

Presentation by Jean Gurunlian¹ at the hearing of the Study Commission of the German Bundestag on “The Opportunities and Risks of the Information Society”, Berlin, 28 May 2001.

The following points summarise my views about some of the issues raised in the “catalogue of questions” submitted to me in order to prepare my participation in this session. Given the time available I preferred to concentrate on those topics in which my experience could perhaps be of more interest to the Commission. I look forward to an in-depth discussion with the members of the study commission and my distinguished co-panellists.

1. The impact of Information and Communications Technology on the economy

The first set of questions in the “catalogue” concern the broad issue of the impact of information and communications technology on the global economy.

From the qualitative point of view, (i.e. the discussion about the extent to which ICT have changed the rules of the economic game), it is clear to me that the widespread introduction of ICT in all aspects of social activity will have long-term implications that can be compared with the introduction of such disruptive technologies as the industrial applications of electricity. Like then, it is unlikely that economics manuals will need to be rewritten, but the world’s economic structure will change deeply. To put it crudely, no matter how deeply technology changes, we will still analyse markets using demand and supply curves. What will change is that these curves will in the future represent supply of and demand for a myriad of new products and services, and that in many industries, markets will be in equilibrium at lower prices than now.

Concerning the size of the impact of ICT on the economy, my view is that the jury is still out on the issue of the exact proportion of the increase in productivity in industrial economies, and notably in the United States that is directly attributable to ICT, compared to the role played by other structural changes. However, these gains are real and will result in an overall improvement of living standards in industrial countries.

We are still at a too early stage of the process to attempt to give a comprehensive picture of the changes societies and economies will go through. To retake the example of electricity, the rate of penetration of ICT today is roughly the same as that of electricity in 1920 (i.e. 50 per cent of people have access to a computer, and that only in the United States). Some of the changes it will provoke will be as unpredictable as the effects of the mass production of private cars on town planning were at the time when Henry Ford launched his “T” model. But some trends and patterns of change are already visible:

- Information-intensive activities are being or will soon be radically transformed by the combination of powerful, cheap computing and connectivity. This includes

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financial services, health care, education, the “cultural industry” and, last but not least, the management and provision of government services. It is important to note that contrary to previous “industrial revolutions”, which increased the productivity in the primary and secondary sectors, the ICT revolution is the first one to be significantly improving productivity in the service sector.

- ICT is affecting all the sectors of the economy, not just those that are information-intensive. However, in these other sectors of the economy changes will be incremental and mostly due to transaction-cost reductions: manufacturing, retailing, travel and tourism are good examples of industries where deep, although slower changes can be expected.
- The impact of introducing ICT is directly proportional to the organizational changes that accompany technological change. In many industries, ICT in itself does not make firms much more productive. It is when its potential to allow more efficient business processes to operate is exploited that ICT makes a real difference.
- ICT is accelerating the rate at which innovation (whether in terms of products or processes) spreads within an economy and across countries. This represents a competitive advantage for firms and countries with a work force that is equipped with the skills to master, rather than suffer, change.

Concerning the question of the implications of ICT for the “old economy”, my view is that the real importance of the “new economy” (by which I mean the ICT producing sector) lies not so much in the share of GDP that this sector will represent compared to the traditional sectors, but in the changes that ICT is introducing in the functioning of the “old economy” firms. The really significant phenomenon is not so much a movement of the centre of gravity of the economy towards the ICT sector, but a movement towards a much more productive “traditional” economy. The most powerful and lasting effect of ICT, and especially of the Internet, will be that traditional firms will reorganise their value creation processes at every stage, from procurement to after sales services. In other words, the gains of ICT will be fed into the economy mostly through changes in the ways companies interact with their suppliers, their workers and their customers, whether these are consumers, other businesses or governments. It will be through efficiency gains in the business processes of the “old economy” (which will continue to represent the largest share of the economy in the foreseeable future) that ICT will contribute most to economic growth and improved living standards.

Looking specifically at e-commerce (crudely defined as transactions involving and exchange of value and carried out over an electronic network, and as opposed to the broader concept of e-business), estimates vary too much and have been too often wrong for me to give now a figure of what it can amount to in the next few years. What can be safely assumed is that the electronic commerce will continue to grow at an extremely high rate and that most of this growth will take place in the business-to-business sector, rather than in the business-to-consumer one. For business, e-commerce allows significant savings in procurement, simplifies the management of their supply chain, and in some specific industries it cuts down marketing and distribution costs.

