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Internet, Telecom Sector Liberalization and Civil
Liberties in the Middle East and North Africa Region

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Abstract

Middle Eastern and North African countries started liberalizing the Internet in the mid 1990's as a result of the political willingness to develop an economy based on knowledge. The paper suggests that liberalization is playing an important role in changing the level of civil liberties enjoyed by citizens by increasing the quality and quantity of information accessed. In the Middle East it identifies issues such as the abuses of dominance by the incumbent operator in the access market and content control policies to have constrained the Internet's impact on civil liberties.

The paper verifies empirically the relation between Internet diffusion and civil liberties in a sample of 44 countries belonging to three region: South-Western Europe, Eastern Europe, the Middle East North Africa. It identifies monopolistic behaviours by state-owned operators and content control policies to mitigate the Internet's impact on civil liberties.

In the Middle East North Africa, telecom sector liberalization has increased significantly since 2003, improving the quantitative and qualitative usage of the Internet. In parallel, the region shows growing interest for providing online administrative and business services. These changes are positively influencing the diffusion and protection of civil liberties.

Keywords

Introduction

The Arab World is a region where expectation for Internet-driven political change has stimulated a significant body of research, and a wide range of hypotheses. The Internet's ability to contribute to democratic reform and the creation of civil culture is an issue which raises much interest. Field evidence suggests that in the Arab World the Internet is enabling civil engagement, even if institutionalized forms of democracy remain limited. This optimistic view is balanced by careful attention to surveillance/censorship of the Internet, which complicates the relation between state power and individual freedoms. By civil liberties is meant the freedom from arbitrary interference in one's pursuits by individuals or by government.[1]

When investigating the impact of Internet on civil liberties, it is important to remember that Internet itself is only an access technology, and remains, as such, neutral. Governments are those who determine, through liberal or restrictive policies,[2] the impact that Internet and Information and Communication Technologies (ICT) should play in the economic and social development of their countries. Governments play a key role in service expansion through policies favouring increases in the level of investments in telecommunications and ICT. Governments play a role in improving productive and allocative efficiency[3] by liberalizing, regulating and favouring competition over monopolistic state predominance in the Telecommunication sector. This, in turn, influences the diffusion of the Internet and the use of ICT.

Starting from this moderately optimistic perception of the Internet's development impact, this study aims at verifying the extent to which civil liberties are stimulated by the development of the Internet and the role that is played by telecom sector liberalization in this process.

Internet in the Middle East and North Africa

The Internet and the impact of ICT on economic development, growth and productivity, have attracted considerable attention of researchers in the last ten years (OECD; Van Ark and Piatkowsky, 2004). In the MENA region Internet could contribute to increase freedom, gender equity and knowledge diffusion, which are considered the main regional development weaknesses (UNDP, 2003), positively impacting the development of civil liberties.

This study began from the observation of a paradox in the behaviour of Internet service Providers (ISPs) in the MENA region, whose number gradually shrunk although demand for Internet service from citizens and businesses kept increasing. Besides the quality of the business environment and the reduced availability of business capital, Internet Service Providers continue to face physical bottlenecks to Internet provision which challenge their survival. Monopolistic incumbents, limited competition and lack of intellectual property rights protection produce lack of bandwidth availability, non competitive Internet access pricing and high levels of piracy, which force Internet players out of business and discourage ICT development.

An ISP is an organization that connects businesses or residential customers to the Internet (backbone). Initially ISPs provided only Internet connectivity, but by the end of the 1990's, with the market becoming strongly vertically integrated, ISPs increasingly provided online commercial services such as Web Hosting, Web development, online advertising and electronic commerce facilities. In this new business model, Middle Eastern incumbent operators perceived the growing

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1 A definition of civil liberties from the *Encyclopaedia Britannica.*

2 As well as through the type of information and administrative services they might want to supply online.

3 An example of allocative efficiency is represented by tariff rebalancing.

importance of the segment and entered into the market of ISPs, quickly becoming a stronger player, thanks to their dominant position at the network access level .

Box 1 : The Gulf and Middle East ISP Association and Initiatives

> *In a bid to further the development of the ISP industry, in December 2004 six ISPs from Saudi Arabia, the UAE, Kuwait, Bahrain, Lebanon and Jordan have founded a regional association: The Gulf and Middle East ISP Association (GMISPA). In addition to lobby on behalf of member ISPs to governments and regulators, this association will also pave the way for service-provisioning partnerships between the member groups. The founding members are Saudi AwalNet (owned by the Al-Faisaliah Group), Emirates e-Company (owned by Etisalat), Kuwaiti-based QualityNet, Bahraini incumbent Batelco, Lebanon's IDM and Jordan Telecom-owned Wanadoo. Given that all these ISPs are large broadband access players in their home markets, the new association is likely to focus on broadband competition issues such as local-loop unbundling (LLU) and fixed wireless access (FWA) licensing in the near future.*
>
> *In April 2005, Teleglobe International Holdings Ltd and Saudi Telecom Company (STC) have established the Middle East IP Exchange (ME-IEX) in Saudi Arabia, to serve Middle Eastern and Arabian Gulf ISPs and carriers. The new ME-IEX currently carries traffic for six customers from Qatar, Bahrain, Kuwait and Yemen and supports peering arrangements between ISPs. The ME-IEX supports direct regional traffic interchange amongst its local customers and provides them with reliable, high performance international traffic exchange via Teleglobe's network for direct connections to leading American and European carriers and ISPs and direct and transit connections to ISPs and carriers across Asia, Australia, Africa, and Latin America.*

As of 2003, in most of the MENA region, ISPs could not develop their own infrastructure[4] in addition to having no real choice in infrastructure providers. This was due to: (a) the incumbent operator enjoying a strong bargaining position by being the only provider of access in fixed and Datacomm services, dictating both price and technical conditions for access provision, (b) where the segment was liberalized, competition remained limited and ISPs had few alternatives**,** (c) alternative infrastructure provision[5] was either absent, a state-owned monopoly, or its provision not allowed by the current regulation. Where ISPs cannot develop their own infrastructure nor had no real choice on provision, they could be easily driven out of the market.

This is related to the importance of interconnection[6] and retail price regulation as elements of telecommunications policy in a liberalized environment. The implementation of sound interconnection regimes is essential for the dial-up access to the Internet. Interconnection charges' level and structure are particularly structurant issues in the development of competition, with their absolute levels creating strong impacts on the business plan of the new entrants and the structure of charges conditioning the entry of the various categories of operators and creating signals for the incumbent's choice of investment in infrastructure.

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4 Egypt is a notable exception (see Box 2) and Moroccan telecommunication reform has allowed operators to lease telecommunication capacity from alternative operators' networks (see note below).

5 In the European Union and in other markets where corporate data networks are well developed, alternative infrastructure of utilities (railways, energy, transport) or commercial companies (broadcast, banks) can be used as competitive solutions to provide alternatives to the incumbent's network.

6 Interconnection is defined as the physical and logical linking of public electronic communications networks used by the same or a different undertaking in order to allow users of one undertaking to communicate with the users of the same or another undertaking, or to access services provided by another undertaking. Its purpose is that of allowing an operator to offer services without having to deploy a complete network.

