
Foreword

William J. Baumol

Microeconomics is plagued by two major gaps: the absence of appropriately full treatment of either the services or of entrepreneurship. In each case, the evident importance of the subject is inversely proportionate to the space it is assigned in the literature. The entrepreneur, as a vital component of the process of innovation and growth, is often listed as a fourth 'factor of production' and, having once been noticed by name, is often not even mentioned again in the discussion that ensues. In the case of the service sector, the textbooks still prefer to focus on manufactures or even on agriculture, though these now are apt to include, respectively, only some 10 percent and 3 percent of an economically advanced nation's labor force, with the bulk of the remainder devolving upon the services. And here, too, the relation to innovation and growth is overlooked, apparently because services still are typified by what goes on in the barber shop rather than what emerges from the software sector of the economy, that is arguably the services' prime hallmark for the future.

One can understand this bias of the textbook authors. They have at their disposal relatively sophisticated models of the roles of land, labor and capital, but none of the entrepreneur. They have inherited discussions of production functions steeped in their agricultural origins, with some game-theoretic depictions of manufacturer oligopolists, but they do not feel comfortably possessed of anything comparable that is explicitly directed to the services. So the source of the omission is indeed easy to identify, but its identification is no excuse.

This book represents a significant step toward dealing with the lacuna constituted by the inadequacy of the literature on the services. And, as such, it approaches its task from a variety of directions. These differences are readily suggested by the titles in the table of contents. I will now single out a few of the chapters for some passing remarks.

The valuable initial chapter, Chapter 1, of which one of the editors of the volume (Faiz Gallouj) is a co-author, seeks to provide a structure for the field, an organizational approach into which the variety of illuminating contributions in this book and elsewhere can be fitted comfortably. As such, it can contribute substantially to the utility of the literature, and facilitate its further expansion.

I will avoid comment on my own chapter (Chapter 4), which I trust will

not succeed just in eliciting tedium, though I flatter myself that it does offer some insights that I have never provided before.¹ For the opposite reason, I will postpone my brief comments on the Gadrey chapter (Chapter 5), because I want to end this Foreword on an upbeat note, in admiration of its important observations.

Predictably, and very appropriately, there are chapters in this book that focus in various ways on innovation as itself a service activity, indeed, for the purpose at hand, as the prime service activity – the one that underlies the growth process and that often leads to persistent intersectoral disparities in productivity growth rates and their now well-recognized differences in rates of real cost increases. The point that is overlooked here is the presence of a critical two-way relationship. The first goes from innovation to services, and amounts to the fact that services are subject to innovation, and are not condemned to languish unchanged forever in their ancient ways.

But the other side of the matter is the fact that the innovation process is itself primarily a service activity. There are a number of chapters here in which this relationship is cited, explored or at least hinted at: Chapter 9 by Harrison, Klein and Leduc Browne, Chapter 3 by Howells, and Chapter 18 by Camacho and Rodriguez, who are led into this arena by their focus on ‘knowledge-intensive services’. Several other chapters follow up on the issue, for example by looking into the relationship in the innovation process between universities and private business (e.g., Antonelli, Patrucco and Rossi, Chapter 7). This last relationship should be of special interest to the Europeans, who apparently are still behind the US in the solidification of a university–business partnership, with all of its promise for the innovation and growth processes.

I emphasize the role of innovation as perhaps the king of the services, among the great variety of topics that are covered in the book, because it is at the heart of the story that must ultimately become a prime focus of the literature on the services. The state of the world’s economies in the future is dependent on continuation of the outburst of innovation and productivity growth that emerged after the eighteenth century. But that, in turn, must rest on education, research and utilization (marketing), all of which, evidently, are more or less pure services. This gives us a very different view of the central role of the services in our economic future. They are not merely the remaining repository of jobs, as the productivity explosion in agriculture and manufacturing closes down these traditional avenues for gainful occupation and its paths out of poverty. The dramatic shift of employment to the services is, of course, important in itself. But without understanding the role of the services as the heart of the mechanism that determines productivity growth in the economy as a whole, and

its distribution among the activities of the economy, the story loses much of its rhyme and reason, and becomes instead a curious concatenation of tales of haphazard and fortuitous developments.

