

Mai, Stefan

Working Paper

International co-ordination of e-commerce

IWP Discussion Paper, No. 2002/3

Provided in Cooperation with:

Institute for Economic Policy, University of Cologne

Suggested Citation: Mai, Stefan (2002) : International co-ordination of e-commerce, IWP Discussion Paper, No. 2002/3, Universität zu Köln, Institut für Wirtschaftspolitik (iwp), Köln

This Version is available at:

<https://hdl.handle.net/10419/39254>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

**INSTITUT FÜR WIRTSCHAFTSPOLITIK
AN DER UNIVERSITÄT ZU KÖLN**

International co-ordination of e-commerce

by

Stefan Mai

IWP-Discussion Paper No. 2002/3

Juli 2002

International co-ordination of e-commerce*

*by Stefan Mai***

Institute for Economic Policy Research at the University of Cologne
Pohligstraße 1, 50969 Cologne, Germany

Abstract:

Despite the world-wide stock market breakdown of the internet economy in the year 2001, the new information and communication technologies will enable firms to integrate world-wide e-commerce in their business. This will facilitate the entry of firms in every connected country into international markets and perhaps value up their market position. Therefore, the world-wide use of information and communications technology, in particular e-commerce is fostered. To attain this, there are lot of attempts to regulate the e-economy on an international level as there are uncertainties in legal certainty, data protection or the digital divide between industrialised and development countries. The paper addresses this topic and shows which playing fields of co-ordination in e-commerce are relevant in general and how they are recently implemented in international co-ordination activities by various organisations and states e.g., the European Union, the United States or the WTO.

JEL-Classification: F-42

1. Introduction

During the last ten years, the rapid diffusion of the internet and electronic commerce changes the way business and international trade takes place. The introduction of the internet to the public in 1991 marks a turning point in the way people work and live in most industrial countries. The explosive growth of the internet and other digital networks is fuelling a revolution of the way commerce is conducted. Increasingly, consumers and entrepreneurs are making use of networks and information technology to electronically design, produce, market, buy, sell and even deliver products and services throughout the world.¹ In this respect, e-commerce is dramatically changing transactions on the markets for goods and services. Products and services can be ordered online and downloaded immediately and the location of the seller and buyer seems to become irrelevant. The New Economy is going to be a ubiquitous economy.

But the enormous declines in technology stock prices for „dot.com´s“ during the year 2001 make it evident, that the expectations placed some years ago in the development of information and communications technology were in many cases exaggerated (Mai 2000). Unclarified legal aspects such as liability, copyright, lack of verifiability of online transactions and insufficient data protection are frequently cited as causes behind the difficulties in exploiting the potential of e-commerce. This rises growing concern about the regulation of global IT activities in general and e-commerce in particular which will be discussed in this article.²

After a short overview about the economics of the internet and e-commerce in section 2, there will be described various co-ordination playing fields in e-commerce like information requirements, consumer protection, data protection, legal certainty and taxation (section 3). Afterwards regulatory actions and developments, taken by the United States, the European Union, and major international institutions (e.g. WTO, OECD) from 1998 to late 2001 are summarised. This rising tide of regulation is provoking a consideration of which

* This paper is part of a research project entitled „Der Ordnungsrahmen für den elektronischen Handel: Zur Notwendigkeit internationaler Koordinantion“. I gratefully acknowledge financial support by the Volkswagen Foundation in the Program „Global Structures and Governance“.

** I want to thank Andreas Freytag for helpful comments on an earlier version of the paper.

¹ For example: for the year 2005, the association of 67 multinational firms within the Global Business Dialogue on e-commerce expects that on-line business to business will amount to more than US\$ 7 trillion annually (Global Business Dialogue 2000).

² For example, the G8 on its summit in Okinawa has discovered the global information society as a field of activity, expressed in the Okinawa Charter on Global Information Society (Freytag and Mai 2001).

institution to what extent should lay down rules for the market players in e-commerce. Therefore in section 4 different standard setting scenarios are being examined. Conclusions round off the paper and implications for a “Good Governance of E-Commerce” are shown.

2. On the economics of the internet and e-commerce

Information technologies (IT) are key drivers of the internet. First, the revolution of the internet builds on and extends IT to give global reach, interoperability and accessibility to these systems and to the underlying information. Second, the structure and the capabilities of the internet reduce frictions in marketplaces in the dimensions of time and distance. Therefore, new commercial opportunities like e-commerce are possible. E-commerce are commercial activities which are conducted in electronic networks, often on the internet, which lead to the purchase or sale of goods or services. Moreover, it is a medium generating an increasing amount of new services and products.

Despite the world-wide consolidation of the internet economy in the year 2001, the sheer potential of e-commerce is enormous. The spread of global networks enables firms to implement e-commerce as a means of facilitating their entry into international markets. E-Commerce especially using the internet, is expected to enable firms to reduce the costs of setting up and completing transactions, a gain in their economic efficiency (Mansell 2001; Litan and Rivlin, 2001).³ Even the smallest firms are expected to benefit (Xie 2000). Furthermore, other market observers argue that business-to-business e-commerce will strengthen the bargaining power of producer firms in developing countries so that they can reposition themselves within global value chains (Gereffi 2000 and Panagariya 2000).

In general, e-commerce activities are carried out by three main communities: business, consumers and governments. The two relationships considered most are business-to-business (BtB) and business-to-consumer (BtC). In business-to-business the partners communicate across electronic networks known as extranets.⁴ Most extranets support continuous relationships in private networks

³ It has been suggested that e-commerce has already reduced these costs by 5% and companies realised efficiency gains to the extent of 0.75% of GDP (OECD 1999, chapter 2). Despite this projection for further research about the economic impact of the internet on transaction cost savings and productivity increases see Gordon (2000), Jorgensen and Stiroh (2000), Danzon and Furekawa (2001), Clemons and Hitt (2001), Bailey (2001) and Fountain (2001).

