INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, ECONOMICS & MANAGEMENT

IJRCM

A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

Indexed & Listed at:

Ulrich's Periodicals Directory ©, ProQuest, U.S.A., EBSCO Publishing, U.S.A., Cabell's Directories of Publishing Opportunities, U.S.A.,

Open J-Gage, India [link of the same is duly available at Inflibnet of University Grants Commission (U.G.C.)],

Index Copernicus Publishers Panel, Poland with IC Value of 5.09 & number of libraries all around the world.

Circulated all over the world & Google has verified that scholars of more than 1771 Cities in 148 countries/territories are visiting our journal on regular basis.

Ground Floor, Building No. 1041-C-1, Devi Bhawan Bazar, JAGADHRI – 135 003, Yamunanagar, Haryana, INDIA

http://ijrcm.org.in/

CONTENTS

CALL FOR MANUSCRIPTS

We invite unpublished novel, original, empirical and high quality research work pertaining to recent developments & practices in the area of Computer, Business, Finance, Marketing, Human Resource Management, General Management, Banking, Insurance, Corporate Governance and emerging paradigms in allied subjects like Accounting Education; Accounting Information Systems; Accounting Theory & Practice; Auditing; Behavioral Accounting; Behavioral Economics; Corporate Finance; Cost Accounting; Econometrics; Economic Development; Economic History; Financial Institutions & Markets; Financial Services; Fiscal Policy; Government & Non Profit Accounting; Industrial Organization; International Economics & Trade; International Finance; Macro Economics; Micro Economics; Monetary Policy; Portfolio & Security Analysis; Public Policy Economics; Real Estate; Regional Economics; Tax Accounting; Advertising & Promotion Management; Business Education; Management Information Systems (MIS); Business Law, Public Responsibility & Ethics; Communication; Direct Marketing; E-Commerce; Global Business; Health Care Administration; Labor Relations & Human Resource Management; Marketing Research; Marketing Theory & Applications; Non-Profit Organizations; Office Administration/Management; Operations Research/Statistics; Organizational Behavior & Theory; Organizational Development; Production/Operations; Public Administration; Purchasing/Materials Management; Retailing; Sales/Selling; Services; Small Business Entrepreneurship; Strategic Management Policy; Technology/Innovation; Tourism, Hospitality & Leisure; Transportation/Physical Distribution; Algorithms; Artificial Intelligence; Compilers & Translation; Computer Aided Design (CAD); Computer Aided Manufacturing; Computer Graphics; Computer Organization & Architecture; Database Structures & Systems; Digital Logic; Discrete Structures; Internet; Management Information Systems; Modeling & Simulation; Multimedia; Neural Systems/Neural Networks; Numerical Analysis/Scientific Computing; Object Oriented Programming; Operating Systems; Programming Languages; Robotics; Symbolic & Formal Logic and Web Design. The above mentioned tracks are only indicative, and not exhaustive.

Anybody can submit the soft copy of his/her manuscript **anytime** in M.S. Word format after preparing the same as per our submission guidelines duly available on our website under the heading guidelines for submission, at the email address: infoijrcm@gmail.com.

GUIDELINES FOR SUBMISSION OF MANUSCRIPT

1. **COVERING LETTER FOR SUBMISSION:**

DATED: _____

THE EDITOR
IJRCM

Subject: **SUBMISSION OF MANUSCRIPT IN THE AREA OF.**

(e.g. Finance/Marketing/HRM/General Management/Economics/Psychology/Law/Computer/IT/Engineering/Mathematics/other, please specify)

DEAR SIR/MADAM

Please find my submission of manuscript entitled '_____' for possible publication in your journals.

I hereby affirm that the contents of this manuscript are original. Furthermore, it has neither been published elsewhere in any language fully or partly, nor is it under review for publication elsewhere.

I affirm that all the author (s) have seen and agreed to the submitted version of the manuscript and their inclusion of name (s) as co-author (s).

Also, if my/our manuscript is accepted, I/We agree to comply with the formalities as given on the website of the journal & you are free to publish our contribution in any of your journals.

NAME OF CORRESPONDING AUTHOR:
Designation:
Affiliation with full address, contact numbers & Pin Code:
Residential address with Pin Code:
Mobile Number (s):
Landline Number (s):
E-mail Address:
Alternate E-mail Address:

NOTES:

a) The whole manuscript is required to be in ***ONE MS WORD FILE*** only (pdf. version is liable to be rejected without any consideration), which will start from the covering letter, inside the manuscript.
b) The sender is required to mentionthe following in the **SUBJECT COLUMN** of the mail:
New Manuscript for Review in the area of (Finance/Marketing/HRM/General Management/Economics/Psychology/Law/Computer/IT/ Engineering/Mathematics/other, please specify)
c) There is no need to give any text in the body of mail, except the cases where the author wishes to give any specific message w.r.t. to the manuscript.
d) The total size of the file containing the manuscript is required to be below **500 KB**.
e) Abstract alone will not be considered for review, and the author is required to submit the complete manuscript in the first instance.
f) The journal gives acknowledgement w.r.t. the receipt of every email and in case of non-receipt of acknowledgment from the journal, w.r.t. the submission of manuscript, within two days of submission, the corresponding author is required to demand for the same by sending separate mail to the journal.

2. **MANUSCRIPT TITLE:** The title of the paper should be in a 12 point Calibri Font. It should be bold typed, centered and fully capitalised.

3. **AUTHOR NAME (S) & AFFILIATIONS:** The author (s) **full name**, **designation**, **affiliation** (s), **address**, **mobile/landline numbers**, and **email/alternate email address** should be in italic & 11-point Calibri Font. It must be centered underneath the title.

4. **ABSTRACT:** Abstract should be in fully italicized text, not exceeding 250 words. The abstract must be informative and explain the background, aims, methods, results & conclusion in a single para. Abbreviations must be mentioned in full.

5. **KEYWORDS:** Abstract must be followed by a list of keywords, subject to the maximum of five. These should be arranged in alphabetic order separated by commas and full stops at the end.

6. **MANUSCRIPT:** Manuscript must be in ***BRITISH ENGLISH*** prepared on a standard A4 size ***PORTRAIT SETTING PAPER***. It must be prepared on a single space and single column with 1" margin set for top, bottom, left and right. It should be typed in 8 point Calibri Font with page numbers at the bottom and centre of every page. It should be free from grammatical, spelling and punctuation errors and must be thoroughly edited.

7. **HEADINGS:** All the headings should be in a 10 point Calibri Font. These must be bold-faced, aligned left and fully capitalised. Leave a blank line before each heading.

8. **SUB-HEADINGS:** All the sub-headings should be in a 8 point Calibri Font. These must be bold-faced, aligned left and fully capitalised.

