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# THE GLOBALISATION OF SERVICES IN ECONOMIC THEORY AND ECONOMIC PRACTICE : SOME KEY ISSUES

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## 1. «Catching up with the economy\*»

This is the title of the presidential address delivered at the meeting of the American Economic Association in January 1999 in New York by Prof. Robert W. Fogel.<sup>1</sup>

He has the courage to state that «... the profession is lagging behind the economy more than it has to.»

I have picked up some basic controversial issues and submitted him the following comments:

- «... You mention 'the difficulty in measuring output in the service sector'. I think that in the present situation services are no longer a sector but a function dominating - in terms of resources utilisation - all the productive activities in the economy and in particular in the so-called manufacturing sector. The fact that everybody admits that services represent 2/3 of the economy, is not the determining issue: it is rather to understand that the production of value is essentially based on services everywhere.
- This implies a revision of the notion of value: if one still insists in measuring services and their positive economic results in terms of a scheme of thinking which has been built essentially on the predominance of the industrial revolution, we cannot possibly achieve adequate results. I have explained this in several writings.
- This links to your thesis that «the economic profession is lagging behind the economy more than it has to». In fact, I came to the conclusion that economic theory, as it has been developed since Adam Smith, is not the theory of the economy *per se* but a theory on the experience of the industrial

revolution. This was more than adequate at the time where the logic of industrial production was dominant. This is not any more the case: the utility of any productive economic system must be measured in terms of performance over a future period of time.

- The notion of performance in time (which also explains why I was so much bewildered by my experience in the insurance industry) opens the door for a fundamental, positive re-thinking of the notion of risk on the one hand, and on the possibility and necessity of integrating the complementary nature of non-monetized and non-monetaryized productive activities in the economic analysis. The two latter types of activities are obviously more and more complementary to any production system and they are in practice also considered as alternatives to situations in which the monetarized solutions become inefficient. Therefore, there is an absolute need to broaden the boundaries on economics to integrate a significant part of non-monetaryized and non-monetized activities. This goes beyond the idea of Samuelson who once stated that economics also include non-monetized (but not non-monetaryized) activities.
- I strongly disagree with the ideas that there are «commodities that lack material form». There is no material product, which does not need service to be utilised, and there is no utilisation in whatever service function that does not use a material base somewhere. The difference between the traditional industrial economics and service economics is that in the first one, the material base is dominant whereas in the second one the priority and the dominant base in terms of economic resources are represented by service functions. When one tries (this effort has been going on for 20 years and was particularly obvious during the first phase of negotiations about financial services at the GATT) to define services in terms of immaterial commodities, it is because this is the last conceivable effort to integrate service functions within a frame of reference which is the traditional manufacturing - industrial based economic thinking. Real activities in all so-called manufacturing industries today are well beyond this point.

All these points will be dealt with more in detail in the following chapters. It is perhaps useful to start from the very beginning looking first at the boundaries which are today set by mainstream economics to this discipline and the need to push them beyond their present limits.

## 2. On the question of limits and boundaries

I cannot resist to the pleasure of citing a Danish poet, Piet Hein:

*... our simple problems often grew  
to mysteries we fumbled over  
because of lines we nimbly drew  
and later neatly stumbled over.*

This short poem is a perfect introduction to a fundamental thought of Alfred Marshall in his *Principles of Economics*:

*... if the subject matter of a science passes through different stages of development, the laws which apply to one stage will seldom apply without modifications to others.*

These quotations are just a reminder to say that in ancient times as well as in modern times, in physics as well as in economics, the question of limits and boundaries is a fundamental one. There are moments in history when limits and boundaries appear relatively well defined and far off. There are other periods in history where limits and boundaries have been approached and, in a sense, conquered to such a point that in fact what we need is a new vision to fix new boundaries or, as some philosopher put it, propose and discover new paradigms.

It is my contention today that we are living a period in which a fundamental change is taking place in front of a phenomenon which has started about two centuries ago and which is today definitely spreading around the world: I refer to the Industrial Revolution. This phenomenon has probably been the most important social event of modern times, has integrated scientific advances with technological improvements and has spread finally democratic systems of governments around the planet, within a process of growing complexity and interdependency of all human beings all through the spaceship earth.

When it started, the Industrial Revolution conducted a major attack against a fundamental aspect of limits on earth: the problem of poverty. The ambition of the Industrial Revolution has been to promote the wealth of nations, and although this process is far from being completed, it has profoundly modified human societies everywhere.

Today, the new paradigm in economics appears to be the following: what are the conditions under which the wealth of nations can be developed, in a situation in which the approach to solve such a problem, adopted by economics

at various stages of development, needs a deep rethinking or modifications. The fact is that we no more and nowhere live essentially in an economic system dominated by manufacturing. This latter is of course still important, but has become secondary to many other service economic functions. The notion of value itself, in classical and neo-classical economic thought, has become one of those lines or targets which have been drawn and on which we are now neatly stumbling over, following Piet Hein's words.

Let me shortly suggest in the next paragraphs the key elements which should allow us to redefine the future boundaries of economic and social development.

### **3. They key elements in the new search for wealth in the service economy**

In the Industrial Revolution, all the efforts have been concentrated on the production of goods with the idea that in order to fight against poverty and to increase wealth, this is what was essential. More shelters, more food, more energy of course were essential (and still are in many parts of the world) to allow people to live better. And let us not forget that the founder of economics, Adam Smith, promoted this discipline as a *moral* necessity.

