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SUSTAINABLE INFORMATION SOCIETY

HE ROLE OF THE STATE IN THE INFORMATION SOCIETY: EVIDENCE FROM GREECE

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Abstract

Drawing on recent theorisations on the information society/knowledge-based economy (IS/KBE) and the transformation of the roles and functions of the nation-state, the paper argues for the importance of the state and its mechanisms for the sustainability of the IS/KBE. In doing so, it supports the claim in the literature, also proven by the empirical reality in different national contexts) that the state has been transformed towards a generic model of 'competition state' involved in the establishment of the IS/KBE paradigm. Nonetheless, surpassing this model, this paper argues that the state is called upon to operate also in a developmental way, at least in certain national contexts, if a sustainable IS/KBE is to be achieved. The paper draws on the Greek IS/KBE case so as to assess these competition and developmental state aspects.

Keywords: *Information society, State, Policy, Greece*

1 INTRODUCTION

Historically, the nation-state has been associated firstly with the security of the community defined by its borders and secondly with creating the conditions for economic and social reproduction. This has involved guaranteeing property rights, developing legal and monetary systems; regulating the economy and ensuring the availability of labour force; providing infrastructures (water, roads, railways, electricity etc); caring for those at a disadvantage or in need through social policies (Perrons 2004).

Globalisation literature has dealt extensively over the last two decades or so with the challenges facing the nation-state as a result of pressures emanating from global processes (McGrew 1992). The national state is being predominantly regarded as too small to address the global context, but also too big to see to increasingly complex and differentiated local problems, as Daniel Bell has remarked in his *The End of Ideology* (Bell 1988). Hyperglobalists argue that the nation-state is a political entity not capable any longer to address the challenges presented by economic globalization. They subscribe to the argument of the 'retreat of the state' from the national and international political scene. Arguments on the impact of economic globalisation on state authority have emphasised the increasing possibilities for cross-border economic activity (facilitated by ICT developments) that escapes state control and regulation.

There have indeed been extensive debates on the ways in which the ICT-enabled flows and the rise of the cyberspace (including the Internet) put into question the notion of state boundaries and the ability of states to control such information flows. Law enforcement and taxation of electronic commerce are two of the challenges that states seem to face. In international relations, neo-realists stress threats to national security and the formation of online communities that operate in parallel with state authority as further dimensions of the new state of affairs. In political sociology, ICTs are said to annihilate time and space and transform the landscape of power away from the state, as social movements and a number of actors broadly belonging to civil society are given the opportunity to become politically active using new technologies and thus resist established power arrangements, expressing identity and engaging in new

forms of politics (Sassen 2002). Power is seen in these approaches as embedded in the practices, which, reproduced over time and space, constitute the material social structures of the information age (Nash 2000), and is linked with the capacity to control global networks, which are put to different uses (Castells 1996, 1998).

Sceptics have offered counter-arguments regarding the actual share and relative weight of cross-border compared to economic activity taking place within the limits of national economies and have come up with evidence that the latter seems still to play a much greater part than the former. Some of them refuse to acknowledge the effects of globalization (which they see as an ongoing process that has been evolving for centuries) and downplay the ostensible transformations of the roles and power of states, preferring to stress its continuing significance in a number of issues determining national and international politics (Hirst and Thompson 1999).

Other critical approaches argue that against new structural forces (new ICTs, neo-liberal discourses, or new geopolitical configurations) and in the light of varying responses to these challenges, a general model of the national state still persists as a significant actor in global processes and their national expressions, albeit through a rearticulation of its various functions and roles (Smith et al 1999; Mittelman 2000; Sklair 2000). They claim, for instance, that while indeed there have been significant processes of liberalisation worldwide, these developments are more moves towards re-regulation and regulatory reform, rather than simple de-regulation processes (May 2002). The implications for state mechanisms seem to have included shifts to new practices, roles and functions and new areas of regulation, rather than the diminishing of state roles as such; a model of regulatory state has been proposed to account for these changes (Thatcher 2002).

Critical approaches, then, stress the continuing relevance of the state as mediator between international flows and national contexts, as a mechanism for integrating the national economy and polity into global arrangements and as a link between the rise of sub-national actors and the intensification of supranational arrangements. In this respect, the national state retains considerable capacities, in strategic terms in domains like the economy, in political terms as guarantor and defendant of the rights of its citizens, and in socio-cultural terms as intermediary between global processes and national or local social and cultural particularities.