9. **MAIN TEXT:** The main text should follow the following sequence:

INTRODUCTION

REVIEW OF LITERATURE

NEED/IMPORTANCE OF THE STUDY

STATEMENT OF THE PROBLEM

OBJECTIVES

HYPOTHESES

RESEARCH METHODOLOGY

RESULTS & DISCUSSION

FINDINGS

RECOMMENDATIONS/SUGGESTIONS

CONCLUSIONS

SCOPE FOR FURTHER RESEARCH

ACKNOWLEDGMENTS

REFERENCES

APPENDIX/ANNEXURE

It should be in a 8 point Calibri Font, single spaced and justified. The manuscript should preferably not exceed ***5000 WORDS***.

10. **FIGURES & TABLES:** These should be simple, crystal clear, centered, separately numbered & self explained, and **titles must be above the table/figure**. **Sources of data should be mentioned below the table/figure**. It should be ensured that the tables/figures are referred to from the main text.

11. **EQUATIONS:**These should be consecutively numbered in parentheses, horizontally centered with equation number placed at the right.

12. **REFERENCES:** The list of all references should be alphabetically arranged. The author (s) should mention only the actually utilised references in the preparation of manuscript and they are supposed to follow **Harvard Style of Referencing**. The author (s) are supposed to follow the references as per the following:

- All works cited in the text (including sources for tables and figures) should be listed alphabetically.
- Use (**ed.**) for one editor, and (**ed.s)** for multiple editors.
- When listing two or more works by one author, use --- (20xx), such as after Kohl (1997), use --- (2001), etc, in chronologically ascending order.
- Indicate (opening and closing) page numbers for articles in journals and for chapters in books.
- The title of books and journals should be in italics. Double quotation marks are used for titles of journal articles, book chapters, dissertations, reports, working papers, unpublished material, etc.
- For titles in a language other than English, provide an English translation in parentheses.
- The location of endnotes within the text should be indicated by superscript numbers.

PLEASE USE THE FOLLOWING FOR STYLE AND PUNCTUATION IN REFERENCES:

BOOKS

- Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.
- Hunker, H.L. and A.J. Wright (1963), "Factors of Industrial Location in Ohio" Ohio State University, Nigeria.

CONTRIBUTIONS TO BOOKS

- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

JOURNAL AND OTHER ARTICLES

- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

CONFERENCE PAPERS

- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–22 June.

UNPUBLISHED DISSERTATIONS AND THESES

- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

ONLINE RESOURCES

- Always indicate the date that the source was accessed, as online resources are frequently updated or removed.

WEBSITES

- Garg, Bhavet (2011): Towards a New Natural Gas Policy, Political Weekly, Viewed on January 01, 2012 http://epw.in/user/viewabstract.jsp

ICT AND ECONOMIC GROWTH: THE VARIETY OF DIGITAL DIVIDES LESSONS FROM SOUTHERN AND EASTERN MEDITERRANEAN

VAHID RANGRIZ
RESEARCH SCHOLAR
ECONOMICS & CO-OPERATION DEPARTMENT
MYSORE UNIVERSITY
MYSORE

ABSTRACT

Dissemination of Information and Communication Technology (ICT) is the subject of attention economists, managers as decision makers. It is both high tech (evolving as constant as fast) and 'generic technologies' whose use is spreading throughout the economy and leads to waves of innovation along the strong productivity gains. The question of the shape of the rate of diffusion of these technologies is essential. As within the same population, the delay spread of ICT can lead to a marginalisation of the area's most poorly equipped. I am then in front of creating a digital dividing. In contrast a proportionally faster diffusion in these areas in likely to induce real dynamic upgrading. I would then face to create a digital dividend. Today it is the wish, as little qualified voluntary, international organisations, UNDP, OECD, World Bank and IMF. This paper addresses the issue from a global perspective. It offers an economic analysis of the concept of digital divide based on differences in macroeconomic performance of countries for the same level of equipment. Two objectives will be pursued, which are to understand and characterise dynamically the transmission channels of ICT in macroeconomic performance (productivity, economic growth, employment) and to Define, in relative terms, the digital divide from the analysis of differential effects of ICTs on the macroeconomic performance of nations.

KEYWORDS

Information and communication technology (ICT), Economic growth, Digital divides, Southern and eastern Mediterranean.

INTRODUCTION

The purpose of this paper is to examine the foundations of the theory of the *'digital divide'* and to provide consistency from the review of macro-economic impacts of the latter. My approach will be illustrated by examining the state of ICT diffusion in the SEMC (Southern and Eastern Mediterranean Countries) and assess their potential for economic development. The hypothesis of the emergence of a new industrial revolution *'digital'* has been seriously advocated in the literature (David, 2001, Von Tunzelman, 2003, Boyer, 2002). ICTs are responsible for a transformation of modes of production, consumption patterns and modalities of transactions. Many economists have questioned the impact of these technologies on the performance of companies (Bellon, 2002 and 2003), the performance of workers (Bresnahan et al., (2002), Greenan et al., (2002), and more generally on those markets (Shapiro and Varian, 1999, and Bellon, Ben Youssef, 2003). Others were more interested in macroeconomic performance such as economic growth and productivity (OCDE 1999, Gordon 2000, Boyer, 2002, Mairesse et al., 2003, Gilles and L'Horty, 2003).

The hypothesis of a new regime of growth driven by ICT has become credible in particular following the acceleration of macro-economic performance in terms of growth and productivity in the United States (Gordon, 2002 and 2003) and more generally in the OECD countries (Jorgenson, Ho and Stiroh, 2003). The phenomenon of *'New Economy'* is a premise harbinger of radical changes to come (Bellon, Ben Youssef and Rallet, 2003). If at first, most studies have focused on analysing the ICT-related productivity growth, a macroeconomic point of view only for specific countries, a new literature is now trying to generalise this type of work for developing countries to assess the potential effects of ICT on their specific form growth. All of these contributions on the observation that there is a difference in equipment and in the predisposition of the industrial fabric of developing countries compared to their counterparts in industrialised countries to use ICT. They seek to understand whether ICTs can be the cause of a catch-up between the North and South or the cause of an effect of setting aside the developing countries in economic growth.