It was about 20 to 30 years ago that this basic assumption of the Industrial Revolution started to change considerably: the revolution took place within the manufacturing industry itself, at the very moment when service functions became more important in their activities than the traditional manufacturing ones.

#### ***3.1. From the Industrial Revolution to the Service Economy***

In fact, if we look at all sectors of the contemporary economic activity, we can easily find out that services of any sort represent the essential part of the production and utilisation systems of goods and services. For each product we buy, be it an automobile or a carpet, the pure cost of production or of manufacturing is very seldom higher than 20 percent of the final price of these products. More than 70 or 80 percent is represented by the cost of making the complex service and delivery system work. Which means that service functions have become the greatest part of concern and investment even within the most traditional industrial companies. It must therefore be clear that the service economy is not in opposition to the industrial economy, but represents a more advanced stage of development in economic history.

In the same way, from the beginning of the Industrial Revolution, agricultural production was not eliminated and, on the contrary, remained a fundamental economic activity. But it is through industrialisation, directly or indirectly, that agriculture has become more efficient. And now both the agricultural and the manufacturing industries have more and more to rely on the development of services, in order to ameliorate their economic performance in production, distribution and utilisation.

In a recent survey<sup>2</sup> on the economic consequences of new technologies, a table was presented showing that, taking into consideration a personal computer used in the American industry for five years, the initial cost of the computer itself was 10% compared to 90% for services of various kinds supporting the utilisation of the computer over that period of time.

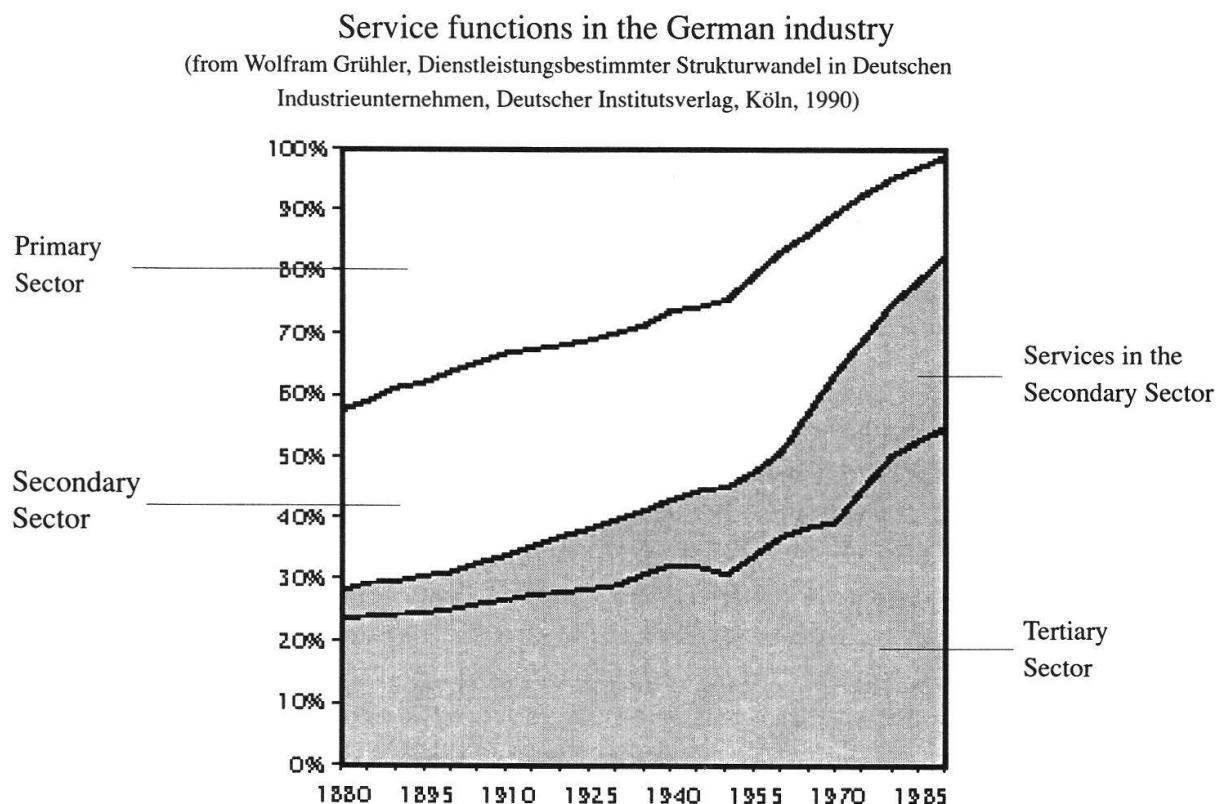
Schindler, a leading world manufacturer of elevators, has just produced a forecast, according to which, on the basis of their «industrial» experience, within ten years employment in manufacturing jobs would be reduced to 8%, the rest (92%!) being services. This is consistent with an analysis by Wolfram Gröhler, already done in 1987, concerning the job functions' structures and trends in German manufacturing (Table 1).