What are the implications for small and medium-sized companies? What about competition policy?

Outside industries such as software or publishing, which are affected by positive returns to scale, ICT tends to reduce economies of scale, because it creates new opportunities for outsourcing and because it lowers fixed costs. With lower transaction costs thanks to improved information, there are incentives for vertical disintegration. This lowers the optimal size of the firm. With the Internet, SMEs may enjoy many advantages of larger enterprises: they can access the same information, they can reach international markets at low cost etc. ICT is also a major force behind the globalisation process. By reducing the cost of exchanging information across the world, it is allowing the emergence of truly global markets in some industries, notably in finance. This increases competition and innovation. In this way, ICT and especially the Internet create formidable opportunities for newcomers in most industries and give new competitive tools to SMEs.

It would therefore seem that ICT is bringing the economy closer to the theoretical model of perfect competition: it increases market transparency and reduces transaction costs and barriers of entry. However, in some sectors, and especially in the ICT industry itself, monopolist power is a real danger. Digitalizable products and services are subject to increasing returns to scale, because they can be very expensive to design and develop, but can be reproduced and distributed at a very low marginal cost. From the demand side, the forces pushing towards monopolist markets are reinforced by network externalities that are very common in the ICT industry (the value of a product to each individual user increases with the number of users), and the so-called lock-in effect (regardless of the intrinsic merits of many ICT products, users have strong incentives to avoid switching to a new competitor because of high transition costs). With demand and supply forces pushing in the direction of monopoly markets, the role of competition authorities is vital to ensure that competition and innovation are not stifled. At the same time, the criteria to decide when to take antitrust action in the ICT industry need to be adjusted, to take into account that consumers can also benefit from the economies of scale of ICT producers with large market shares. The key point is not so much to prevent any single firm from dominating a market (a position that thanks to quick technological change in ICT may be easier to challenge than in the traditional economy), but to stop it from abusing its dominant position through illegitimate practices, and in particular those that aim at preventing the emergence of rival technologies.

Another issue raised in the “catalogue of questions” was the effect of the crisis in the “new economy”. In my view, reports of the death of the new economy are vastly exaggerated. The bursting of the stock market bubble that existed in the dot.com sector does not tell us any significant message about the future potential of ICT. Looking at what happened in previous industrial revolutions, one can see for instance that most of the thousands of car-making companies that existed when that industry came of age have disappeared over the years. Yet this hardly means that the motor industry has become irrelevant in today’s economy. What we are witnessing is a combination of overinvestment generated by unrealistic expectations about the disappearance of the business cycle and prospects of ever-faster growth, and the weeding out of dot.coms that were launched without viable business models.

In the next few years, it is likely that ICT firms will not see the fast growth in sales in the United States as they had grown used to. There seems to be evidence that

in the United States, non-ICT firms have overspent in ICT goods in recent years. In a context of slower overall growth they will be reluctant to renovate their ICT equipment at the rate they used to. However, the level of ICT equipment in other industrial economies is still significantly lower than in the United States. As these economies catch up with the United States (which they must, in order to remain competitive), demand for ICT goods will pick up. The benefits of ICT and the Internet for businesses, consumers and governments are real and significant. And thanks to the “crisis”, new economy players have realised that providing value to customers and profits to shareholders is as important in the Internet age as it was before. For all these reasons I am inclined to predict that in the medium-term, the new economy sector will continue to be a powerful engine for growth in the global economy.

Finally, the first set of questions in the catalogue included a reference to regulatory needs at the national and international levels. The range of areas in which public policies can help economies benefit from the adoption of ICT is wide. I mentioned before the importance of competition policies, but policy-makers will have to rethink the regulatory framework of the economy in many other areas that at first sight may seem quite unrelated to ICT.

In general, one area in which industrial countries have moved reasonably fast is in the adaptation of the legal framework for electronic commerce, but there is still a lot of work to be done. As I said, ICT makes economies more productive essentially through changes in the ways traditional firms operate. It is therefore essential that public policies support, rather than hinder, change and flexibility in the economy. This includes measures to facilitate and simplify the creation and operation of new businesses or the re-training of workers so that labour can move more smoothly into new productive activities. Business success in the Internet economy is incompatible with structural rigidities. For instance, can governments enforce a mandatory duration of working hours when the Internet makes it possible for many people to work away from their offices?