The thesis of the emergence of a digital divide has been raised (UNDP (1999), Boyer (2002), Petit (2002), OECD, 2001, Antonelli, 2003). Among the structural elements of discrimination between industrialised and developing countries, it was noted the difference in productivity. Under the impact of ICTs increase this gap. It would follow a marginalisation of the countries concerned. The threat of a digital divide is accompanied by many hopes. Once ICTs are able to increase productivity and growth potential, they could lead developing countries to accelerate their catch-up. This is called digital dividend. Taking care of generalisations, I must recognise that for a variety of reasons that add up, the opportunity opened by ICT, is not comparable with other revenues put into practice by international institutions (WTO, Bank World Fund) to accelerate the growth of developing countries (liberalisation, deregulation, exchange rates). I am facing a global approach that goes beyond the features for both macroeconomic and associates of the dynamics based on the institutions and organisations micro-economic knowledge, innovation and accelerating productivity. ICT is an instrument of rationalisation and renewal of the production, distribution channels and all channels to create value. While much of the literature on the digital divide addresses the issue of macro-economic impacts in terms of homogeneity of technological trajectories of countries to ICT, I propose a grid reading based on the notion of trajectory differentiated. The conditions for the emergence of a growth regime driven by ICT in the SEMC will be taken to field analysis. To do this, I propose to discuss the concept of digital divide in the first section and understand the various facets. The second section will highlight the main transmission channels of ICT on economic growth. This will allow me to propose, in a third section, a definition of *'digital divides on'*, reflecting the levels of disability in some countries to benefit fully from all the effects of ICT. The fourth section will present the state of ICT diffusion in the Euro-Mediterranean and discuss all the effects outlined in the SEMC.

SECTION 1: DEFINITIONS OF THE DIGITAL DIVIDE

The concept of *'digital divide'* does not refer to a precise and stabilised. Like the *'new economy'*, the term was popularised by the media and policy makers respond to differences in reactions to the issues of Internet, mobile telephony, broadband or territorial coverage. It refers to the broader economic and social inequalities generated by information and communication technology. This notion is available depending on the issues addressed and the context. Sometimes it means non-attainment of certain social groups to ICT and the United States, the debate is about the non-attainment of certain categories of the population to basic services (telephone) or the Internet. In Europe, the debate is about the geographical coverage of some areas by the private telephone in relation to the effects of waves of deregulation. Thus, a fracture *'geographical'* marginalises certain territories and populations. Everyone is concerned about the risks of *'internal fracture'*. For their part, international institutions are put in front of the inequalities of equipment and practices between countries with unequal levels of development. They stress the risk of marginalisation of developing countries from their delay in *'technological equipment'*. There exists a digital divide between countries *'connected'* and those who have not yet widespread use of telephone or electricity. The institutional dimension (the legal support of freedom of information dissemination for example) is ignored, or treated with a great level of generality. The definitions in the literature refer to economic different conceptions of digital divides. However, I can distinguish four types of definitions. The first defines the digital divide as the widening gaps connection to the Internet and more generally of ICT diffusion. This definition is a purely technological infrastructure. Strictly speaking, the digital divide refers to the absolute differences in equipment and differences in their growth rates. In a broad sense, it is to interpret the digital divide as a gap the stock of ICT in an economy (Internet connections, computer equipment, mobile, phones). The digital divide concerns the widening gap of ICT equipment between two geographical areas. It means a kind of dividing line between the territories that use ICTs and those who use it only marginally. In order to measure the digital divide is added to the

indicators mentioned above those related to the rate of PC penetration, the number of phones per thousand, the number of phones per thousand people, etc. The second definition focuses on the increasing inequality related to the impacts of the ICT sector on the rest of the economy. It is therefore to measure the ICT contribution to growth, exports, productivity and employment. The idea behind this approach relates to the possible multiplier effects. These can be summarised as follows: on the basis of 1997, ICT industries accounted for 3-4 per cent of employment, 6-9 per cent of the value added, 10-25 per cent of exports and 25 -40 per cent of R&D in the U.S., Japan and Europe (Koski, Rouvinen and Ylä-Anttila, 2002). Assuming a relationship of cause and effect, similar effects are expected in all countries of the countries that use it. Here, the digital divide refers to the divergence of the trajectories of growth paths caused by the economic impacts of ICT. The third possible definition of the digital divide is more about the use of ICT than their stock. This is to assess how ICT is used by economic agents and how they can make under the triptych *'better, faster, cheaper'* in favour of the creation of the value. In other words, how ICT enables agents to lower production costs, increase transaction volume and improve the quality of their services. The digital divide is not limited to inter-country comparisons, but would also cover countries with similar levels of equipment but that would use ICT in different ways. I am interested here in the volumes of business transactions over the Internet, direct sales, the number of e-business, lower prices recorded (the effect deflator). This definition allows me to account it is not enough to invest heavily in ICT, much less to produce. The element is nullifying the ability of rational economic agents. Cultural and societal dimensions are present here.

The final definition of the digital divide is related to how learning and the nature of the acquisition of information and knowledge generated by ICT. In other words, it assumes that ICT equipment is a precondition sine infrastructure and the uses result in increased performance. The crucial question is postponed to the capabilities of agents to learn to use ICT. ICT-related inequalities are linked to inequalities of the forms of learning (Hargittai, 2002). These definitions have a common appreciation for the diversity of ingredients digital divide. My hypothesis is that the recognition of all these causes should lead to an accepted set of effects, i.e. a variety of related fractures. It is of course premature to claim to reflect the diversity of causes and effects. Empirical work to quantify the digital divide is mainly dwelt on the first definition. Attention was paid to *'network structures'* and for the dissemination of the equipment. Few studies have attempted to understand the origin of differences in macroeconomic performance for the same scattering state. I propose to discuss and deepen this second type of definition of the digital divide by establishing a correspondence between the results obtained in the literature on macroeconomic performance and the ICT dedicated to the digital divide. I need to examine the cognitive and organisational aspects of the digital divide.

SECTION 2: THE TRANSMISSION CHANNELS OF THE NEW GROWTH REGIME

Most of the literature on the contribution of ICT to growth concerns the United States and, more broadly, the OECD countries (Boudchon, (2002) Jorgensen and Stiroh (2001), Jorgensen (2001), Colecchia and Schreyer (2001), Mairesse et al., (2003), Oliner and Sichel (2000), Gilles and L'Horty 2003, Brynjolfsson and Hitt, (2000), Bellon, Ben Youssef and Rallet (2003), Feldstein (2003). A careful reading of the latter identifies six transmission channels complementary and interrelated: the multiplier effect of investment in ICT effect *'deflator'* of inflation due to lower prices in this sector and is reflected in other sectors, the effect of capital/labour substitution resulting in improved performance of the work, the effect *'quality'* reflecting the impact of improving the characteristics of ICT production goods and services, the effect of *'total factor productivity'* reflecting the acceleration in productivity due to ICT investment, and finally the effect of *'spill overs'* which refers to technological externalities in the economy and increasing the level of innovation in other sectors.