⁴ The term extranet may be used to describe networks of business partners regardless of the underlying network technology in use.

using established Electronic Data Interchange (EDI). Another network is the intranet. An intranet is a company's internal use of internet technology to connect the various elements of its business organisation. Usually, the intranet is the interface between the company and its trading partners across the extranet (EITO 1999, p. 169). Business-to-consumer is a form of electronic commerce carried out over the public internet. It allows individual consumers to purchase, pay for and, depending on the possible form of distribution, receive goods and services over electronic networks (EITO 1999, p. 170). At present, approximately 80% of the e-commerce transactions are carried out by business-to-business with a high, but uncertain, potential of growth (Mai 2000, Fraumeni 2001).

Certain aspects of the internet related phenomena are characterised by what is defined as "network effects". It is argued that competition in IT industries is heavily influenced by positive network externalities – the notion that the value of a product or service increases as more users adopt the product (Katz and Shapiro 1985 and Shapiro and Varian 1999). Consumers value many products and services not only based on their features, but also based on the number of a product's users, or the size of the network. Economists refer to these types of products as network goods, and the positive relationship between the perceived value of a product and its network size is attributed to positive consumption network externalities (Farrell and Saloner 1985, Katz and Shapiro, 1985). These effects can be found in various networks. It was be shown for granted that positive network externalities exert influence on a number of IT applications including spreadsheet software markets (Gandal 1994, Brynjolfsson and Kemerer 1996, Gröhn 1999), shared electronic banking networks (Katz and Shapiro 1985) and carrier reservation systems (Chismar and Meier 1992). Recent research suggests that in addition information systems and e-commerce applications exhibit the characteristics of network goods and hence should be subject to network externalities (Downes and Mui 1998, Shapiro and Varian 1999). However, the opinions in the literature on how the economic effects of network externalities are judged differ considerably.

Models presented by Farrell and Saloner (1986), for example, conclude that network goods have a greater tendency towards a monopoly and the strength of the network externalities created since a by-product of an existing installed base may lead to a bandwagon effect, resulting in choices of inferior technologies.⁵

⁵ For the virtual case, see Chou and Shy (1990) and Church and Gandal (1992). The latter shows that suboptimal standardization is most likely to occur when consumers place a relatively high value on software variety.

These are also called lock-in-effects which normally are identified as a necessity for the government to intervene (e.g. Arthur 1996 and Cowan 1991). In addition, the ability to harness network externalities is vital for start-ups seeking to pioneer new markets and for established firms seeking to transfer dominance from one market to the next. As such, network externalities represent a key force in business transformation as it relates to the establishment of market leadership. Network externalities, thus, have strategic implications for technology adoption, predatory pricing, and product pre-announcements (Freytag and Mai 2001). Katz and Shapiro (1986) suggest that the net benefit derived from a network product or service depends in part on the number of consumers who adopt compatible products in the future. Thus, consumers' expectations may determine the outcome of competition in the network market.

On the other hand, there are positive associations between consumer value and the number of participants in e-commerce. This is due primarily to the impact of three critical factors – exchange, stranding concerns, and extrinsic benefits (Gallaughher and Wang 1999). In terms of exchange, users are attracted to a technology that is compatible with a greater network of equal users, as they have more options of value-enhancing exchange (e.g. of information, money, programs). Secondly, users of IT are highly concerned about being stranded in an unsupported standard (Fichman and Kemerer 1993). Hence, users favour products that they believe will continue to dominate in the future. Also, the dominant product is likely to attract extrinsic benefits (Shurmer 1993). These may include add-on products, books and manuals, and skilled workers. The implied significance of stranding concerns and extrinsic benefits are particularly important for e-commerce firms, as these factors suggest that network externalities can be generated even in environments that support open standards – e.g. the internet.⁶

However, despite broad theoretical research,⁷ there has been a small but growing literature investigating the existence and extent of this phenomenon in IT and e-commerce contexts. As such, the extent and impact of network externalities on inter-firm IT competition remains largely unknown (Liebowtiz and Margolis, 1994). Empirical research on network externalities has focused on the context of

⁶ The emergence of network externalities in the contemporary managerial zeitgeist is suggested by the inclusion of the term in Wired's Encyclopedia of the New Economy (Wired Staff, 1998), and broader referral to the concept as "Metcalf's Law" in business bestsellers (Downes and Mui, 1998) and the trade press (see Gallaughher and Wang 1999).

⁷ To name a few: Oren and Smith (1981); Farrell and Saloner (1985, 1986); Katz and Shapiro (1985, 1986); Economides (1996).

the market for spreadsheet software.⁸ Gandal (1994) used hedonic pricing models (attribute variables regressed against price) to demonstrate that compatibility with a dominant standard yielded measurable value among spreadsheet products. In a later study (Gandal 1995), this work was extended to examine standard compatibility across product categories – in this case database management systems and spreadsheets. The higher price premium placed on standards was taken as evidence of network externalities, since products complying with the standard could access a broader network (Gallaughner and Wang, 1999).

But despite the low empirical evidence, the theoretical issues of network effects have important implications for the co-ordination of e-commerce. In general the elements of network effects create the following forces:

- push toward a homogeneous approach in hardware and software systems to develop electronic commerce
- lower economic frictions to greater flexibility in what is offered over the internet or how production could take place (e.g. telework).
- lower the costs for market entry
- push competition

All these effects are complementary. To realise them, some co-ordination activities are needed. By doing so, we should have in mind that yet very little has been said about how the internet and electronic commerce affect government and policymakers. The problem to be considered most in this area is that policymaking must take place in a rapidly changing global environment. Policymakers play a key role in establishing the general parameters in which business, consumers and governments interact on electronic markets to reduce uncertainty by co-ordination and fostering the network forces. The main playing fields of co-ordination in e-commerce are discussed below.