Notwithstanding the perceived threat of ICTs for state sovereignty, the relationship between ICTs and the state is complex and multifaceted; importantly, the advent of the information society and the knowledge-based economy (IS/KBE) as a set of new societal arrangements has implications for the role of the state, redefining it in line with new demands for economic reproduction, governance, social cohesion and social sustainability.

2 THE TRANSFORMATION OF THE STATE AND THE IS/KBE

Just as the state established market society in the 19th century (Polanyi 1957), under globalisation the contemporary state is being instrumental in the realisation of a framework for the operation of the capitalist system in the 21st century. For Steinberg and McDowell, the emerging information society is not so a matter of the technological imperatives of ICTs, but rather of the policies of leading states (and international institutions) seeking to reconcile capital's mobility demands (translated in the growth of the world economy through the annihilation of space), with capital's fixity requirements (resulting in increased production within state boundaries). According to them, both state and non-state institutions are constantly reconfigured by new modes and degrees of communication, without however information flows challenging the system of state and non-state entities; nonetheless, such changes lead to struggles for the design of new governance and regulatory regimes (Steinberg and McDowell 2003, pp.216-217).

Barry also sees a reconfiguration of the space of government due to the centrality of technology in contemporary society and conceptualises the practice of government as operating 'not just in relation to spaces defined and demarcated by geographical or territorial boundaries but in relation to zones formed through the circulation of technical practices and devices' adopting practices 'oriented towards the problems of defending, connecting, and reconstructing such technological spaces' (Barry 2001, p.3). In this respect, the promotion of information society through the diffusion of ICTs in the national context can be seen as a top-down attempt to 'produce' informational capitalism as a transnational 'space' that is to be governed.

If governance is the framework in which a 21st-century national state will be functioning and if this governance regime involves ICTs and the information society at large then the extent and type of state involvement in the governance of the emerging information society becomes a central question for research.

2.1 The Schumpeterian Workfare Postnational Regime and the competition state

Jessop (2002, 2005) has provided possibly the most comprehensive framework outlining the ways in which the contemporary state is linked with the emerging IS/KBE, its transformations, as well as its new forms and functions.

In agreement with other thinkers, Jessop views the various forms of post-WWII welfare capitalism and the social democratic political regimes in Europe as supportive of the Fordist regime of accumulation, which was established in Western Europe, North America and Australia roughly from 1945-1975 and has been essentially a paradigm based on industrial mass-production and mass consumption coupled with a mode of socio-economic regulation which took place within the national frame (comprising the national economy, national state, national citizenship and national society). He then identifies a contemporary economic and social transformation towards a new, post-Fordist accumulation regime, which has been emerging in the 1990s through political strategies towards the establishment of a Schumpeterian Workfare Postnational Regime (SWPR). These strategies emerge in the wake of the crisis of Fordism from, roughly, the mid-1970s.

A core element of the post-Fordist accumulation regime, according to Jessop, is the knowledge-based economy (KBE); this he defines as one where knowledge is being created, diffused and deployed in accelerated ways through ICTs; where increasingly sophisticated products codify and manage knowledge; and where there is a perception of knowledge as a strategic asset for individuals, firms and nations. Jessop views the KBE as a dominant, albeit heterogeneous, hegemonic paradigm and strategic guide for economic, political and social restructuring, owing to the importance attributed to knowledge in the post-Fordist socio-economic regime (Jessop 2005).

The post-Fordist paradigm and the KBE, Jessop argues, bring major repercussions on the role of the state and politics in helping secure some of the conditions for profitable accumulation, the reproduction of labour power, the management of the spatial and temporal horizons of capital accumulation, as well as on the relationship between government and governance (Jessop 2000).

Fordism went hand in hand with an ideal type of statehood, which Jessop calls Keynesian Welfare National State (KWNS). The new model of the state, according to Jessop is a 'Schumpeterian competition state' operating within the above mentioned post-Fordist SWPR, which comprises the following dimensions:

- a. In terms of capital accumulation, it is Schumpeterian, as it promotes innovation and flexibility in open economies by supply-side interventions to achieve structural and systemic competitiveness; the KBE is the central concept informing accumulation strategies and the Schumpeterian competition state plays a major role 'in the material and discursive constitution of the globalising, networked, knowledge-based economy that its activities are seeking to govern' (Jessop 2002, p.95).