THE MULTIPLIER EFFECTS

The outputs of the ICT sector are acquired by companies such as real investment and/or as intermediate goods, but also as final consumption goods by households. The strong growth in business equipment and consumer goods derived from ICT has resulted in an increase in overall economic growth. The main mechanism assumed here is the existence of a Keynesian investment multiplier with respect to ICT more important than the investment multiplier in non-ICT equipment. Given their wildcard (Helpman, 1998), ICTs are diffused throughout the rest of the economy affects each with their own dynamics. The multiplier effects are even more important that the sector is facing strong growth in demand of around 15 per cent per year. The first direct beneficiaries are the ICT-producing countries. These countries are also the first to benefit from spill over effects on the rest of their economy. Pohjola (2002) defines a critical threshold (relatively arbitrary of 5 per cent) of the ICT sector from which I see the emergence of significant dynamic effects and the rest of the economy. Although this threshold is arbitrary, I can perform a *'benchmarking'* at the international level to locate the level of importance of the sector and dynamic effects. For example, the United States this sector is around 8 per cent of GDP. The question of the distinction between countries' producer-user countries and user is entirely at the incremental multiplier effects.

THE EFFECT DEFLATOR

The second effect concerns the impact of falling prices of ICT, including computers, the rest of the economy. The largest drop in prices for microprocessors components, it affects only slightly on final prices, given the evolution of technological capabilities and the corresponding incorporation. For three quarters, these declines in component prices are reflected in the increased capacity of finished products. Reasoning in terms of equipment prices will therefore reflect only part of the phenomenon. Nevertheless, the continued decline in prices in the ICT sector has been accompanied by the significant increase in business investment in ICT. Behind the acceleration of productivity and growth in the U.S. there is an acceleration of falling prices of computers and peripheral equipment during the period from 1996 to 1998. Indeed, while lower prices were on a pace -12 per cent per year between 1987 and 1995 it reached- 29 per cent per year over the period 1996 to 1998. This substantial decline in prices of information technology has led U.S. firms to over-invest in ICT (Gordon, 2002: p: 22). The productivity gains in the ICT sector can act on the rest of the economy as a deflator technology, and they can thereby control inflation or increasing growth. For example, since the computer industry accounts for 1.4 per cent of U.S. GDP and prices fell 29 per cent over the period (96-98) a simple calculation rule of three can approach an effect deflator of 0.37 per cent. Gordon (2002) estimated that the contribution of computers to growth is mainly a factor of inflation and that it would be about 0.5 per cent per year for the U.S. economy. In their recent study Collecchia and Schreyer (2002) have generalised the approach to calculate the deflator for ICT technology associated with the nine OECD countries. Moreover, one can record a decline in transaction costs. The effects are not limited to production costs, they also affect transaction costs, since the method of inventory management to the quality of after sales services (Garicano and Kaplan, 2000; Borenstein and Saloner, 2001; Brookings Task Force on the Litan and Rivlin, 2001). ICTs and their application (e-commerce, Internet) thus reduce costs, before, during and after transactions.

DOUBLE SUBSTITUTION EFFECT

This effect refers to the relative increase in the share of capital compared work in the use of inputs. Here, ICTs appear as dual-purpose. They lead to promote the capital relative to labour and skilled labour relative to unskilled labour (David, 2001, Jorgenson and Stiroh, 2001, Quah, 2001). In other words, on the one hand, promotes the growth process of capital accumulation which results in a decrease in the relative rate of employment of labour and an increase in the relative share of capital input. The share paid by units of capital increases, so employees can see their productivity increase. Gordon (2002) estimated that two thirds of the acceleration in U.S. productivity during the period 1996-2001 is due to this substitution effect. On the other hand, there are alternatives to domestic labour. There is a re-qualification, i.e. a change in the categories of workers so radical that leads to foreclosure effects or fracture. Finally, it should be noted that the ICT capital is capital obsolescence particularly fast, unlike other forms of capital. This property therefore requires a rapid amortisation and requires companies increased profitability and greater risk taking.

THE EFFECT QUALITY

The information technology can be associated with changes related to the components of intangible outputs, including the variety of goods and services, related services and more generally the specific adaptation of the product to consumers. The most immediate effect of ICT is enriching the information content of goods and services. The result is a double mutation at the level of quality and product differentiation. These benefits would improve the utility function of consumers, without change neither the price nor the nominal quantity of products incorporating ICT. The effect is useful to consider difficult conditions but the results of work on the issue. Recent efforts by the OECD have undertaken, in terms of methodology, to improve the consideration of the effect described above. Different sources are responsible for improving quality.

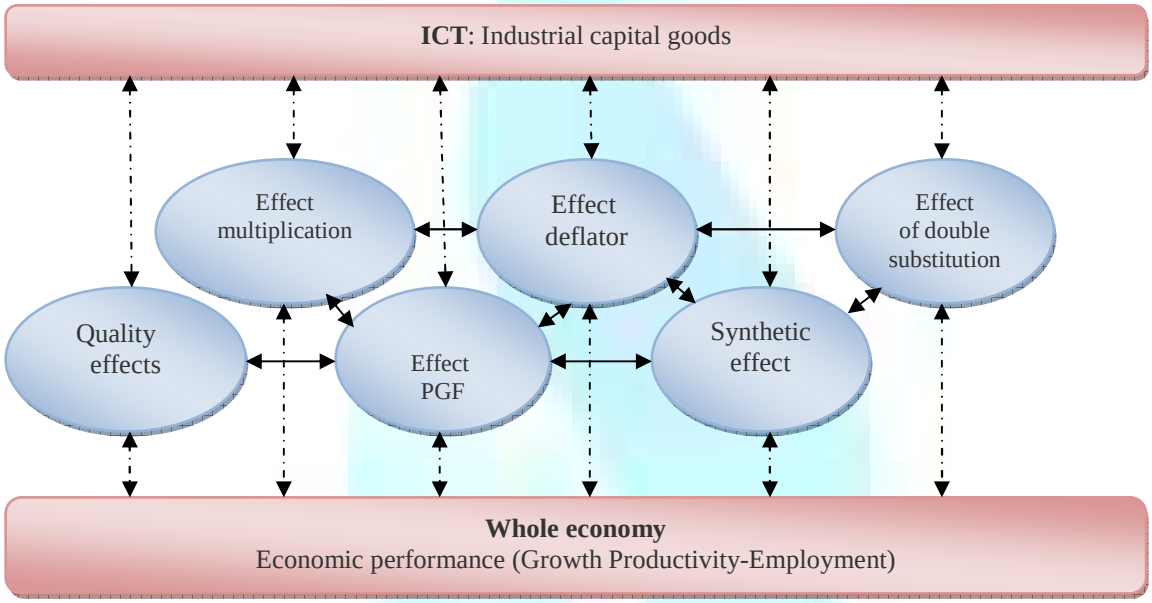
THE EFFECT OF TOTAL FACTOR PRODUCTIVITY

The previous effect participates in the role of ICT in a substantial change technical progress and the dynamics of innovation in all sectors. Generic in nature, the externalities associated with ICT are widely disseminated to the rest of the economy. This diffusion would thus increase the productive efficiency along with the pace of technological progress. The acceleration in TFP in the United States since 1996 and is attributed to ICT. This is reflected in the current state of knowledge, an increase in the Solow residual (the part of growth not explained by the factors of production separately). Indeed, this finding reflects the improvement in the complementarity between labour and capital. This complementarity is through the use of organisational innovations (Askenazy and Gianella (2000), Greenan et al (2002)). ICT would increase and diffuse technical progress. Moreover, developing countries, unlike developed countries benefit from positive structural effect. Indeed, the adoption of ICT in developing countries coincides with the transformation of their economies from an economy based on natural resources and agriculture to an economy based on production value. This could enhance the productivity gains.

