Digital Economy Perspectives in the Mediterranean Region

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The South Mediterranean is the first area in the world to experience a real revolution initiated, in part, by the spread of Information and Communication Technology (ICT). In fact, ICT has allowed peoples of the South Mediterranean to revolt against their social, political and economic conditions with the aim of establishing democratic regimes and laying the foundations for ensuring improved living conditions. The shockwave has been as spectacular as it was unexpected by the majority of international experts. Beyond considering the immediate political and media impact of such a revolution, post-modern and technological at once, the aim of this brief article is to discuss whether ICT constitutes a vector capable of modifying the paths of economic and social development in South Mediterranean countries.

The digital economy refers to the ensemble of processes by which economic agents use ICT in their production, consumption or basic organisational operations, whether these agents are businesses, groups, social networks, markets, associations or whatnot. ICT has permeated spheres of production as well as consumption. All companies are equipped with digital technology, as is a large percentage of consumers, such that transactions are increasingly being effected directly via this technology or with its support. The digitalisation of the economy has entailed economic effects in the Mediterranean area that need to be considered in order to grasp what this implies for other virtual or real spheres. At the same time, other effects, likewise assisted by ICT, require certain conditions to reach maturity and should be established as priorities in economic policies.

This brief note will render an account of the stylized facts characterising the observed benefits of the digital economy in the South Mediterranean and explain their scope (part one). It will then describe constraints weighing on the positive effects of the digital economy on the south shore of the Mediterranean in order to suggest courses of action for overcoming them (part two). In this regard, particular attention will be lent to the conditions for the emergence of industries with a content that, from the author's perspective, constitutes a terrain where the advantages of a digitalised economy can be felt, along with its limits.

Advantages of a Digitalised Economy for South Mediterranean Countries

Use of ICT Is Spreading at a Satisfactory Pace… but a Qualitative Digital Divide Endures

The use of ICT has progressed significantly in the Mediterranean region over the past few years. The rise in access to Internet and in generalised computer and mobile telephony use has been spectacular. Data from the UN Agency for Information and Communication Technologies (ITU, 2009) show the South Mediterranean countries catching up with those of the North in mobile telephony. For instance, the proportion of individuals owning a mobile telephone in Algeria went from 1.4% in 2002 to 81.4% in 2007! Some consider mobile telephony was the key to the regional economy's entry into the digital era. Although the divide remains great insofar as computer equipment between countries or social classes, the fact is that computers today fall just as much under the category of collective goods as under that of private goods, which limits the negative impacts of under-equipment. Attesting

to this, multiple-user computers under semi-public access at cybercafés or under full public access offer a number of possibilities allowing rationalised use and overcoming the constraints associated with private goods. There is no denying that access to Internet is experiencing highly significant progress. Public strategies have allowed the generalisation of connexion sites (universities, cybercafés, public spaces, etc.), which have been facilitated or strengthened by competition between telephony operators and Internet providers. The spread of new connexion tools and the innovations they entail have crossed quite quickly from the North to the South shore of the Mediterranean. Current issues concern the quality of the connexion, its bandwidth and its capacity rather than the simple existence of a connexion. Indeed, whereas downloading a file can take a few seconds with a high-speed connexion, it could take several hours with a low-speed one. For instance, the bandwidth in 2007 was 857 in Algeria, 304 in Syria and 1,023 in Egypt, whereas it reached 7,190 in Israel, 8,390 in Turkey, 62,484 in Sweden and 9,617,645 in Luxembourg. The majority of connexions are still medium-to-slow speed, preventing users from exploring or taking advantage of the ensemble of Internet possibilities under high-speed connexions. This is a digital divide that should be remedied if we really wish to foster the "digital economy" in the South Mediterranean and take full advantage of the potential of ICT as a whole.