- b. In terms of reproduction of labour power, it is workfare, as it seeks to accommodate the demands for labour market flexibility and economic competitiveness in the globalising knowledge-based economy, exerting downward pressures on wages and relegating social policy and social spending to a secondary position, as well as investing in education and training to create an autonomous and flexible workforce with emphasis on knowledge skills, entrepreneurship and lifelong learning.
- c. In terms of the spatial and temporal scales involved in its activities, it is postnational, as the national scale has become less important in what concerns economic and social policies, which are increasingly managed by new multilevel governance regimes; this relativisation of scale might involve international organisations, intergovernmental fora, arrangements like the EU and its relevant imposition of norms and regulations or the devolution of social and economic policy to regional urban and local actors and institutions, though the national retains a significant role in all of the above
- d. In terms of the mode of government and policy-making, it is a regime, in the sense that a number of policies are administered by non-state mechanisms and actors; these include public-private partnerships organised at different levels, from the local to the supranational, neo-corporatist arrangements, as well as networking and other forms of self-organisation, which convey more of a picture of governance, as opposed to traditional government (Jessop 2002, 2005).

2.2 The state and the IS/KBE

Historically, new growth trajectories have relied on increased state direction for the management of the socio-economic transition (Perrons 2004); the Schumpeterian competition state, as mentioned, plays a significant role both in the realisation (in material and discursive terms) of the globalised KBE, as well as in its governance. Despite the predominance of the economic in the post-Fordist paradigm, these governance functions that the state is called upon to undertake are not only economic, but essentially involve the socio-political sphere in the light of new problems of social cohesion and social conflict as they appear in the transition to the IS/KBE (Jessop 2005).

As knowledge is central in the IS/KBE, states are keen to promote its production and diffusion, and to exploit and expand the provision of intellectual resources. In addition, knowledge management becomes a significant function in governance processes. This involves the management of the idiosyncratic and contradictory character of information/knowledge, which can be taken both as a factor of production and as a public good: on the one hand, intellectual property is the key source of profit in the IS/KBE, on the other the production of knowledge is dependent on the intellectual commons, the social basis and the public availability of knowledge (Jessop 2000). This contradiction has been previously acknowledged and the need for states to design knowledge investment policies to benefit society has been emphasised (e.g. Bell 1979).

States are therefore called upon to promote the commodification of knowledge (through patents, copyright, licenses) so as to turn it into a source for profit, but also to guarantee an intellectual commons basis for achieving competitive advantage of the economy on the whole and for building social capital and the learning society. It is in this vein that some or all of the following functions of the state can be understood: development of infrastructures (including broadband), content and services for the IS/KBE, regulation of activity in cyberspace, transformation of national utility structures to more flexible and competitive arrangements, links between university research and business needs, provision of platforms for education, lifelong learning and knowledge skills (Jessop 2005). Moreover, states assume discursive functions (including advertising campaigns, pilot projects etc). related to the promotion of the IS/KBE as 'imagined community' (Anderson 1991)

Different states assume different knowledge management policies, others promoting intellectual property and knowledge privatisation, others seeking to preserve (and enhance) intellectual commons and

knowledge-sharing with the intention of protecting social capital embedded in communities by promoting innovation, designing apposite institutions etc. (Jessop 2001).

This suggests that within the SWPR and the competition state model there are certain degrees of differentiation. Jessop indeed acknowledges the variable positioning of different states as far as the IS project is concerned, as well as the different institutional arrangements in which the IS/KBE project is encased. He recommends empirically informed research which would unravel in a national context the structural coupling between each type of Fordism and the character of the national state, the complexities of the capital relation, as well as, the problems occurring when the state does not have the capacity to manage the transition (Jessop 2002, p.139).

Drawing on these points, I argue that the 'competition state' is a necessary but not sufficient model for capturing the role of the state in the information age. Specifically, I claim that if a sustainable IS/KBE is understood as a socio-economic formation characterised by economic development, but also social cohesion (as often emphasised in the IS rhetoric), then the state is called upon not only to function as an agent of competition, but, in different terms, to operate also in a developmental way, at least in certain national contexts.