THE SYNTHETIC EFFECT OF TECHNOLOGY SPILL OVERS

The effects of spill overs denote the entire spill over effects induced ICT innovations by the rest of the economy. Silicon Valley has benefited from the emergence of new ICTs by enabling cross-fertilisation of ideas and *'Complementary innovations'*. More generally, the multiplicity of interactions is between the ICT sector and other economic sectors (health, aerospace, automotive, banking, housing, environment). The improved performance related to computers and ICT more generally has, among others, genome sequencing and the biotechnology revolution, but also the coupling between accounting and cost accounting, the real-time processing and order books changes in general information systems. The overall pace of innovation processes has been radically altered. The effects of diffusion *'spill overs'* depend primarily on complementarities between the industrial sectors (Lipsey et al., 2005). In the case of ICT, I find less complementarity between sectors (as would be the case between the coal, iron and steel) between these technologies and the needs of everyday life in any productive activity. So far beyond the spill over effects resulting from the domestic production of some ICT in the country and agglomeration effects (which are full), the diffusion effects are resulting from the use of ICT as a factor production and innovation.

FIGURE 1: ICT AS A DRIVER OF ECONOMIC GROWTH: THE TRANSMISSION CHANNELS



SECTION 3: SOME CAUSES OF THE STANDARD DIGITAL DIVIDE

The nature of the ICT factor of production and its transmission channels, make it a very special tool for development. However, it also reveals first the classical criteria of growth. The manifestation of these effects *'standard'* depends, at a time, the status of the country (producer vs. importing ICT) (Dirk and Lee, 2001), size (large vs. country). Small country are its international specialisation, its factor endowments (Antonelli, 2003), the presence or absence of complementary assets (organisational innovations, institutions, education, human capital, incentives). If I reduce the definition of digital divide *'away from macroeconomic performance to rate various ICT equipment'*, its origin would then be in the non-occurrence of specific macroeconomic effects. The wildcard character (locally neutral) does not occur everywhere in the same way and are largely biased internationally and do not benefit the same way countries (David, 2001, Quah, 2001, Pohjola, 2002). Some countries have a sufficient level of adoption of ICT, but with no of macro-economic effects. Here, some macroeconomic channels of transmission are defective and limit or eliminate the impact. The digital divide concerns while some countries unable to benefit fully from the effects of ICT. I provide illustrative cases to examine some *'obvious'* that underlie a large number of fractures is the lack of production of capital goods ICT.

THE LACK OF ICT PRODUCTION

The question of whether the importing countries enjoy the same manner as countries 'producers' of ICT was often asked (Cohen and Debonneuil, 2000). Indeed, ICT production is geographically concentrated in North America, Japan and Northern Europe and some countries highly specialised (Taiwan). Theoretically, this is not problematic, but it does not facilitate the operation of certain channels. Essentially, it is recognised four advantages for the benefit of ICT-producing countries: the advantage in terms of technological trajectory, the advantage of the effect deflator, the advantage in terms of technological externalities, and the advantage of standardisation. Indeed, many studies show that falling prices for ICT was higher in the U.S. than in the other country. This asymmetry can be explained both by the producer status of the United States but also a network effect more pronounced than in other countries of smaller size.

THE SIZE OF THE COUNTRY

ICTs are inherently network technologies and their impact increases with the extent of it. Prices, the utility associated with the quality of the network infrastructure, improve with the number of individuals forming the network of users. Therefore, the size of the network is a key variable. If for some technologies, such as the Internet, this limitation is exceeded by the global aspect of the network, in telephony, the country's size is a key variable. The phenomenon is accentuated with the liberalisation of such markets. Thus, some macro-economic effects are more pronounced in large countries than in smaller ones.

FACTOR ENDOWMENTS (INCLUDING HUMAN CAPITAL) CAN FINALLY BE THE ORIGIN OF DIGITAL DIVIDES

Among the endowments, the last factor is the general training and skills. ICT has a wildcard because they receive some immediate ease of use. By cons, they require skilled labour for their production and they also require very specific conditions of learning for use in specialised production processes. Thus, a divide between countries can emerge as a consequence of the general level of qualifications and more generally because of the absence of specific learning modalities. The macroeconomic performance remains divided according to differences in factor endowments. The accumulation of knowledge and human capital is a necessary first step in the growth performance of countries. In order to optimise their use of ICT levels require the acquisition of specific skills. For Petit (2002), the knowledge-based society has emerged in Europe and from the time the enrolment and education took off substantially. Existing gaps in investment in

human capital (training) suggests that the digital divide is primarily a consequence of this element (no pre-practice skills: mastery of technology, language proficiency). The initial and continuing education are prerequisites. If the majority of ICT does not require specific knowledge immediately, the convergence of technologies, enhancement products new features, which require learning opposite part of the population, are poor. This poses a new public responsibility for learning of ICT and the Internet. More generally I identify a variety of situations where only some channels of diffusion of ICT are working effectively. Channels transmission differs from one country to another. It would be unrealistic to make macroeconomic policy recommendations for developing countries trying to generalise income therefrom paid off elsewhere. Economy advantage fully and simultaneously for all effects is a rather rare. Only the United States seem to have enjoyed during the late 1990s ICT across all channels. Reflecting on the digital divide, largely initiated by international institutions, should take into account the one hand, the relationship between diffusion and *'absorption capacity'* of generic technologies and, secondly, that between technology adoption and macroeconomic performance. This second dimension has not been the focus of discussions to date. I propose to illustrate this by examining the case of Middle East and North Africa (MENA) countries. The approach taken here is still quite descriptive but should be supported by the results of an on-going study.