⁸ See (Gandal 1994, 1995; Brynjolfsson and Kemerer 1996; Gröhn 1999; Gandal, Greenstein and Salant 1999).

3. Co-ordination requirements and recent international activities

An interdependent transborder network of business activities requires some standards and co-ordination in order to ensure clear, predictable and non-discriminatory rules for the market players to push e-commerce development.

Table 1: Co-ordination requirements in general

<i>Co-ordination requirements</i>	<i>Main task</i>
<ul style="list-style-type: none"> • <i>information requirements</i> 	To strengthen the trust in electronic commerce in general, information requirements have to be implemented on the providers side. This will create more transparency for the market players. It must be ensured that providers, for example, make their name, address (including e-mail address) and, if relevant, any commercial register number easily, directly and permanently accessible. Furthermore it must be clear on whose behalf commercial communication is made. The information must therefore be presented clearly and unambiguously and be retrievable at all times without demanding a lot of searching. This also applies to promotional offers, such as discounts. This information requirements for service providers should implemented primarily to strengthen the consumer protection.
<ul style="list-style-type: none"> • <i>consumer protection</i> 	As for consumer protection, providers must comprehensibly and unambiguously inform the users of the different technical steps to follow to conclude a contract, whether or not the concluded contract will be stored by the service provider and whether it will be accessible.
<ul style="list-style-type: none"> • <i>data protection</i> 	Another important co-ordination playing field is data protection. It is often argued that a lack of faith in electronic commerce on account of insufficient data security and confidentiality is a decisive obstacle to the growth of e-commerce. For example some consumer interest groups object that data is collected beyond the necessary amount of data for electronic commerce. If users are not made aware of hidden procedures to collect data, and data is often transferred unencrypted and can therefore be viewed by unauthorised parties a problem of data protection is on rise.
<ul style="list-style-type: none"> • <i>Legal certainty</i> 	In general, the responses to challenges to traditional territorially based political and legal systems posed by inherently border less communications and Internet technologies are still in the early stages. Efforts to develop an international governance structure that supports growth of global electronic commerce involves creating a new global structure or regime that emerges fully supports sustaining dynamic growth of e-commerce and Internet trade. Legal certainty for providers is as much as necessary as effective protection for consumers to achieve this goal.

Source: Deutsche Bank Research (2001), own additions.

The table above shows some co-ordination requirements for a regulatory framework that may help to foster the future development of e-commerce and the network forces. In the last few years various international organisations have tried to establish a feasible common ground for co-ordination based on the topics mentioned and possible joint implementation for all countries in the world.

Recent international activities will be described in the following part. First we will have a look at the European Union, the United States, and then addresses developments at the World Trade Organisation (WTO), the World Intellectual Property Organisation (WIPO), the International Telecommunications Union (ITU), the Organisation for Economic Co-operation and Development (OECD), and the U.N. Commission for Trade and Development (UNCTAD).⁹

- **European Union**

The European Union has addressed e-commerce in a series of major reports over the last few years. For example, the EU issued the Bangemann Report of 1994 and the Bangemann Charter in 1998. Each report discussed the global information society and the needs to strengthen international co-ordination. In 1997, the EU issued a report, entitled “European Initiative in E-Commerce,” which discussed some very basic and general topics including the e-commerce revolution, access to e-commerce (the telecommunications liberalisation), and creating favourable regulatory and business environments. Furthermore the European legislators have taken the need to create a standardised legal framework for e-commerce by issuing various legal directives: the Distance Selling Directive (1997), the Signature Directive (2000) and the Directive on Electronic Commerce (2000).

The Distance Selling Directive (1997)

Distance selling includes contracts concerning the supply of goods or the performance of services which are conducted between business and consumers through the exclusive use of means of distance communication. This signifies not only the conclusion of contracts via the internet but also via phone, fax, teleshopping and conventional mail-order trade.¹⁰ Furthermore the Distance Selling Directive concentrates on the harmonisation of consumer protection.¹¹

⁹ This part based on internet research.

¹⁰ Immovable property transactions, supply of foodstuffs, transactions involving household items intended for everyday consumption and contracts concerning financial services are not encompassed by the regulations.

¹¹ German legislators implemented the directive into German law through the passage of the Distance Selling Act in the summer of the year 2000.

The Signature Directive (2000)

Electronic declarations lack a hand-written signature but they are necessary so that the content of the declaration of intent can be attributed to a particular person. Therefore the question arises how can the recipient of an electronic declaration of content identify its originator beyond doubt? The question also arises as to how to prevent electronic declarations from becoming modified on their trip through the internet in an imperceptible fashion to the recipient. The Signature Directive is addressed to these questions. Since the mid-2001 the following aspects should be implemented into national law: minimum standards of electronic signatures, the legal equivalence of electronic signatures and hand-written signatures.¹²

The Directive on Electronic Commerce (2000)

The Directive on Electronic Commerce constitutes the legal framework for offers of electronic commercial services within the EU in order to create equal conditions for online transactions in all member states. Therefore the directive is to warrant legal certainty for providers and effective protection for consumers. Furthermore the directive intends to warrant the free movement of information society services within the member states. Therefore the member states are required to agree in accordance with their respective legal systems to enable the conclusion of electronic contracts and in principle not to subject providers to any prior authorisation.¹³

- **United States**

In January 2001, the national administration released the third annual report on e-commerce entitled “*Leadership for the New Millennium, Delivering on Digital Progress and Prosperity.*” While earlier reports focused on general issues involving e-commerce and trade, this report explored the domestic and digital divide. Furthermore the report shows that the information technology sector was responsible for almost one-third of recent U.S. economic growth, the IT sector was responsible for increasing U.S. productivity and their global competitiveness.

¹² German legislators implemented this directive by the way of a new Signature Act in 2001 replacing the old Signature Act of 1997.

