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Emerging Market Economy Forum



## **ISSUES PAPER**

Prepared by  
**Professor Robin Mansell**  
Dixons Chair in New Media and the Internet  
London School of Economics

# **OECD Emerging Market Economy Forum on Electronic Commerce**

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# OECD EMERGING MARKET ECONOMY FORUM ON ELECTRONIC COMMERCE

## ISSUES PAPER

### 1. Introduction: “Global Electronic Commerce”

The objectives of the Emerging Market Economy Forum on electronic commerce are to broaden the dialogue on electronic commerce between stakeholders and to share a long-term vision for electronic commerce growth.<sup>1</sup> This international conference, jointly organised by the OECD and Dubai, is aimed at enhancing the prospects for effective world-wide co-ordination in this important new area of economic activity.<sup>2</sup> The Forum will also report on progress towards meeting commitments set out in the Action Plan agreed at the Ottawa Ministerial Conference on electronic commerce (OECD / Government of Canada, 1998) at the level of individual economies and at the international level. The Forum will give particular attention to issues of interest to Emerging Market Economies (EMEs) and developing countries following the broad directions laid out at the 1999 OECD Forum on Electronic Commerce. Additional goals are to explore the commonalities and differences between the policy priorities of OECD countries and the EMEs and developing countries; to increase awareness of the driving forces and impediments to the development of electronic commerce on a global basis; to encourage the coherence of policies for electronic commerce with the broader framework of economic, social and development policies; and to enrich the debate at the OECD on global electronic commerce issues.

The OECD Paris Forum on Electronic Commerce in October 1999, which followed up the Ottawa Ministerial, highlighted the need for outreach to non-member economies and other international organisations and bodies that are active in the electronic commerce area. The report of the Forum emphasised the importance of addressing the emerging “Digital Divide” between social groups as well as between different countries. It also highlighted the need to consider new opportunities for achieving global participation and inclusiveness through the use of electronic commerce. The emerging roles for governments as rule-makers and as users and providers of new services were among the topics that received attention.<sup>3</sup>

At the Okinawa summit of July 2000, the G8 countries emphasised that “IT empowers, benefits and links people the world over ... access to the digital opportunities must, therefore, be open to all”.<sup>4</sup> The Okinawa Charter on the Global Information Society expressed a strong commitment to the principle of inclusion whereby no one should be excluded from the benefits of the global information society. The establishment of a Digital Opportunities Task Force or *dot force* is one of the measures of the G8 countries, which aims at addressing the growing “digital divide”. Electronic commerce, along with other information society services, plays a major role in generating new opportunities as a result of technological innovations in information and communication technologies (ICTs).

Electronic commerce can be defined in a variety of ways. Defined broadly, it designates the application of ICTs to the complete value chain of business processes conducted electronically by intermediate and end users in the private, public and other stakeholder sectors. There is no doubt about the substantial significance of electronic commerce for all countries. Important issues for all countries concern the extent of their readiness to implement new forms of electronic commerce or to migrate from earlier forms of electronic commerce such as electronic data interchange (EDI) to new Internet-based applications.<sup>5</sup>

This paper provides an introduction to the main themes and topics for discussion by the EMEF participants. The structure of the paper follows the organisation of the Sessions of the Programme for the Forum: Introduction; Visions; Access; Trust; Taxation; Rules of the Game; Digital Divides; and Global Initiatives.

## 2. “Visions”

Visions for the role of electronic commerce in the global information society are linked to the expectation that widespread and equitable access to ICTs will be achieved. With access, these technologies can be used as tools in support of the generation and exchange of socially and economically useful information. In the case of the use of ICTs to support electronic commerce, continuing globalisation and actions aimed at reducing digital divide will provide new opportunities for empowering individuals, firms and civil society. For both developed and developing countries it holds out the promise of enhanced access to the global marketplace for enterprises and customers of all kinds. This is expected to lead, in turn, to improved governance and greater efficiency, transparency and participation in decision making of all kinds.

Current estimates of the value of electronic commerce are around USD 650 billion world-wide, with some projections of up to ten-fold growth over the next few years.<sup>6</sup> Business-to-business electronic commerce is expected to be the dominant form as compared to business-to-consumer electronic commerce.<sup>7</sup> If these expectations are to be achieved, high levels of infrastructure access, reliability, capabilities and trust must be established between the participants in commercial electronic relationships. Visions for the rapid growth of electronic commerce are predicated on successful resolution of concerns about the lack of adequate infrastructures, skills and capabilities and the security of transacting business or interacting with services providers in electronic environments. These concerns must be addressed if electronic commerce is to be central to economic growth, jobs, expansion of world trade and improved social conditions.<sup>8</sup>

When the obstacles to electronic commerce are overcome, it can provide new opportunities for businesses to fundamentally restructure their business processes through the transformation, reconfiguration or distribution of raw materials, components, products, services and human resources. When electronic commerce applications use “open” Internet platforms the likely savings in terms of reduced transaction costs are substantial and transaction choice and ease expanded.<sup>9</sup> Reduced transaction costs may in turn reduce the economically optimal size of firms, thereby encouraging smaller firms to work together to develop global market reach.<sup>10</sup> For business-to-consumer electronic commerce, the customer gains new opportunities to acquire more competitive goods and services from any location in the world.

Although transaction costs may potentially be dramatically reduced, it is difficult to assess overall savings. Two factors are important for this assessment. The first is the extent to which some costs may also be increased (e.g. for system development and maintenance, training, organisational change, etc.), due to the need to meet new quality, time-to-delivery, or other standards required by buyers or to the need to implement specific electronic commerce systems using proprietary technologies.<sup>11</sup> The second is whether the “closed” business networks of the past are being replicated in the Internet environment. New business models and new intermediaries are becoming integral to information-intensive transactions.<sup>12</sup> Intermediaries are supporting electronic commerce portals that aggregate the supply of information about goods or services from many suppliers and they may provide a more neutral open marketplace for buyers. “Buyer” portals may become predominant in sectors such as agriculture where the intermediary provides information and electronic commerce services for a few buyers.<sup>13</sup>

However, there are large variations in electronic commerce growth across countries and sectors. There are also differences across sectors in electronic commerce models and applications being implemented.<sup>14</sup> Countries are in different states of “readiness” for the take-up of electronic commerce. There are differences in business practices, legislative frameworks, infrastructure deployment, and the

general social and economic conditions within countries. The strengths and weaknesses of each country's current participation in the global economy are important factors influencing readiness. The extent to which firms are able to compete globally on the basis of design capabilities, production efficiency, logistics management, and/or marketing may or may not be augmented by the use of electronic commerce.<sup>15</sup>

It is evident that simply investing in electronic commerce-related technologies and the communication infrastructure is insufficient to enhance a country's readiness to take advantage of the opportunities offered by electronic commerce. Without focused efforts to build new capabilities for using electronic commerce applications and services through formal and informal training and education, many of the potential benefits will not be achieved. High priority must be given to investing in the skills base. This includes the skills and capabilities for evaluating and selecting between alternative forms of electronic commerce and for introducing creative ways of using electronic commerce that are responsive to changes in the global economy and to local requirements and conditions.

The economic and social potential of electronic commerce for all countries will be realised only through its widespread use by businesses, consumers, citizens and public institutions. The pathways for electronic commerce development depend on the characteristics of the enabling infrastructure, the rate of diffusion and take-up of ICTs, and the economic incentives and social goals that are established by governments working in co-operation with other stakeholders.

