



Respecialize to Lift All Boats

A primer on the global redistribution of market segments

By Carlota Perez

The process of globalization has been both made possible and strongly induced by the potential and characteristics of the revolution in information and telecommunications technologies. In the early stages, from the 1980s, it was mainly a question of tearing down all barriers to trade and finance. This in itself radically modified the map of world production, but it is only since the mid-1990s, and especially since the turn of the century, that the real process of production globalization has been taking place, though increasingly concentrated in the massively populated low-cost conditions of China and India.

At this stage, the advanced countries find themselves in a sorcerer's apprentice situation. The bigger and stronger the national corporations become by globalizing, the greater the potential trade deficit, the more domestic unemployment problems this threatens to generate, and the more unstable the economy can become at home, while the danger grows of being increasingly dependent on decisions taken abroad.

Neither free markets left to themselves nor setting up tariff protection can provide a sustainable solution. The former would ignore the unemployment problems in the advanced world and lead to serious political problems; the latter would bring loops of retaliation with unpredictable

consequences. The only real solution is to lift all boats by moving globalization forward to encompass more and more countries while also intensifying investment at home. This will open the space for growth by increasing demand and markets for all (while reducing the twin threats of violence and migration). Such a process supposes the respecialization of the advanced countries, which is likely to require building a consensus vision involving business, government and society around a set of promising opportunities aiming at full-employment growth.

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contributed to the present understanding of the relationship between technical and institutional change, between finance and technological diffusion, and between technology and economic development.



In the advanced world, there are at least three forces creating opportunities for successful respecialization, all within the conditions facilitated by the ICT paradigm:

1. The increasing segmentation of each industry's market space
2. The "push" from globalization
3. The "pull" from culture and quality of life at home

The "push" from globalization refers to the growth opportunities in serving and managing the globalizing process itself by companies in the advanced countries: Coordination, distribution and transport, major engineering, etc. The "pull" refers to the front end of globalization: the last mile of every e-commerce product, the personal services, the creative and leisure industries, health, education, construction and others. These are defined by the capabilities and requirements of the local culture and values, the demographic trends, and the deployment of the knowledge society, in breadth and depth. Here, we will focus on No. 1. *(Those interested in reading the complete discussion of this topic, please refer to the sidebar on page 12 for more information. –Ed.)*

Global Redistribution of Market Segments in All Industries

This process induces the positioning and repositioning of each company (and also of each region and country) in those segments where they have advantages of one sort or another.

The present "migration to China" does not mean that all of manufacturing will be globalized and the advanced countries will have "hollow corporations." The process of segmentation of all industries into commodity markets at one end and a proliferation of specialized niches at the other, is more likely to lead to a global distribution of segments tending to have the bulk of commodity production

in the less advanced countries and the bulk of specialized niche production in the more advanced, with several countries in between (though every country would have some proportion of each).

It should be clear that even in the mass production world of the post-war golden age, both the United States and the main European countries produced the bulk of their domestic automobiles, but for the truly high-end luxury, racing, and sports car segments, it was Europe that kept the expertise (Aston Martin, Mercedes-Benz, Porsche, Rolls Royce, etc.). Something similar happened in relation to motorcycles, where it was Harley Davidson, the U.S. firm, which supplied the super-specialized top end of the market.

In the present conditions, one can expect that most commodity segments of the fabricating industries will tend to go to Asia, those of the resource-based process industries are likely to go to Latin America, Russia, and other resource-rich countries. But each of these industries has a whole range of specialized segments, from those with medium complexity to those of very high complexity and customization. What is likely to happen is that the emerging countries will make every effort to climb up to higher value products and will succeed in some of them. This would still leave the greater proportion of the higher-end products with the more advanced countries and the rest would be scattered unevenly across the world.



There is also likely to be an “80–20%” distribution of the value chain in most industries: coordination, R&D, and design would tend to be mainly (but not only) in the more advanced countries; production would be mainly in the emerging countries, whereas the front-end of distribution, technical services, maintenance, and customizing would be in each country in proportion to its consumption.

As mentioned before, the present obvious advantages that China and India have with significantly lower labor costs will be partly self-defeating through increasing the cost of raw materials and transport. This will gradually tend to require coordinating the redistribution of manufacturing across the planet (looking for proximity to raw materials and markets in those products that warrant it) in order to optimize overall costs. Such a process will open opportunities for the many “middle countries” whose labor costs are much lower than in the advanced countries but not as low as in China and India; who possess some highly skilled labor or access to crucial raw materials (for particular products) or to energy supplies or are close to important markets and have good transport systems. The location of a significant part of European automobile “off-shoring” in Eastern Europe already announces that trend.

