J Evol Econ (2001) 11: 1–5

Journal of
Evolutionary
Economics

Economic Growth – What Happens on the Demand Side? Introduction

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The collection of papers presented in this special issue emerged from a symposium on the topic of "Escaping Satiation – Increasing Product Variety, Preference Change and the Demand Side of Economic Growth", held at the Max-Planck-Institute in Jena in December 1997, and a session on "Economic Growth – What Happens on the Demand Side?" held at the meeting of the American Economic Association in Boston in January 1999. The common theme of both events was the interest in the much-neglected demand side phenomena related to, or constitutive for, the soaring economic growth of the past few centuries. At least in economic growth theory – even in its most recent form, that of "new economic growth theory" – the focus is traditionally on the logic of capital accumulation, roundabout production, and the influence of different forms of technical change.

Yet, while technology, production, and supply may be critical to the economy's capacity to grow, this is not the full story. There have historically been, and still are, massive changes in the products and services offered to final demand, as well as changes in consumer behavior and in consumption patterns in the process of economic growth. These phenomena seem to have escaped the attention of scholars engaged in theoretical work: consumption, interpreted as consumption expenditures, is treated as a dependent variable – where feasible, consumption is assumed to grow automatically.

In contrast to such an interpretation, it may be argued that precisely what is happening on the demand side of the markets, so that more and more produced goods and services can be sold to consumers, is an essential part of economic growth theory – particularly in an evolutionary approach in which the interactive changes in the two spheres of the economy, production and consumption, are emphasized. In the spirit of such an approach, the papers in this special issue have been selected with the intention to broaden our understanding of what aspects need to be considered when investigating changes in products and services, in consumer behavior, and in consumption patterns. These essays may help to

identify what empirical observations deserve our attention in an attempt to explain what is happening on the demand side during the process of economic growth. Each of the papers looks into a different subset of aspects that become relevant if the above questions are seriously addressed. Jointly, the papers may be considered as contributing to an important, newly emerging research topic.

The essay by Brian Loasby confronts ideas regarding the role of the human mind and its innovativeness, from Adam Smith to Marshall, Menger, Schumpeter, and on to more recent reflections on rationality in evolutionary psychology. The point is to draw attention to the conflict between a growing knowledge, on the one hand, and the scarce cognitive capacity of the human mind, on the other. As Loasby explains, on the level of the individual mind, mental frameworks emerge as a way to resolve the conflict while, on the social level, institutions have a similar effect, i.e. they help to economize on the use of cognitive capacity. However, by their very make-up, mental frameworks and institutions have a persevering tendency. It is innovativeness – resulting from differences in individual perceptions (or imaginations) – that retains the capacity to generate change and to promote economic development. In so doing, Loasby argues, innovativeness on the part of consumers is no less important than innovativeness on the part of producers. Indeed, "knowing that" and "knowing how" are as much prerequisites for coming to appreciate new goods and services and for consuming them, as they are prerequisites for their production. The fact of a growing consumption knowledge is, and has been, conceived of by many economists as being at odds with the ideas of given preferences and general equilibrium.

In my own paper, I argue that it is indeed difficult to explain the long-term evolution of consumption and the growth of demand on the basis of the existing theory of utility which focuses only on formal properties of utility functions rather than on the objects of desires. To add substance, I suggest we revert to a classical notion in economics, the concept of wants. On the basis of some conjectures about the genetic background of human behavior and some insights from behavioral and cognitive psychology, a more elaborate theory can be developed which tries to answer the questions of what wants people pursue in their daily economic activities, and of how these wants, and the corresponding consumption knowledge, change systematically over time. The implications, which are briefly outlined, provide an explanation for why, in spite of the historically high growth of per capita income in the modern economies, consumption has not been increasingly satiated. A crucial role is played in this explanation by the increasing variety of goods and services offered to the markets and the corresponding increasing specialization of consumers in their consumption behavior.

Stanley Metcalfe's paper starts with a short review of particularly significant consumer goods innovations and comes to the conclusion that the role of the consumer as an "innovator" has been grossly underrated in the rather exclusively supply-side oriented Schumpeterian approach to innovations and growth. As Metcalfe explains, the behavior of consumers shapes the way in which producers can translate new technological opportunities into marketable products and services. All experience teaches that observable changes in consumption behavior – which

often are due to the adoption of innovations – are in many respects socially contingent and cannot be understood without noticing the interactions between consumers and the influence of modern advertising. In demurring to Linder and Becker, Metcalfe identifies the interactive constraints on income, working time, and consumption time as a major source of regularities in the changing patterns of consumer behavior during the historical process of economic growth. He analyzes the relationships between these constraints in a highly original dynamic interpretation, based on the melioration hypothesis, an experimentally well-supported theory of behavior adaptation. From his model, Metcalfe derives new insights on the rich dynamics of learning behavior in consumption.