The issues associated with the rapid growth of electronic commerce are being addressed from global and local perspectives and through the participation of the public, private and non-governmental sectors and civil society.<sup>16</sup> It is clear that the efforts of national governments, donor organisations, the private sector, non-governmental organisations (NGOs), and representatives of civil society must be combined if the full benefits of electronic commerce are to be achieved. The potential benefits of electronic commerce include strengthening local capacities and the knowledge base for business-to-business, business-to-consumer, and e-government services. As these capacities become more widely available, it will become very difficult to participate in international trade without electronic commerce access. This raises the spectre of growing "digital divides" among and between the OECD countries and the EMEs and developing countries. There are also divides within countries that influence the extent to which industrial sectors, governments and other stakeholders can benefit from the potential of electronic commerce.

The EMEF offers an opportunity to discuss the similarities and differences in the visions of OECD countries and the EMEs and developing countries. The overriding concern is to ensure that measures put in place by governments, the private sector and other stakeholders, are creating a favourable environment for global electronic commerce, and the policy measures, business practices and initiatives of the development aid community that encourage electronic commerce deployment are effective in bridging the "digital divide". And that this environment will support growth, the creation of jobs, trade opportunities, and widely shared social benefits in line with the principal of inclusion in the global information society.

#### **"Visions" - Issues for Discussion**

- What can governments and other stakeholders do to promote an inclusive global information society that is conducive to electronic commerce?
- How can broad policies for the macroeconomy, employment and labour conditions, and the encouragement of entrepreneurial activity be linked with policies for electronic commerce?
- What is the role for economy-wide regulatory reform in promoting electronic commerce?
- What is the balance between encouraging investment in the information and communications infrastructure for electronic commerce and strengthening electronic commerce skills and capabilities?
- To what extent are best practices and policy principles for electronic commerce in OECD countries directly applicable to the EMEs and developing countries, and to what extent do they need adapting?
- Where can development co-operation and aid make a difference and how can electronic commerce policy frameworks and aid initiatives form a coherent strategy?

### 3. “Access”

The main issue to be considered in this session is access to the communication infrastructure and the hardware and software required to support electronic commerce. A related issue is access to content and information.

If electronic commerce is to spread globally, there is a need to invest substantially in and encourage a competitive **communications infrastructure** as well as a need for the necessary hardware and other components (e.g. information technologies such as computers, servers and software). The liberalisation of telecommunication markets and rigorous implementation of competition in OECD countries have stimulated new investment and increased demand for communications access and services through falling prices and the offer of new innovative products. Non-OECD countries can learn valuable lessons from the liberalisation that has taken place in OECD countries and the economic and social benefits this has engendered, although there is no lack of case studies from non-OECD countries which demonstrate the benefits which can accrue from sometimes bold moves towards creating a competitive environment for the provision of infrastructure and services. The evidence of the benefits of liberalisation in this area is mounting in a number of developing countries which have seen the growth in wireless networks resulting from competition.

Creating **effective competition** in telecommunication markets and encouraging the diffusion and use of computers and related information and communication services are likely to provide a stimulus to the growth of electronic commerce. Potential users can be encouraged to implement electronic commerce when it is more efficient and cost-effective than existing modes of conducting business. In the OECD countries, the availability of high-speed telecommunication infrastructure is closely linked with firm migration to electronic commerce.<sup>17</sup> Advanced networks that provide the bandwidth necessary to support electronic commerce applications and facilitate access through interconnection and interoperability, reduce network delay and are available at reasonable prices are essential to stimulate electronic commerce growth. The success of electronic commerce depends on the capacity to build up the user base. The infrastructure may be comprised of a mix of technologies such as fixed networks and mobile networks. In some cases, low bandwidth services may be used to encourage some types of online commercial transactions.

Where the communication infrastructure is already in place, it often requires upgrading to achieve the capacity and interactivity necessary for electronic commerce. The growth in data traffic generated by Internet use and electronic commerce means that the technological configuration of existing and new networks must be adapted to accommodate changing demand structures and usage patterns. Digitalisation and technological convergence mean that upgraded networks can support a wide range of new services. However, for many EMEs and developing countries, a crucial issue is the feasibility of introducing innovative financing arrangements to extend access, reduce risk for investors, and strengthen demand.

High **prices** for national and local switched network access, for leased lines and for Internet service provision present a major barrier to electronic commerce. The implementation of policies and regulations to promote competition encourages price reductions. Furthermore, efficient interconnection agreements between regional and national or local network operators are very important. In some OECD countries, leased lines continue to be available at relatively high prices, but prices tend to be even higher in most EMEs and developing countries.<sup>18</sup> Where competition is permitted and encouraged, new entrants can build end-to-end networks linking local and regional networks to support the Internet platform. Full deployment of electronic commerce applications is likely to be slower in countries where access to networks is based on usage charges which result in high user costs. High-speed local networks and sophisticated electronic commerce applications are of little value if access costs are too high, the technical capacity is insufficient, and if prices of terminal equipment remain high and are exacerbated by high import duties.<sup>19</sup>

In all of these areas, **trade and investment liberalisation**, discussed principally in Session 6 of the Forum, plays an important role in facilitating access to the infrastructures, goods and services

necessary for electronic commerce. The major instruments are the Agreement on Basic Telecommunications, the Reference Paper on Basic Telecommunications, the Information Technology Agreement (ITA) and the liberalisation commitments on market access and national treatment of General Agreement on Trade in Services (GATS).

**Technological innovation** may also provide opportunities for some EMEs and developing countries to “leap-frog” earlier generation technologies to provide high bandwidth networks. Advances in fibre optic technologies are making it feasible to install cables to achieve major capacity increases at relatively low prices per unit of capacity. Two types of access to the infrastructure are important for electronic commerce: the backbone infrastructure and the “local loop” connections. The speed and capacity of the local network plays a crucial role in determining how fast electronic commerce develops.

Scarce resources for investment in infrastructure are encouraging experimentation with community access to the Internet through, for example, private telecentres and cybercafes. These **collective models** of service provision are more prevalent in many EMEs and developing countries than in OECD countries. In addition, in the EMEs and developing countries, relatively large numbers of people may share the use of a telephone, radio, television, or e-mail address. Telecentres may provide access to a variety of ICT applications including electronic commerce. They can serve as a hub for training and capacity development, offer a platform for developing applications such as distance education or encourage skills development that may empower women and young people. They can also support the activities of small and medium-sized firms and micro-credit entrepreneurs.<sup>20</sup> Many of these developments are being undertaken through public-private partnerships.<sup>21</sup> Experience with policies to develop and grow different access models is worth in-depth examination.

Although Internet gateways are growing in the EMEs and developing countries, the evidence suggests that relatively little **local or indigenous content** is being generated in many countries. In addition, while government ministries and research centres may use the Internet for access to e-mail, they do not necessarily maintain a web site.<sup>22</sup> To support economic growth and development, the importance of access to local knowledge has been emphasised.<sup>23</sup> If electronic commerce is to succeed on a global basis, there will be a need to preserve, protect, research and promote access to local knowledge in a climate where the predominant language currently used is English.<sup>24</sup> This aspect has been emphasised by the G8 countries’ attention to cultural diversity and the “need to recognise and respect the importance of diversity in linguistic and creative expression”.<sup>25</sup> Where language is not regarded as a barrier to Internet use, there are other expertise-associated issues. For example, many of the south Asian sites tend to make substantial use of graphics that are not optimised for rapid downloading. On the other hand, search engines are being developed to aid navigation of the Internet and access to information; for example, the first comprehensive Arabic search engine was launched in May 2000 based on an innovative public-private partnership.<sup>26</sup>

#### **“Access” - Issues for Discussion**

- In which policy areas are further actions required to liberalise markets and promote competition for electronic commerce infrastructure and services?
- Are market liberalisation measures in EMEs and developing countries providing the appropriate stimulus for competition and investment in the communication infrastructure and the provision of affordable means of access? What is the role of access pricing mechanisms?
- Are other measures needed to boost investment in infrastructure to provide broader access? What are the impacts of trade liberalisation measures? Are further government and stakeholder initiatives needed to encourage public and private partnerships to boost investment and access?
- What are the opportunities for “leap-frogging” based on new infrastructure technologies?
- What is the experience with new models of access to communication or Internet services (e.g. telecentres), and how can new models be experimented with and encouraged?
- To what extent are language barriers and the lack of local content serious inhibitors to increased access and use? What kinds of measures can overcome these barriers to access and use?