*TABLE 1 : Jobs by Functions in German Manufacturing\**

	1982	1987	Annual rate of variation in percent
manufacture	36.8	31.5	- 4.0
providing services directly linked with manufacture	23.2	28.2	+2.9
repair	10.4	9.5	-2.8
adjust and prepare machines	12.9	18.7	+6.7
services for general purposes	7.7	6.7	-3.5
providing services remote from manufacture	32.2	33.6	-0.4
safeguard	0.6	0.6	-2.5
office work	13.6	12.5	-2.9
trade	5.8	6.1	-0.3
planning and research	6.5	7.5	+1.9
training, information	0.7	1.1	+8.7
manage	5.0	5.8	+1.5
all types of work	100.0	100.0	-1.1

As a further illustration, we can consider the following table which shows for Germany how, since 1880, not only the so-called tertiary sector per se has grown, but also how far service functions have become dominant within the secondary sector itself.

**TABLE 2 : Service Penetration**



Just some remarks to this table :

We would add for the primary sector a consistent part of its output as linked to service functions too.

On the other hand, a part of the so-called tertiary sector has also, in some cases, adopted procedures and processes which could be defined as «manufacturing-like».

The key issues would therefore be :

- Accept the idea that services are spread in all sectors and therefore that the traditional economic theory of the three separate sectors is somewhat obsolete.

- Acknowledge the fact that a manufacturing industry is considered «advanced» when it has developed the most and the best performing services; therefore, dismissing the old idea that services are a kind of secondary or even rear-guard part of the economy.
- Avoid confusing the pre-industrial services (which justify the contempt against them by the economists of the industrial revolution), and those services which are the consequence of a mature industrial society which have benefited from newer and most efficient technologies.

Service functions which normally represent 70 to 80% of «production» costs in most «manufacturing» companies can be described as belonging to 5 categories:

- ⇒ *Before manufacturing* (research, financing)
- ⇒ *During manufacturing* (financing, quality control, safety, etc.)
- ⇒ *Selling* (logistics, distribution networks, etc.)
- ⇒ *During products and systems utilisation* (maintenance, leasing, etc.)
- ⇒ *After products and systems utilisation* (waste management, recycling etc.).

In a graphic form, these services can be drawn in the following way:

R & D ⇒ Production ⇒ Distribution ⇒ Utilisation ⇒ Recycling  
 Costs  
 ⇡ ⇡

Whereas, traditionally, costs could normally be referred essentially to the «production» phase, costs related to all the other four phases (in both directions on the left and on the right) have constantly increased relative to the pure manufacturing phase up to the point of becoming dominant.

The consumer, instead of representing a totally separate function, is always involved in this global production system, particularly at the level of distribution and above all utilisation and finally recycling. Alvin Toffler has described this phenomenon as the «prosumer».

In terms of economic value, this one is not only related to the existence of a material product (traditionally limited to the phase of the material production), but is extended over the *performance* of the system, whereas the utility is really depending on the utilisation of the product or system.

The notion of utilisation requires a time reference (duration), which in

itself can only be defined by a probability.

Costs and benefits therefore cannot be analysed adequately in a static system of reference, «The General Equilibrium Theory» but have to refer to an economic system which has to optimise different levels of uncertainty.

#### **4. The case of pricing in insurance as reference for the New Service Economy**

Selling a personal computer, as in the above case, means that 90% of the business done with it is based on an estimate of cost and prices which have to do with a period of utilisation related to a future period of time. The classical economic equilibrium between supply and demand has become a kind of uncertain system in which the probabilistic nature of future costs destroy the utopia of a possible perfect price certainty. Uncertainty is the name of the game in the service economy.

In classical industrial economics, prices are normally fixed by reference to production costs in meeting a solvable demand.

By contrast, the insurance experience has always been that of a «reversed cycle» in which a price has to be fixed on the basis of an uncertain event happening in the future.

Today, increasingly, pricing systems in all economic sectors have begun to resemble insurance policies and are moving away from the traditional simplified «industrial», equilibrium based, price setting model. Indeed, some of the costs occasioned by product or system utilisation (including waste disposal) require a judgement at the moment of selling which comes closer to the way an insurance underwriter thinks and acts: future events, which are only probable, will affect the cost of any economic performance. This is particularly obvious in the case of leasing. Expansion of liability costs for products and services has thus become, for instance, a way of incorporating the future «quality» of performance of products and systems as a factor in the calculation of the «costs of production».<sup>3</sup>

While classical industrial economics could aim at a «perfect equilibrium» for prices, given adequate information, in the Service Economy the notion of uncertainty is an integral part of both practice and theory. Prices increasingly reflect a probabilistic judgement on the future costs of utilisation. In such circumstances, no «scientific» information could ever generate what is thought

as «perfect» information. Economics needs to look closer at how insurance price systems work.

## 5. Risk Management vulnerability and insurability

The notion of systems becomes essential in the service economy. Systems produce positive results or economic value when they function properly.

The notion of systems operation (or functioning) requires the consideration of real time and the dynamics of real life. Whenever real time is taken into consideration, the degree of uncertainty and of probability which conditions any human action becomes a central issue.

The economics of the Industrial Revolution could, in contrast, rely on the fiction of a perfect equilibrium theory (outside real time and duration), based on the assumption of certainty. During most of the economic history of the Industrial Revolution, risk and uncertainty have been a subject only for historians and sociologists but not for economists. The first systematic attempt to take risks and uncertainty into consideration, and with great timidity, was made by Frank Knight during the 1920s.

