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Trade Liberalization and Development in ICT Sector and its impact on household welfare in Viet Nam

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Abbreviations

ADSL	Asymmetric Digital Subscriber Line
ASEAN	Association of Southeast Asian
BTA	Bilateral Trade Agreement
CAGR	Compound Annual Growth Rate
ETC	Electric Telecommunication Company
FBO	Facility-based operators
FDI	Foreign Direct Investment
FPT	Corporation for Financing and Promoting Technology
GDP	Gross Domestic Product
GPC	Vietnam Telecom Services Company
GSO	General Statistical Office
Hanoi Telecom	Hanoi Telecom Company
HCMC	Ho Chi Minh City
HH	Household Head
ICTs	Information and Communication Technologies
ISPs	Internet service providers
IT	Information Technology
ITU	International Telecommunication Union
IXPs	Internet exchange points
MARD	Ministry of Agriculture and Rural Development
MDG	Millennium Development Goals
MIMAP	Macroeconomic and Adjustment Policies
MOET	Ministry of Education and Training
MOSTE	Ministry of Science Technology and Environment
MPT	Ministry of Posts and Telematics
Netnam	Netnam Company
OIC	Internet Service Stock Company
OLS	Ordinary Least Squares
OSP	Online service provider
PTDS	Telecom Sector Development Policy
SBO	Services-based operators
SOEs	State owned enterprises
SPT	Saigon Posts and Telecommunications Service Corporation
TIENET	TIE Trade Import Export Company
UNDP	United Nations Development Program
USAID	U.S. Agency for International Development
USD	U.S. Dollars
VAT	Value Added Tax
VCIT	Viet Nam-Canada Information Technology Project
VDC	Vietnam Data Communication Company
VHLSS	Viet Nam Household Living Standards Survey
Viettel	Viettel Corporation
Vishipel	Vietnam Maritime Communications and Electronics Company
VLSS	Viet Nam Living Standards Survey
VND	Viet Nam Dong
VNPT	Vietnam Posts and Telecommunications Corporation
VoIP	Voice over Internet Protocol
VOV	Voice of Viet Nam
VTV	Viet Nam Television

I. Introduction

The term of “information society” was first introduced by Malchup and Porat in the 1970s. Since then information has increasingly been considered as a critical factor in the development process. Various scholars have used information deficiencies to explain development differences among countries and argued that information and communication technologies (ICTs)¹ may facilitate and speed up the development process by providing cheaper and more efficient ways and tools of information gathering, processing and dissemination. They are helping accelerate productivity gains and access to health information or educational services, and are modifying the way people learn and interact, and exchange and voice their interests. It is impossible for a developing country to integrate into the “global information society” if that country has not an adequate access to ICTs (Greenwald and Stiglitz, 1986; Stiglitz, 1988, 1989; the World Bank, 1998; Hamelink, 1997; UNCTAD, 2006).

ICT access and use can contribute to productivity growth in both developed and developing countries. UNCTAD (2006) shows that ICT adoption can make an important positive contribution to gains in per capita income - even in poorer countries. ICTs as measured by the Infodensity² index can contribute to the GDP per capita (PPP) growth rate with an increase of 0.1 in 1996 to 0.3 percentage points in 2003. But countries that already have the intermediate level of ICT uptake seem to benefit most from the opportunities provided by ICTs. Less developed countries should therefore work toward narrowing the digital divide between and, even more importantly, within countries (David, 2004).

During the last decade, there have been a number of global initiatives using ICTs to address issues of poverty, welfare and gender equality in developing countries. There is a common observation that ICTs positively impact poverty alleviation, even though they have to be accompanied with other factors such as transportation, education, health, social and cultural facilities (Flor, 2001; Swaminathan, 2005; Harris, 2002; Greenberg, 2005). It has been observed repeatedly that ICTs such as radio, television and telephone and Internet (though still a luxury in many poor areas) are good tools to help the poor increase their access to information on health, financial, and government services, production, storage and marketing of farm and non-farm products, which results in improvements of their productivity and income (UNCTAD, 2002; Joseph, 2005). However, it should be noted that in some cases the poor benefit proportionally less than the non-poor (OECD, 2005).