In short, the fate of the services and the implications of their trajectory is a subject far less narrow than it may appear to be. Indeed, the developments in this sector of the economy have other surprising consequences for our future overall. This is brought out even more sharply than what has just been said in the very illuminating chapter contributed by my friend, Jean Gadrey. His focus is the threat to the environment and even to the future of humanity that is posed by the economic growth process. I need hardly remind the reader of the urgency of the subject, but the connection of the fate of the services with these looming problems, or even the possibility that there is such a connection, is hardly common knowledge.

As Professor Gadrey reminds us, the easiest way to associate the two arenas is to go back to an ancient definition of a service as an output that is not embodied in a material substance. A newly produced hat is made up of cloth, leather or other materials, whereas the cleaning of a table by a waiter in a restaurant or the discovery of the notion of the double helix entails no physical embodiment. It would appear to follow that the restructuring of gross domestic product (GDP) to include a declining share of manufactures and a rising proportion of services offers some hope as part of a promising recipe for containment of the environmental threats to the future, for without use of physical raw materials the problems of waste, emissions and their disposal would appear to be minimized.

Professor Gadrey shows, however, that matters are not so simple. But, first, he notes an opportunity that the preceding observations would seem to reveal. For, taken at their face value, they would appear to say that, by reducing the depletion of resources, the switch from manufacturing to the services helps to control one of the most damaging externality threats that looms over the future of humanity. If so, as we all know, the proper response is taxation of the more damaging activities (the manufactures) and the grant of subsidies to those (the services) that yield beneficial externalities, a step that may do much to offset the cost disease of the productivity-stagnant services. Pigouvian taxes that raise the prices of new cars and fuels, and subsidies that reduce the cost of education and medical research, can serve as an effective counter to the cost disease of the stagnant services.

But as Professor Gadrey makes clear, all this is an oversimplification. A moment's consideration will show how misleading the story can be. Services are not automatically resource-conserving or environment-protecting. Thus, we note that airplane and bus transportation are services and yet are among the leading threats to the environment contributed

by technical progress. In addition, there is no reason to believe that the share of service outputs in GDP is really rising materially. It is only their relative money value and their share of the economy's employment that is rising. But there is no reason to expect this to be accompanied by a material decline in the production of steel for building construction or in the use of petroleum products in the production of plastics. And even if there were a continuing and substantial rise in output of services, somehow measured in 'real' terms, rather than mere money values, the rise in their quantity might well offset any alleviation of the environmental threats via the lower resource content of a unit of service output, however defined or measured.

Two things follow from this relatively brief discussion. First, the role of the services and their place in the composition of the output of the economy will yet prove to be of enormous importance. We already understand enough about the matter to be reasonably sure of that. Second, we are only beginning to understand both the nature of the threat and that of the promise. Without investigating them, we may permit the escape of an invaluable opportunity to make for improved prospects for mankind.

Notes

1. I should comment, in connection with my own work, that in the materials with which I have been provided about this book I have found no reference to Oulton's important, albeit paradoxical, theorem. Oulton shows that business services, with their growing importance in the economy, are apt to speed up productivity growth in the economy, even though they themselves suffer from the handicaps to labor-saving productivity growth that beset so many services.

To hint roughly at the reason, let us use m to symbolize the rate of labor saving in manufacturing, s the rate in services, and b the rate of such productivity growth in the use of services by business firms. If $s < m$, $b < m$, but $s + b > m$, then labor involved in the supply and use of business services will benefit cumulatively from two stages of productivity growth, under the assumed magnitudes, yielding a net overall productivity gain of $s + b$. See Oulton (2001); see also Sesaki (forthcoming).

References

- Oulton, Nicholas (2001), 'Must the growth rate decline? Baumol's unbalanced growth revisited', *Oxford Economic Papers*, **53** (4), 605–627.