Any system aiming at obtaining some future results is by definition in a situation of uncertainty, even if different situations are characterised by different degrees of risk, uncertainty or even indetermination. But risk and uncertainty are not a matter of choice: they are simply part of the human condition.

Rationality is therefore not so much a problem of avoiding risks and eliminating uncertainty, but of controlling risks and of reducing uncertainty and indetermination to acceptable levels in given situations.

Furthermore, the very systemic nature of modern economic systems and the growing complexity of technological developments require a deeper economic understanding and control of the increasing vulnerability of these systems.

Unfortunately, the notion of vulnerability is generally misunderstood. To say that vulnerability increases through the increase of the quality and performance of modern technology might seem paradoxical. In fact, the higher level of performance of most technological advances relies upon a reduction of the margins of error that a system can tolerate without breakdown.

Accidents and management mistakes still happen even if less frequently,

but their effects have now more costly systemic consequences. Opening the door of a car in motion does not necessarily lead to a catastrophe. In the case of a modern aeroplane, it will.

This shows that the notions of system functioning and of vulnerability control become a key economic function where the contributions of people like economists and engineers must be integrated. In a similar way, problems of social security and savings for the individual have to take into account management of vulnerability.

Thus, the notion of risk and the management of vulnerability and uncertainty become a key connotation of the service economy.

Let us now consider the notion of insurability (= manageability of risks and uncertainties), which although unknown in most courses on economics, is a fundamental concept for the interpretation and management of the key economic problems of our time.

Although pure risks (depending on the implicit vulnerability of any system) and entrepreneurial risks (depending on taking or not taking a specific action) are in many cases interrelated and interdependent, it is important to make a clear distinction as to their very different nature. Here too, we have to remark that only entrepreneurial risks as such have been considered, although belatedly, by economic theory and analysis.

In fact, entrepreneurial risk itself is increasingly conditioned, in all sectors, by an adequate understanding and control of pure risk, starting from the management of financial risk through to the question of systemic risk. Everything seems to be pointing to one key issue: the identification of the level or the threshold of insurability, within which the private system can operate. Beyond that level of insurability, whatever the political ideology of a government, the public authorities or society at large have to step in. But as attempts are made to minimise the vulnerability (financial, economic and social) of governments and society, it is clear that the *notion of insurability is moving, little by little, to the centre-stage of economic policy-making in the future*. Governments increasingly recognise that they have a vested interest in stimulating an efficient private insurance system in all fields in order to develop an adequate economic policy. In fact, most governments in today's world are forced into privatising many activities in order to make them more efficient, but also to reduce their deficits. Once again this process concerns key policies like: social security, the effects of natural

catastrophes, industrial and environmental risks (with all the consequences for liability that they involve), health insurance, crime and terrorism prevention (including fraud and moral hazard related issues). All these activities can be transferred to private institutions, to the extent that they fall within the limits of insurability.

There are of course essentially two levels of insurability:

- ⇒ An upper level at which, in theory, all risks can be insured, provided they are sufficiently defined as a class and adequately quantified as far as their frequency and gravity are concerned;
- ⇒ A second level of insurability which is determined by the capacity of the insurance industry or of any risk management institution to cover properly these risks. The word capacity embraces both financial and management potential.

Whereas in the old world insurance and risk management organisations could remain on the side-lines of economic activity, it is today fundamental that this profession succeeds in bringing home to governments (and to economic experts, scientists and institutions) that an adequate understanding of, and efficient policy for, the development of the private insurance sector is the key to success for *their* policies.

Of course, any analysis of insurability involves specific issues like: the market and regulatory conditions for adequate capacity-building; the development of professionalism in risk selection (the improvement of rating management); regulations on solvency and fiscal conditions; the control of liabilities contracted in the past and their effect on the future solvency of insurance companies and institutions; reserve constitution in cases of extreme uncertainty. But such analysis also involves, as a matter of general economic policy, the setting up of economic incentives which facilitate economic development through the control of vulnerabilities. In economic terms, this means that any optimisation process has to consider on the one hand the cost of services from research to waste management, and on the other the risk management procedures relating to all possible hazards.

Insurability is finally also the line along which a new division of labour is being developed between private insurance and private industry in general on the one hand, and the public sector on the other.

## 6. Globalisation and delocalisation in the world service economy

If more and more business (turn-over or sales and utilisation) is not done where the manufacturing process takes place, but where products and systems are utilised and then finally disposed of, it is clear that a greater part of the «production system» is displaced to where the clients are. What was always largely true for insurance (where one knows that you cannot cover a fire insurance in Sicily using the same criteria one would use in Holland or in Asia) now is more true of all economic activities: the selling of hardware and even automobiles, produce costs, turn-over or sales where products, systems and services are distributed, used and then disposed of.

Of course, the international exchange of products as such still exists, and is important, but it is bypassed increasingly by the fact that investments are needed in foreign countries as a first priority for creating distribution and utilisation infrastructures.