SECTION4. THE OPERATION OF THE TRANSMISSION CHANNELS IN THE SEMC: DIGITAL DIVIDES VS. DIGITAL DIVIDENDS

The findings on the relationship between economic growth, use and adoption of ICT have been quite widely discussed in the context of industrialised countries. Their impact on development processes of developing countries is much less advanced. I now propose to examine the manifestation of these effects in the case of economies of southern and eastern Mediterranean. The first part will focus on the state of dissemination of key technologies *'generic'* ICT and the second will introduce a discussion of its effects.

4.1. INSTEAD OF A STATEMENT OF THE MAIN ICT DIFFUSION IN THE SEMC

It focuses on three technologies: telephony (in its fixed or mobile, terrestrial, satellite or fibre optic), computer (laptop, desktop computer, mainframe or personal computer, compact or centralised) and Internet (browsing, mail, EDI, e-commerce). Five indicators are used to address their distribution: the number of fixed telephones per thousand inhabitants, the number of phones per thousand inhabitants, the number of PCs per thousand inhabitants, the number of Internet-connected computers per thousand inhabitants and the number of Internet users per thousand capita. I review these indicators for 37 countries forming the Euro-Mediterranean Area Expanded.

THE ADOPTION OF THE PHONE CAPS

Indeed, I find that within the European Union (EU 15), the phone fixed caps around 600 lines per thousand inhabitants, while a plateau at 300 lines per thousand inhabitants is observed in the countries of the AC 12 and this level is only 150 lines per thousand inhabitants in the SEMC. Diffusion is twice as large an economic zone to another. Worse, for fixed telephony subscriber growth is negative.

A STRONG ADOPTION OF MOBILE PHONES

The mobile phone, however, was quickly adopted in the three regions. It exceeded the rate of fixed telephone equipment maintaining the same differences between the three groups of countries. The equipment rate is 800 lines per thousand inhabitants in the EU 15, 400 lines in the AC 12 and only 200 lines in the SEM. In addition, there is a clear substitution between the two forms of telephony in the three zones.

A SMALL INCREASE IN COMPUTER EQUIPMENT

The computer equipment is still quite low in the broader Euro-Mediterranean area. This sharp divergence in terms of computer equipment could be put into perspective by considering the computer more as a private good in the European Union and a public good in the AC 10 and in the SEMC. Moreover, this could come from the inability to accurately identify the number of PCs in the SEMC. Indeed, besides the legal importation, other forms of imports can grow without the statistical system to take them into account (contraband imports by immigrant populations). Unlike telephony, where the subscriber can identify the exact terms of adoption, there is no official timetable for computers.

A TOTAL LACK OF DYNAMICS IN THE INTERNET IN THE MENA

Indicators on the Internet show the total absence of dynamic within the SEMC even though I observed a strong increase in the adoption of this technology in the AC 12 or EU-15. The weakness in the Internet can be attributed to the newness of the technology, but also the weakness of the technologies required for its use. These initial findings must be put into perspective and compared with the general criteria in the previous section. Indeed, the existence of initial differences in economic development and income is critical to the adoption of these technologies. I have considered this issue in perspective and dissemination by GDP to examine the relative effort of various countries for the equipment in these key technologies. The results deserve some attention. Indeed, the relative effort of ICT equipment is the largest made by the AC 12. Whatever the technology in question, the AC 12 seem determined to catch up or the technological gap. MENA countries also agree a major effort in view of their GDP, but this effort is not sufficient to induce catch-up even though the EU is growing in the field (including computer and Internet).

4.2. ELEMENTS OF DISCUSSION OF THE MANIFESTATION OF MACRO-ECONOMIC EFFECTS OF ICT IN THE SEMC.

This section introduces elements of discussion on the effects macroeconomic ICT in the southern Mediterranean. I give here the results obtained for the five bills presented in Section 2.

THE MULTIPLIER EFFECTS ARE WEAK

Most of the SEM does not produce the goods and services in ICT (outside of emerging production of components and without being almost total services). Thus, the ICT sector is often confused with the communications sector. However, strategies can be easily developed to produce goods and services in ICT. Indeed, the ICT sector does not admit a critical mass that involves a particular global dynamics. MENA countries could benefit from a reallocation of location strategies of firms and benefit from the overflow of spatial constraints. Indeed, if one solves the technical and regulatory constraints and that it highlights the human skills, multinational companies producing ICT may find interest in settling in the SEMC, close to the European market. The example of the relocation of call centres is quite illustrative of this dynamic. However it is still in its infancy and did not result in cascading effects to increase the overall macroeconomic performance. Moreover, investment in other industrial sectors in ICT seems off. The share of investment in communication compared to the total investment as a share of GDP devoted to investment in the ICT are changing significantly over the last years of the 1990s in the SEMC. For example, in absolute terms, the volume of investment has quadrupled, while in relative terms it increased by 61.1 per cent compared to total investments in Tunisia (Ben Youssef and M'henni, 2004). The increase in ICT investment in the Tunisian economy should, over time accompanied by the multiplier effects of investment and strengthen the growth.

A MORE PRONOUNCED EFFECT DEFLATOR BUT NOT YET FULLY UTILISED

Price differences in ICT goods between countries (mainly OECD) and the SEMC are important. Two factors may explain these differences. On the one hand, the majority of SEMC import ICT goods that are subject to high trade protection. Second, the lack of reforms in the telecommunications sector led to note the presence of monopolies, often inefficient and with patterns of excessive pricing. The combination of lower trade protection on ICT goods and greater deregulation of the communications sector could lead a significant effect deflator.

Lower prices in the area of mobile telephony, often following the introduction of a second private operator has led to observe a strong dynamic of adoption. The signing of free trade between most of the SEMC and the European Union and the possible signing of agreements in the WTO trade protection will limit imports and should lead to lower prices for IT goods accelerate the enterprises and individuals. On a macro-economic aggregate, I remain far from an overall effect of 0.37 to 0.5 per cent growth points as the United States (Gordon, 2000).

A SUBSTITUTION EFFECT LIMITED

The third effect is the effect of capital-labour substitution following an investment in ICT. In theory, this effect is the same in the MENA and developed countries. But the low level of ICT investment does not here the manifestation of such effects, especially in the presence of high unemployment and cost of labour low. ICT penetration still seems too early to generate substitution effects. However, as evidenced by the acceleration of ICT investment in Tunisia, the ratio of workers per unit of capital increases as a whole. This could lead to an improvement in apparent labour productivity. In addition to investment in physical capital, increased worker efficiency is dependent on the adoption of organisational innovations by companies (upgrade) and the level of training (Bellon, Ben Youssef and Plunket, 2002; Bellon and Ben Youssef, 2003).