Box 2: Egypt's Open-Access Policy

Until 1996, Egyptian corporations, private and public sector companies, governmental entities, NGOs, and professionals were provided with free Internet access, in an effort to boost the utilization of the Internet. This was replaced by an open access policy, which allowed private ISPs to start operation using Telecom Egypt's infrastructure. Telecom Egypt's monopoly of the Internet infrastructure continued until July 1999, when EgyNet was awarded a license (Class A license) from the TRC to build, operate, and manage the first privately owned public data network in Egypt.

At present, there are around 80 ISPs offering Internet access in Egypt. The interconnection to the public Internet can only be established via a class A licensed operator, which on their part have their own international connection (not including voice). Therefore, Class A operators could either offer Internet service directly to the end user or to Class B and C, which on their part will offer it to the end users under a different brand.

As a result of this policy there are currently around 200 operational ISPs in Egypt. Organized along the following licensing framework:

	CLASS A Facilities-based Backbone Providers	CLASS B Facilities-Based PDNs	CLASS C Non facilities- based Virtual
Buy international bandwidth through Telecom Egypt	Yes	No	No
Install Copper/ Fiber Transmission facility in cases on non-availability	Yes	No	No
Wholesale	Yes	No	No
Co-location with incumbent & offloading transmission network, unbundle subscriber loop, install splitting equipment	Yes	Yes	No
Receive own numbering from regulator	Yes	Yes	Yes
Revenue share in offloaded call revenues	Yes	Yes	Yes
Retail	Yes	Yes	Yes
Awarding mechanisms	Individual qualification		Class license
License fee	3% Revenue share		Numbering fees
Minimum license fee	EGP 500,000/year	EGP 300,000/year	EGP 1,000/ year
Number of licenses	4	8	186

Structuring telecom sector liberalization in such a way as to favour productive private-sector initiatives, contributes to the diffusion of the Internet and the development of IT-related services.[7] Liberalization facilitates both access by civil society (through competitive provision of infrastructure) and economic innovation (Internet-based trade and services). In addition, up-to-date technical education and an economic regime inspiring business and consumer confidence will also contribute to the development of Information technology, including the Internet.

In a restriction-free context, the use of Internet has the possibility of facilitating **access** to information, communication and services in a ubiquitous and gender-neutral way. Internet entails the possibility of facilitating **supply** of information and services by the government, de-personifying and standardizing the administrative process and enhancing transparency. Internet has the capacity of facilitating the **production** of knowledge and its diffusion, generating in this way the knowledge economies.[8] 'A knowledge-driven economy is one in which the generation and exploitation of knowledge play the predominant part in the creation of wealth.'[9] In the industrial era, wealth was

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7 Private sector initiatives related to the Internet sector can be Access Service providers (both Network Service Providers and Internet Service Providers), Content Providers and Equipment Providers.

8 An extensive literature and coverage of the knowledge economy can be found at:
http://topics.developmentgateway.org/knowledge

9 United Kingdom Department of Trade and Industry, 1998

created by using machines to replace human labour. Many people associate the knowledge economy with high-technology industries such as telecommunications and financial services.

Figure 1: Knowledge Economy Assessment[10] in the Middle East
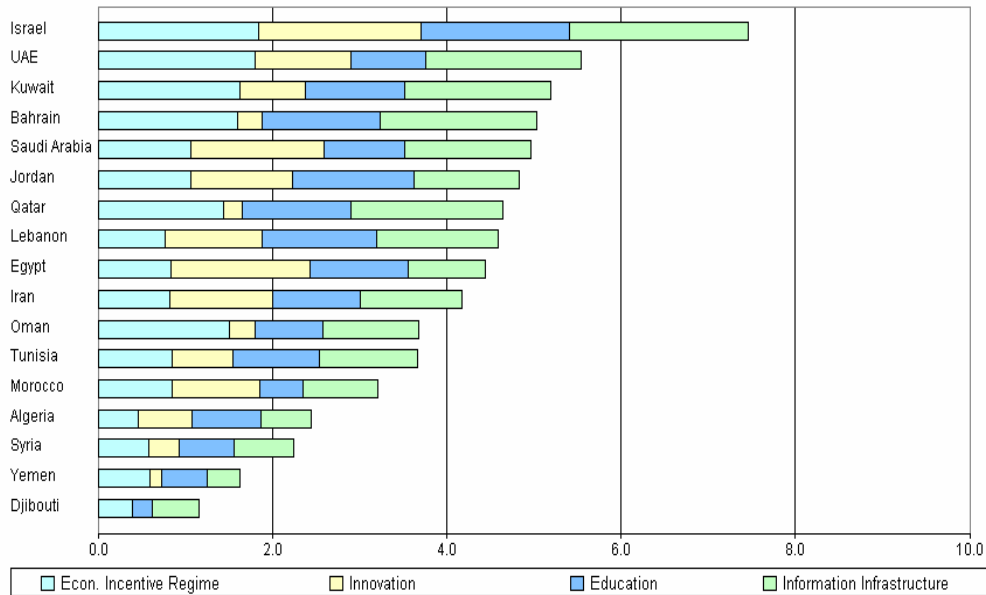
New Growth theory[11] differs from neo-classical economic theory by introducing technology (and the knowledge on which it is based) as an intrinsic part of the economic system. Knowledge has become the third factor of production in leading economies, it is the basic form of capital and economic growth is driven by the accumulation of knowledge.

While any given technological breakthrough may seem to be random, New economic theory considers that new technological developments, rather than having one-off impact, can create technical platforms for further innovations, and that this technical platform effect is a key driver of economic growth. Technology can raise the return on investment, which explains why developed countries can sustain growth and why developing economies, even those with unlimited labour and ample capital, cannot attain growth. Traditional economics predicts that there are diminishing returns on investment. New Growth theorists argue that the non-rivalry and technical platform effects of new technology can lead to increasing rather than diminishing returns on technological investment as investment can make technology more valuable and vice versa.

In sum, Internet has a large potential role to play in the development of civil liberties, the improvement of governance and in the deepening of the democratization process. Nonetheless, to

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10 World Bank's Knowledge Assessment Methodology www.worldbank.org/kam provides a preliminary knowledge economy assessment designed to help client countries understand their strengths and weaknesses in making the transition to the knowledge economy. It is thus useful in identifying the challenges and opportunities that a country faces, and where it may need to focus policy attention or future investments. The KAM consists of a set of 80 structural and qualitative variables that serve as proxies for the aforementioned four pillars that are critical to the development of a knowledge economy. The comparison is undertaken for a group of 128 countries which includes most of the developed OECD economies and over 90 developing countries. The data are from 2001.

11 New Growth Theory is based on work by Stanford economist Paul Romer and others who have attempted to deal with the causes of long-term growth, something that traditional economic models have had difficulty with. Following from the work of economists such as Joseph Schumpeter, Robert Solow and others, Romer has proposed a change to the neo-classical model. Romer argues that earning monopoly rents on discoveries is important in providing an incentive for companies to invest in R&D for technological innovation. Traditional economics sees 'perfect competition' as the ideal.

unleash the economic potential of Internet and reap gains from the development of Information-based Societies, Governments have to adopt a pro-liberal stance in the economy, to improve the deployment of information infrastructure, and to favour innovation and human capital formation pro-actively.