It is quite obvious that, following this logic, the internationalisation for instance of Europe and even of the world in many economic sectors has mainly led to acquisitions and investments aimed at strengthening the distribution capabilities of companies, taking into account the differences of the markets and of the type of products they could sell or propose to each market. The transnational sales of products directly from a foreign base, although important and favoured by a powerful communication technology, is only a second level priority in this context.

Therefore, a global business strategy, for any sector and because of the logic of the Service Economy, tends to *combine* investment with trade (through acquisitions or other means) developing *local* human capital and resources: this is a fundamental issue to understand and which concerns directly the ideas that we can have on global economic policies. The world becomes without frontiers, but in a situation which goes much deeper than by a simple increase in international trade, because the investment side of it creates a much more articulate and binding situation. It also stimulates autonomy.

Hence, from a world economic standpoint, the crucial difference between the classical Industrial Revolution and the present service economy is that, with the former, investment in a foreign country was an alternative to exports, whereas with the service economy investments is the necessary tool for export because it is linked to utilisation and because, in turn, utilisation is linked to consumer

presence and active participation.

There is a great message of hope in this situation which far outweighs the theory of comparative advantage (sometimes effective in a classical industrial economy). There now exists a vested interest for all world producers to establish efficient local utilisation systems where their investment opportunities for gain are better guaranteed. Thus we rediscover, in an economic sense also, a great general interest that all can share, in that the poorer becomes richer because they are the terrain in which new markets can develop on the basis of their ability to use as prosumers and properly manage available systems.

Probably this situation will soon have a profound impact on the activities of international institutions such as the World Trade Organisation (WTO). The WTO's predecessor, the GATT, had in fact already commenced its involvement in services at the time of the Tokyo Round via the discussion on non-tariff barriers to trade. All such barriers were in reality system conditions for product utilisation, and although the idea of the service economy was not as yet explicitly defined, a first step was already being taken. On the occasion of the Uruguay Round, the initial ideas were that if services could be defined as simply another type of good, then fostering international trade would raise no major problem. In the event, things turned out differently and the Uruguay Round negotiators, stimulated by economic reality, were finally able to establish such principles as the right of establishment and national treatment which are in fact the foundation stones of any investment policy worthy of the name in service economy terms.

Once economists and economic leaders will be more conscious of the realities and potentials of the service economy, the way will be opening for much more optimistic, productive and fair strategies for developing the world economy. In that process, the WTO could prove a prime mover in re-launching the wealth of nations world-wide. The key to the global economy is to have the right vision of the service economy.

## 7. Productivity, quality and performance

If we accept that economic value in a service economy is determined by the performance of a system, we can propose the idea that in fact the notion of quality is fully integrated in the notion of performance itself. Good quality performance has higher value than lesser quality performance. The two notions of quality and performance are in fact identical. What we are lacking is a system of

measurement of economic value which can actually and effectively quantify the variations in wealth production generated by all types of economic systems.

In practice, a performance of bad quality has a lesser economic value and a performance which is very bad can even produce negative or destructive results which we have called «deducted values».<sup>4</sup>

We can also observe that the more modern economies become high technology service economies, all the dichotomy between quantity and quality tends to become increasingly interdependent. Even high technological mass productions must more and more incorporate qualitative aspects simply to be economically functioning. For the more advanced systems and technologies, the notion of gaining in quantity at the expense of quality (performance) makes less and less sense.

We like to stress the idea that the frame of reference for the notion of quality is how a system performs in relation to stated objectives.

In some cases, there is the necessity of having the right type of quality and performance as, for instance, in some products which must be destroyed after use: the cost of destruction must not increase disproportionately because the quality of the product during use has been reinforced to the extent of becoming a *negative* quality when the product itself is passing from the phase of utilisation to the one of destruction or recycling or reconditioning. This is a problem of optimising duration or the life cycle of products.<sup>5</sup>

The problem of measuring the productivity of services puts well in evidence how far an economy essentially based on service functions cannot anymore rely on the traditional productivity measurements developed for the industrial economy. Many scholars have tried to go as far as possible in the direction of exploiting traditional ways of measuring services output with some modest results.<sup>6</sup>

The key issue is the possibility of defining what is the product, what is an output of a service activity as compared to an industrial activity.

In both cases, it is relatively easy to quantify the cost of the production factors and the inputs. In the case of the industrial economy, the product is identified by a material object sold on the market. Normally, productivity means the capacity of the production factors to produce in a given period of time more and more units of these material products.

In the case of services, we have to do with a performance, and therefore the traditional measurement of productivity leads in most of cases to erroneous conclusions.

The methodological difficulty is that, traditionally, economic theory is based on the assumption of a price of equilibrium between supply and demand. Therefore, with a logical by-pass, the cost of production is easily equated with the value of demand. The result is that, in case of services, the measurement of their value and productivity is often based on the value of the production factors. In this way, a public administration, which would double its employees or double the salaries of its employees with no additional performance whatsoever, would be considered as doubling its value in terms of gross national product. In the same way, an inefficient administration, badly paid, as it is the case for one country in the European Communities, has been considered as having an above average productivity because its relative costs to other public national administrations is lower, and they are all supposed to fulfil basically the same functions. Once again, no measurement of the *real performance or quality* of the services produced are taken into account and integrated into the traditional economic evaluation.