A QUALITY EFFECT RESTRICTED

MENA countries are engaged in a vast movement quality in conjunction with the Euro-Mediterranean agreements embodied in the policies of upgrading and qualification ISO 9000. There is in this context a continuous quality improvement and increased convergence towards a single standard. ICTs are not foreign to this development and continuous technological improvements as well. But it is difficult to separate the two effects (organisational and technological). This dynamic certainly benefits to countries that have adopted the latest technologies. However, the quality effect is strictly dependent on the state of the national distribution and equipment. Simultaneously, I find that ICT creates new needs and thus new opportunities. This effect was not considered in my work and also deserves to be considered in the extensions of my study.

PGF POTENTIALLY POSITIVE EFFECTS

Consider the potential impact of ICT on total factor productivity. The recent studies in Tunisia and Morocco (Morrisson and Talbi, 1999; Ghali and Mohnen, 2003) suggest that the latter has no known specific acceleration. It therefore finds no immediate effect of the adoption of ICT on the combination work/capital. This may reflect a part of the need to reach critical thresholds and also the lack of sufficient organisational changes to improve the efficiency of production processes. The debate on the productivity paradox has shown that the performance in terms of productivity has been achieved after a long period of accumulation of ICT capital to both U.S. and Europe, and that this accumulation remains still low in the SEMC. However, given the inefficiencies initial field surveys in during show productivity gains due in particular to the use of ICT is very important to the micro level. The evolution of businesses upgrades' is very much greater than that of their counterparts (immediate comparison between contractors and subcontractors) in the North. ICT enables to operate such sources of productivity in some traditional industries and allow the acquisition of new knowledge. Indeed, the adoption of ICT in the SEMC coincides with a change in their economies to industrial economies. The effect of structure (transition from a resource-based to an industrial economy) is positive on the TFP gains. However, keep in mind that the effects are totally dependent on ICT adoption by agents, modalities of learning, the internal organisation of firms and more generally, organisational capacity and skills of human capital. ICTs can enable a thorough review of working conditions and industrial organisation at the same time that the effects of capital/labour substitution that affect overall productivity.

EFFECTS 'SPILL OVERS' LOW DIRECT AND INDIRECT.

As I pointed out in the third section, the effects of *'spill overs'* depend generally quite productive structures of the country and the technological complementarity between sectors. ICT is mainly acquired externally via imports. Here, dividends depend on the technological ability to attract multinational firms operating in the field of ICT. Creation strategies Ex-Nihilo technology parks and *'techno'*, although they seem to fashion, showed a relative inefficiency. However, the SEM seem to enjoy indirect benefits of ICT without bear the costs of development and especially those relating to the process of trial and error leading to the final solution. In other words, the SEMC adopt the technologies mature and stabilised once the international standardisation has taken place. Moreover, the rate of equipment in some MENA ICT, such as mobile phone, shows a strong adoption once the technology is stable. Certainly, one can argue that for older ICT (mobile phone and personal computer) the equipment rate remains relatively low, but experience shows that the mobile phone technological developments provide products and services and multiple decentralised, highly adapted the context of such countries. Some technological developments seem to benefit the country more followers. Part of the ICT has fallen into the public domain. MENA countries can benefit and the potential of these technologies and optimise their distribution at the lowest cost. For example include the versatility of uses of ICT and their software, the proliferation of free software, and lower costs of duplication of software. This will undoubtedly benefit the users of SEM and could accelerate growth without cost. Another example of the generic nature of new technologies is the use of the power system as a means of equipment for the Internet. Of course, all these developments leave the issue of intellectual property rights intact. The following table summarise the expected effects of ICT and the main channels that can cause an acceleration of macroeconomic performance in the SEMC. Essentially, two important channels appear to play a full - as long as the equipment rate becomes significant - is the effect *'deflator'* and effect *'PGF'*. If the fracture in the short term is the lack of macroeconomic effects apart from a limited effect deflator in the medium term, the adoption of appropriate economic policies on deregulation and diffusion of ICT could lead to benefit effects macroeconomic significance.

TABLE 1: THE MACROECONOMIC EFFECTS OF ICT IN MENA

Macroeconomic effects	currently	potentially
Effect deflator	+	++
Multiplier effects	--	+
Quality effect	--	+
Effect PGF	--	++
Effect spill overs	limited	limited
Effect capital deepening	--	+

CONCLUSIONS

The purpose of this paper was to discuss the relevance of the theory of digital divide with respect to developing countries, focusing on macro-economic effects of ICT on economic growth (growth potential) rather than considering the differences in infrastructure and microeconomic effects on business management (which is the subject of several on-going research). Goes beyond the statistical findings with global and too little adapted, my approach has identified six transmission channels of ICT on overall macroeconomic performance. The digital divide is then to consider that for some countries at the same level of equipment, some channels may be faulty. The differences are in country size, factor endowments, and international specialisation of countries.

I have implemented my interpretative framework to the case of MENA countries. These are currently characterised by an optimal distribution in key technologies (Internet, telephony and computers), but demonstrated a catch-up in mobile telephony. Careful examinations of the transmission channels of ICT to growth clearly show that in the case of SEMC two of them seem to be able to play full namely are the effect of PGF and effect *'deflator'*.

REFERENCES

1. Antonelli, C. (2003). 'The Digital Divide: Understanding the New Economics of Information and Communication Technology in the Global Economy', Information Economics and Policy, 15, 173-199.
2. Askenazy, P. and Gianella, C. (2000). 'The productivity paradox: organisational change, complementary factor to computerisation', Economics and Statistics, No. 339-340, 9/10.
3. Bellon, B., Ben Youssef, A. (2003). Patterns of Industrial facing the Euro-Mediterranean Free Trade, in the strategies of the actors deal with free trade in the Euro-Mediterranean H. Regnault (eds), The harmathan.
4. Bellon, B., Ben Youssef, A. and Plunket, A. (2002). 'Determinants of strategic industrial alliances North-South: some lessons learned Euro-Mediterranean', Industria, No.3, July-September.
5. Bellon, B., Ben Youssef, A. and Rallet, A. (2003). 'The New Economy perspective', Economica, Paris. 286 pages.
6. Ben Youssef, A. and M'henni, H. (2004). 'Effects of Information Technology and Communication on economic growth: the case of Tunisia', Area Development, No.19-2004, pp.131-150.
7. Borenstein, S. and Saloner, G. (2001), 'Economics and Electronic Commerce', Journal of Economic Perspectives, pp.23-45.
8. Boudchon, H. (2002). 'The shock of the new economy: a case study of five OECD countries', Revue de l'OFCE, October, pp.245-289.
9. Boyer, R. (2002). 'Growth in the new century. Byte of the gene', Albin Michel Economics.
10. Bresnahan, T., Brynjolfsson, E., and Hitt, LM (2002). 'Information Technology, Workplace Organisation and the Demand for Skilled Labour: Firm Level Evidence', Quarterly Journal of Economics, Vol.117, No.1, pp.339-376.
11. Brynjolfsson, E. and Hitt, LM (2000). 'Beyond Computation: Information Technology, Organisational Transformation and Business Performance', Journal of Economic Perspectives, Vol.14, No.4, pp.23-48.