The core issue for this paper concerns the political consequences of knowledge societies, in particular its capacities for strengthening democracy and good governance. As well analyzed in the United Nations' 'World Public Sector Report 2003' (Norris, 2004), the impact of frequency of use of the Internet on four main dimensions of activism indicates that Internet users are significantly more politically active than others, among other. The main influence of the development in knowledge societies will be determined by the 'supply' and 'demand' for electronic political information and communications, and demand is heavily dependent, in turn, upon the social characteristics of Internet users and their prior political orientations.

Given this understanding, the study predicts that the primary impact of knowledge societies will be upon facilitating cause-oriented and civil forms of activism, thereby strengthening social movements, more than upon conventional channels of participation exemplified by voting and campaigning.

Rationale, Methodology and Definition of the Sample

This section looks into the opportunities for democratization and political transformation in the Middle Eastern and North Africa region, societies where freedom of speech and expression are often constrained by government controls. In doing this it will try to balance between the optimistic approaches supporting that new information technologies threaten sovereigns that depend on maximum political, economic and cultural control over their peoples…no longer can totalitarian regimes insure themselves as a safe environment by controlling the newspapers, radio and television stations because the World Wide Web remains beyond their control and manipulation (Perritt, 1998) and more pessimistic ones.

Pessimistic approaches stress how many authoritarian regimes translate a long and successful history of control over other information and communication technologies into strong control of Internet development within their borders. Potential challenges to the state may arise from Internet use in several areas: the mass public, civil society, the economy, and the international community. Authoritarian states will likely respond to these challenges with a variety of reactive measures: restricting Internet access, filtering content, monitoring on-line behaviour, or even prohibiting Internet use entirely. In addition, such states seek to extend central control through proactive strategies, guiding the development of the medium to promote their own interests and priorities. Through a combination of reactive and proactive strategies, an authoritarian regime can counter the challenges posed by Internet use and even utilize the Internet to extend its reach and authority (Kalathil and Boas, 2003). The empirical evidence of the impact of the Internet on civil liberties in various countries is rather limited at the present time and does not allow a clear-cut answer to the question. The ongoing debate between the views and theories of the 'cyber-optimists' and 'cyber-pessimists', requires more empirical supports by scientists and scholars to measure if and how allowing access to and encouraging use of the Internet contain the possibility of making a difference in civil discourse, the context of government and the contents of public policy.

In this paper, we used the Voice and Accountability indicator of the Kaufman, Kraay and Mastruzzi (KKM) Governance index as a measure of the political process, civil liberties and political rights. The KKM Governance Index estimates six dimensions of governance (of which Voice and Accountability is one), covering 199 countries and territories for four time periods: 1996, 1998, 2000 and 2002.[12] These indicators are based on several hundred individual variables measuring perceptions

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12 The KKM covering an additional time period (2004) has become available recently at:
   http://www.worldbank.org/wbi/governance/pdf/GovMatters_IV_main.pdf

of governance, drawn from 25 separate data sources constructed by 18 different organizations. The KKM index assigns these individual measures of governance to categories capturing key dimensions of governance, and use an unobserved components model to construct six aggregate governance indicators in each of the four periods. The KKM Index presents the point estimates of the dimensions of governance as well as the margins of errors for each country for the four periods (Kaufman, Kraay et al, 2003).[13]

This indicator measures the extent to which citizens of a country are able to participate in the selection of governments, the independence of the media, which serves an important role in holding monitoring those in authority and holding them accountable for their actions. We first tried to look into the relation between Internet diffusion and civil liberties through linear correlation analysis. We then proceeded measuring the correlation between countries having liberalized their communication sector and civil liberties, to indicate if Internet can influence freedoms independently from Government's pro-control attitudes.

The current correlation analysis served us mainly to begin verifying a theoretic intuition and will be followed by a regression analysis, not presented in this paper, which will analyze the direction of the correlation and causality of the theory. To measure and verify the causality we will introduce variables measuring the level of telecom sector liberalization, the development of civil liberties and the measurement of the quality of internet diffusion.

The sample analyzed in the study compares countries of the MENA Region to the Eastern European transition countries, and the Mediterranean countries of South Western Europe, including Turkey. It is a sample of 44 countries sub-divided as follows: 19 are Middle-eastern countries,[14] 19 are Eastern European transition countries[15] and 6 are Southern European countries[16] (Figure 2).

We have excluded limit countries having GDP per capita below US$500. The Middle East is a geographical area where the average number of Internet users per inhabitants scores at 6.7% with vast differences between countries, ranging from 0.1% in Iraq to 30.2% in Israel in 2002. Globally, the Internet usage density average figure stood at 31.6% in Western Europe, 7.1% in Asia and 10.3% in Latin America and the Caribbean (Table 1).

Table 1: World Internet Usage Statistics, Source: World Internet Statistics, 2004

WORLD INTERNET USAGE AND POPULATION STATISTICS						
World Regions	**Population (2004 Est.)**	**Population % of World**	**Internet Usage, Latest Data**	**Usage Growth (2000-2004)**	**Penetration (%age of Population)**	**World Users (%)**
Africa	893,197,200	14.00%	**12,937,100**	186.60%	1.40%	1.60%
Asia	3,607,499,800	56.50%	**257,898,314**	125.60%	7.10%	31.70%
Europe	730,894,078	11.40%	**230,886,424**	124.00%	31.60%	28.40%
Middle East	**258,993,600**	**4.10%**	**17,325,900**	**227.80%**	**6.70%**	**2.10%**
North America	325,246,100	5.10%	**222,165,659**	105.50%	68.30%	27.30%
Latin America/Caribbean	541,775,800	8.50%	**55,930,974**	209.50%	10.30%	6.90%
Oceania / Australia	32,540,909	0.50%	**15,787,221**	107.20%	48.50%	1.90%
WORLD TOTAL	**6,390,147,487**	**100.00%**	**812,931,592**	**125.20%**	**12.70%**	**100.00%**

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13 The data, as well as a web-based graphical interface, are available at www.worldbank.org/wbi/governance/govdata2002/.

14 The 19 Middle Eastern countries analyzed are: Algeria, Bahrain, Djibouti, Egypt, Iran (Islamic Rep. of), Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia, United Arab Emirates, West Bank and Gaza and Yemen.

15 The 20 Eastern European transition countries analyzed are: Albania, Armenia, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Latvia, Lithuania, Poland, Romania, Slovak Republic, Slovenia, Turkmenistan, Ukraine and Yugoslavia.

16 The 6 Southern European countries are: France, Greece, Italy, Portugal, Spain and Turkey.

We adopted 'Internet Usage Density'[17] as measure of Internet diffusion. This measure was preferred to 'Internet subscribers', whose low levels in MENA can be explained through the non affordability of monthly Internet subscriptions and the scarce diffusion of personal computers, or to 'Internet Hosts',[18] a figure more representative of the extent of internet connectivity than of the Internet diffusion among the population.