#### 4. “Trust”

Confidence and trust in electronic commerce can be strengthened by ensuring that the framework of policies, regulations and organisational practices is consistent with the characteristics of global electronic trading environments and local cultural conditions. Trust is associated with the success of all aspects of electronic commerce. Important issues concern consumer and privacy protection, the establishment and availability of secure infrastructures, and the provision of systems for authentication and certification. There is a need for international co-operation to ensure that a “climate of trust” is established for global electronic commerce.

There are many issues in the area of building trust common to both business-to-business and business-to-consumer electronic commerce. These issues must be addressed by effective policy frameworks if electronic commerce is to grow on a global and inclusive basis. Users - consumers and businesses alike - must be confident that they will get what they order, that their personal information will be protected, that the transaction will be secure and that they can obtain redress if something goes wrong.

Ensuring the **availability of effective redress** is necessary to build trust in electronic commerce. This is as true in the case of domestic transactions as it is across borders. Even conventional transactions may raise complex issues of redress in the case of disputes or misunderstanding. Electronic commerce poses further questions and, in addition, the number of cross-border transactions and, in consequence, the number of potential disputes, is certain to continue to grow rapidly. In December 2000, OECD, together with the Hague Conference on Private International Law (HCPIL) and the International Chamber of Commerce (ICC), organised a conference on the issues raised by alternative dispute resolution (ADR) mechanisms. Both business-to-consumer and business-to-business electronic commerce may benefit from online ADR mechanisms that offer rapid, low cost redress for disputed transactions. These mechanisms are not intended to supplant court adjudication, but to supplement it. In late 2000, there were more than 40 online ADR mechanisms in operation ranging from informal, non-binding types of dispute settlement to formal ones. Most of these were supporting business-to-consumer dispute resolution involving large volumes of small value transactions, though some propose resolution of business-to-business disputes.<sup>27</sup>

**The protection of individual privacy** is essential if electronic commerce, as well as other electronic services, is to grow. The use of sophisticated software for tracking and auditing transactions creates the potential for accumulation of detailed user profiles and this presents a threat to individual privacy. Technological developments are offering some tools that enable citizens and consumers to protect their privacy but governments and the private sector are taking an active role to ensure that individual privacy is protected in the Internet environment. The 1980 *OECD Privacy Guidelines* provide a benchmark for the level and extent of privacy protection that must be extended to electronic commerce users and there is a continuing need for international co-operation in this area. OECD work is focusing on providing practical guidance on implementing and enforcing the principles of the OECD Guidelines in the context of global networks. Work has been undertaken on the use of contracts for transborder data flow, on education and awareness and on how to ensure online redress in case of disputes about privacy. The OECD monitors closely the various privacy instruments and mechanisms (including laws, self-regulation, contracts and technology) for implementing and enforcing the OECD Privacy Guidelines in its Member countries.<sup>28</sup> Transparency regarding the use made of personal data submitted online is a key issue. The *OECD Privacy Policy Statement Generator* is an online Internet-based tool developed at the OECD to help webmasters and administrators create their own privacy policy statements for their web sites.<sup>29</sup>

**Consumer protection** in the online environment is essential to the success of e-commerce in the business-to-consumer marketplace. While the Internet provides consumers continuous access to a global marketplace, its borderless nature creates challenges to the implementation of traditional consumer laws, policies and practices. Consumers must be assured of effective protection regardless of the medium of commerce. The 1999 *OECD Consumer Protection Guidelines in the Context of Electronic Commerce* were a first step.<sup>30</sup> The Guidelines represent international consensus on the core characteristics of consumer protection for online business-to-consumer transactions and address principles connected with



fair business, advertising and marketing practices, online information disclosures, handling of consumer complaints, provision of effective dispute resolution and redress, education and awareness, and global co-operation. OECD work focuses on implementation of the Guidelines, including monitoring consumer protection laws, policies and practices in OECD Member countries and providing consumers and businesses with education and information materials related to shopping and selling online. Other issues being tackled include exploring consumer protection for payment card holders, examining means for effective redress, including online dispute resolution mechanisms and working to ensure effective global co-operation.

**Security and the availability of secure networks** are essential for the growth of electronic commerce. The Internet has been the springboard from which electronic commerce has taken off. However, the increased dependence on open Internet platforms to support electronic commerce - and "commerce" is increasingly "electronic commerce"- means that global and comprehensive approaches to security and availability are needed. The measures that are needed encompass security, certification, and privacy as well as consumer protection. Protocols and procedures for security techniques need to be operable internationally which means that international co-operation is necessary. The need for an international consensus has been indicated by the clear demonstrations of the vulnerability of networks in recent years.<sup>31</sup> The OECD, which produced the *OECD Guidelines for the Security of Information Systems* in 1992, can act as a catalyst for enhancing discussions and information sharing to better co-ordinate actions to ensure that networks are as secure as possible.

**Authentication and certification** of identity plays a crucial role in establishing the framework for electronic commerce. Business-to-business electronic commerce transactions mainly occur between parties who know each other and are linked contractually, but this is rarely the case for business-to-consumer transactions.<sup>32</sup> Authentication and certification mechanisms help to verify user identity and other information about transactions and transacting parties. The interoperability of "trust" services is very important. Many types of firms are beginning to offer authentication/certification services including financial services, information technology firms, and governmental organisations such as national Post Offices. There is debate as to whether these services should be entirely market-led or whether there is a need for a common trust infrastructure that is mandated through some form of licensing. A system of secure settlement procedures is also necessary to support electronic commerce. Payment settlement depends mainly on the banking sector and/or on credit cards for small transactions. Working groups in many countries are examining ways of establishing identity and verifying electronic commerce related information to determine whether new legislation is needed or whether existing laws should be updated to foster electronic commerce. Enabling digital signature technology is the focus of many policy efforts.<sup>33</sup> On the other hand, the business community often takes the view that governments should not impose licensing schemes for such authorities or "trust services" that may slow the growth of electronic commerce.<sup>34</sup>

**Online fraud** presents a growing challenge for public authorities and the private sector. The importance of electronic commerce for the global economy is increasing as the value and quantity of data grow. These data are vulnerable to unauthorised access and use, misappropriation, alteration, and destruction. The ease of access to the Internet is presenting new challenges and new businesses are emerging to investigate "cybercrime". There are challenges for governments to ensure that the courts and enforcement agencies have the tools and expertise to deal with electronic commerce fraud. Because of the global scope of electronic commerce there is a need for close co-operation among governments and between governments and business. In the OECD area, most businesses take the view that "freedom of contract" should be the guiding principle and that governments should avoid creating liability rules that may impede electronic commerce.

