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TRENDS AND EXECUTIVE SUMMARY

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UNCTAD/SDTE/ECB/1/Overview

This Trends and Executive Summary can also be found on the Internet, in English, French and Spanish, at the following address:

http://www.unctad.org/ecommerce/

Foreword

The emergence of electronic commerce over the past decade has radically transformed the economic landscape. For developing countries, the digital revolution offers unprecedented opportunities for economic growth and development, as entrepreneurs from Bangalore to Guadalajara to Dakar will testify. On the other hand, countries that lag behind in technological innovations risk being bypassed by the competitive edge of those using the new technologies.

The *Electronic Commerce and Development Report 2001* reviews trends that developing countries need to be aware of as they try to position their economies to take advantage of ICT and the Internet. It provides basic facts and figures about electronic commerce and discusses the impact on sectors of particular relevance to developing countries. It also suggests, with concrete examples, ways in which developing countries can create the necessary enabling environment for e-commerce.

The ICT age has dawned, but not yet for all. This Report, which will serve as a useful reference for the United Nations Task Force on ICT, aims to help policy makers and practitioners in developing countries understand the nature of the network economy, and develop the infrastructure, capabilities, flexibility and openness with which they can reap its benefits. As a contribution to our collective efforts to unite the great promise of ICT with the needs of the poor, it merits the widest possible readership.

Kofi A. Annan
Secretary-General of the United Nations

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A. TRENDS

It seems that the "new economic paradigm", according to which new information and communication technologies (ICT) would deliver ever higher rates of inflation-free growth, was among the first victims of the dotcom crash. The recent sluggish performance of the United States economy, the most visible exponent of the benefits of the widespread use of ICT and the Internet,[1] has not helped to keep it alive. As far as the most exaggerated versions of that paradigm are concerned (for instance, the assertion that the business cycle was dead or that the Internet had rendered competition policy irrelevant) this is a healthy development. However, it would be a dangerous mistake to discard offhand the great and lasting changes that the ICT revolution has made, and will continue to make, to the ability of enterprises to create value and to compete in increasingly globalized markets.

The ICT revolution should not be different from previous technological upheavals that have had profound consequences for the economy. The steam engine, railways, the internal combustion engine and the industrial application of electricity spelt the end of entire sectors of activity, generated new industries and services, and most importantly, allowed enterprises to work differently and more efficiently. These changes, and the ensuing improvements in living standards, were always the result of productivity gains that took a long time, even decades, to spread from the sectors first affected by technological change to the rest of the economy, first in those countries where these inventions were first applied and then gradually in the rest of the world.

The first important question is therefore what impact ICT and the Internet have had on producti-vity growth. With regard to the experience of the United States, where investment in ICT has been most intense, data from the Bureau of Labor Statistics show that between 1995 and 2000 output per hour in the non-farming sector grew at an annual rate of 2.5 per cent, significantly higher than the rate of the previous two decades and

closer to the growth rates of the "golden age" of 1959–1973. Economists are not unanimous in their assessment of these data, and it will be necessary to wait until the end of the current cycle before the debate about how much of this acceleration of the growth of productivity is structural rather than cyclical can be closed. However, the UNCTAD secretariat agrees with those[2] that think that there are reasons to believe that much of the acceleration of productivity growth in the United States is structural and attributable to changes induced by ICT and the Internet, through improvements in all aspects of corporate organization, production, finance, marketing and logistics.

Although the speed at which companies in several advanced countries invest in ICT has decreased in the past few months, in the medium term there are several reasons to expect that ICT will continue to support rapid productivity growth. First, the cost of computing power is predicted to keep falling at a steep rate for several years.[3] Secondly, most enterprises are still learning how to reorganize themselves in order to benefit fully from the Internet. Finally, even if productivity growth does not maintain its recent phenomenal pace in the United States, the rest of the world has a lot of catching up to do in the application of ICT to business. As firms in other developed economies and, most importantly, in developing countries engage in e-business, global productivity growth should accelerate.

If the comparison with other disruptive technologies of the past is accepted, there is nothing surprising in the Internet share bubble and its implosion or in the high mortality rate prevalent among early Internet start-ups. Hype, herd instincts and unrealistic business models also accompanied past technological revolutions. A short-term phenomenon in the stock market does not give us any significant message about the implications of the Internet for the economy, in the same way as the disappearance of all but a handful of the many car makers that existed when that industry came of age hardly means that the road transport industry they brought into existence is irrelevant in today's economy.[4]

In any case, from the point of view of new entrants to e-commerce and especially for developing countries, what matters now is not who is the winner of an academic argument about how new the new economy is. What they need to know is how they can avoid the mistakes of the pioneers.

We are still at a too early stage of the process to claim that we have a complete picture of the changes that economies will go through. A comparison with electricity may be illustrative. The rate of penetration of ICT in the most advanced economies (in terms of the number of personal computers (PCs) per hundred people) is close today to the share of electricity in the total power used by industry in the United States around 1920, i.e. 50 per cent.[5] It seems, therefore, that identifying some of the trends and patterns of change, and the lessons for practitioners that can be extracted from the events of the last few months, is a more realistic ambition for now. The next pages will attempt to answer three general questions:

- What lessons for the future of the digital economy can be learned from the Internet crash?
- What assumptions of the business models of failed dotcoms were wrong?
- To what extent will ICT and the Internet change the different sectors of the economy?

Venture capital and the digital economy

For reasons mentioned above, a detailed account of the collapse of the price of the dotcom shares is not directly relevant to this publication. Suffice it to say that UNCTAD participates in the almost general consensus that the cause of the crash was an excess of investment, generated by unrealistic expectations about the disappearance of the business cycle. The result was the weeding out of many dotcoms that had been launched without a viable business model (although companies with more solid projects have also suffered). However, a few comments about the role of venture capital in this process are justified because easy access

for entrepreneurs to venture capital finance is among the factors that explain the lead of the United States in the Internet economy.

Venture capitalism is mainly an American phenomenon: according to some estimates, the United States represents nearly 75 per cent of the global private equity and venture capital markets. Western Europe is a relative latecomer, with the United Kingdom having around 12 per cent and Germany and France about 3 per cent of the global market. In Asia, which has a very small share of the global venture capital market, two economies (Taiwan Province of China and Hong Kong, China) represent more that half of Asian venture funds while Japan lags far behind.[6]

A number of reasons are often given for the leadership of the United States in the venture capital industry: access to institutional financing and liquid stock markets; strong links between research centres and the private sector, and hence a clear focus on the applicability and commercialization of the outputs of research and development; flexible regulations; low capital-gain taxation; managerial ownership through widely used share option schemes; and the possibility for entrepreneurs to return to business after a bankruptcy. In the United States, as in its major competitors, there is a strong research and development capacity in the private sector, government agencies and universities, but it has also been possible to develop a vibrant venture capital sector with the initial support of the Government and close cooperation with academic centres. American venture capital funds have thus been investing in high-tech start-ups (by no means limited to the Internet sector) for years and have helped maintain the momentum of technological innovation and its rapid commercial application.

Venture capitalists operate on the assumption that although many (or most) of the companies they nurture (with funds, but often with mana-