become competitive. I hope that the study will generate discussion of methodologies for approaching this issue in other parts of the world. The findings themselves, whether the costs happen to exceed the benefits, will be particular to Hong Kong, but one could insert numbers for other countries into the same methodology and turn out results.

Insofar as exercises like this help governments reach a rational conclusion on how to open up or not open up their telecommunications infrastructure, the result will be a gradual change toward the homogenization of world markets rather than having some countries being wildly competitive while others are completely monopolistic. In turn this may make a small contribution to solving trade balance issues.