12. Cohen, E. and Debonneuil M. (2000). 'New Economy', The French Council of Economic Analysis.
13. Colecchia, A. and P. Schreyer (2001), 'ICT Investment and Economic Growth in the 1990s: Is the United States a Unique Case? A Comparative Study of Nine OECD Countries', OECD Science, Technology and Industry Working Papers, 2001/7, OECD Publishing.
14. David, PA (2001). 'Understanding Digital Technology's Evolution and the Path of Measured Productivity Growth: Present and Future in the Mirror of the Past'. In Brynjolfsson, E., Kahin, B. (Ed.).
15. Dirk, P. and Lee, FC (2001). 'Productivity Growth in ICT-Producing and ICT-Using Industries: A Source of Growth Differentials in the OECD', Paris.
16. Feldstein, M. (2003). 'Why is Productivity Growing Faster?', Journal of Policy Modelling, vol.25, pp.445-451.
17. Garicano, L., and Kaplan, S. N. (2000). 'The Effects of Business-to-Business Electronic Commerce on Transaction Costs', Working Paper, Graduate School of Business, University of Chicago.
18. Ghali, S. and Mohnen, P. (2003). 'The Evolution and determinants of total factor productivity growth Frontier in Tunisia', 2003 FEMISE Conference, Marseille 4.5 and 6 December 2003.
19. Gilles, F. and L'Horty, Y. (2003). 'The New Economy and the productivity paradox: a comparison between France and the United States', in Bellon, Ben Youssef, and Rallet (ed.) The new economy in perspective, Economica, Paris.
20. Gordon, RJ (2002). 'Technology and economic performance in the American economy', NBER Working Paper Series, No.8771.
21. Gordon, RJ (2003). 'Hi-tech innovation and productivity growth: does supply create demand Its Own?'. NBER Working Paper Series, No.9437.
22. Gordon, RJ. (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.
23. Greenan, L'Horty and Mairesse (2002). 'Responsibility of ICT overstated', The four pages of the EEC, No. 52, July 2002.
24. Hargittai, E. (2002). 'Beyond Logs And Surveys: In-Depth Measures Of People's Web Use Skills', Journal Of The American Society For Information Science And Technology, Vol.53, No.14, pp.1239–1244.
25. Helpman, E. (1998). 'General Purpose Technologies and Economic Growth', MIT Press, Cambridge.
26. Jorgensen, W. D and Stiroh, K. J (2001). 'Raising the speed limit: US Economic Growth in the Information Age', Brookings Papers on Economic Activity, 1, pp125-211.
27. Jorgensen, W.D. (2001). 'Information Technology and the US Economy', American Economic Review, Vol.91, No1, pp.1-32.
28. Jorgenson, W. S. Ho and Stiroh, K. J (2003). 'Lessons for Europe From the US Growth Resurgence', CESifo Economic Studies Issue1/2003.
29. Koski, H., Rouvinen, P., i Ylä-Anttila, P. (2002). 'ICT clusters in Europe The great central banana and the small Nordic potato,' Information Economics and Policy, Vol.14, No.2, pp.145-165
30. Lipsey Richard G., Carlaw Kenneth, Bekar Clifford (2005). 'Economic transformations: general purpose technologies and long-term economic growth', Oxford University Press.
31. Litan Robert E. & Rivlin, Alice M., 2001. 'Projecting the Economic Impact of the Internet', American Economic Review, American Economic Association, Vol. 91, No.2, pp.313-317.
32. Mairesse, Cette and Kocuglu, (2003). 'Is there a productivity paradox? in the New Economy in Perspective', Bellon, Ben Youssef and Rallet (ed.), Oxford University Press.
33. Morrisson, C. and Talbi, B. (1999). 'The growth of the Tunisian economy in the long run'. Series Long-term growth. Development Centre Studies. OECD.
34. OCDE (1999). 'Measuring the ICT Sector', http://www.oecd.org/dsti/sti/prod/sti wp.htm.
35. Oliner, S. and Sichel, D. (1994). 'Computers and Output Growth Revisited: How Big is the Puzzle? ', Brookings Papers on Economic Activity, vol.2, pp.273-317.
36. Oliner, S. and Sichel, D. (2000). 'The Resurgence of Growth in the Late 1990's: Is Information Technology the Story?', Journal of Economic Perspectives, vol.14, No.4, pp.3-22.
37. Petit, P. (2002). 'The times of the new economy in Bellon', Ben Youssef and Rallet (ed.) The New Economy in Perspective, Oxford University Press. Paris.
38. Pohjola, M. (2002). 'The New Economy: facts, impacts and policies'. Information Economics and Policy, No.14, pp.133-144.
39. Quah, D. (2001). 'The Economy in Economic Development Weightless'. In Pohjola, M. (ed.) Information Technology Productivity, and Economic Growth: International Evidence and Implications for Economic Development. Oxford University Press, Oxford.
40. UNDP (1999). 'New Technologies and the global race for knowledge (chapter 2), Human Development Report', New York, UNDP.
41. Von Tunzelman, N. (2003). 'Historical coevolution of governance and technology in the industrial revolutions', Structural Change and Economic Dynamics, No.14, pp.365-384.

REQUEST FOR FEEDBACK

Dear Readers

At the very outset, International Journal of Research in Commerce, Economics and Management (IJRCM) acknowledges & appreciates your efforts in showing interest in our present issue under your kind perusal.

I would like to request you to supply your critical comments and suggestions about the material published in this issue as well as on the journal as a whole, on our E-mail **info@ijrcm.org.in** for further improvements in the interest of research.

If you have any queries please feel free to contact us on our E-mail **infoijrcm@gmail.com**.

I am sure that your feedback and deliberations would make future issues better – a result of our joint effort.

Looking forward an appropriate consideration.

With sincere regards

Thanking you profoundly

Academically yours

Sd/-

Co-ordinator

ABOUT THE JOURNAL

In this age of Commerce, Economics, Computer, I.T. & Management and cut throat competition, a group of intellectuals felt the need to have some platform, where young and budding managers and academicians could express their views and discuss the problems among their peers. This journal was conceived with this noble intention in view. This journal has been introduced to give an opportunity for expressing refined and innovative ideas in this field. It is our humble endeavour to provide a springboard to the upcoming specialists and give a chance to know about the latest in the sphere of research and knowledge. We have taken a small step and we hope that with the active co-operation of like-minded scholars, we shall be able to serve the society with our humble efforts.

Our Other Journals