The extension of the service functions in the modern economies will increasingly oblige economists and all those involved with economic issues to decide:

- whether to maintain their evaluation of the basis of the traditional accounting of value added as proposed by the classical and neo-classical industrial economics (this will diminish constantly the relevance and significance of such measurements);
- or find practical, as well as theoretical ways, to integrate measurements of services performances, or measurements of the *quality* of outputs (which is the same), and in particular of results, in order to re-establish a significant and useful possibility of measuring the real wealth produced by the economic system.

This implies for instance that the measurement of the costs and productivity of health related activity is not done in terms of the value added produced, but in terms of the level of health achieved for a given population and/or for a given individual. Once more, these quality indicators have to be integrated into a system of evaluation including of course also the traditional measurement of the added value. Whatever the objections as to the difficulty of this task and to the problems of integrating monetarized and non-monetarized indicators, these objections

cannot change the nature of the problem to solve. It is up to the modern economic thinking to face this challenge.

At a moment when 70% of the working population in the advanced economies (and more than 50% in the rest of the world) perform service functions, it is high time to seriously re-define what is the type of wealth they produce in real terms, and how these activities can be realistically quantified. In other terms, how the quality of the performance can be measured in economic terms in such a way that we can find an updated answer to the old question of identifying and quantifying «the wealth of nations».

## 8. Work, employment and productive activities<sup>7</sup>

In the course of the industrial revolution, employment or remunerated work became the absolute and essential priority for economic development (what we call monetarised activities).

Before the industrial revolution, self-production and self-consumption were the dominant mode through which humanity could attempt to generate economic wealth or at least secure economic survival (what we call non-monetaryised activities).

Since ancient times of course, little by little, specialisation and productive activities came into existence and as a consequence developed the basis for the growth of trade and exchange. At first, trade and exchange were based on barter or similar techniques where a unit of account or reference was either linked to a specific product or was implicit (what we call monetarised but non-monetised activity). The growth of such social and economic relations prepared the ground for the beginning of the industrial revolution. During the transition from the classical revolution to the current service economy, we observe that increasingly the cost of production in manufacturing and services is transferred to the consumer through the latter's participation in making products and services usable. Self-service is spreading in all sectors and information technology is lending fresh impulse to this tendency. It is primarily through this transfer that increasingly in all sectors of economy those responsible for cost control have been able to reduce production costs. Self-production activities (non-monetaryised ones) are clearly making a comeback.

In addition, so-called non-market activities, meaning work done without

payment (but still related to an exchange although non-monetised) are on the increase. A recent television broadcast in France on benevolent activities has estimated at 8 million the number of people in that country doing at least 4 to 5 hours of this kind of work per week, frequently in addition or even as a complement to monetised activity.

Whereas at the time of industrial revolution employment (monetarised, paid work) was the key and practically the sole reference for economic development, in the service economy, we clearly need to take into account the interdependency of all three forms of productive activity. Social and economic efficiency depend increasingly on how these three forms<sup>8</sup> combine, integrate or, as economists are fond of saying, enable a system to be better optimised.

This combining of the three forms of productive activity is not based on any declaration of good will, but on an understanding of how a service economy really works today.

We also like to remind that the issue of employment requires an economic approach which, also for moral reasons, brings supply back to a centre-stage position : work, indeed any productive activity, is the most obvious and fundamental expression of our personality and of our freedom. We are, first and foremost, what we do. It is imperative therefore that social policy consider people as human beings deserving of opportunities to «produce themselves». This is not to say that demand systems need not be considered. But such systems must be understood as selection mechanisms for choosing and using what supply has to offer. Supply, even in economic systems, is *always in excess*, and demand selects what is offered. Inventiveness, initiative and entrepreneurship are to be found on the side of supply, including the «prosumer». Without demand though, supply might grow like a cancer in the wrong direction.

A key issue also is the redefinition of the role of private and public initiatives and activities. Throughout the industrial revolution, the role of economic theory was to define what were deemed public utilities for which the government was sole responsible. According to the culture and political regime of each country, there was therefore a vertical allocation of productive activities, sector by sector, between the State and private institutions.

In the service economy, this vertical, sector-by-sector, distribution might be replaced by an horizontal one :

⇒ the State, internationally, nationally and locally, could intervene at diffe-

rent levels and in various ways so as to provide the equivalent of basic employment for all (around 20 hours per week organised in various ways and for various periods of time). This should not be considered merely part-time employment but the basic unit of guaranteed formal work, and

- ⇒ this basic layer of work should be remunerated at a minimum level.

Beyond this first layer of paid employment, all government or State intervention should be strongly limited, so that in practice the guaranteed first layer would, on the one hand, provide a minimum to act as a social net and, on the other, guarantee the maximum development of the private initiative. In organising the first layer the following should be taken into account:

- ⇒ although it would correspond more or less to what is today considered part-time work, the notion of part-time should be abandoned and considered a first of basic unit of work;
- ⇒ on the other hand, because this layer of employment would only concern a very small part of the time available in everyday life, it would allow for a more flexible definition of individual personality reflecting the *full range* of the individual's productive activities. An individual's professional and personal identity would not necessarily therefore be based on first-layer work, but rather on his or her second-layer free entrepreneurial activities.

