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Since the Information Technology (IT) revolution started in the late 1980s and began to permeate economic activities, we have been intensely working on the effect of IT on the economy, paying particular attention to the quantitative analysis aspects. Although many economists applied the Growth Accounting method to measure the effects of IT on the economy, Prof. Lawrence R. Klein at the University of Pennsylvania recognized the drawbacks of this method. For example, it ignored the possibility of increasing returns to scale, one of the most important characteristics brought about by the IT revolution. Instead, Prof. Klein introduced a generalized Cobb-Douglas production function to correctly analyze the effects of IT on the economy and tried to explicitly explain Total Factor Productivity (TFP) using IT variables. Since our approach is based on his ideas, we want to acknowledge and thank Prof. Klein for his original work and advice.

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We regret to report that Prof. F. Gerard Adams, one of our project members, passed away suddenly on January 15, 2011. We are very grateful for his contributions to our project up until the last minute. We would like to dedicate this report to the late Prof. F. Gerard Adams.

FOREWORD[1]

East Asia comprises basically of the ten Member States of the Association of Southeast Asian Nations (ASEAN), namely, Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam, and three of its Dialogue Partners, namely, China, Japan and Korea. This wider regional grouping is also commonly referred to as ASEAN + 3, reflecting the regular dialogues and the institutionalized cooperation that exist among these thirteen countries.

The Leaders of ASEAN have agreed to establish the ASEAN Community by 2013, which will create a single market and production base comprising five core elements: (i) free flow of goods; (ii) free flow of services; (iii) free flow of investment; (iv) freer flow of capital; and (v) free flow of skilled labor. To attain this goal, a Roadmap for an ASEAN Community has been adopted comprising the ASEAN Political-Security Community Blueprint, the ASEAN Economic Community Blueprint, and the ASEAN Socio-Cultural Community Blueprint. An important component of this Roadmap is the promotion of sustainable economic growth and development through, among others, the effective use and wide application of information and communication technology, including the promotion of ICT innovation and improvement of ICT infrastructure.

The Economic Community Blueprint gives highest priority to establishing a harmonized legal infrastructure for e-commerce in ASEAN by 2015. This requires Member States to enact, update, and/or amend their e-commerce laws, implement harmonized guidelines and principles for electronic contracting and online dispute resolution services, adopt regional framework and strategy for the mutual recognition of digital signatures, and advance cross-border electronic transactions. The Socio-Cultural Community Blueprint, on the other hand, calls for the implementation of human resources development programs to promote and increase ICT literacy and use, and to develop a workforce and manpower with high levels of ICT proficiency and expertise.

ASEAN cooperation in ICT formally started in 2000 when the ASEAN Leaders signed the e-ASEAN Framework Agreement that called for harnessing ICT to foster closer regional economic integration, enhance overall competitiveness, and develop an

[1] Written by Dr. Filemon A. Uriarte, Jr., Chairman, LAUDS Technologies, Inc., and former Executive Director, ASEAN Foundation, and Science and Technology Secretary (Minister), Republic of the Philippines.

ASEAN information society. This was followed by the development and implementation of the e-ASEAN Integration Roadmap (2004-2010). In 2003, the ASEAN Member States adopted an action agenda, the Singapore Declaration, to harness technological advances in information and communications technology to create digital opportunities for ASEAN and enhance ASEAN's overall competitiveness. Through these agreement, roadmap and action agenda, ASEAN aimed, among others, to enhance intra-ASEAN trade and investment in the ICT sector by identifying and eliminating impediments, fostering pro-business policies on ICT trade and investment and establishing transparent, predictable and non-discriminatory policy environments, and reducing tariffs on ICT products.

Recognizing the important role of ICT in economic growth and development, there have also been extensive efforts to enhance collaboration with other East Asian Countries, in the context of the ASEAN + 3 cooperation framework. An ASEAN-China Memorandum of Understanding on Cooperation in Information and Communications Technology was signed in October 2003 to cover joint activities in ICT skills training and certification, and construction and development of information infrastructure such as fixed/mobile networks, multimedia applications and the Internet. In January 2007 this cooperation was further strengthened with the signing of the Plan of Action to Implement the Beijing Declaration on ASEAN-China ICT Cooperative Partnership for Common Development which covers ICT infrastructure development, universal service, human capacity building, network and information security, trade and investment facilitation, and inter-governmental dialogue and exchange. ICT cooperation was further enhanced with the recent adoption of the ASEAN-China ICT Work Plan (2010-2011). In the case of Japan, cooperation in ICT is implemented through the ASEAN-Japan ICT Work Plan (2009-2011) and the ASEAN-Japan Collaboration Framework on Information Security. On the other hand, ASEAN-Korea ICT cooperation is carried out under the ICT Cooperation towards Co-prosperity in East Asia (2007-2011).

The future of ICT cooperation and development in ASEAN will be guided by the Kuala Lumpur Statement 2011 on ICT: Positioning ASEAN for the Future, which officially announced the adoption of the ASEAN ICT Master Plan 2015 (AIM2015) with the vision "Towards an Empowering and Transformational ICT: Creating an Inclusive, Vibrant and Integrated ASEAN." AIM2015 is expected to deliver four key

outcomes: (i) ICT as an engine of growth for ASEAN Member States; (ii) recognition for ASEAN as a global ICT hub; (iii) enhanced quality of life for the peoples of ASEAN; and (iv) contribution towards ASEAN integration. AIM2015 also calls for stronger and closer cooperation with other East Asian countries, particularly China, Japan and Korea. With China new areas of cooperation will be initiated in ICT applications for small- and medium-sized enterprises and in e-education while continuing the existing work related to telecommunications development, ICT policies, network security and capacity building. With Japan new areas of joint activities will be developed including the use of ICT in disaster response and management and the preservation of the environment. Finally, with Korea future cooperation will cover areas such as joint use of ICT infrastructure, support for expansion of ICT infrastructure, capacity building and expansion of digital opportunities.

This small study and brief report is expected to contribute to and complement the various studies and projects being implemented under the aforementioned work plans and collaboration frameworks in ASEAN as well as those carried out in cooperation with other East Asian countries.