As a measure of the effectiveness of the state as developmental agent, I am using the concept of 'embedded autonomy', coined by Peter Evans, which purports to overcome a perceived division between state autonomy and state embeddedness into the social structural context. In this conceptualisation, autonomy refers to the degree to which state elites and bureaucracies shape policies that are above the interests of their members; Evans claims that the more state bureaucracies approach Weber's ideal type (i.e. based on meritocratic recruitment, secure careers and rewards, independence from external interferences) the more coherent they are, and this gives them a certain kind of autonomy and enables them to contribute to economic development (Evans 1995).

In addition, and unlike Weber's conceptualisation, state apparatuses should not be insulated from external interference (from business, church, military etc); on the contrary, they should be 'embedded in a concrete set of social ties that binds the state to society and provides institutionalised channels for the continual negotiation and renegotiation of goals and policies' (ibid., p.12); and it is only through embeddedness into society that state policies can have successful developmental outcomes (Form 1997; Hobson 1998).

Based on comparative research, Evans argues that the ways in which states are coupled with their societies vary significantly and this impacts on the role of the state in the economy, which can be either developmental or detrimental to economic development (or a mixture of both). Further, he claims that successful state involvement in the economy presupposes an understanding of the limits of state action, as well as a realistic positioning in the global economy with close societal links (Evans 1995).

In the light of the above, then, I am interested in evaluating the role of the Greek state in the recent IS policies which can be taken to demonstrate the IS/KBE project in Greece, by taking advantage of the analytical value of both the competition state framework and the developmental concept of embedded autonomy. In doing so, I will necessarily resort to what both Jessop and Evans refer to, namely the state/society coupling, as developed historically in Greece and as crystallized in a set of characteristics.

3 THE STATE AND THE IS/KBE IN THE GREEK CONTEXT

3.1 An overview of IS policy in Greece

The seeds of a Greek IS agenda in the making date back in the 1980s, when the so-called 'Mediterranean Integrated Programmes' (1983-1993) were used for IT funding. In this context, 25 billion drachmas were invested with the intention of 'jumping on' the IT bandwagon. During this period, mainly universities and

research centres but also to some extent the public sector, as well as SMEs became aware of the new technologies.

The first policy document regarding the IS in Greece was a White Paper titled 'The Greek Strategy for an Information Society: A Tool for Employment, Development and Quality of Life' (1995), which served as a means of setting the IS agenda in the Greek context. It echoed the discourse of opportunity associated with ICTs, as well as the dangers of being left behind, and it presented the whole issue as a great challenge for Greece. It was mainly concerned with the inadequate national infrastructure, which limited electronic transactions and access to new products and services both for firms and for households in comparison with the other EU countries. Most of its actions were funded by the 2nd Community Support Framework (CSF), including the development of a national infrastructure linking universities, technological institutes and public research institutes and the promotion of an e-commerce environment for business with the establishment of a National Committee on Electronic Commerce (Constantelou 2001).

The operational programme Kleisthenis (1994-2000) run by the Ministry of Interiors, Public Administration and Decentralisation and with a total budget of 100 billion drachmas was the main IS initiative of that period. The central aim of the programme was the modernisation of public administration (both in terms of hardware procurement and regarding services and training of employees). The programme adopted an integrated approach to IT, including development of infrastructures, applications and training in the design and implementation of each separate project. In the case of large projects, project management was supported by large consultancy firms. Information systems for municipalities, fiscal administration (TAXIS), the stock market, customs, as well as training of public administrators were some of the basic initiatives. In parallel, digitisation of the public telecomms operator (OTE) network, the development of certain fibre optic rings, and the creation of the national network for research and technology (EDET) were important initiatives at the level of telecommunications infrastructure. During this period a small number of significant IT firms developed, while the IT sector was consolidated and entered the Athens stock market (Papakonstantinou 2005).

The main development related to ICTs in the 1990s in Greece was the liberalisation of the telecommunication sector. Until the late 1980s the telecommunication sector in Greece (and in Europe at large), had been based on a state monopoly in the provision of telephone and telecommunication services provided by the incumbent Greek Telecommunications Organisation (OTE). Following the early EU IS documents, a series of laws carried forward the liberalisation of telecommunications, beginning with value-added services and mobile telephony services (Law 1892/90 and 2075/92); after 31 December 2000 all restrictions including those on the provision of voice telephony and the network infrastructure were removed and full competition was officially established (although OTE kept a de facto dominant position in fixed telephony), under the supervision of a new, independent regulatory authority, the National Telecommunications and Post Commission (EETT) (OECD 2001).