The list of issues on which action is needed is long. I will just mention two among the most important ones. The first is taxation, where there is a risk that the Internet may erode fiscal revenue. The Internet can help taxpayers and tax administrations to interact more efficiently but it also creates new opportunities for tax evasion. International cooperation will be necessary to prevent a race to the bottom in this area. Reliable mechanisms for international concerted action are also necessary in the area of consumer protection, and especially in such delicate issue as the protection of privacy.

2. The risks and opportunities for developing countries

The “catalogue of questions” separated the issues of the implications of ICT for developing countries from that of the “digital divide” within national economies. In my view, this may not be the most productive approach to these problems, as inequality of access to the opportunities generated by ICT responds to the same basic premises, whether one looks at it from a global or national perspective. In fact, an interesting aspect of the ICT revolution as far as the fight against poverty is concerned, is that some of the old distinctions and categories that constituted the framework in which economic and social inequality were analysed in the past, lose

part of their validity in the information economy. For instance, access to information will soon become as relevant an indicator of a country's development prospects as its endowment of natural resources. Severe handicaps that many developing countries face in the "old economy", such as distance to major world markets, become less severe once they start exporting digitised products or services. Similarly, inequality within societies will be more and more a factor of inequality of access to information technology, and policies aimed at fighting exclusion will need to take into account new phenomena such as the redefinition of the role of the workplace as an instrument for social integration, as more and more "knowledge" workers interact with each other on-line, rather than personally.

The danger that developing countries will be left behind as ICT improves the productivity and hence the living standards of industrial economies is real and serious. Whatever way one looks at it (telecommunications infrastructure, cost of Internet access, Internet content originated in developing countries) the gap is alarmingly wide. We have conducted an econometric simulation according to which, and assuming that e-commerce results in a 1 per cent increase of productivity in developed countries and leaves it unchanged in developing countries, these may suffer welfare losses, in absolute and in relative terms.

At the same time, I believe that the opportunities generated by ICT and especially by e-commerce are such that these fears are unlikely to materialise. This assessment is based on the experience we have accumulated over the twenty years that UNCTAD has been working in the promotion of ICT in developing countries, in areas that include Customs reform, debt management or the modernisation of the transport systems of developing countries. What we have learned is that, contrary to many preconceived ideas, ICT have as large as potential to yield results, if not a bigger one, in developing countries as in more advanced environments.

First of all, given the comparatively low levels of productivity in developing countries, it is there that the adoption of ICT and e-commerce is likely to yield larger relative improvements in productivity. And the evidence points to a faster diffusion of ITC in developing countries than it was the case in previous technological revolutions. Being latecomers can also be an advantage in the sense that developing countries can leapfrog to cheaper, more powerful technologies, and avoid the technological and business strategy mistakes of earlier entrants.

Developing countries can profit from the chance that e-commerce gives them to exploit competitive advantages that were not useable in the "old economy". First, as I said before, e-commerce gives SMEs (which are the vast majority in developing countries) the possibility to access international markets that used to be closed to them because of high transaction costs. Thanks to e-commerce, entrepreneurs in developing countries can also access better-quality services (for instance in business information or finance) thus escaping local de facto monopolies. Second, many labour-intensive services can now be delivered on line, giving an opportunity to developing countries with relatively skilled workers and low salaries. The emergence of industries such as software development or teleservicing in several developing countries, which are selling these services to customers in developed countries, is an example of this. Earlier this month, at the United Nations Conference on the Least Developed

Countries, UNCTAD presented the experience of a number of successful e-business that are operating in LDCs in these sectors.

The possibility that e-commerce opens for new business partnerships between companies in developed and developing countries is the main way in which ICT can help in promoting technology transfer to developing countries, an issue that was also raised in the questionnaire. However, in my view, it is not technology transfer, but know-how transfer that should get primary attention, as the latter is much more likely to produce tangible results. And one should not forget that the opportunities generated by the Internet to improve human resources capacities do not necessarily have to be unidirectional. Distance learning offers new possibilities to upgrade the skills of workers in developing countries, but it can also be a powerful instrument for South-South cooperation and in some cases it may even become an exportable service for developing countries.