Figure 2: Internet Users to Host Ratio, 2002 (Source ITU)

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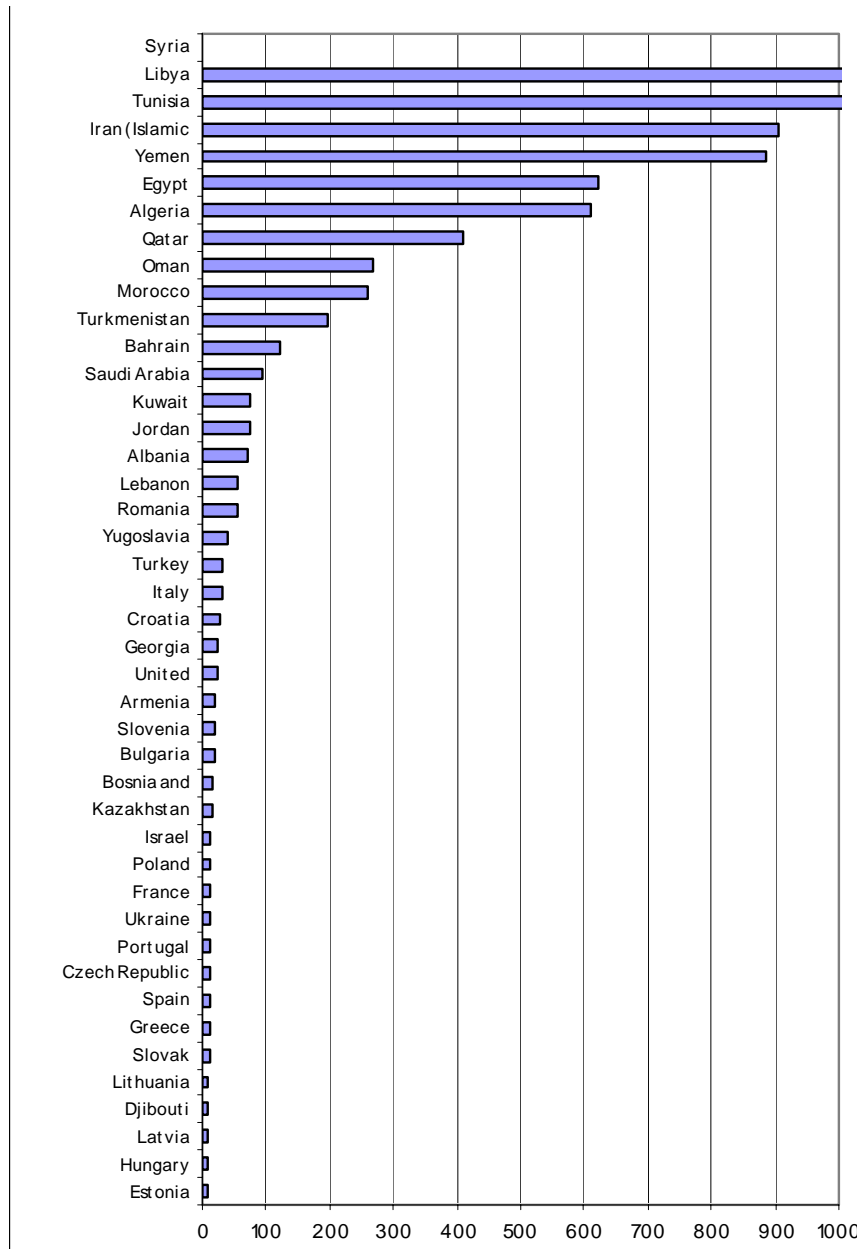
17 By internet usage density is meant the 'Number of estimated internet users per 100 inhabitants' and the source for all indicators used in the construction of the Telecommunication liberalization Proxy Index is the 2004 edition of the ITU Telecom indicator Database.

18 An Internet host is a computer connected directly to the Internet; normally an Internet Service Provider's (ISP) computer is a host. Internet users may use either a hard-wired terminal, at an institution with a mainframe computer connected directly to the Internet, or may connect remotely by way of a modem via telephone line, cable, or satellite to the Internet Service Provider's host computer. The number of hosts is one indicator of the extent of Internet connectivity.

As shown in Figure 2, the Middle East has, with the exceptions of Israel and Djibouti, a lack of connectivity to the internet. This is indicated by the very high ratio between Internet users and hosts (a large number of users in proportion to the existing internet connectivity). The last quintile showing ratios of more than 400 internet users per hosts is composed exclusively of Middle Eastern and North African countries: Syria (20,000), Libya and Tunisia (1,500), Iran and Yemen (900), Egypt and Algeria (600), Qatar (500). In comparison, the first quintile shows ratios between 7 and 10 users per host and is composed exclusively by Western European countries, with the exception of Djibouti. In general, the median range absorbs both eastern and southern European countries, meaning there is a more equilibrated proportion between the number of users and Internet connectivity.

Internet Diffusion and Civil liberties

To measure the relation between Internet diffusion and civil liberties we used two approaches to look at the extent to which good performances in the Voice and Accountability indicator (VA) were related to high levels of Internet use: first a times-series analysis covering the period 1996 to 2002, followed by a correlation analysis limited to the year 2002.

The KKM Governance Index uses an extension of the standard unobserved components model, plus a disturbance term capturing perception errors and/or sampling variation in each indicator. In particular, KKM assume that the observed score of country j on indicator k, y(j,k) can be observed as a linear function of unobserved governance, g(j), and a disturbance term, ε(j,k), as follows:

$$Y(j,k) = \{\alpha(k) + \beta(k) \times [g(j) + \varepsilon(j,k)]\}$$

where α(k) and β(k) are unknown parameters which map unobserved governance g(j) into the observed data y(j,k). As a choice of units, the index assumes that g(j) is a random variable with mean zero and variance one. The error term has zero mean and variance is the same across countries, but differs across indicators, i.e.:

$$\mathsf{E}[\varepsilon(j,k)^2] = \sigma_\varepsilon^2(k)$$

Finally the KKM index assumes that the errors are independent across sources, i.e.:

$$\mathsf{E}[\varepsilon(j,k) \times \varepsilon(j,l)] = 0$$

for l different from k. This assumption imposes the identifying assumption that the only reason why two sources might be correlated with each other is because they are both measuring the same underlying unobserved governance dimension (Kaufman, 2004).

The time series analyzed covered the period 1996 to 2002 (Table 2). For each year, we separated the countries in two groups: those with High level of Internet use and those with a Low Level of Internet use (depending on how they ranked compared to their regional average). We then calculated the average KKM Voice and Accountability (VA) indicator (which ranges between 2.5 and negative 2.5) for each of these two groups: countries with a higher number of Internet users than the regional average and countries with a number below average.

Two general trends can be observed: the first is that, across regions, countries where the level of Internet use is higher also register the best performances in VA. This indicates two alternatives:, either that a high internet diffusion has a positive impact on the development of civil liberties, or that countries where civil liberties improve over time are those where internet diffusion picks up, with the population exerting more these liberties on and through the Web. In the Middle East, the average VA indicator is negative independently from Internet usage, but where internet usage is higher, VA is also higher, presenting a smaller negative number. In Eastern Europe, countries where Internet usage is lower have negative VA, while those with a high level of internet usage have a positive VA.

The second observation is that in the Middle East and Eastern Europe, the relation between Internet use and VA becomes more evident over time. This depends from the Internet being still a relatively young phenomenon: MENA in 1996 had an average level of Internet usage per population of 0.3%, in 1998 of 2%, in 2000 of 5.35% and in 2002 of 8.6%. Hence, the interdependence between Internet's diffusion and civil liberties increases as the technology gets more mature and the use more diffused.