¹³ Provisions regulation the origination of contracts by electronic means are not contained.

The second annual report, *Towards Digital Equality* (1999), enumerated major policy challenges confronting the administration. These challenges included: establishing meaningful consumer protection, promoting broadband deployment, engaging developing countries in e-commerce, and recognising that small and medium-sized enterprises are crucial to our continued economic success. Furthermore the United States issued a series of important annual reports concerning United States and global trade. The annual report on telecommunications is of particular importance, since telecommunications provides infrastructure for e-commerce transactions.

In attempting, in part, to formulate a governing structure for the Internet, the United States created a non-governmental structure. The U.S. government created the *Internet Corporation for Assigned Names and Numbers (ICANN)*, a non-profit, private sector corporation. ICANN has a diverse international representation involving government, private sector, and consumer interests. ICANN was established to assume responsibility for IP (Internet Protocol) space allocation and domain name system management, among other responsibilities. Recently, it authorized new top-level domain names (.biz and .info). ICANN is dedicated to preserving operational stability of the Internet by providing a formal structure for the inclusion of domestic and global interests as the technical coordinating body for the Internet. While conflict has surrounded the substantive decisions made and its organisational structure, ICANN's privatized approach is unique and somewhat successful, especially its adoption of rules concerning arbitration of domain name disputes ("The Uniform Dispute Resolution Policy"). ICANN's creation provides a hint of what direction the future governance of the Internet and e-commerce may take, one involving more private and government co-ordination.

Furthermore two annual reports of the U.S. Trade Law & Policy.(USTR) on global trade and the United States are of great usefulness: *2001 National Trade Estimate Report on Foreign Trade Barriers* (USTR, 2001) and *2001 Trade Policy Agenda & 2000 Annual Report of the President of the United States on the Trade Agreements Program* (USTR, 2001). In addition, the joint publication on trade law, *Overview & Compilation of U.S. Trade Statutes* (GPO 1997), by the House Ways and Means Committee and the Senate Finance Committee is invaluable. It provides an outstanding compilation of U.S. laws relating to U.S. trade. The challenge confronting the global trading system is to develop an international structure that supports growth of global electronic commerce for all.

The United States, in continuing its diplomatic effort, concluded a number of bilateral or joint statements with individual countries concerning global e-commerce. This new and innovative approach attempts to further establish a common agreement with trading partners on basic U.S. policy positions and principles concerning the evolving global governance and development of the Internet.¹⁴ As provided in the *U.S.- U.K. Joint Statement*, the provisions typically proclaim general principles that are the cornerstone of U.S. policy on global e-commerce which can be described as follows:

- The private sector should lead in the development of e-commerce and in establishing business practices.
- Governments should ensure that business enjoys a clear, consistent and predictable legal environment to enable it to prosper, while avoiding unnecessary regulations or restrictions on e-commerce.
- Governments should encourage the private sector to meet public interest goals through codes of conduct, model contracts, guidelines, and enforcement mechanisms developed by the private sector.
- Government actions, when needed, should be transparent, minimal, non-discriminatory, and predictable to the private sector.
- Co-operation among all countries, from all regions of the world and all levels of development, will assist in the construction of a seamless environment for e-commerce.¹⁵

The *U.S.-EU Joint Statement on Data Privacy* was issued in May 2000. This agreement continues the often-bitter dialogue concerning the safe harbour privacy arrangement. That agreement relates to U.S. firms complying with requirements of the European Directive on Data Protection for transfers of data from the EU to a third country (for example, the United States). While the safe harbour arrangement is to become effective this summer, only a few large American firms have agreed to its terms. This remains an important issue in U.S.-EU relations.

¹⁴ Agreements have been concluded with Chile (2000), Columbia (2000), the Philippines (2000), the European Union (2000, 1997), the United Kingdom (1999), Egypt (1999), Australia (1998), France (1998), Ireland (1998), Japan (1998) and the Netherlands (1997).

¹⁵ As in the *U.S.- U.K. Joint Statement*, they often identify specific issues including: tariffs, taxes, electronic authentication/electronic signatures, privacy, open access, information security, electronic payments, intellectual property rights, and consumer protection.

One of the most important bilateral statements on global e-commerce concluded by the United States is one with the European Union, Building Consumer Confidence in E-Commerce and the Role of Alternative Dispute Resolution (December 2000). Building on the U.S.- EU Joint Statement on Electronic Commerce, issued in December 1997, the U.S. and the EU focused concern more on the issue of the consumer. Specifically, it addressed developing self-regulatory codes of conduct and alternative means of dispute resolution to increase consumer confidence in e-commerce. This agreement relied on the work of the Organisation for Economic Co-operation and Development (OECD) and its consumer guide-lines issued in December 1999.

Several pieces of EU legislation relating to jurisdiction have raised concerns with the United States over Internet litigation. Most recently, EC Regulation (No. 44/2001), dated Dec. 22, 2000, which governs jurisdiction and enforcement of judgements, raises significant concerns. While not an international action between the United States and the EU, this and other directives have a direct impact on the way the Internet develops and on U.S. firms. For the United States, these actions indicate a somewhat less co-operative effort that has the potential of raising barriers to greater electronic trade. However, the EU Commission appears most recently to be rethinking its position concerning Rome II (the EU's proposal relating to consumer protection and Internet commerce.) Specifically, the Commission is rethinking the issue of cross-border jurisdiction in litigation involving Internet transactions. The Commission appears to be moving away from the principle of destination (the consumer) to the principle of country-of-origin (the supplier or the server). There is a suggestion that e-commerce should have an arrangement separate from other international sales transactions. This approach would bring Rome II more in line with other existing European law. (Cross-border jurisdiction is also subject to protracted talks within the Hague Conference on International Law.)