Peter Swann addresses the dynamics of demand as they result from the individuals' desires for distinction. It is often argued that a significant share of consumption is, and has always been, motivated by an attempt to demonstrate social status and identification with social groups or classes. To the extent that this kind of consumption-based social self-attribution and signaling is understood as expressing discrimination against lower groups or classes in a social hierarchy it can, of course, be contested by these lower status groups once an increasing purchasing power enables them to do so. Precisely this effect induces an often acknowledged dynamic insatiability of demonstrative or conspicuous consumption, which results in an apparently unending consumption spiral. To this body of insights Swann offers a particularly informative case study of the prestige car which, as far as the "demand for distinction" is concerned, can be assessed in at least two different dimensions represented as an ideal type by Ferrari on the one hand and Rolls Royce on the other. As Swann shows, many differences in producers' selling strategies and consumers' tastes for expressing their distinction can be grasped on this basis.

The paper by Richard Langlois starts with a review of the way in which new growth theory portrays the role of knowledge and the sources of scale and scope effects. This portrayal is incomplete or even misleading, Langlois explains, because of the bias implied by acknowledging only explicit, abstract, and codified knowledge as essential for increasing returns. Such a restriction ignores the role of implicit, and usually tacit, knowledge which is imbedded in organizations, institutions, and machinery. A case in point is that of dies that allow a simultaneous, multiplicative use of a given piece of knowledge in the process of production – the very core of the factory approach to production. "Re-use" of knowledge requires standardization, yet the value of standardization is ambiguous: if different users intend to employ a product for different purposes, then there is usually also a demand for variety which limits the possibilities of standardization – and accordingly the "re-use" of imbedded knowledge. This condition also applies to the demand side. Langlois argues that the households' internal production-cum-consumption processes, though limited in scale, enjoy increasing returns precisely through standardized products and the imbedded re-used knowledge made available to them by the markets. Langlois claims that the limits which may constrain the increasing returns and the corresponding potential for growth do not emanate from the public goods character of the

relevant knowledge (as new growth theory would have it), but from the individual consumers‘ longing for variety in their consumption patterns.

Bresnahan and Greenstein address the question of when technical progress enables the economy to make consumers better off. The empirical example they choose for their discussion is information technology – by now almost a synonym for impressive rates of technical progress. To a large extent, information technology consists of general purpose devices which are broadly applicable to many tasks in most diverse user settings. These devices – e.g. computers, cellular phones, networking gears – are available almost everywhere in the world. Inventions and innovations in the general purpose domain diffuse quickly. What is not universally available, but contributes decisively to making information technology beneficial to the consumers, are the complementary “co-inventions” of special purpose devices which adapt the general purpose technology to the diverse specific problems of the different users. Co-inventions and the corresponding innovations remain largely local so that, despite universal accessibility of the general purpose part, the rate of technical progress can vary substantially across geographical regions. From their analysis of co-inventive activities in information technology from a demand side oriented perspective, Bresnahan and Greenstein conclude that economic value is created in “nested sequences” of developing and propagating new special purpose variants; one co-inventive advance prepares the ground for the next. Under such conditions, it is no wonder that welfare benefits from advances in information technology are difficult to measure – a problem, Bresnahan and Greenstein point out, not yet satisfactorily resolved.

The *leitmotif* in Pier Paolo Saviotti‘s paper refers back to the work of the late Luigi Pasinetti, which puts economic growth and structural change in perspective with the long-term changes in consumption behavior. On the one hand, there is incessant capital accumulation, learning on the supply side, and corresponding productivity increases; on the other hand, an increasing variety of products and services is offered to consumption markets over time. The latter seems necessary to elicit additional demand where otherwise increasing consumption of the same items would induce satiation. Satiation, in turn, would mean a stagnating demand and, eventually, dwindling employment opportunities. After elaborating this idea, Saviotti reviews hypotheses and concepts which have been proposed in the literature and which could be useful in determining why the necessary changes on the demand side indeed come about. Continuing, he suggests a model based on replicator dynamics. The model implies a kind of “fitness” measure for new varieties of consumer items defined in terms of a characteristics space à la Lancaster by which a new variant can be classified. The model allows one to describe in a more formal way the conditions for an increasing variety in the composition of consumer items.

Esben Andersen’s contribution continues the Pasinetti motif. Focusing on the problem of the (absence of) satiation of demand, he chooses as the framework for his investigation a model of evolutionary endogenous growth in the tradition of Nelson and Winter. On this basis, Andersen suggests a micro foundation of

Pasinetti's scheme of the structural economic dynamics of a labor economy. In his model, firms increase their productivity with respect to individual goods through innovative activities. As a long-run consequence, labor becomes available for the production of new consumption goods. However, should it happen that such goods are not being developed, produced, or supplied to the markets to a sufficient degree, the firms' incessant rationalization efforts would lead to a situation in which labor would eventually be laid off, a situation which Andersen calls "technological unemployment." In order to sustain long-term economic growth, then, something like "anticipatory R&D" is necessary, i.e. research and development which produce designs for successfully marketable, novel consumption goods.

As this short review of the eight papers in this special issue should have made clear, these contributions cover a broad range of topics and suggest quite a number of new and stimulating views. Nonetheless, they can hardly claim jointly to have done more than point to the demand side of economic growth as an area of promising research – with a lot more work to be done. Even more work will be necessary, of course, to merge the insights into what happens on the demand side, once they are sufficiently settled, with the large body of research on the production side aspects and on technological change so that, eventually, a comprehensive picture of the process of economic growth obtains. Once that stage has been reached, it may perhaps be said that our understanding of the process of economic growth eventually matches the significance which this process has had for the evolution of human kind over the past centuries.