The following points would need to be considered :

- ⇒ the basic unit of work, equivalent to a part-time job remunerated at a minimum level, would concern people between the ages of 18 and 75 years;
- ⇒ the three major population groups (the younger, the older and women) belonging to categories of tendentially excluded people from the industrial revolution could, through this project, achieve social re-inclusion in a most productive way;
- ⇒ the young would have more opportunities for combining a practical job experience with education and at the same time be able to learn how to self-support themselves. This would also help to create a demand for higher education institutions (like universities) to be better integrated in society through personal and practical links between theory and practice;
- ⇒ women with small children, as also men in similar situations, simply wishing to organise their family life differently, would have a higher degree of flexibility for organising their lives;

⇒ older people, who around their 60s would start a period of gradual retirement but who could also continue to feel useful in society and above all remain ready, at their mature, to use previous experience and a lifelong education to prepare themselves for new productive activities, both in the monetarised and non-monetary system.

This latter would help to provide security and better social integration for older people who at 60 still have a life expectancy of 20 years : in such circumstances, the possibility and even the guarantee of a part-time job (remunerated or partly remunerated, or supported in a non-remunerated activity) would constitute an essential complement to the three pillars of the social security system (government pensions, occupational pensions and private savings of all sorts). It would also reduce the burden upon the younger generations of supporting a growing older population and thereby place all of them, young and old alike, in a much better position, economically and culturally, to develop appropriate activities.

## 9. The problem of determining value

The changes in the economic system since the beginning of the seventies have not simply been indicative of a new long-term cycle of the industrial revolution, as has been stated too often. It is rather the connotations of the economy itself which have changed from an essentially manufacturing system to an essentially service-oriented one in the sense we have described.<sup>9</sup>

During the same period, economic theory particularly at the macro-economic level, has suffered from serious shortcomings because the formalisation of economic theory started *as a consequence* of the development of the first industrial revolution (the book of Adam Smith on «The Wealth of Nations» was published in 1776). Two centuries of successful industrial revolutions have confirmed and stimulated economic theories of various types, but all deeply rooted in the idea that the *manufacturing* system as an entity had absolute priority.

Understanding the new service economy will probably require a re-consideration of the basic assumptions and paradigms of economic theory. This will inevitably stimulate a new debate on what is the focus of any economic theory: the notion of value<sup>10</sup>.

One of the key issues in the research for a new value paradigm for the service economy derives from the obvious inadequacies of productivity measurement for service functions. The notion of value added in the industrial revolution

is a tool to measure a flow (the flow of production). Production factor inputs are relatively easily measured against specific types of flows represented by manufactured products.

But when we consider the performance of service, we cannot measure them in terms of flows, but rather in terms of results of a system's functioning. The issue is really to go back to more fundamental questions: has economic wealth really increased? And how efficiently have resources been employed?

These questions always implicitly refer to wealth as a stock and not as a flow. But the industrial mode of production has made it possible to accept the assumption that all value added, as a measurement of a flow, could be considered as an addition to wealth (to a stock). This assumption is no more valid when we are in a service economy situation. Therefore, a new notion of value is needed to be able to define and to measure real advances in increasing the wealth of nations in the present new economic situation. This not only for general economic purposes, but also for solving the very specific problem of productivity measurements.

Many other basic issues in economic theory should be reconsidered in terms of the new service economy system. This concerns for instance the economy of scale, where the optimisation of a system is clearly not just the addition of the optimisation of the scale of each *component* of the same system. The economy of scale of a manufacturing activity cannot be considered independently from the constraints and costs of all surrounding service functions (distribution, storage, maintenance, waste management, pollution costs, etc...).

A clear bias of the current economic theory in favour of an economic situation centred as an absolute priority on the pure manufacturing activities is the Engel's law. According to this law, most service activities are only demanded by consumers when the so-called basic needs are satisfied. These basic needs are of course represented by food, shelter, health, but it is clear that no one of these basic needs can be satisfied today unless these products (food, houses, etc...) are made available in usable form. *Services are an essential condition of the utilisation value of these products.* The Engel's law is nothing else but a variant of the traditional three-sector theory and it reproduces a tradition clearly stated by Adam Smith, i.e. that services had no essential contribution to make to economic development. This was right and proper during his times, but it is an assumption which needs today radical reconsideration. We have tried in various publications to propose solutions to this issue.<sup>11</sup>

## 10. Some hints at the philosophical and cultural basis which concern the fundamentals of the views on equilibrium versus uncertainty in economics<sup>12</sup>

A main feature, probably *the* most relevant one, of these changes in the socio-economic environment towards a service economy is their relation *to the advance of scientific thinking* and of discoveries in the last century. More generally, this has to do with the relationship between social and natural (soft and hard) sciences which embody the cultural background of our knowledge, views, attitudes and behaviour with regard to our individual and community life. There can no longer be any «scientific» justification for considering a state of equilibrium in economics (as referred to the Newtonian model) as the premise of economic analysis. In some cases, equilibrium might be desirable, but economic progress could well depend much more on specific and *desirable states of non-equilibrium* in cases where the isolated industrial system opens up to a multiplicity of new functions and interactions typical of the service economy. The key economic question of the future might well become not «how shall we achieve a perfect (certain) equilibrium?», but rather «how shall we create or stimulate productive non-equilibrium situations?», situations which, contrary to Newtonian philosophy, have a real time dimension. However, the model still subsumed by the mainstream of current economic thinking has as its fundamental paradigm the hypothesis of perfect equilibrium and of certainty which belong to the static Newtonian scientific model.