- **WTO**

The initial effort by the WTO to understand the benefits and challenges concerning the use of the Internet for commercial purposes appeared in its 1998 special study, *Electronic Commerce and the World Trade Organisation*. Various policy issues were identified including: the legal and regulatory framework for Internet transactions, security and privacy, taxation, access to the Internet, intellectual property questions, and regulation of content. Furthermore on the level of the World Trade Organisation (WTO) an *Electronic Commerce Task Force* has examined different fields for increased co-operation like common product and service categories, consistent rules of origin or increased

transparency and improved copyright as well as brand name protection (WTO 2001). Furthermore, in the context of the increasing importance of e-commerce the WTO has repeatedly pointed out the necessity to advance further the opening of markets, to equalise and reduce the level customs burdens between countries and categories, and to extend the most favoured nation principle for services (WTO 1998). The Declaration of Global E-Commerce, issued in 1998, is the most important item to come from the WTO. This ministerial declaration proclaimed a need for the establishment of a work program and a moratorium on new Internet restrictions. Subsequently, in 1998, a work program was established. The Council on Services was requested to examine the treatment of e-commerce under the GATS, especially as to modes of supply. The Council on Goods was to examine e-commerce relating to GATT 1994, focusing on market access and valuation. The Council on Intellectual Property was to examine the intellectual property issues relating to e-commerce.

By now the main issues confronting the WTO in general are defining the types of e-commerce and Internet transactions that fall within its different trade agreements; choosing which agreements are applicable and determining what modifications or changes must be implemented. The key question facing the WTO is should a specific trade agreement related to e-commerce be completed or should the existing ones be made to work?¹⁶

- **WIPO**

In the year 2000, the World Intellectual Property Organisation (WIPO) published a report *Primer on Electronic Commerce and Intellectual Property* (2000). This report assessed the important issue issues of e-commerce and intellectual property rights (copy-right, trademark and patents); further, it described the challenges facing developing countries. In 1999, in another early effort, Dr. Kamil Idris, the director-general of WIPO, suggested the adoption of the *WIPO Digital Agenda*, which was subsequently approved by the U.N. General Assembly. The main points were the following:

¹⁶ For more detailed information about this topic see Hauser and Wunsch-Vincent (2001a, 2001b).

- The importance of broadening the participation of developing countries in e-commerce.
- The need to adjust the international legislative framework to foster e-commerce. In particular, adapting broadcasters' rights to the digital era and fostering international protection of databases.
- The implementation and further development of rules concerning domain names (*The Report on Domain Name Process*) and
- the resolution of conflicts between these names and intellectual property rights.
- The development of international rules concerning Online Service Providers (OSP).
- The adjustment of the international framework for serving the public interest in the global economy.

In 1999, WIPO finalised its first report on issues relating to Internet domain names and intellectual property rights (namely trade-marks) and dispute resolution. The report was made available to the *Internet Corporation of Assigned Names and Numbers* (ICANN). A system was established and WIPO now assists in arbitrating domain name disputes under rules adopted by ICANN, based upon the recommendations made by WIPO in its report. *The WIPO Arbitration and Mediation Center* is a hugely successful system that assists in the resolution of domain name disputes.¹⁷

- **OECD**

In December 2000, the OECD released *Guidelines for Consumer Protection in the Context of E-Commerce*, which sets out the core characteristics of effective consumer protection for online business-to-business transactions. In 1998, the OECD held a conference in Ottawa called, *A Borderless World – the Potential for Global E-Commerce*, which set the tone of its subsequent activities. The OECD agreed to move forward on studying the taxation of electronic commerce and is expected to publish a progress report in 2001. The earlier report, *The Economic and Social Impacts of Electronic Commerce* released in 1998, began the OECD's

¹⁷ However, a number of issues were not discussed or addressed in the 1999 report, such as trade names and geographical indications. A new series of consultations are being held and a second report is expected by early 2002. The centre is currently working to develop a set of guidelines specifically tailored to meet the needs of the application service (ASP) industry. It is also conducting an assessment of "keyword" disputes.

efforts on e-commerce. It was prepared as background for the Ottawa Conference. More recent conferences have been held in 1999 on e-commerce and in 2001 on emerging markets and e-commerce.

The OECD conducts a huge amount of research on numerous topics relating to e-commerce, information society and telecommunications. The OECD's aim, in part, is to produce agreements that can be accepted by trading countries.

- **ITU**

The International Telecommunications Union ITU is the organisation that co-ordinates global telecom networks and services. It is composed of governments and private sector members. In 1998 the ITU launched the *Electronic Commerce Developing Country Project* (EC-DC) to assist developing countries in establishing the necessary infrastructure and pooling of resources to foster e-business transactions. In co-operation with the World Trade Centre network's global infrastructure, this EC-DC effort is aimed at bridging the international digital divide and helping less developed countries to significantly enhance their communications and economic development. The ITU is active in the development of standards for electronic commerce and wireless communications. Recently, the ITU decided to proceed with the preparation of a "World Summit on Information Society" (WSIS), to be held in 2003. The activities of the ITU are essential in providing the infrastructure for global e-commerce.

- **UNCTAD**

The U.N. commission for trade and development (UNCTAD) adopted an important resolution in January 2001 concerning the least developed countries (LDCs) and e-commerce. It recognises that the LDC's have constraints keeping them from participating in e-commerce. It suggests several international policies to address this situation. The UNCTAD effort to address the international digital divide with a focus on the least developed countries is belated. Last year, UNCTAD published an important study entitled, *Electronic Commerce and Development* (2000). This report puts forward an important message that economic development must come through the participation of private sector interests in the LDC's, but the LDC's need to attract them by taking appropriate public policy actions.