An aspect that is often overlooked when considering the potential benefits of ICT in developing countries is its capacity to improve the transparency of the operation of markets and public institutions. A major obstacle to the participation of SMEs from developing countries in international trade is the lack of adequate trade-supporting services, often in the hands of inefficient domestic providers who enjoy a privileged position because of political connections. When these services are provided directly by the public sector (for instance, Customs), corruption adds an extra cost that erodes the competitiveness of the enterprises of developing countries. ICT, and particularly the Internet, makes it easier to challenge the position of vested interests (for instance, by facilitating the access of new, often foreign suppliers) and are powerful tools to improve governance (for instance, by helping reducing the opportunities for arbitrary decisions by civil servants). ICT can thus help reducing the burden of corruption (in the public and the private sectors) that now falls mainly on SMEs and the weaker players in the economy.

Regarding the questions about the main problems and actions to be taken to ensure the full participation of developing countries in global e-commerce, in my view one should differentiate two aspects: Infrastructure and the general environment of e-commerce.

Telecommunications infrastructure is still clearly insufficient and unreliable in most developing countries. New technologies, such as wireless Internet access may reduce the level of investment needed to create a critical mass of e-commerce operators in developing countries. However, policies aimed at facilitating the access of more firms and people to the Internet within the limited resources available will continue to be essential in the foreseeable future. In this regard, the results of programmes to establish telecentres to facilitate Internet access in underserved regions are particularly encouraging.

Regarding the general e-commerce environment, developing countries have been slower than industrial countries in adapting their regulatory framework for e-commerce. They also lag behind in promoting competition in the provision of telecommunications services, which results in higher Internet access costs and lower quality. Internet penetration rates are significantly higher in developing countries that

have liberalised telecommunications services. Other countries impose restrictions on the operations of Internet access providers.

Education is vital. There is no point in improving Internet access if literacy rates remain low. Linked to this, developing countries need to improve their capacity to generate their own Internet content. This will require cooperation between the public and the private sector and educational institutions.

Governments should also step up their efforts to link the “virtual” and “physical” sides of the economy. The advantages of e-commerce are lost if goods sold on-line are retained for weeks at the border because Customs remain inefficient, or if the transport cost multiplies the cost of goods by a factor or two or more, as is the case of many land-locked developing countries.

At the international level, developing countries should engage more actively in the definition and implementation of multilateral rules affecting e-commerce, including in WTO. They should participate in international discussions concerning issues such as domain names or the fiscal implications of electronic commerce. More regional and national initiatives are also needed to create instruments for the adoption of digital signatures, electronic payments and contractual guarantees for electronic transactions. In this context, international norms should play a central role. Developing countries play almost no role in Internet governance today. This is unacceptable, and not only for reasons of fairness or political legitimacy, but also because of the self-interest of the more advanced countries. In the interdependent world of today problems such as cybercrime cannot be effectively tackled without the involvement of all nations.

Finally, the questionnaire given to me includes references to the programmes and measures introduced by developing and industrial countries to address these issues. There are too many initiatives concerning e-commerce at the national, regional and global level for me to assess them here in any detail, but I would be happy to answer, within my ability, questions about specific programmes of interest to the Commission. For the moment I will limit myself to saying that we in UNCTAD, having been the first international body to alert the global community about the potential of electronic commerce for developing countries, are encouraged to see that the governments, the private sector and the non-governmental organisations are increasingly aware of the need to address these formidable challenges. What concerns us is that there seems to be a lack of clear priorities in the strategies and concrete actions to close the global digital divide. The donor community and recipient countries should make an effort to ensure that international co-operation in the field of ICT, one of the few in which aid funds are not decreasing, addresses the key priorities of connectivity, human resources capacity building and the infrastructural bottlenecks (transport, customs) that prevent traders from realising the benefits of e-commerce.

We should not forget, however, that the success of developing countries in benefiting from e-commerce will largely depend on their own resources, strengths and policies. As I said before, these will have to address the level and quality of Internet connectivity. They should have as a primary objective ensuring a significant presence of local enterprises in electronic commerce. And they should reflect a real

involvement of all social actors, especially the private sector, in their conceptualisation and implementation.