Significant Benefits Registered in Public Sectors such as Healthcare, Education or Administration in General

Spectacular progress has been made in the domain of core government functions thanks to the generalisation of ICT-supported applications. Indeed, the growing computerisation of public administration, the convergence of applications and the generalisation of workflow systems have allowed significant gains in productivity for the public sector in South Mediterranean economies. ICT has improved public education processes by making abundant pedagogical resources available. Applications in the sphere of distance education have allowed education to reach geographically dispersed or marginalised populations, as demonstrated by the number of virtual universities in certain countries. Attesting to this, Tunisia is currently risking establishing the rule that a fifth of education be carried out in digital form. Numerous administrative forms are also available via Internet and payment of public utility invoices has become generalised. Morocco's customs services are a striking example of the progress of ICT use in public sectors.

The simplification of administrative processes allowed by ICT as well as the resulting information gains could allow significant improvement of competitiveness for Mediterranean economies

The development and spread of applications fostering e-government and e-administration have allowed substantial improvement of State performance, leading to gains in efficiency and quality of services rendered in South Mediterranean countries. We are witnessing a major modernisation of public services alleviating budgetary constraints weighing on administrations that are often too unproductive. However, efforts are still needed to optimise applications in numerous spheres. The simplification of administrative processes allowed by ICT as well as the resulting information gains could allow significant improvement of competitiveness for Mediterranean economies.

The Emergence of an ICT-Assisted Service Industry

Parallel to the generalisation of new applications in the public domain, numerous enterprises have emerged that use ICT to carry out subcontracting activities in the service sector. In fact, one of the most significant consequences of the implementation of ICT concerns its capacity to allow companies to reorganise their value chains or outsource internal transaction costs so as to focus on their core activities. Businesses are subcontracting or offshoring their annex or secondary activities. This trend, observed in the United States since the mid-1990s, has become generalised in the Mediterranean area since the beginning of the 21st century. North Mediterranean firms, taking advantage of the cultural and geographic proximity of South Mediterranean countries, have offshored a number of their activities or processes, such as accounting, hotlines and advising services. As a consequence, an industry

specialising in this type of activities has emerged and rapidly become consolidated in South Mediterranean countries.

The fact that French is a second language in the Maghreb countries has allowed them the advantage of attracting francophone companies, which outsource a number of activities, some of them significant. By the same token, certain German, Spanish and Italian companies are investing in training personnel in the South Mediterranean so as to likewise subcontract their activities and take advantage of the difference in labour costs and the more accommodating legislation. This trend has triggered re-specialisation towards the service sector. The relocation of service industries to the South Mediterranean has reinforced the interdependence of Mediterranean economies. One of the hopes of South Mediterranean countries consists of strengthening the opportunities offered by this re-specialisation niche in order to develop service industries with greater value-added or high research and development (R&D) content. Nevertheless, serious constraints are arising to hinder this scenario, whose contours should be described.

Constraints on the Digital Economy in the South Mediterranean

Although ICT implementation finally seems to be rising to the challenges in south shore countries, there are clearly a number of barriers still limiting applications and efficiency. First of all, multiple ICT applications require specific skills (e-skills) that in turn require States to implement overall strategies in this sphere. Secondly, migration to the North of the south shore's ICT-qualified workers exercises an impoverishing effect that likewise limits the emergence of a real ICT sector in the South Mediterranean. Finally, we must also keep in mind that the content of products or services marketed via Internet remains weak. The weight of the content developed in the South Mediterranean remains marginal on the global scale.

The Issue of Digital Skills

The efficient use of ICTs requires specific skills. This set of skills or abilities is known as *e-skills*. Three types of e-skills are generally distinguished. First of all, instrumental or generic skills, which concern handling tools, instruments and software. This is a basic skill level preliminary to information skills; it involves searching, comprehension, classification and use of information as allowed by ICTs. In the second place, information literacy, which is based on numerous levels of information use, considering the wealth of the latter on Internet. Information literacy is indispensable for an efficient use of Internet or ICTs in general. In the third place, strategic skills relative to ICT use, designed to accelerate learning, productivity and innovation.