- **G7 / G8**

The G8 has discovered the global information society as a field of activity on its summit in Okinawa in the year 2000, expressed in the Okinawa Charter on Global Information Society¹⁸ (hereafter Okinawa Charter). In line with its focus in the late 1990s, it has addressed this field from a development perspective. Throughout the Okinawa Charter, it is argued that developing countries are unable to benefit from the prospects of IT without international assistance. It is implied that information technologies (IT) also have the potential to empower developing countries as they lower the entry costs for their citizens, who can then begin to realise the various and multiple positive impacts on their productivity. Thus, it can be expected that e-commerce will gradually contribute to a change in the economic life in developing countries (Mansell 2001, pp. 283). Among others, one final objective is ‘encouraging participation in global e-commerce networks’ (Okinawa Charter, paragraph 18). For this purpose, a Digital Opportunity Taskforce called “dot force” has been installed to make recommendations on how to proceed. In the meantime, the dot force has come up with some recommendations how to bridge the digital divide. In May 2001, the “dot force” published its first report.¹⁹ The “dot force” called its report called “Digital Opportunities for All: Meeting the Challenge”. Interestingly, the “dot force” is less optimistic about international policy co-ordination than the Okinawa Charter: “The main responsibility for relevant actions remains in the hands of developing country governments, enterprises and non-governmental organisations, working in tandem. However, the “dot force” can also play a critical and significant role by suggesting, initiating and/or supporting these actions“ (ibid, p. 5). The report also contains a Genoa Plan of Action. This plan is also rather general and does not specify concrete actions and recommendations for international policy co-ordination. On their 2001 Summit in Genoa, the G8 governments endorsed this plan (Freitag and Mai 2001).

¹⁸ For the text of the Okinawa Charter see the Website of the University of Toronto G8 Information Centre, in particular: <http://www.library.utoronto.ca/-g7/summit/-2000okinawa/gis.htm>.

¹⁹ See again the Toronto G8 Information Centre: <http://www.g7.utoronto.ca/g7/summit/2001genoa/dotforce1.html>.

To summarise actually we have lots of co-ordination fields identified by lots of organisations. Despite there are countless other interest groups concerned with specific e-commerce aspects e.g. The Transatlantic Consumers Dialogue or Privacy International. But the question we should ask here is are the current ad hoc multilateral efforts to deal with e-commerce issues adequate to push the development of e-commerce and the network forces?

4. Co-ordination and standard setting

The most important issue in this context is standards compliance. It is difficult to measure the network benefit, as standards can also enhance brand perception and act as a measure of intrinsic product quality. Brynjolfsson and Kemerer (1996) extended the hedonic test for network externalities, using market share as a proxy for the extent of the installed base of the network. This work further supported the network externalities hypothesis by showing that firms with a larger market share (or network) exhibited standards and quality adjusted price premiums over competitors with smaller market shares (Gallaughier and Wang, 1999). Again, the net welfare effect of network externalities is not easy to figure out. It may depend on the way standards are developed. There are several possibilities for co-ordination in electronic commerce markets to achieve the necessary standardisation.

One could leave it to the market. However, competition may be restricted as a firm – monopolising the entire market – would set „de facto“ standards by internalising the process of interoperability.²⁰ It cannot be excluded, but is not necessarily the case, that such standard is inferior.

Another option is the private standard setting scenario. The potential efficiencies of networks may inextricably be linked to collaborative behaviour by competitors to set the standards by which the network can operate. In many high-tech industries, collaboration is necessary to share the risks of innovation and to combine technologies and products that may be complementary. From a purely technical perspective, without agreement on technical interface standards, such networks cannot be made compatible. For instance, there would be no electronic commerce without routers and switches compatible with internet service

²⁰ The dominance of the Microsoft operating system over several product generations owes much to the network effects inherent in the software market. Once the Microsoft system gained dominance over the Apple and other operating systems, the market tipped in its favour. A large percentage of consumers became locked-in to the Microsoft standard. They did not want to pay the switching costs in order to change systems.

providers and their search engines on one end, and the consumers' personal computers on the other (Balto 1999). A difficulty with private standard setting is the traditional principal-agent-problem. The risk of potential competition must be weighed against the potential to enhance efficiency and innovation by agreeing on standards that may make new products, or – even more important – new industries possible. The competitive risks of private standardisation setting in e-commerce occurs where it is not open to all firms in the industry.

Finally the government could set the standards and require all participants in the electronic market to produce products compatible with the standard. The danger of this modus is easy to see. Due to the government's lack of knowledge, in particular about the exact level of R&D and the speed of technology standard-setting. Thus, there is a danger that an inferior standard could be set. This is even more relevant given that governments act in the political arena and are subject to political pressure by interest groups.

To decide which way of standard setting is the best a political point of view should be having in mind. Kilian (1998) proposed a working model for structuring the legal problems of the Internet and makes a distinction between three models: the model of juridification, the model of self-regulation and a model protecting the interests of the user. He comes to the conclusions that a mixed system out of self-regulation and regulation by statutes will work best. Sometimes the nation state should be responsible for regulating the problems of the market driven economy, and sometimes it would be sufficient if private interests regulate their conflicts on their own (Kilian 1998). There is no doubt that this distinction is just adequate as a starting point. It excludes extreme positions and therefore could solve most of the conflicts. However it fails if no traditional nation state can state the rules and statutes (Lutterbeck, 1999). In this respect it is important to have in mind that the market driven economy could be best governed by the free market and the actors of the market. The best example for the minor role of the states is the development of the Internet itself. It has grown without any specific influence of the states on the technical structure of the net. Therefore to leave the decisions to the private actors in the field seems to be the best way of problem solving.

A first problem arises because the traditional nation state can not handle cross-border problems in a sufficient manner. The application of the traditional criteria of common and civil law is running dry because of the ubiquity of data Kilian (1998). Also it seems too much for the regional legislator, like the European Union: In its proposal for e-commerce the Union passes back the problem to the

market actors and gives order to install private codes of conduct, wherever possible. International regulators like the World Trade Organisation act with restraint. So everybody is good advised to put not too much hope into international treaties – at least for the near future (Lutterbeck, 1999).