### **“Trust” - Issues for Discussion**

- What roles should governments and other stakeholders play in improving trust by encouraging the development and use of alternative dispute resolution mechanisms?
- What is the continuing role of privacy guidelines, and practical applications such as the *OECD Privacy Policy Statement Generator* in building trust in on-line transactions?
- What frameworks should be in place to protect user and consumer interests?
- How can greater consistency be achieved among national approaches to authentication and certification and the development of global authentication and certification mechanisms?
- What forms of international co-ordination are necessary to tackle “cybercrime” and to promote security and the availability of secure networks?

## **5. “Taxation”**

Revenue authorities have an important role to play in realising the full potential of electronic commerce. Their twin objectives in this respect are to provide a fiscal environment within which electronic commerce can flourish while also ensuring that electronic commerce does not undermine the ability of governments to raise the revenues required to finance services voted for by their citizens. It is a careful balancing act common to many policy issues.<sup>35</sup>

Excluding government transactions, approximately 90% of electronic commerce by value is conducted between businesses. Multinational enterprises (MNEs) have used the Internet technologies to develop global networks between their subsidiaries. Small and medium-sized enterprises (SMEs) are rapidly exploiting the ways in which the Internet can be used to give them access to overseas markets. Revenue authorities must take account of these different patterns in designing tax systems for the 21st century. The needs and problems posed by business-to-consumer transactions should not necessarily dictate the treatment of business-to-business transactions. The difficulties of dealing with an increasing number of cross-border transactions by SMEs should not necessarily determine the ways of taxing MNEs.

There has been considerable speculation as to the overall response that governments will adopt towards taxation of electronic commerce in this new complex environment. At one extreme was the view that electronic commerce should in some sense be allowed to take place in a tax-free environment – either by specific legislation or by continued government inaction. At the other extreme, there has been speculation on the introduction of new taxes specifically designed to tax electronic commerce (for example, the “bit tax”). Neither of these views is likely to prove acceptable to governments. The first would lead to governments being unable to meet the legitimate demands of their citizens for public services. It would also induce tax distortions in trade patterns. The second approach could hinder the development of electronic commerce and lead to the technology becoming “tax-driven”.

Certainly, electronic commerce is a new and exciting development. However, there is nothing to suggest that the nature of electronic commerce, nor the desire to see it develop, should exclude it from the normal remit of taxation. There is an emerging view that at the present time the most appropriate way to achieve the twin objectives referred to above, is to reach an international consensus on how to apply the existing domestic and international arrangements to electronic commerce rather than by creating totally new policy approaches.

The challenge therefore facing governments is how to adapt existing legislation, procedures and practices to overcome any deficiencies which may emerge as a result of electronic commerce’s new means of communication and product delivery. It is with this adaptive approach in mind that OECD Members, in co-operation with a representative grouping of countries from outside the OECD area, set about the task of developing an international consensus for the taxation of electronic commerce. On 8

October 1998, the OECD issued a set of taxation framework conditions to govern the taxation of electronic commerce.<sup>36</sup>

There is broad global agreement on the taxation framework conditions for electronic commerce. They have been endorsed and approved by many international bodies. The internationally consistent application of the taxation framework conditions would help to maintain the fiscal sovereignty of countries, would allow the fair sharing of the tax base from electronic commerce among countries and should minimise the risk of double taxation and unintentional non-taxation.

However the implementation of the taxation framework conditions raises a number of particular challenges for revenue authorities. Existing policy and practice have been developed in response to the conventional commercial environment and the electronic commerce environment can be quite different. Work on policy and administrative practice challenges associated with electronic commerce is proceeding with the participation of OECD Member and non-member countries. It would be fair to say that many of the policy issues are close to resolution, with broad agreement between most countries and business as to the appropriate policy direction. The challenges to the successful administration of tax policy in an electronic commerce environment are more difficult to resolve and it is recognised that increased consistency, co-operation and co-ordination by revenue authorities will be required.

New service opportunities made possible by the use of the technologies underlying electronic commerce have created a win-win situation for governments and businesses. Administrative and compliance costs can be significantly decreased, freeing resources for other activities within the economy. These new opportunities open the prospect of a redefined role for revenue authorities within an economy, such as acting as the root certification authority within the country, or as a key government service provider or payment collection agency.

#### **“Taxation” - Issues for Discussion**

- What are the similarities and differences in country views with respect to the issue of taxation and electronic commerce?
- What can countries do to increase the consistency of their tax policy on electronic commerce activities?
- How can countries best co-operate so that electronic commerce tax revenues are collected and fairly shared?
- What can revenue authorities do to co-ordinate their activities to assist foreign businesses using electronic commerce so that local businesses are not unfairly disadvantaged?
- What can revenue authorities do to assist electronic commerce to flourish within their economy?

## **6. “Rules of the Game”**

As electronic commerce develops there are signs of innovation in the way issues of governance or the “rules of the game” are being addressed. New approaches to government regulation, industry self-regulation, and new forms of “co-regulation” are being developed. All of these are intended to increase participation of all countries in the expanding international markets and to facilitate trade. New rules and new ways of organising regulation, self-regulation and co-regulation, and governance are needed in many areas of crucial importance to the development of electronic commerce. In most policy areas related to electronic commerce, the debate has moved on from a simple question of “regulation”, “self-regulation” or “no regulation”. More often, the debate concerns the development of a proportional “integrated approach” - in other words, the challenge is to achieve an effective, coherent, interoperable mix of these approaches.

**Trade and investment liberalisation** play an important role in facilitating access to the infrastructures, goods and services necessary for electronic commerce by encouraging the availability of

affordable telecommunication services. Policy and regulations are needed to address issues of pricing, interconnection and interoperability, cost allocation, standards, and universal access as well as Internet addressing systems and number portability. The goals are to create improved conditions for user access to electronic commerce, to ensure that appropriate incentives are in place to build or upgrade network capacity; and to encourage interconnection, interoperability and service availability at affordable prices. The Agreement on Basic Telecommunications and the Reference Paper on Basic Telecommunications have helped liberalise former monopolies and reduce costs of connection and increase competition and interconnection disciplines.

The Information Technology Agreement (ITA) has ensured zero tariffs on a range of computer equipment relevant to electronic commerce, and decreasing barriers to FDI provides investment for new technologies. Furthermore, the General Agreement on Trade in Services (GATS) provides for binding liberalisation commitments on market access and national treatment that has particular significance for the services that underpin electronic commerce: telecommunication, computer services, financial, distribution, and delivery services. It also applies in many other fast-growing services sectors that rely heavily on ICT applications, such as energy services, audio-visual, express delivery, and professional services. Many of these feature on the agenda of the GATS 2000 round that is liberalising other electronic commerce-relevant services.

International trade rules for electronic commerce are particularly important in areas such as whether downloadable digital products are to be considered goods (and subject to the GATT) or services (subject to the GATS) for the purposes of international trade, and the extent to which electronic delivery is covered by the GATS. Furthermore, the 1998 WTO Ministerial Conference Declaration on Global Electronic Commerce made the decision to not impose customs duties on electronic transmissions but following the Seattle Ministerial, there is no consensus as to whether the customs moratorium is still in place, although some Members have proposed to make it permanent.

Many of the **standards** for electronic commerce are developing through market mechanisms and proprietary solutions offered by firms, but there is scope for co-ordination of standards in areas such as information transport, product identification, and software systems to facilitate electronic commerce. Standards that support electronic commerce are also evolving as a result of open source software developments and the availability operating systems such as Linux, which runs on many platforms. The shifts towards open software platforms and access to software via the Internet are helping to increase the accessibility of applications. These developments may help counter the high costs of proprietary software and services and reduce the costs associated with incompatible services.