An interesting study by Gi-Soon (2005) of rural Lao PDR indicates that telecommunication services have as much positive impact on household welfare as other infrastructures, i.e., electricity and irrigation. Telephone use has a positive impact on the consumption level of rural households. Telephone use improved both total and cash-income consumptions, but the impact was greater on cash income than on total consumption, confirming the assumption that rural households use telephone services to improve their economic performance and increase income. Gi-Soon also suggests that one of the potential risks in introducing ICTs to developing countries is that ICTs may widen the gaps between the rich and the poor. Though ICT impact on the consumption seems greater among the poor

¹ In definition, ICTs consist of computer, internet, radios, television, telephone among various others, and procedures and processes that support the processing, storage and dissemination of the information. While radios, television and telephone and the like are traditional communication tools, the use of internet and wireless mobile phones has been emerged substantially for the last two decades with premium advantages including economical costs, national and international reach, permanent availability and interactivity.

² Infodensity = sum of all ICT stocks (capital and labour).

than the non-poor, a relatively low usage rate among the poor and the less educated raises the concern of a widening gap between users and non-users.

This paper examines the above issues in Viet Nam. The ICT sector in Viet Nam had not been developed until the 1980s. However, over the last decade of rapid growth, it has had a powerful impact on many aspects of life in this country. Although the ICT sector is still at an early stage of development and lags behind many other countries in the region, the government of Viet Nam made strong commitments to upgrade the nation's ICT capability and implemented significant reforms in terms of trade and investment liberalization in ICT sector over the last decade. This commitment has probably been the most important factor in accelerating ICT usage in society and government. It may also have partially contributed to achieve an average annual economic growth rate of 7.6 percent over the period 1991-2006 and reduce the poverty rate from 57 percent of the population in 1993 to less than 20 percent in 2004 (Duc, *et al.*, 2006; VDR, 2005; GSO, 2004). Therefore, the relationship between ICTs development and household welfare in Viet Nam under the dynamic changes over the last decade need to be examined in more details. This is made possible by the availability of four high-quality household surveys³ spanning the period 1993-2004.

Since ICTs are quite new technologies in Viet Nam, most existing studies are not very diverse in terms of areas and themes. Frequently researched topics are the impact of ICTs on economic growth (at macro level) and on productivity of firms and industries (at micro level). Particularly, those studies deal with ICT policies and development strategies, ICT development trend (Elmer, L., 2002 and ITU, 2002); competitiveness in telecom sector (An, D. V. *et al.*, 2005 and VNCI, 2005), gendered impacts of the development of ICT (Duc *et al.*, 2006), gender bias in the ICT (McDonald, 1999), ICT usage in achieving some Millennium Development Goals (UNDP, 2003), or ICT usage in enterprises in Viet Nam (MPDF, 1999).

Our study differs from these studies in that we study the impact of trade liberalization and development in the ICT sector on household welfares in Viet Nam, providing a more dynamic picture of the ICT sector in a transition economy.

In section 2, we look more closely at the ICT enabling environment and liberalization in Viet Nam and discuss constraints in the current ICT policies and regulations and implementation in practice. In section 3, we will analyze the access to and use of ICTs by households. The impact of access to and use of ICTs on poverty reduction and household welfare in Viet Nam will be quantitatively analyzed in section 4. In section 5 we conclude the paper by discussing the policy implications from our study.

³ Information on ICT and household welfare can be derived from four large-scale household surveys in Vietnam, namely the Vietnam Living Standards Survey in 1992-1993 and in 1997-1998 (VLSS93/98), and the Vietnam Household Living Standards Survey in 2002 and 2004 (VHLSS02/04). The total number of households interviewed was respectively 4,800, 6,000, 30,000 and 9,000 and these surveys are representative for Vietnam (GSO 2003). The VHLSS02/04 questionnaire is similar in many respects to the VLSS93/98 questionnaire. More importantly, there are 4,305 panel households in VLSS93/98 and 4,008 panel households in VLSS02/04.

II. Trade Liberalization of the ICT Sector and Regulatory Constraints

2.1. Trade Liberalization of the ICT Sector

Starting at very low levels, ICT usage of Viet Nam has been developing impressively over the last several years. Viet Nam's ICTs as measured by Infostate⁴ index increased from 2.7 in 1995 to 37 in 2003 (UNCTAD 2006). Low awareness, high communication costs and shortage of expertise however are still hampering ICT development progress, especially for individuals (An, D.V. *et al.*, 2005).