A second problem arises because private interests tend to abuse power whenever they have the interest. The best example for abuse of power in the last time was the intend of some private groups to dominate the domain name system. Thus it is difficult to find the true standards (see above).

5. Summary and conclusions

Actors in the electronic markets - producers, buyers and sellers - must be familiar with e-commerce and its rigours (e.g. secure and reliable payment systems, encryption practices, privacy requirements, legal issues, taxation), possess the necessary skills and capacities to engage in this type of transactions and to constantly adapt their strategies and business practices. Only then will they be able to succeed, create income and wealth as well as employment, subsistence and a skills base for the emerging knowledge-based economy.

To attain this, there are lot of attempts to regulate the e-economy on an international level as there are uncertainties in legal certainty, data security or the digital divide between industrialised and development countries. But recent international attempts by different organisations to regulate electronic markets have impressively made clear that there is still a lack of knowledge about how to control them and the consequences of this in a global way. Despite the European Directives there are more intentions than concretely generalities. In particular, questions of why regulation in electronic markets emerges, how it is enforced and how it can be supervised, once it becomes global, are not yet adequately answered. Future research in both economics and economic policy should focus on all aspects of this topic. By doing so, everybody should have in mind, that if e-commerce in internationally tightly linked electronic markets is limited to one region and, consequently, the rise in productivity and real income is restricted to the latter, there is need for international co-ordination due to positive spillovers (Freytag and Mai 2001). Then the question arises, how and where economic policy should intervene to promote e-commerce on a global level.

The answer to this is not a simple one. There is confusion about the responsibility for electronic markets. Should the national governments be made liable and do they have to solve their problems without assistance or should international

organisations as e.g. the WTO or the OECD react to boost the positive effects of e-commerce everywhere in the world. Some politicians have the opinion that national economic policy does not have enough influence because of the global character of electronic markets. This is not right. Analyses have shown, that globalisation does not weaken national policy. I suppose that globalisation and globalised electronic markets require a policy mix conform with stability helping to promote the development of e-commerce on a national and an international level. Therefore, a so-called „Good Governance“ is essential for investors, consumers and business people in the e-economy.

Modern political science distinguishes between three types of government: Governance by government, Governance with government and Governance without government. *Governance by Government* reflects the traditional way to govern: The traditional nation state, that is a hierarchical higher body, governs with the help of statutes. This type has formative influence on the juridical and political thinking of our times. *Governance with Government* also assumes the nation state as a hierarchical actor. But unlike the former type in this kind of governance the government acts with co-ordination and consensus with the social actors, not with decrees. Statutes of the old type function as a threat or a intimidation in the background. *Governance without Government* at least on an international level one can observe governance beyond the nation state. This type of governance leads to results even without ordinary statutes (Lutterbeck, 1999).

This kind of typology allows a significant shift: Away from the dichotomy of regulation versus self-regulation towards the distinction of governmental types. But it must be clear that the main type of governing should be governance without government. Every country has to attempt to autonomously protect itself from failure in its economic policy as well as pay attention to the fact that the optimal e-commerce strategies stay consistent over time on an international level. This is precisely the requirement needed for the axiom of „Good Governance in e-commerce“. Therefore the following aspects have to be taken into account by regulation activities in e-commerce in general: transparency, surveillance, definite areas of accountability.

References

- Arthur, W.B. (1996): Increasing Returns and the New World of Business, Harvard Business Review, Vol. 74, pp. 100-109.
- Balto, D.A. (1999): Emerging Antitrust Issues in Electronic Commerce, Antitrust Institute 1999, Antitrust Counseling in the New Millenium, Columbus, Ohio.

- Bailey, J. (2001): *The Retail Sector and the Internet Economy, The Economic Payoff from the Internet*, Brookings Task Force on the Internet, Washington DC.
- Brynjolfsson, E., and C. Kemerer (1996): *Network Externalities in Microcomputer Software: An Econometric Analysis of the Spreadsheet Market*, *Management Science*, Vol. 42, pp. 1627-1647.
- Chismar, W.G. and J. Meier (1992): *A Model of Competing Interorganizational Systems and its Application to Airline Reservation Systems, Decision Support Systems*, Vol. 8, pp. 447-458.
- Chou, C. and O. Shy (1990): *Network Effects without Network Externalities*, *International Journal of Industrial Organization*, Vol. 8, pp. 259-270.
- Church, J. and N.S. Gandal (1992): *Network Effects, Software Provision and Standardization*, *Journal of Industrial Economics*, Vol. XL, pp. 85-104.
- Clemons, E. and L. Hitt (2001): *The Internet and the Future of Financial Services: Transparency, Differential Pricing, and Disintermediation, The Economic Payoff from the Internet*, Brookings Task Force on the Internet, Washington DC.
- Cowan, R.A. (1991): *Tortoises and Hares: Choice among Technologies of Unknown Merit*, *Economic Journal*, Vol. 101, pp. 801-814.
- Deutsche Bank Research (2001): *Legal framework conditions for e-commerce: much ado about nothing?*, *Internet Revolution and New Economy*, No. 14, Frankfurt am Main.
- Downes, L., and C. Mui (1998): *Unleashing the Killer App : Digital Strategies for Market Dominance*, Boston, MA: Harvard Business School Press.
- Economides, N. (1996): *The Economics of Networks*, *International Journal of Industrial Organization*, Vol. 14, pp. 673-693.
- EITO (1999): *European Information Technology Observatory (Yearbook 1999)*.
- Farrell, J., and G. Saloner (1986): *Installed Base and Compatibility: Innovation, Product Preannouncements, and Predation*, *American Economic Review*, Vol. 76, pp. 940-955.
- Farrell, J., and G. Saloner (1985): *Standardization, Compatibility, and Innovation*, *Rand Journal of Economics*, Vol. 16, pp. 442-445.
- Fichman, R., and C. Kemerer (1993): *Adoption of Software Engineering Process Innovations: The Case of Object Orientation*, *Sloan Management Review*, Vol. 34, pp. 7-22.
- Fountain, J. (2001): *The Economic Impact of the Internet on the Government Sector, The Economic Payoff from the Internet*, Brookings Task Force on the Internet, Washington DC.
- Fraumeni, B. (2001): *E-Commerce: Measurement and Measurement Issues*, *The American Economic Review*, Vol. 91, No. 2, pp. 318-322.