**Intellectual property protection** of information accessible via the Internet is a major issue in the electronic commerce environment. For information products that are delivered on-line, copyright must be adequately protected and content creators are seeking stronger enforcement of intellectual property rights. With the global spread of the Internet, issues such as posting copyright material on public Web sites, the protection of technical designs and other materials, and licensing arrangements for the use of copyrighted information must be addressed. Electronic commerce adds new dimensions to trade in products protected by copyright, patents and trademarks, both in terms of scope - software, databases and domain names need protection for example - and in terms of enforcement. In the trade area, the Trade Related Aspects of Intellectual Property (TRIPS) Agreement obliges mutually reciprocal IP rights protection. A balance must be struck in order to ensure that intellectual property regimes promote access to information while protecting property rights. The appropriate balance of the emerging regime and enforcement are important areas for international co-operation.<sup>37</sup>

The evolution and convergence of the technologies supporting electronic commerce means that existing approaches to **content** regulation may need to be reviewed. Given the importance of encouraging access to local and global content and information services, most users and providers feel that a wide range of stakeholders need to be consulted in any changes in this area.

Countries are defining **national frameworks for electronic commerce** that address these issues. There will be some variations in these frameworks because of the different economic and social

characteristics of each country. However, growth in electronic commerce depends on the degree to which there is some consistency and coherence in legislation, regulation, policy and practices and on whether variations are transparent. The balance between formal regulation and industry self-regulation, and opportunities for “co-regulation” by government and the private sector will differ depending on the effectiveness of existing systems of governance. Exchanges and inventories of practices that have been introduced by other countries and regions can help national policy makers to select the best combinations of models for the establishment of the rules of the game to support the growth of electronic commerce.

#### **“Rules of the Game” - Issues for Discussion**

- How can an integrated approach to self-regulation and regulation, co-regulation and governance be encouraged?
- How can governments and other stakeholders promote the agenda for trade facilitation and the development of international markets?
- What policy and regulatory measures are needed in response to convergence and the need to encourage access to electronic commerce and to local and global content and information services?

## **7. “Digital Divides”**

Overcoming the digital divides which exist both between and within countries is essential if ICTs are to contribute to social and economic aspirations in the 21<sup>st</sup> century. There is substantial evidence that familiarity and use of ICTs are of fundamental importance for ensuring individual and business development. Moreover, the size, structure and characteristics of the digital divide are important for aggregate efficiency as well as for equity. The more people use the Internet, the more valuable it becomes for all. These “network effects” mean that in the Internet-connected, ICT-based economy, the greater the collective economic use, the greater the benefits of the new technologies. The uneven use of ICTs across different income, education, age and family groups, and across different kinds and regional distributions of firms, has important public policy implications for efficiency reasons as well as for equity and distributional considerations.

However the opportunities for taking advantage of electronic commerce remain skewed in favour of the OECD countries. Annex 1 Tables 1 and 2 highlight some of the disparities that give rise to digital divides between higher and lower income countries. The number of Internet hosts in the OECD area has increased very rapidly but, despite major growth in communication infrastructure investments in recent years, many EMEs and developing countries lag behind in terms of the penetration of the components of the infrastructure.<sup>38</sup>

There are also divides in the production of software and in the extent to which countries can generate a sufficient volume of electronic commerce activity to justify investment. The United States dominates the electronic commerce software market (with some 63% of the market in 1999).<sup>39</sup> World-wide in November 2000, an estimated 407 million people were using the Internet. Of these, over 167 million were in the United States and Canada, 113 million in Europe and almost 105 million in the Asia-Pacific region. Asia-Pacific and European use was growing fastest of these major regions, with all other regions growing rapidly, albeit from a very low base (South America, the Middle East and Africa).<sup>40</sup> Differences across broad regions reflect the diffusion of the Internet and PCs in households. There are also deep intra-country disparities between different socio-economic groups, geographic areas and different kinds of businesses, which are not shown in the national figures, and the costs of advanced and even basic digital services are often beyond the means of potential electronic commerce users. See OECD (2001), *Understanding the Digital Divide*, prepared for this Forum.<sup>41</sup>

It is in Africa that the digital divide is most acute. The total number of computers permanently connected to the Internet (excluding South Africa) reached about 12 000 in January 2000, an increase of 20% over the previous year. The number may be between 25 000 and 30 000 if hosts not referenced in domain name servers and those that are registered under generic domains such as .com, .net and .org are included. This still means however, that Africa has about the same number of hosts on the Internet as Latvia (which has a population of about 2.5 million, compared to Africa's 780 million estimated in 1999).<sup>42</sup>

Nevertheless there is substantial optimism about electronic commerce in some regions, due to the way that it contributes to trade facilitation and the opening up of new markets for traditional as well as new goods. For example, Arab software companies expect to generate 33% of their sales through the Internet by 2003. Egyptian Internet service providers projected a 1 000% increase in electronic commerce volume in 2000. However, in many Arab countries, surveys suggest that merchants are mainly unaware of the potential impact of electronic commerce. In addition, in 1999 only 0.1% of the Arab population was connected to the Internet.<sup>43</sup>

The **digital divides are not just technological** but also have aspects of much broader societal and economic issues. Solutions call for both technology-based initiatives in areas such as equipment pricing and improving access conditions, and more multi-faceted approaches involving organisational change, education, training and skill development, policies for SMEs, etc., in order for these opportunities and potential benefits to be shared widely.

The benefits of electronic commerce are likely to be substantial for countries where the skill base for managing organisational change and for using electronic commerce is in place. The growth of electronic commerce: *i)* alters the structure of production and distribution chains; *ii)* creates opportunities for direct relationships with suppliers and customers; *iii)* enables global price comparisons; *iv)* stimulates competition between suppliers and provides greater choice to customers; and *v)* stimulates improved productivity and job creation. Increased organisational and management effectiveness, improved transaction efficiency and reduced costs offer opportunities for extending the global reach of suppliers and providing more accurate information to improve service delivery. Although electronic commerce transactions yield benefits, the costs of delivering goods using various forms of transport are unlikely to decline unless steps are taken to liberalise the delivery industry and improve logistics services. For developing countries the benefits of electronic commerce will fail to reach the rural poor unless the basic transport infrastructure to export their products is created. Here again, liberalisation of key services sectors, well-designed trade policies, appropriate development and technical assistance, combined with greater access to information and knowledge can make important contributions.

There is an urgent need for action to encourage widespread **education and training** in support of electronic commerce applications. The use of ICTs to provide new forms of learning in the classroom, on the job, and at a distance offers considerable potential, especially where policies are aimed at ensuring that equipment and Internet connections are available in libraries, schools, and higher education establishments.<sup>44</sup> The role of public and private sector sponsored education and training programmes to encourage electronic commerce is an important consideration for national governments.

Electronic commerce offers **opportunities for micro, small and medium-sized firms**. However, these firms are often unable to afford the costs of gathering information and assessing the risks and benefits of using new technologies. Since electronic commerce creates opportunities for these firms to participate in global markets, there is a role for governments in encouraging them to introduce electronic commerce applications. Although smaller firms lag behind larger firms in the adoption of electronic commerce, there is evidence suggesting that early-adopting smaller firms out-perform other similar sized firms.<sup>45</sup> Governments are making special efforts to encourage the use of the Internet and electronic commerce by small and medium-sized firms using awareness and facilitation initiatives aimed at increasing access to information, advice, training and other skills. The aim of most initiatives is to enable smaller firms to benefit from the positive gains from networking and from "first-mover" advantages. However, one of the most significant barriers to electronic commerce adoption for micro and small firms is a lack of awareness. Awareness of the potential benefits of electronic commerce tends to be quite variable.<sup>46</sup>

**E-government services** are being developed to enhance the internal efficiency and productivity of public administrations. The developments in this area complement those supporting electronic commerce. Applications include electronic forms for tax collection and many other services that involve the provision of public information, databases for health services, and the location of Internet access points in public venues.<sup>47</sup>

**Development co-operation and aid** can help countries exploit the digital opportunities offered by electronic commerce. Careful study of which initiatives, and what partnerships, work and which do not can help developing countries build capacity to benefit from the potential of the digital economy and help attain the overarching development policy goals of poverty reduction, improved health and environmental sustainability.