Information Technology

Following a regional strategy⁵ set by ASEAN for harmonizing ICT development in the region, significant reforms in some areas including ISP licensing, price changes and authorizations for new basic and cellular operators have been implemented. The most critical of these, Directive 58 issued by the Communist Party's Politburo of Viet Nam in October 2000, was official policy guidance for government to plan and implement program in support of the following goals on the use and development of IT. A series of government decisions guide the implementation of Directive 58 and a number of important strategic and policy initiatives set national ICT goals for the period 2001 – 2010, covering (i) upgraded the telecommunications and Internet infrastructures, (ii) developed IT human resource base, (iii) developed software industry, and (iv) developed hardware industry.

Numerous ministerial and provincial groups have developed action plans for IT development: e.g., IT Master Plan for E-Commerce (Ministry of Trade); Master Plan for Education and Training (MOET); Master Plan for Telecommunications (MPT); and IT Master Plan for agriculture and rural development (MARD); and IT Master Plan of Hanoi and HCMC Peoples' Committees. Appendix 1 presents key policy development in the IT sector. Most recently, the National Assembly approved a Law on IT which governs IT development and application activities, guarantee measures on IT development and application, rights and responsibilities of institutions and individuals involved in IT development and application activities.

Telecommunication and Internet

The policy of telecom liberalization in Viet Nam is based on the participation of multi-economic ownership sectors in the telecom sector, a commercially-oriented state-owned incumbent operator and a gradual increase in competition. These policies are stated in the form of general policies announcements as well as being included in legislation passed by the National Assembly.

The Telecom Sector Development Policy (PTDS) and Internet Development Plan to 2005 and most recently to 2010 states that all economic ownership sectors are encouraged to participate in the investment and doing business to provide the telecom and Internet services in a fair and transparent competitive environment. Enterprises operating in the sector are

⁴ Infodensity = sum of all ICT stocks (capital and labour)

Info-use = consumption flows of ICTs/period

Infostate = aggregation of infodensity and info-use

⁵ E-ASEAN framework agreement on ICT products and services (4/2000) includes provisions on connectivity and regional content development, a seamless legal and regulatory environment, a common marketplace for ICT products and services, human resource development and e-governance.

diversified. They included those with 100 percent state capital, majority state, or special state shares, and ones from other economic ownership sectors. The Post and Telecom Ordinance affirms the policy.

However, private participation in the telecom sector currently varies among the different telecom activities. Enterprises operating networks, including the ones providing IXP, must be ones with 100 percent state capital, or have majority state or special state shares. While enterprises providing telecom services can be all legally registered and operated enterprises regardless ownership in Vietnam, including ones providing ISP and OSP Internet services and shall meet certain technical conditions and requirements. This applies to most value added services.

The PTDS confirms a change from a monopolistic to a competitive telecom sector, in which the state sector plays the dominant role. Particularly, the market share on key services such as international calls, leased channel, mobile phone information and broadband Internet access of non-incumbent enterprises is expected to reach 40-50 percent by 2010. The general approach is to expand the fair and transparent competitive telecommunication and Internet market by facilitating all economic sectors to invest and provide telecommunication and Internet services, especially in resale of telecommunication and Internet services and provision of value added and Internet services. Telecommunication and Internet enterprises are strongly encouraged to effectively exploit local markets and gradually approach to expand their investment and business operation to international markets. Moreover, as a result of Viet Nam's international commitments foreign investors are entering the telecom market progressively. Therefore, telecom and Internet services are more open than the telecom network operation and control.

ICT Market Opening

Table 1 shows the timeline of telecommunications liberalization in Viet Nam. Before 1995 where there was only VNPT, Viettel and SPT were firstly reorganized and established respectively by the Government in 1995 to participate in the telecommunications sector. In 1997 Viettel and SPT were licensed to provide telecommunication services. Vietshipel followed in 2000 when licensed to provide Inmasat services and ship-to-ship, ship-to-mainland information. In 1997 five ISPs were also licensed, including: VNPT, Viettel, SPT, FPT and Netnam. Viettel and SPT were licensed to provide VoIP in 2001 and ETC was licensed.

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