- Freytag, A., and Stefan Mai (2001): The Political Economy of International Policy Co-ordination in E-Commerce - the G8's Activities to Bridge the Digital Divide under Scrutiny, Institut für Wirtschaftspolitik.
- Gallaugher, J.M., and Y.M. Wang (1999): Network Effects and the Impact of Free Goods: An Analysis of the Web Server Market, *International Journal of Electronic Commerce*, Vol. 3, pp. 67-88.
- Gandal, N.S.(1994): Hedonic Price Indexes for Spreadsheets and an Empirical Test of the Network Externalities Hypothesis, *RAND Journal of Economics*, Vol. 25, pp. 160-170.
- Gandal, N.S. (1995): Competing Compatibility Standards and Network Externalities in the PC Software Market, *Review of Economics and Statistics*, Vol. 77 (4), pp. 599-608.
- Gandal, N.S., S. Greenstein and D. Salant (1999): Adoptions and Orphans in the Early Microcomputer Market, *Journal of Industrial Economics*, Vol. XLVII, pp. 97-106.
- Gereffi, G. (2000): Beyond the Producer-driven/Buyer-driven Dichotomie: An Expanding Typology of Global Value Cains, with Special Reference to the Internet, University of Sussex, Internet:
<http://www.ids.ac.uk/ids/global/bella.html>
- Global Business Dialogue (2000): Internet: <http://www.gbd.org>
- Gordon, R.J. (2000): Does the „New Economy“ measure Up to the Great Inventions of the Past?, *Journal of Economic Perspectives*, Vol. 14, No. 4, pp.49-74.
- Gröhn, A. (1999): Netzwerkeffekte und Wettbewerbspolitik – Eine ökonomische Analyse des Softwaremarktes, Kieler Diskussionspapier 296, Kiel: Institut für Weltwirtschaft.
- Hauser, H. and S. Wunsch-Vincent (2001a): A Call for a WTO-Ecommerce Initiative, *International Journal of Communications Law and Policy*, No. 6, Winter 2000/2001, pp. 1-35.
- Hauser, H. and S. Wunsch-Vincent (2001b): Eine WTO E-Commerce Initiative?, Donges J.B. and S. Mai (eds.): *E-Commerce und Wirtschaftspolitik*, Schriften zur Wirtschaftspolitik, Band 8, Stuttgart, pp. 93-148.
- Jorgensen D.W. and Stiroh, K.J. (2000): Raising the Speed Limit: U.S. Economic Growth in the Information Age, *Brookings papers on Economic Activity*, 2000 (1), pp.125-211.
- Katz, M., and C. Shapiro (1986): Technology Adoption in the Presence of Network Externalities', *Journal of Political Economy*, Vol. 94, pp. 822-841.
- Katz, M., and C. Shapiro (1985): Network Externalities, Competition and Compatibility, *American Economic Review*, Vol. 75, pp. 424-440.

- Kilian, W. (1998): Verkehrsregeln für Datenautobahnen? Zur Verrechtlichung des Internet, Salje P. (ed.): Festschrift für Helmut Pieper: Recht-Rechtstatsachen–Technik, Hamburg.
- Liebowitz, S.J., and S.E. Margolis (1994): Network Externality: An Uncommon Tragedy, *Journal of Economic Perspectives*, Vol. 8, pp. 133-150.
- Mai, S. (2000): Prognosen zum E-Commerce - Ungewissheiten über das zukünftige Potential des elektronischen Handels, *Zeitschrift für Wirtschaftspolitik*, 49. Jg., pp. 267-284.
- Mai, S. and M. Oelmann (2001): Elektronischer Handel im Lichte der Bestreitbarkeit von Märkten, in: Donges, J.B. and S. Mai (eds.): *E-Commerce und Wirtschaftspolitik*, Schriften zur Wirtschaftspolitik, Band 8, Stuttgart, S. 49-92.
- Mansell, R. (2001): Digital Opportunities and the Missing Link for Developing Countries, *Oxford Review of Economic Policy*, Vol. 17, No. 2, pp. 282-295.
- OECD (1999): *The Economic and Social Impact of Electronic Commerce*, Paris.
- Oren, S., and S. Smith (1981): Critical Mass and Tariff Structure in Electronic Communications Markets, *Bell Journal of Economics*, Vol. 12, pp. 467-487.
- Panagaria, A. (2000): E-Commerce, WTO and Developing Countries, *The World Economy*, Vol. 23, No. 8, pp- 959-978.
- Shapiro, C. and H. Varian (1999): *Information Rules: A Strategic Guide to the Network Economy*, Boston, MA: Harvard Business School Press.
- Shurmer, M. (1993): An Investigation into Sources of Network Externalities in the Packaged PC Software Market, *Information Economics and Policy*, Vol. 5, pp. 231-251.
- Wired Staff (1998): *Encyclopedia of the New Economy*, San Francisco, CA: Wired Ventures, Inc.
- WTO (1998): *Electronic Commerce and the Role of the WTO*, Geneva.
- WTO (2001): *Electronic Commerce and the Role of the WTO*, Geneva, Internet: http://wto.org/WTO/english/tratop_e/ecom_e.htm
- Xie, A. (2000): The Internet also Give a Boost to Growth in Emerging Economies – Internet Economics: A Thinker’s Guide, *The Economist*, April 2000, pp. 70-72.