Figure 1 presents a hypothesis about the way markets could eventually be distributed by type of country or region in a process of respecialization. It suggests that global distribution of production may be more by type of segment than by type of product. Each country or region would tend to cover a much wider part of the spectrum than its segments of specialization would indicate, but in smaller relative proportions. This wider range not only stems from the natural preservation of traditional strengths, but also

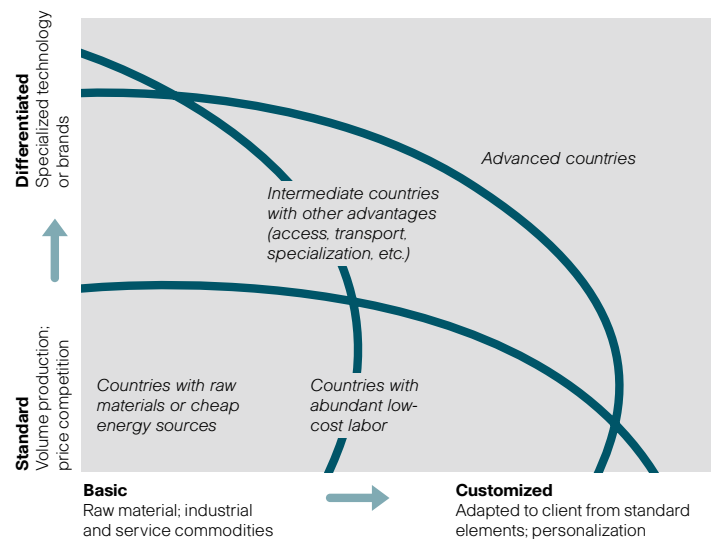


Figure 1. Possible trends in the global distribution of the hyper-segmented markets of each industry.

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takes into account the complexity of innovation systems. To specialize in niche agriculture without biotechnology or in the bulk segment of chemical industries without the capacity to build basic process equipment would make little sense.

The Role of ICT as the Platform for the Whole Process

Given that digital information and communications technologies (ICT) will be the shaping force for whatever course the economy takes, its strong development is crucial for any country or region that wants to be in the front ranks. Yet, the areas to develop and the trajectories to pursue in ICT itself will be strongly shaped by the dynamic sectors or segments in the countries in question. It is in this sense that the context matters. Knowing the areas of specialization in the global division of production becomes a powerful guide for the direction in which to strengthen ICT capabilities and in which to develop R&D in each case.

It should be clear, then, that segmentation and the activities resulting from global pull and local push almost without exception require ICT, both as supporting innovations and as a basic platform for operation. The whole idea of a techno-economic paradigm (as the tool-kit and the “common sense” of a technological revolution) is that it is all-pervasive. All activities, from frontier research through distribution and health (which will be more and more electronically tagged and computer-optimized) all the way down to high-tech crafts or work-from-home arrangements—everything, absolutely everything—will be using information technology and weaving into the fabric of the information-based knowledge society.

It will be like oil in the 1950s and 60s. It was not possible to conceive of any transport system without gasoline diesel or jet fuel. Materials were generally synthetics. Electricity (basically produced with oil derivatives or coal) moved

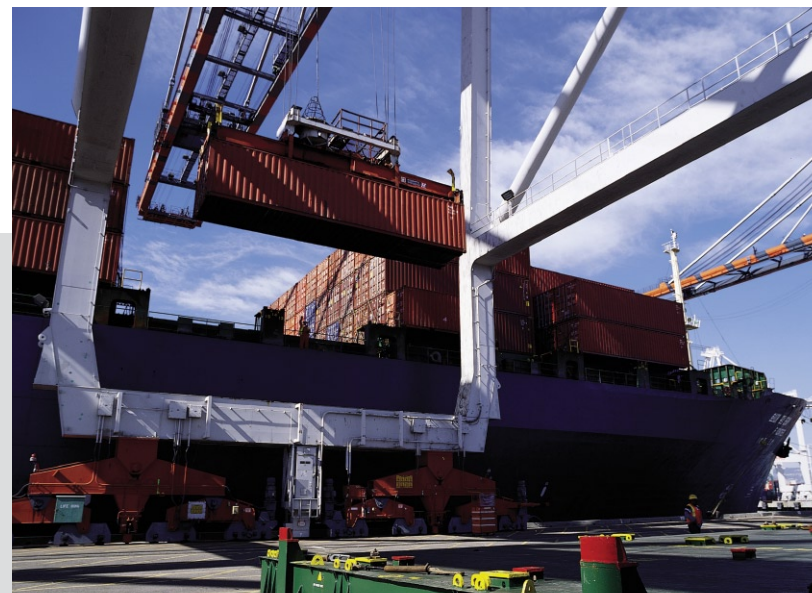
production machinery and home appliances, down to the electric can-opener. Agriculture used oil-driven machinery and petrochemical fertilizers, pesticides, and herbicides. The first globalization at the end of the 19th and the beginning of the 20th century was made possible by cheap steel for steam ships, transcontinental railways, and telegraph cables. That’s how the core—cheap!—inputs of each technological revolution shape product and process decisions, and eventually also social decisions. It is the plentiful availability of ever more powerful and versatile “cheap chips” that make the ICT world possible—and inevitable!

So, there will be a constant need for technology-savvy companies and personnel in the advanced world or anywhere on the planet, at least for the next two or three decades (until this paradigm reaches maturity). They might be innovating at the frontier or doing applications in (and for) other industries and activities or at the front-end services of ICT. Those industries are the engines of growth of the whole—world!—economy; their services are the lubricating agent of the globalization process.

Today, one could paraphrase engineer Charlie Wilson, the president of General Motors in the previous technological surge, and say that in the golden age that may lay ahead: what’s good for global development is good for the ICT industries and vice versa!

Next Steps

To learn more about Dr. Carlota Perez’s work, visit carlotaperez.org.



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