Unfortunately, this means that the current economic model often refers to scientific premises which science itself has long ago abandoned.

Intuition suggests the idea that modern societal and economic development depends not so much on achieving perfect, deterministic and sure objectives, but rather on developing creative activities, in a world where uncertainty, probability and risk are a *given* condition, providing an environment of real opportunities and choice.

This would not be a back step backwards towards irrationality. Quite the *contrary*, more intelligence, more rationality, more initiative are required to cope with situations of uncertainty, which after all are the daily experience of every living being. The simplistic vision of mechanised pre-programmed robots belongs much more to a deterministic world: the attempt to achieve abstract «certainty» and «perfect» information can only lead to a dogmatic, pseudo religious system

on the one hand or, on the other, to the annihilation of all intelligence, to the destruction of all hope for development and creativity. The marriage of contemporary scientific thinking with social sciences, and in particular with economics, in an increasingly complex world which is interactive even beyond the limits of planet Earth, is providing a rich source of moral and intellectual stimulus for reconstructing an Image of the Future.

Learning to face uncertainties and to manage risks under these new horizons could in turn lead to an advance in the human condition.

Even in terms of equity or of social justice, the problem is not to produce or to distribute *security*, which is in any case a self-deceiving notion in political (look at the dictatorships of our century) as well as in economic terms. State or Community protection policies should avoid protecting individuals in a way which makes them increasingly vulnerable, inefficient, and ultimately prone to greater psychological and physical insecurity. Equity has more to do with increasing the physical and cultural capacity of individuals and communities to face uncertainty. The very risks which confront all living species render them creative. *Absolute poverty* is a situation in which no risk can be faced, no choice taken. It is the opposite of progress.

And finally, *in cultural terms*, no enterprise is built on dreams alone. But equally none gets off the ground without some dreams. Successful action is by necessity guided by practical circumstances. But the goal of any action is defined, implicitly or explicitly, by the deep nature of the human species, including dreams, visions of life and culture.

The dynamics of life and the challenge of risk and uncertainty, require from us a new creative effort leading to the renewal of our philosophical approaches. Today we need to reconsider the notion of progress, which the philosophies and the ideologies of certainty have shaken so much and almost destroyed. There is no real human culture other than the one which can be found in the real-life process of creation. This involves the production and continuous testing in each of our many endeavours of an Image of the Future which we could fashion for ourselves. It is the fundamental intellectual challenge facing a modern society. Let's face risks. Let's become conscious Risk Managers.

## NOTES

- \* Keynote paper presented at the IX Conference of the European Research Network on Services and Space (RESER) - Service Industries in the Eve of the XXI Century - 7-8 October, 1999, Alcala de Henares, Madrid.
- 1 published by the American Economic Review in March 1999, pp 1 - 22.
- 2 published by Business Week
- 3 See in The Financial Times of August 25, 1999, page 2, the article on «EU faces up to product liability shift»
- 4 See «The Diminishing Returns of Technology», by Orio Giarini and Henri Loubergé, Pergamon Press, Oxford, 1978.
- 5 See «Stratégie économique de la durabilité» by M. Börlin and W. Stahel, of the «The Product-Life Institute» (Institut de la Durée) in Geneva, published by the Swiss Bank Corporation, Zurich, 1987.
- 6 See for instance the excellent study by Bernard Ascher and Obi Whichard on «Improving Services Trade Data» in «The Emerging Service Economy», edited by O. Giarini, Pergamon Press, 1987, Oxford, pp 255-282, as well as the article of Philippe Trogan on «Les statistiques de production sur les services marchands et la mesure de la productivité» in «L'Europe face à la nouvelle économie des services», edited by O. Giarini and J.R. Roulet, PUF, Paris, 1988, pp 95-112.
- 7 This point introduces some ideas proposed in the Report to The Club of Rome on «The Employment Dilemma and the Future of Work». See also «El Dilema del Empleo» by Orio Giarini and Patrick Liedtke, Galaxia Gutenberg, Barcelona, 1998, 286 p. and «Wie Wir Arbeiten Werden» edited by Hoffmann und Campe, Hamburg, 1998, 287 pp. Other languages forthcoming.
- 8 monetarized (monetized or not) and non-monetarized
- 9 This point is described in more detail in «Cycles, Values and Employment», Pergamon Press, 1984.
- 10 Proposals on this point have been made: in the book mentioned in the above note, in the report to the Club of Rome «Dialogue on Wealth and Welfare», Pergamon Press, Oxford, 1980. A research in this area is also promoted by the «Product-Life Institute», Geneva. This type of debate is also inevitably linked to a series of philosophical implications (see in this sense «L'Incertitude de Newton à Heisenberg, un nouveau Paradigme pour l'Economique», par Orio Giarini, Vol. 9, n° 33 of *The Geneva Papers*, October 1984). See also «The Limits to Certainty» by Orio Giarini and Walter Stahel, 1993.
- 11 See «Dialogue of Wealth and Welfare», «Limits to Certainty» and «The Employment Dilemma and the Future of Work», ops. cits.
- 12 See for more remarks «The Limits to Certainty» (Managing Risks in the Service Economy), op.cit.