The current digital economy in the South Mediterranean is oriented more towards the consumption of content than its production

The dynamics observed recently, in particular in digital social networks, show that South Mediterranean users display significant ICT skills on the instrumental and informational levels. Indeed, political disruptions and improvement in education levels in certain countries, such as Tunisia and Jordan, have allowed the inclusion of a great many people in the digital economy (*e-inclusion*). Once information is no longer available except through this channel, it becomes necessary for everyone to acquire the basic skills for accessing it. Moreover, the need to select information, verify the sources and develop a critical spirit in this regard has accelerated the acquisition of certain information literacy skills. This recently acquired e-skills capital could prove primordial in the years to come. Nevertheless, transforming this capital into e-skills involves the delicate issue of the development of strategies by South Mediterranean countries. On the one hand, numerous impediments prevent the development of companies' full e-skill potential (Bellon et al, 2006 and 2007). On the other hand, the sphere of e-commerce remains limited due to technical constraints relating to the absence of "reliable" transaction systems and consumer trust in on-line transactions. At present, these constraints prevent acquired skills from being efficiently used in the commercial sphere. In addition, until recently, the political systems in operation limited the development of citizen initiatives that could be ICT or Internet-supported. In this sense, political

initiatives of broad scope could be undertaken in order to foster strategic skills and consolidate the positive dynamics observed in basic ICT skills and information literacy.

Brain Drain in the ICT Sector Exercises an Impoverishing Effect on This Emerging Industry in the South Mediterranean

The emerging ICT industry in South Mediterranean countries, at this early stage, consists of providing offshoring opportunities for certain services, rendered possible by the cultural proximity between North and South Mediterranean countries. Thus, a majority of French, Italian and Spanish call centres have outsourced their hotlines to Maghreb countries, as indicated above. Other services not requiring high skills levels have followed. This first stage suggests a future increase in international outsourcing of high value-added services. This will require employment of increasingly qualified personnel (essentially engineers). This increase in service range, however, has run up against the absence of qualified labour. Even worse, qualified workers in the sector and engineers having trained in the South Mediterranean are moving to North Mediterranean countries due to the wage difference. This trend has increased over the past few years. Of course, positive effects can be expected in terms of technological externalities, network externalities, the establishment of futures companies on the south shore, or even money transfer businesses. Nevertheless, the fact of the matter is that this northward qualified labour flow currently limits the growth of the ICT sector and the re-specialisation of southern economies. The immigration legislation of European countries remains lax in this regard, primarily due to the European Union's e-skills shortage. In fact, in 2008, the European Commission estimated that 40% of Europeans had no ICT qualifications. The gap between supply and demand of digital skills continues to grow in Europe, such that the term "e-skills gap" has become commonplace. Thus, recourse to ICT-qualified labour from the Mediterranean Basin seems an obvious option. Nonetheless, this strategy limits opportunities for South Mediterranean countries, since they need to develop industries with local content. Developing a joint strategy allying the interests of both North and South Mediterranean countries should be a focal point in the construction of the future Union for the Mediterranean (UfM).

Low Local Language Content on the International Level

Industries of native language content remain reliable. However, contents in Arabic, Turkish or Hebrew, for instance, are insignificant on the international level. The world production of contents is largely in English, or involves languages such as Mandarin Chinese, Spanish or French. The percentage of world content production in Arabic is low compared to the proportion of the world's population speaking that language. This gap reveals that the current digital economy in the South Mediterranean is oriented more towards the consumption of content than its production, although this situation seems to be gradually improving. The Arab revolutions have contributed to modifying behaviour with regard to information and its sources, but a great deal remains to be done before southern countries can enjoy the advantages of the digital economy.

Conclusions

The aim of this brief article was to demonstrate how South Mediterranean countries have benefited from and could implement ICT to positively influence their economic growth trends. The digital revolution has shaken the political arena in the countries concerned and could modify the structures of their economies. However, various prerequisites seem necessary for this to occur. For instance, a strategy should be implemented to foster digital skills based on a concerted action plan jointly developed by North and South Mediterranean countries, primarily in order to prevent brain drain and promote the development of content in local languages. In fact, the technology involved is neutral in principle, but less so when the aim is to use semantic content to an economic end. In this regard, it is qualified as "biased technology" (skill-biased technological change), as it cannot benefit all people and all countries to the same extent. Indeed, it can even cause inequalities between countries or people to grow, a factor that also calls for the implementation of specific development strategies.