Table 2: Voice and Accountability

MENA	1996	1998	2000	2002
Countries with high level of Internet Use	-0,62	-0,61	-0,35	-0,33
Countries with low level of Internet Use	-0,76	-0,90	-0,89	-0,94
Eastern Europe	1996	1998	2000	2002
Countries with high level of Internet Use	0,51	0,48	0,90	0,94
Countries with low level of Internet Use	-0,29	-0,18	-0,32	-0,38
Western Europe	1996	1998	2000	2002
Countries with high level of Internet Use	1,34	1,23	1,20	1,20
Countries with low level of Internet Use	0,67	0,59	0,62	0,69

Correlation analysis is the second approach we used to measure the extent to which good performances in civil liberties were related to levels of Internet use. We calculated the correlation coefficient between Internet usage density and KKM's VA indicators for the year 2002 (Figure 3).

Figure 3: Voice and Accountability and Internet Usage Density (2002)
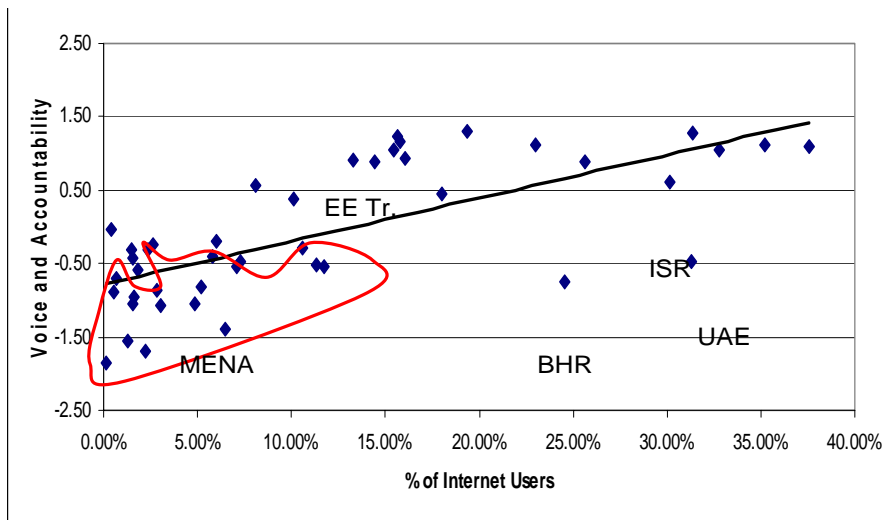
The correlation proved to be significant and positive in all three groups, with coefficients of 0.6 in the MENA Region, of 0.8 in the group of transition countries and 0.6 in the South Western European countries. The existence of such correlation is further illustrated in Figure 1, which plots the Governance Index against the Internet user density in the three regional groups identified: the Middle East North Africa (MENA) in the lower left corner, below the trend line indicating low levels of VA (-2 to -0.5) and low levels of Internet usage (0.02% to 11%). The Eastern European transition

countries (EE Tr) are concentrated in the middle part of the scatterplot, above the trendline, indicating higher levels of VA per internet usage and the South Western European countries located in the upper right corner mostly around the trend line.

Existing discrepancies in terms of gender, education and wealth affecting the profile of Internet users call for future research to include elements measuring accessibility.[19] The Internet has become an alternative tool through which opposition groups have been able to have a voice, but this remains conditional to the open access of all users and not biased towards specific groups in society. If not, the democratization potential of the Internet will be reduced, and existing structural inequalities reinforced.

This strand of preliminary research will need to be complemented by elaborating indicators which can measure the extent of content control policy over the Internet. Measuring the volume of usage of the Internet is a first approach which will need to be refined in the future with an analysis of the **type of use** which is made of the Internet, in some cases still limited by budget constraints on the demand side and by policies of content control on the supply side. A future study could attempt at identifying the relation between content liberalization, online administrative service supply, and type of Internet use.

Internet Content Control and Freedom of Expression in MENA

Mr. Abid Hussain, Special Rapporteur, to the Commission on Human Rights on the Resolution 1997/26 claimed in 1998 that:

> The new technologies, and, in particular, the Internet, are inherently democratic, provide the public and individuals with access to information and sources and enable all to participate actively in the communication process. We believe that action by States to impose excessive regulations on the use of these technologies, and again, particularly the Internet, on the grounds that control, regulation, and denial of access are necessary to preserve the moral fabric and cultural identities of societies is paternalistic. These regulations presume to protect people from themselves and, as such, are inherently incompatible with the principles of the worth and dignity of each individual.

As of 2004, few Middle Eastern governments have displayed a liberal approach to Internet content regulation, resulting in freer expression online than is permitted in the local news media. Kuwait, Morocco, Algeria, Egypt, Jordan, and Lebanon have all permitted online freedom of speech for Internet users in each country, even as they enforce press laws against print periodicals that publish 'objectionable' material (WSIS, 2004).

In Morocco and Algeria, the governments have chosen to avoid any restrictions on access to information on the Internet, which allowed a great deal of freedom on Internet use. Moroccan Internet providers do not have to provide names or any further information about their customers to the public authorities nor is government approval required to obtain an Internet account or post a web site, and all Internet subscribers can be completely anonymous if they wish. Additionally, no legal liability is imposed on ISPs for any form of for materials they carry. Web surfers can access anything they wish.[20] Other authorities have decided to maintain a restrictive approach to freedom of expression and intolerance of dissent, keeping the same level of censorship in the Internet than in other types of media.

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19 By accessibility is meant 'providing flexibility to accommodate each user's needs and preferences. In an Internet context, accessibility is making computer technology and Internet resources useful to more people than would otherwise be the case.'

20 A sample search turns up many sites containing material that would never appear in the Morocco print or broadcast media. Moroccans, for example, can find copious information posted on the Web by the Polisario Front and others who challenge the official Moroccan line on the Western Sahara (such as www. Arso.org). Such information is either nonexistent or one-sided in the local news media, bookshops, and libraries.

Box 3: Otherwise Prohibited Information Available on the Internet

*   Al Quds Al Arabi *was banned from entering Jordan on May 19, 1998. The London-based daily then took out advertisements in Jordanian newspapers directing readers to its online edition at www.alquds.co.uk*
*   *In Algeria, journalists at* La Nation *were able to post an edition of the weekly at the website of Reporters sans Frontieres, a French freedom of expression organization, after* La Nation *closed its doors in 1996. And when private dailies went on strike in October 1998 to protest pressure from state-run printing presses, they published bulletins daily on the Web to mobilize support for their cause.*
*   *Through email and web sites, human rights organizations in Egypt, Palestine, and elsewhere disseminate information far more effectively than ever before, despite modest resources and limited access to local media.*
*   *An Arab Gay and Lesbian web site (www.glas.org) serves people who in most countries in the Middle East have no access to information pertaining to their sexual preferences.*
*   *Israelis and Arabs participate in often lively debates on Usenet, chat rooms and via email at a time when it is either difficult or impossible for them to have face to face contact, telephone conversations, and postal correspondence due to travel restrictions and the absence of international direct dial phone or mail links between most Arab countries and Israel.*

In Tunisia the legislation governing the Internet imposes to the ISPs the responsibility for content, for furnishing lists of Internet subscribers to the government; and compels ISPs to turn over to the 'public operator' the complete set of its archives in case of interruption of service provision. The decree restricts users' rights in the Tunisian Internet Agency's contracts, binding them to 'use the Internet only for scientific, technological and commercial purposes that are strictly related to the activity of the client'. According to Tunisian Internet users, many Web sites are blocked with sophisticated filtering techniques, while e-mail is heavily monitored. There is no competition in the supply of Internet services, Web cafes are closed if deemed too lax about monitoring sites visited by patrons, while jail sentences can be imposed on users convicted of creating or even visiting banned sites. One main outcome of such policies is that, instead of having their websites hosted within their own countries, many firms of the region actually choose to have them hosted abroad (mainly in USA, France or other European countries like Germany and Switzerland), where considerable bandwidth is available, and where site updating is not affected by restrictive procedures.