#### **“Digital Divides” - Issues for Discussion**

- What initiatives are needed to build the infrastructure to support electronic commerce and reduce the digital divides which arise from the lack of infrastructure investments?
- Are effective procedures in place to encourage learning, education and training required for participation in electronic commerce and information society applications? What are the success stories and best practices?
- What initiatives are needed to reduce the digital divides associated with the need to enhance capabilities for managing electronic commerce and related industry and organisational change?
- How is electronic commerce participation by micro, small and medium-sized enterprises being encouraged?
- How can e-government, in public administration and service delivery play a role in bridging the digital divide?
- What are the roles of inter-related policies in the areas of information and knowledge flows, trade and liberalisation of key services sectors, and development and technical assistance?
- Which development co-operation and aid initiatives, and what partnerships, work to bridge the digital divide and which do not? How can they contribute optimally to the achievement of overarching development policy goals?

## **8. “Global Initiatives”**

Even as electronic commerce grows on a global basis, some EMEs and developing countries will fall further behind the leading countries if global initiatives are not put in place to mobilise co-operation by governments, the private sector, NGOs and civil society.

Many international organisations are involved in initiatives to encourage EMEs and developing countries to prepare for electronic commerce.<sup>48</sup> For example, the *dot force* set up following the Okinawa G8 summit is planning initiatives to help overcome the international digital divide, many of which are relevant to electronic commerce. The UN ICT Task Force is also undertaking relevant activities. The work of most of the principal international organisations and other bodies active in electronic commerce are summarised in the third annual OECD overview report of *International and Regional Bodies: Activities and Initiatives in Electronic Commerce*.<sup>49</sup> The OECD itself conducts analysis, develops statistics and is involved in many initiatives to establish guidelines and framework conditions for the conduct of electronic commerce. This is summarised in the *Progress Report on the OECD’s Work on Electronic Commerce*, providing an overview of the OECD’s current work as well as, *inter alia*, an account of the progress made in carrying out the activities set out in the *OECD Action Plan for Electronic Commerce* [SG/EC(98)9/FINAL].<sup>50</sup> These initiatives are complemented by many national and global public and private sector entities and organisations. A prime example is the *Global Action Plan for Electronic Commerce*

*prepared by Business with Recommendations for Governments*, developed by the Alliance for Global Business under the co-ordination of BIAC for the Ottawa Ministerial and subsequently updated.

Given these many initiatives, it is most important to ensure policy coherence. For example, to craft the appropriate kinds of investment initiatives with liberalisation and pro-competitive initiatives in services sectors, training and business management assistance, and trade policies within the broad regulatory frameworks that encourage entrepreneurship and growth. For electronic commerce, there is a need for improved methods and resources for the evaluation of the determinants of successful and unsuccessful initiatives. The capabilities for conducting such evaluations are often too limited to support assessment. Electronic commerce developers and users currently have few opportunities to learn from their experiences. However, learning is essential if the vision for electronic commerce is to be met on a global basis.

Policy co-ordination remains a challenge to match the initiatives of governments and multilateral and bilateral donor organisations consistently to the dynamism of a competitive market-driven environment. Broad-based policy debate among all stakeholders in an inclusive global digital economy remains more important than ever to meet the upcoming challenges and to develop the appropriate policy and institutional responses. This Forum represents, it is to be hoped, a modest yet firm step along that road.

#### **“Global Initiatives” - Issues for Discussion**

- What action on a global basis is needed to stimulate the growth of electronic commerce so that it includes EMEs and developing countries?
- Which institutions, international programmes and donor organisations, need to be involved? What are the best ways of engaging civil society and the private sector in co-operative efforts?
- How best can policy coherence be ensured?
- What kinds of evaluations are needed and what mechanisms are required to share examples of success and to avoid repeating costly mistakes?



## ANNEX 1

Table 1. Access to network-based services by country income level

Country groups	Population 1999 (million)	GDP 1998 (million USD)	Telephone main lines 1999 (million)	Cellular mobile telephone subscribers (million)	Personal computers 1999 (million)	Internet users 1998 (million)	Internet host computers Jan 2000 (thousand)	Television sets 1998 (million)
Low-Income	2 101	837 572	35	3	7	1	48	121
Middle-Income Low	2 356	2 482 431	215	62	36	6	459	583
Middle-Income Upper	588	2 596 365	105	57	28	8	1 891	170
High-Income	939	23 711 071	529	355	316	130	69 432	610
World	5 983	29 627 438	883	477	387	145	71 830	1 484
	%	%	%	%	%	%	%	%
Low-Income	35.1	2.8	3.9	0.6	1.8	0.5	0.1	8.2
Middle-Income Low	39.4	8.4	24.3	13.0	9.4	4.0	0.6	39.3
Middle-Income Upper	9.8	8.8	11.9	12.0	7.2	5.6	2.6	11.5
High-Income	15.7	80.0	59.9	74.4	81.7	89.9	96.7	41.1
World	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

*Note:* Data are for the nearest year available and rounded up.

*Source:* ITU World Telecommunication Indicators Database, 5<sup>th</sup> edition (June 2000 updated).

Table 2. Access to network-based services by region, 1998/99

Region	Population 1999 (million)	GDP 1998 (million USD)	Public pay phones 1998 (million)	Telephone main lines 1999 (million)	Cellular phone subscribers 1999 (million)	Internet host computers 1999 (million)	Personal computers 1999 (million)	Television sets 1998 (million)
Africa	626	247 813	529	9	4	0.2	5	26
Asia & Pacific	3 360	7 523 778	2 208	270	158	5	89	640
Europe	871	9 633 038	862	311	175	10	115	392
Middle East & North Africa	308	820 513	198	29	7	0.2	9	49
America	818	11 402 296	787	265	134	56	170	378
World	5 983	29 627 438	4 583	883	477	72	387	1 484
	%	%	%	%	%	%	%	%
Africa	10.46	0.84	11.53	1.01	0.75	0.25	1.16	1.76
Asia & Pacific	56.16	25.39	48.19	30.55	33.18	7.50	23.07	43.13
Europe	14.55	32.51	18.80	35.19	36.61	14.02	29.58	26.40
Middle East & North Africa	5.15	2.77	4.31	3.23	1.36	0.26	2.28	3.28
America	13.67	38.49	17.16	30.01	28.11	77.97	43.91	25.45
World	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Note: Data are for the nearest year available and rounded up.

Source: ITU World Telecommunication Indicators Database, 5<sup>th</sup> edition (June 2000 updated).

## **ANNEX 2**

The OECD has published a large body of work on information and communications technologies and electronic commerce. Listed below are a selection of these publications.

### **1980**

Privacy Guidelines

### **1996**

Guidelines for the Security of Information Systems

### **1997**

Electronic Commerce: Opportunities and Challenges for Government (the “Sacher Report”)

Cryptography Policy: The Guidelines and the Issues

### **1998**

Ministerial Declaration on Consumer Protection in the Context of Electronic Marketplace, Ottawa, 7-9 October

Gateways to the Global Market: Consumers and Electronic Commerce

### **1999**

The Role of Communications Infrastructures in Advancing Electronic Commerce

Protection of Privacy on Global Networks

Joint OECD-Private Sector Workshop on Electronic Authentication, Background Paper on Electronic Authentication Technology and Issues, Stanford and Menlo Park, CA, 2-4 June.

Taxation Principles and Electronic Commerce

New Developments in Educational Software and Multimedia

Information and Technology as an Instrument of Public Management Reform: A Study of Five OECD Countries

Small and Medium-sized Enterprises and Electronic Commerce

OECD Forum on Electronic Commerce: Progress Report on the OECD Action Plan for Electronic Commerce

The Economic and Social Impact of Electronic Commerce: Preliminary Findings and Research Agenda

OECD Telecommunications Database: 1999 Edition

OECD Communications Outlook: 1999 Edition

## **2000**

OECD Information Technology Outlook: ICTs, Electronic Commerce and the Information Economy

Building Trust in the Online Environment: Business-to-Consumer Dispute Resolution, Orientation Document for Joint Conference of the OECD, HCOFIL, ICC, The Hague, 11-12 December

Privacy Policy Statement Generator, [www.oecd.org/scripts/pwv3/pwhome.html](http://www.oecd.org/scripts/pwv3/pwhome.html)

Mobile Phones: Pricing Structures and Trends

A New Economy? The Changing Role of Innovation and Information Technology in Growth

Guidelines for Consumer Protection in the Context of Electronic Commerce

Measuring the ICT Sector

Electronic Commerce: Impacts and Policy Challenges

Schooling for Tomorrow: Learning to Bridge the Digital Divide

## **2001**

Understanding the Digital Divide

## ***Forthcoming:***

OECD Communications Outlook: 2001 Edition

## NOTES

- 1 OECD (2000), "OECD Emerging Market Economy Forum on Electronic Commerce: Background, Objectives and Organisation", DSTI/ICCP(2000)6/REV1, 17 February.
- 2 OECD (2000), "OECD Emerging Market Economy Forum on Electronic Commerce", Dubai, 16-17 January 2001, Press Release at [www.oecd.org/media/release/new00-67a.htm](http://www.oecd.org/media/release/new00-67a.htm) accessed 3 December 2000.
- 3 OECD (1999), "OECD Forum on Electronic Commerce: Report on the Forum", Paris 12-13 October, SC/EC(99)12, 26 November.
- 4 G8 Communique, Okinawa, 23 July 2000.
- 5 For early examples of electronic commerce see Mansell, R. (1996), "Designing Electronic Commerce" in R. Mansell and R. Silverstone (eds.) *Communication by Design: The Politics of Information and Communication Technologies*, Oxford University Press, pp. 103-128; Mansell, R. and M. Jenkins, (1992) "Networks and Policy: Interfaces Theories and Research", *Communications & Strategies*, Vol. 5, No. 1, pp. 31-50; Mansell, R. and M. Jenkins (1992), "Networks, Industrial Restructuring and Policy: The Singapore Example", *Technovation*, 12(6), pp. 397-406.
- 6 See, for example, <http://www.forrester.com/ER/Press/ForrFind/0,1768,0,FF.html>. For earlier estimates see OECD (1999), "Business-to-business Electronic Commerce: Status, Economic Impact and Policy Implications. Digest", DSTI/ICCP/IE(99)4/FINAL, 11 October. The OECD Working Party on Indicators for the Information Society is currently working on defining and measuring electronic commerce, to provide a better information base for electronic commerce.
- 7 OECD (2000), *OECD Information Technology Outlook: ICTs, Electronic commerce and the Information Economy*, Paris, OECD, p. 83.
- 8 OECD (1999), "OECD Forum on Electronic Commerce: Progress Report on the OECD Action Plan for Electronic Commerce", SG/EC(99)4, Paris, 24 September. Research focusing on the United States and European Union countries suggests electronic commerce growth can be hindered by problems maintaining confidentiality (both commercial and individual privacy), issues of censorship, difficulties of navigation of electronic commerce sites, taxation issues, etc. See ITU (1999), *Challenges to the Network: Internet for Development*, Geneva.
- 9 Andersen Consulting estimates the cost of "full service" trading transactions at USD 150; "broker" transactions at USD 69; and "on-line" transactions at USD 10. The costs of banking transactions using the Internet are estimated at USD 0.01 as compared to branch-based transaction cost of USD 1.27.
- 10 Xie, A (2000), "The Internet Could also Give a Boost to Growth in Emerging Economies", *The Economist*, "Internet Economics: A Thinker's Guide", 1 April.
- 11 See Verhoest, P. and R. Hawkins (2000), "A Transaction Structure Approach to Assessing the Dynamics and Impacts of 'Business-to-Business' Electronic Commerce". TNO and SPRU report prepared for the Impacts and Perspectives on Electronic Commerce (IPEC) project of the Telematica Instituut, The Netherlands, 17 April; Wang, N (1999), "Transaction Costs and the Structure of the Market: A Case Study", *American Journal of Economics and Sociology*, Vol. 58, No. 4, pp. 783-805.
- 12 Timmers, P. (1998), "Business Models for Electronic Markets", *EM- Electronic Markets*, Vol. 8, No. 2, pp. 3-8.
- 13 See Goldstein, A. and D. O'Connor (2000), "Electronic Commerce for Development: Prospects and Policy Issues", OECD Development Centre, Paris; Humphrey, J. (2000), "Electronic Commerce and Agribusiness Conference, May, London: Conference Report", Institute of Development Studies, University of Sussex, mimeo. See also Schmitz, H. and P. Knorringa (1999), "Learning from Global Buyers", IDS Working Paper 100, University of Sussex, November; Kaplinsky, R. (2000), "Globalisation and Unequalisation: What can be Learned

from Value Chain Analysis?”, mimeo, paper for IDS, University of Sussex; Dolan, C., J. Humphrey and C. Harris-Pascal (1999), “Horticulture Commodity Chains: The Impact of the UK Market on the African Fresh Vegetable Industry”, IDS Working Paper No. 96, University of Sussex, September.

<sup>14</sup> OECD (1999), “Business-to-business Electronic Commerce: Status, Economic Impact and Policy Implications – Digest”, DSTI/ICCP/IE(99)4/FINAL, 11 October.

<sup>15</sup> See Goldstein, A. and D. O’Connor (2000), “Electronic Commerce for Development: Prospects and Policy Issues”, OECD Development Centre, Paris. See also Gereffi, G. (1996), “Commodity Chains and Regional Divisions of Labor in East Asia”, *Journal of Asian Business*, Vol. 12, No. 1, pp. 75-112; Schmitz, H. and P. Knorringa (1999), “Learning from Global Buyers”, Institute of Development Studies Working Paper No. 100, Sussex University, November.

<sup>16</sup> OECD (1997), *Electronic Commerce: Opportunities and Challenges for Government*, OECD, Paris.

<sup>17</sup> OECD (1999), “The Role of Communications Infrastructures in Advancing Electronic Commerce”, OECD, Paris, <http://www.oecd.org/dsti/sti/it/index.htm> accessed 28 June 2000.

<sup>18</sup> See OECD (1999), “Building Infrastructure Capacity for Electronic Commerce: Leased Line Developments and Pricing”, DSTI/ICCP/TISP(99)4/FINAL; Goldstein, A. and D. O’Connor (2000), “Electronic commerce for Development: Prospects and Policy Issues”, OECD Development Centre, Paris.