Authorities in Saudi Arabia have issued revised regulations concerning the operation of ISPs and Internet cafés (Global Internet Liberty Campaign Report, July 2003) which require them, for law enforcement purposes, to collect and retain various types of data regarding their customers such as customer names and ID numbers as well as login and logoff times. The Saudi government also imposes a general ban on anyone who is younger than 18 from accessing the Internet through a cyber café. Over the past few years, Internet expression in the Kingdom of Saudi Arabia had already been subjected to heavy constraints; for example, nearly all Internet traffic in the Kingdom has been routed through a single facility located in the capital, Riyadh, which blocks various online materials if deemed immoral or politically controversial.

Box 4: Kingdom of Saudi Arabia—Council of Ministers Resolution—12 February 2001

> *1. Service providers shall determine internet access eligibility through access accounts, user identification and effective passwords for the use of the access point or subsequent points and linking that through tracing and investigation programmes that record the time spent, addresses accessed or to which or through which access was attempted, and the size and type of files copied, whenever possible or necessary.*
> *2. The use of anti-virus programmes and protection against concealing addresses or printing passwords and files.*
> *3. Endeavour to avoid errors in applications that may provide loopholes that may be exploited for subversive activities or to obtain data not permitted for use for whatever reason.*
> *4. Restriction of the provision of internet services to the end-user through the internet service unit at King Abdulaziz city for sciences and technology.*
> *5. Keep a manual and electronic register with comprehensive information on end-users, their addresses, telephone numbers, purpose of use, and private internet access accounts, and provide the authorities with a copy thereof, if necessary.*
> *6. Not to publish any printed directories containing subscribers' and end-users' names and addresses, without their agreement*

Yet, Governments have responded to the advent of the Internet not only by censorship and regulation, but also through pro-active liberalization policies, which might generate a regional effect leading towards an increase in transparency. Every Middle Eastern government has launched one or more websites to get its voice heard amidst the din of alternative information sources in cyberspace. Several of Jordan's ministries, as well as the General Intelligence Services maintain their own sites and invite email correspondence. Next step would be to systematically put online information that would enhance informed political participation by their publics – such as legal and regulatory codes, official reports and statistics, and economic data used to define budget allocations.

In many ways, the sensitivity of governments to the potential use of Information and Communications systems against them, is itself a sensitive subject area, in part because historically the deployment of telecommunications networks and informatics have been closely related to the workings of the military complex and the realization of political, ideological and military goals. The realm of communications has been seen '… as having a hypodermic effect in international politics, bringing their favoured ideas of capitalism and civil society from the West…' (Selian, 2003).

ICTs are increasingly intertwined with the structural workings of the international system, often challenging (though not necessarily undermining) top-down 'command and control' power hierarchies by facilitating the de-centralization of information vital to the workings of national and international governance. Vertical relationships between governments and society are being replaced by horizontal network relationships between public, semi-public and private agents, and ICTs (through their control, surveillance, communication and knowledge management potential) are revolutionizing the internal workings and external relations of public administrations (Snellen and Van De Donk, 2003). This is in part because information has become itself a resource and commodity, surpassing its traditional role as mere facilitator to political and economic decision-making (Alleyne, 1994).

Albeit the local content market in the Arab region in still in the early stages, countries with more advanced diffusion of information technology, such as the UAE begin to increasingly direct investment towards content development, which might be a key factor to further ICT development in the future . Restrictive policies towards content accessibility will increase the need to create compelling local content for new services (i.e. 3G services, see Box 5). In fact, in the absence of a choice of quality Arabic content, operators and ISPs across the region will struggle to stimulate high levels of service usage among their subscriber bases if access to globally-produced content remains restricted.

Box 5: Local Content Key to 3G Service Uptake in Saudi Arabia

> *Ettihad, a consortium led by the United Arab Emirates' Etissalat, bid 12.9 billion riyals ($3.44 billion)to set up and run Saudi Arabia's second mobile network and its first 3G system.*
>
> *According to the managing director, the company will target existing STC customers and potential mobile phone users alike. 'We will have packages to address each market - youth, females, males, older, business, low income, high income.' Young customers could get extra games, business people extra internet facilities, and expectant mothers might receive reminders of medical checkup dates in a 'Happy Mom' package.*
>
> *The company is committed to introducing 3G services by 2006 and could roll it out as early as the end of next year.*
>
> *Yet, the Communications and Information Technology Commission (CITC - the regulator) has officially stated that content available via consumer 3G services will be restricted in the same way that surfing of the public internet is limited in the Kingdom.*
>
> Source: Reuters News, November 2004

Internet Diffusion, Telecom Liberalization and Civil Liberties

There are numerous multilateral institutions supporting the Internet diffusion and the building of a knowledge economy in the Middle-East. To do this, the competitive provision of network infrastructure is essential because it generates a downward pressure on prices and positive on quantity and quality of connection and bandwidth. In this sense, telecom liberalization contributes to develop an economic and institutional framework conducive to the creation and flow of knowledge. Additionally, this is a key factor in the Internet's contribution to an educated and skilled population and a network of knowledge communities.

By liberalization is meant the opening of a monopolistic market (traditionally owned and managed by the State, traditionally through a Post Telecom Telegraph entity) to competitive provision of facilities and services. It differs from privatization, which can be carried out whether the former monopoly operator is a state or a private enterprise. In entails, notably: setting up an independent regulator, measuring ad regulating the different market segments, licensing its different components (fixed local, long-distance and international connectivity provision, Internet, cellular, VSAT, GMPCS), re-equilibrating tariffs and reviewing interconnection arrangements, setting up a universal access policy, privatizing the incumbent.

Measuring telecom liberalization and regulation is a vast ongoing effort of collecting an array of mostly qualitative measurements (Wallsten et al., 2004). In the absence of a generally accepted liberalization index, we constructed a proxy measure, based on the **effective level of competition in the sector**. The data comes from the ITU[21] Regulatory Trends Report 2002. The report divides the telecommunication sector in a number of segments, and assesses the level of competition in each segment, for each country. This level can either be Monopoly, Partial Competition (which means that the sector was liberalized, but that the competition is still limited by a very small number of competitors, such as a duopolies), or Full Competition.

Among these segments, we then selected the more relevant to describe the level of liberalization of the Internet, and weighted them according to their relative importance.[22] In fact, even Full Competition in the provision of Internet Services may not reflect the reality faced by ISPs – for example, when the fixed sector is still under monopoly. Questions such as the unbundling of the local loop or the

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21 International Telecommunications Union

22 The selected segments are: fixed, long distance, international, XDSL, leased lines, Wireless Local loop, Data, Cable TV, fixed and mobile satellite, GMPCS, and ISPs. Mobile (analogical and digital), IMT and Paging were excluded.

availability of 'alternative' technologies such as VSAT (Very Small Aperture Terminal) are essential when describing a country's Internet connectivity. Therefore, by selecting a larger number of segments, we intended to capture a more comprehensive picture of this context.

We averaged the scores each country presented for each of these indicators in 2002 and obtained a telecom liberalization index for the 44 countries analyzed (Figure 4) which will give us a measure of the pro-liberal stance of the Government towards the liberalization of the communication sector and the Internet.

## Figure 4: Telecom Liberalization Proxy- 2002 Ranking
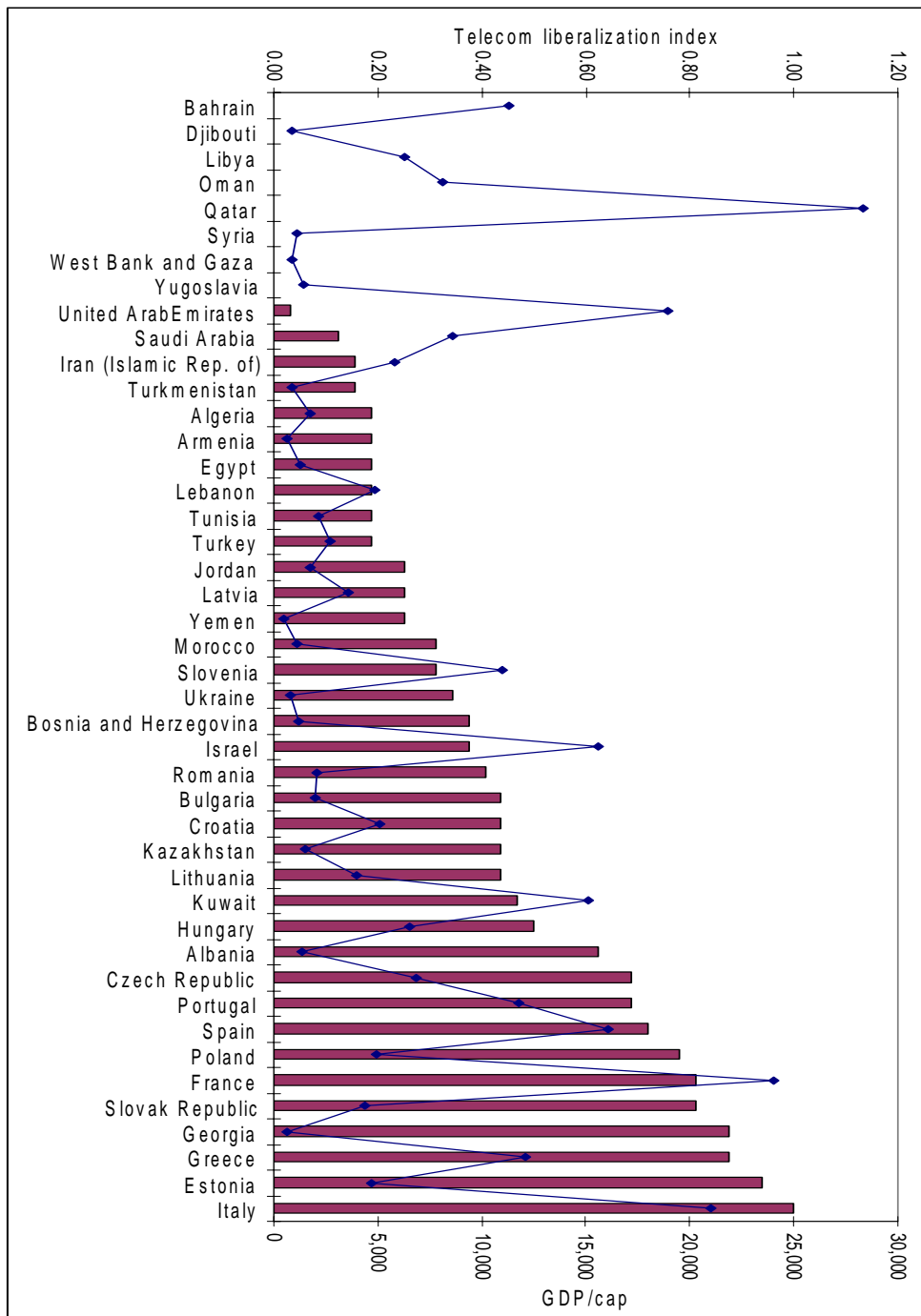
In the composition of the liberalization index we found exceptions to the trend, showing countries like United Arab Emirates, Saudi Arabia and Qatar which, albeit monopolistic in 2002, ranked high in Internet usage. We explained this through GDP, as a Gulf Region case, where demand for services is driven by the hydrocarbon and financial sectors and the availability of oil revenues allows for vast public spending on network development and service provision, even in a non liberalized and non competitive sector. The above-mentioned three countries, showing high GDP per capita levels, can afford to heavily subsidize the sector, positively affecting output indicators without opening to competition.

In part one we observed that the performance in VA, used as a measure of the diffusion of civil liberties, is better when levels of Internet use are higher.

But as mentioned above, this study supports the idea that there is an important relation between the impact the Internet can exert on democratization and civil liberties and **the Government's stance towards liberalization in the infrastructure** (which will facilitate access for Internet service provision) **and competition in services** (which will lower prices and increase differentiation in the supply). The data confirmed our hypothesis for 2002, with a correlation coefficient of 0.75 between civil liberties and telecom liberalization (Figure 5). This hypothesis holds particularly well for the MENA region, where UAE, Bahrain, Qatar and Lebanon show high level of internet usage not corresponding to good performance in civil liberties, in a context where the telecom sector is not liberalized.

Contrasting this hypothesis are the cases of Latvia, Lithuania, Croatia, Slovenia and Israel, where high levels of Internet usage, in a non-liberalized context result in high levels of civil liberties. In addition, our analysis indicated that: a) high liberalization and high internet density excluded a low level of civil liberties, and that b) high liberalization and high level of civil liberties excluded low levels of internet density (see also Table 3).