<sup>19</sup> Souter, D and G. Girardet (2000), “IMFUNDO Project Knowledge Bank Question 13: Regulatory Frameworks”, prepared by the Commonwealth Telecommunications Organisation, London.

<sup>20</sup> See Marcelle, G.M. (2000), “Getting Gender into African ICT Policy: A Strategic View”, in E.M. Rathgeber and E.O. Adera (eds.), *Gender and the Information Revolution in Africa*, International Development Research Centre, Ottawa.

<sup>21</sup> In Egypt, many players joined together to establish three technology access community centres to provide rural and remote communities with public access to the Internet and the training to use it effectively. An Internet connection in a Peruvian village has helped the community to forge a partnership with a company in New York and to expand the market for its agricultural products. The project is reported to have resulted in a five-fold increase of income, from USD 300 to USD 1 500 per month, see UNDP at <http://www.undp.org/info21/e-com/e1.html> accessed 27 June 2000.

<sup>22</sup> In Africa, there are still very few institutions that are using the Web to deliver quantities of information. Increasing numbers of organisations have a Web site with basic descriptive and contact information, but few actually use the Web for their activities. This is explained by the limited number of local people who have access to the Internet, the limited skills for creating Web pages, and the high costs of local Web hosting services, see M. Jensen, GKD, 28 November 2000, archived messages at [www.globalknowledge.org](http://www.globalknowledge.org).

<sup>23</sup> ITU, Telecommunication Development Bureau (1999), “Partial Draft of the Report of the Focus Group on Promotion of Infrastructure and Use of the Internet in Developing Countries”, ITU-D Study Groups, Document 1/077-E, Geneva, 10 August.

<sup>24</sup> The English language dominates not only the Internet (some 80% of all Web sites are in English) but also the CD-ROM and video content market. In mid-1999, English (including South African) corresponded to 59.3% of the world online population and non-English to 40.7%. There are 6 703 living languages in the world. Asia and Africa account for 66% of the world’s living languages, while the Americas account for 15%. See Grimes, B.F. (1999) *The Ethnologue, Languages of the World*, 13th Edition, SIL International, <http://www.sil.org/ethnologue/top100> accessed 29 June 2000.

<sup>25</sup> G8 Communique, Okinawa, 23 July 2000; “The Declaration on Science and the Use of Scientific Knowledge” adopted at the World Conference on Science, Budapest, 26 June - 1 July 1999 cited in ITU Telecommunication Development Bureau (1999), *op. cit.* In countries such as India, there are initiatives to address language issues, see Charles, C. (1999), “The Electronic Commerce Revolution: Implications for India”, *I-Ways*, Fourth Quarter, pp. 51-64.

- 26 ArabVista is creating new opportunities for Arabic speakers to use the Internet and the search engine is expected to become the core of portal to support Middle East electronic commerce. Emirates Internet and Multimedia (EIM), an affiliate of the United Arab Emirates' telecommunication operator, Etisalat, launched the search engine with multiple language support in co-operation with Compaq and L&H AppTek. The servers, nodes and robot are based in Dubai and Abu Dhabi and the aim is to attract users from the pool of 220 million Arabic speakers worldwide, see Jarrah, F (2000), *DIT Online Editor*, Dubai, UAE, 3 May.
- 27 See OECD (2000), "Building Trust in the Online Environment: Business to Consumer Dispute Resolution", Orientation Document for the Joint Conference of the OECD, HCOFIL, ICC, The Hague, 11-12 December, DSTI/ICCP/REG/CP(2000)1, 27 November.
- 28 OECD (1999), "Protection of Privacy on Global Networks", <http://www.oecd.org/dsti/sti/it/secur/index.htm> accessed 27 June 2000; OECD (1981), "OECD Guidelines Governing the Protection of Privacy and Transborder Flows of Personal Data", *Computer Networks*, 5, pp. 127-141; OECD (1998), "Group of Experts on Information Security and Privacy, Privacy Protection in a Global Networked Society, An OECD International Workshop with the support of the Business and Industry Advisory Committee (BIAC), Summary and Rapporteur's Report", DSTI/ICCP/REG(98)5/final, OECD, Paris; OECD (1999), "Inventory of Instruments and Mechanisms Contributing to the Implementation and Enforcement of the OECD Privacy Guidelines on Global Networks", DSTI/ICCP/REG(98)12/final, OECD, Paris.
- 29 See OECD Privacy Policy Statement Generator, <http://cs3-hq.oecd.org/scripts/pwv3/pwhome.html>.
- 30 OECD (1998), "Ministerial Declaration on Consumer Protection in the Context of Electronic Marketplace, Ottawa, 7-9 October", OECD DSTI/CP(98)13/Final; OECD (2000), "OECD Guidelines for Consumer Protection in the Context of Electronic Commerce", at <http://www.oecd.org/dsti/sti/it/ec/index.htm> accessed 28 June 2000.
- 31 In February 2000, distributed denial of service attacks (DDOS Attacks) were aimed at well-known Web sites and in May 2000, the "I love you" e-mail virus seriously affected worldwide e-mail communication. See OECD (2000), "Discussion Paper: The Present and Future State of Security of Information Systems", DSTI/ICCP/REG(2000)6, OECD, Paris.
- 32 OECD (1999), "Joint OECD-Private Sector Workshop on Electronic Authentication, Background paper on Electronic Authentication Technology and Issues", Stanford and Menlo Park, CA, 2-4 June. See also Mansell, R., I. Schenk and W.E. Steinmueller (2000), "Net Compatible: The Economic and Social Dynamics of Electronic commerce", *Communications & Strategies*, Vol. 38(2), pp. 241-276; and Mansell, R. and W.E. Steinmueller (2000), *Mobilizing the Information Society: Strategies for Growth and Opportunity*. Oxford University Press, p. 516..
- 33 Efforts are underway to implement the Model Law on Electronic Commerce adopted by the United Nations Commission on International Trade Law (UNCITRAL) in 1996. Some countries are reviewing requirements specifying that only written (or physical) signatures or seals can satisfy legal requirements for signing a document.
- 34 Singapore is seeking to expand electronic commerce and has established a Certification Authority, Netrust, which is providing services to verify merchant and consumer identities, examine merchant transaction and security procedures, and issue digital certificates. International co-operation is important for building electronic commerce markets and Netrust has signed a cross-certification agreement with the Canadian Government's Certification Authority, see UNDP at <http://www.undp.org/info21/e-com/e1.html> accessed 27 June 2000.
- 35 OECD (1999), "Taxation Principles and Electronic Commerce", <http://www.oecd.org/dsti/sti/it/ec/> accessed 25 June 2000; OECD (2000); "Electronic Commerce – Implementing the Ottawa Taxation Framework", [http://www.oecd.org/subject/e\\_commerce/ecom\\_english.pdf](http://www.oecd.org/subject/e_commerce/ecom_english.pdf) accessed 1 July 2000; OECD (1999) "Taxation Principles and Electronic Commerce", <http://www.oecd.org/dsti/sti/it/ec/> accessed 25 June 2000.
- 36 [http://www.oecd.org/daf/fa/E\\_COM/framewke.pdf](http://www.oecd.org/daf/fa/E_COM/framewke.pdf)
- 37 WIPO (1996), "WIPO Copyright Treaty", Geneva: World Intellectual Property Organisation adopted by the Diplomatic Conference on 20 December; WIPO (1996), "WIPO Performances and Phonograms Treaty", World Intellectual Property Organisation, Geneva, adopted by the Diplomatic Conference on 20 December; WTO

(1999), "An Overview of the Agreement on Trade-related Aspects of Intellectual Property Rights (TRIPS Agreement)", World Trade Organisation, Geneva.

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