Figure 5: Voice & Accountability and Telecom Liberalization
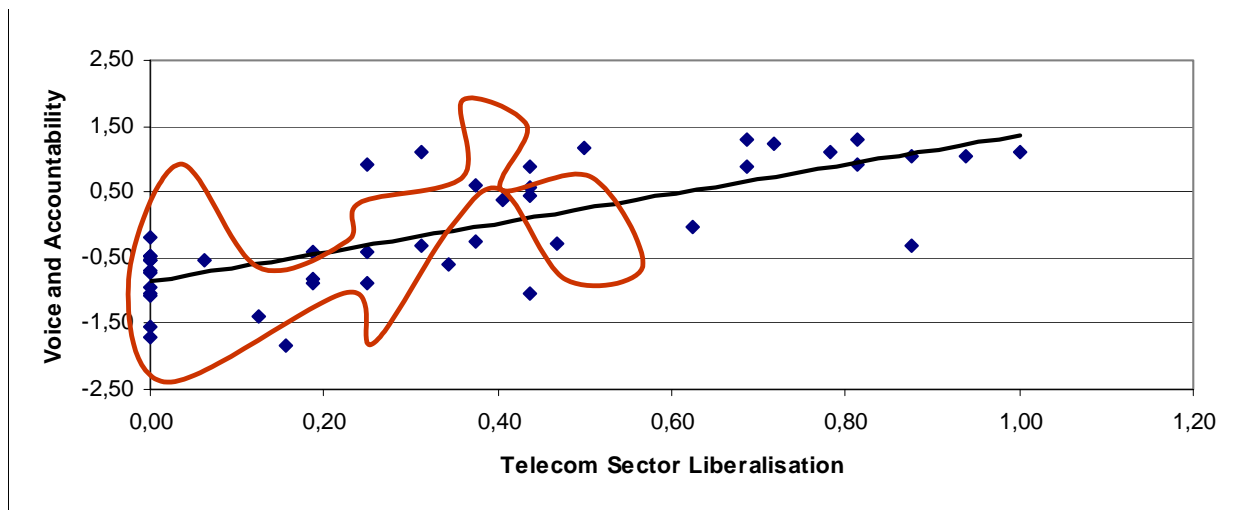
We have also tried to carry out a time series analysis going back to 1998, in such a way to identify a possible historical trend, and identifying the evolution of the internet liberalization corresponded to lower liberalization and lower scores in the voice and accountability indicator. Overall, the findings confirm our thesis, but the analysis is complicated by a growing lack of statistical data, especially on countries belonging to the MENA sample. In 2002, nine MENA countries scored 0 in the Internet liberalization Index, but many liberalization efforts have been accomplished in the region (Box 6) since then. In addition, the Internet diffusion in the MENA region starts picking up between 2000 (5.3%) and 2002 (6.7%), while in 1998 it is only 2.07% which reduces its potential impact. If this indicates the difficulty of building solid time-series, it also tells us that the attention to the sector and

to its monitoring has increased and the research promises to become increasingly detailed and interesting with the statistical data collected in the period 2002-2005.

A Rapidly Changing Telecommunication Environment in the Middle East North Africa

The situation is nonetheless changing: 2004 has seen acceleration in telecoms market deregulation, as regional economies take greater steps towards economic diversification and WTO deadlines approach. Bahrain became the first market to complete sector liberalization, with all market segments opened to competition from July 1st, 2005. Other markets are following Bahrain's lead at varying rates. Saudi Arabia is committed to a second license auction in the fourth quarter of 2006, and Egypt is likely to begin the process of issuing a third license towards end-2005. Meanwhile, Oman, the UAE and Morocco are all expected to issue new-entrant licenses in the next two years.

Box 6: Latest Deregulation and Liberalization in the MENA Region (2005)

The MENA region is entering into a phase of transition in its telecoms reform program, moving from a period of domination by mobile license auctions and partial incumbent privatizations, to one of full mobile-market competition and fixed-market liberalization which will have a strong positive impact on internet connectivity.

• New entrant mobile-market opportunities are expected to be issued in the next three years by Egypt, Kuwait, Morocco, Oman, Saudi Arabia and the UAE.

• The Maghreb region still affords new entrants the opportunity to benefit from double- and treble-digit subscriber growth rates, in the wake of low teledensity levels. Healthy market shares are also promised for aggressive, pre-paid focused new entrants, as the fortunes of current private operators, especially Orascom Telecom Algeria, have testified.

• The Gulf Cooperation Council (GCC) markets, on the other hand, present an opportunity for experienced private players to steal a march in the fledgling, but arguably promising, mobile data sector.

• Fixed market deregulation, with Bahrain leading the way, will give an increasing number of managed networking and bandwidth service providers the chance to tap demand in the Gulf region's trade and financial sectors.

• Other markets in the region, especially Morocco and Egypt, are also embracing both national and international bandwidth market liberalization, as the fostering of broadband markets becomes more critical to economic and social development, and growth in business-process outsourcing industries gains momentum.

As of 2005, Algeria has a second national operator for the fixed segment, full competition in the mobile and VSAT segments. Full competition is set to be introduced to the Bahraini market in 2005. The last segment to see competitive services is the national fixed telephony market, where a new entrant is expected in H2 2005. Bahrain is on target to become the first fully competitive telecoms market in the Arab Middle East. In Iran the government is committed to end of the full government-controlled monopoly over the telecoms sector liberalization under the third five-year economic plan (2000-2005). The government is also in the process of setting up a regulatory body to oversee the sector, although this role will not be independent from the Ministry of Telecoms. Etisalat, United Arab Emirates' incumbent has lost its monopoly over data communications services and the data market is likely to be among the first sectors to see the entry of competition. Saudi Arabia has partially opened the mobile segment to competition, awarding a license in August 2004 to a consortium led by the UAE incumbent, and forcing the former incumbent to cut tariffs, increase its marketing and promotion of pre-paid services, and invest in further infrastructure, boosting mobile connectivity. Qatar maintains the monopoly for its operator, which still reports growth in its mobile and internet subscriber base.

Conclusions

Political scientists have wondered if the Internet will help to mobilize democracy, by enhancing public freedoms of information and self expression, rare in authoritarian contexts.

The core issue for this paper treated Internet diffusion's capacity to enhance civil liberties in the Middle East and North Africa. The study verified the hypothesis that there is an important relation between the impact of the Internet on civil liberties and Government's favourable stance towards liberalization in the infrastructure (facilitating access for Internet service provision) and competition in services (lowering prices and increasing differentiation in supply).

In view of the numerous changes which have been undergoing in the telecom sector in the MENA Region, numerous countries are rapidly moving towards a situation of full mobile-market competition and fixed-market liberalization. This is likely to affect: the quality and type of internet usage, civil liberties and political freedoms, as well as enhancing the need for additional Internet-related liberalization and regulation.

Table 3: Summary of Analysis

Country	Internet Density (High > 11%)	Kaufman V&A (High > 0)	Liberalisation Index (High > 0.50)	GDP/Cap in US$ (min-max)	Sample Distribution
EU, Poland, Slovak Rep, Estonia, Czech Rep, Hungary	High	High	High	4.5 – 24	10
Latvia, Lithuania, Croatia, Slovenia, Israel	High	High	Low	3.5 - 11	5
	High	Low	High		
Qatar, Bahrain, UAE, Lebanon	High	Low	Low	2 - 28	4
	Low	High	High		
Bulgaria, Romania	Low	High	Low	2	2
Albania, Georgia, Kuwait	Low	Low	High	0.6 - 15	3
Morocco, Jordan, Yemen, Tunisia, Egypt, Algeria, Turkey, KSA, Turkmenistan, Oman, Iran, WBG, Libya, Syria, Djibouti; Armenia, Kazakhstan, Bosnia Herzegovina, Ukraine, Yugoslavia	Low	Low	Low	0.5 - 8	20

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