In April 1999, a second White Paper was prepared by ten policy experts and advisors to the Prime Minister, based on international experience and feedback from the Ministries regarding the actions and steps that had been taken vis-à-vis the IS. This was more strategic and comprehensive and was titled 'Greece in the Information Society: Strategy and Actions'. It emphasised the potential of ICTs for competitiveness and better public services, present in the early EU documents, together with the requirement of building human skills to take advantage of these opportunities. The imperative of universal access and the prevention of new types of social exclusion, reminiscent of similar concerns in EU documents, were also highlighted (Hellenic Republic 1999).

The EU Lisbon summit in March 2000 emphasised the challenges of a transition to a knowledge society facing Europe and the need to set up a competitive platform that would at the same time sustain the European social model, maintaining social cohesion and cultural diversity (Council of the European Union 2000). The declared aim was (and is) to develop a knowledge economy with social cohesion and to promote

convergence in Europe by means of 'knowledge policies', namely policies regarding: knowledge creation (supporting basic and applied research, the culture industries, promoting interchanges between different cultures and groups); knowledge diffusion (promoting broadband networks, Internet access, content industries, education reforms); knowledge utilisation (supporting product and process innovation, knowledge management and learning in firms and public organisations, international partnerships for innovation) (Rodrigues 2003). These aims were subsequently expressed in the ensuing eEurope 2002, eEurope 2005 and i2010 plans.

In order to achieve the above goals, the Lisbon summit established a new open method of inter-state coordination for the acceleration of the translation of European goals into national policies. This method was supposed to combine European coherence with respect for national diversity. It operated by firstly setting European guidelines in each policy domain, then identifying best practices and reference indicators and, finally, leading to national plans consisting of concrete targets in accordance with each nation's case (Rodrigues 2002).

Following from the White Paper, the Lisbon summit and the Feira summit of June 2000, the Greek government proposed a systematic 'Operational Programme for the Information Society' (OPIS), linking it to funds within the structure of the third European Community Support Framework. This was an innovative horizontal programme, involving a number of government departments, and aiming to implement the essential features of the 1999 White Paper. Reflecting the EU rhetoric, as expressed in the Lisbon agenda and the eEurope initiative, the OPIS set as objectives over the period 2000-2006: a) to provide better services to the citizen and improve the quality of life through the deployment of ICTs in public administration, health and welfare, transport and the environment, b) to promote development and build human potential through actions to increase competitiveness and employment and to put into place a suitable educational system (Constantelou 2001). To do so, it sets out the following four lines of action (with the corresponding shares of the total national and EU funding):

- Education and culture (17 per cent), which addresses issues of IT infrastructure and content, Internet connectivity for all primary and secondary institutions by 2001, training for teachers in IT resources as educational tools, promoting Greek cultural heritage
- Citizens and quality of life (37 per cent), focusing on the improvement of public services to citizens by connecting central, regional and local public administration, developing online applications, training of public sector employees in ICTs, reforming the management of health and welfare services, introducing telematics applications
- Digital economy and employment (24 per cent), encouraging use of ICTs by SMEs, improving conditions for high-tech business start-ups, intensifying university-industry links, introducing ICT-related training programmes for the wider population, creating digital content
- Communications (19 per cent), including measures to enhance liberalization, development of local-access network infrastructure, promotion of broadband services for the public sector, facilitating access for remote areas and disadvantaged groups (OPIS 2000)
- Technical Support (3 per cent)
- (Ministry of National Economy 2000)

3.2 The Greek state as competition state and the Greek IS

During the period 1998-2006, and through the introduction of the OPIS the Greek state has acted as a 'Schumpeterian competition state' within a 'Schumpeterian Workfare Postnational Regime' as in Jessop's conceptualisation. Through its 1998-2006 IS policies, the Greek state has undertaken the role of promoting the IS/KBE in both material and discursive terms within a SWPR, which:

- a. has attempted to promote innovation by supply-side interventions and has played the key role in material and discursive promotion of the globally-informed IS/KBE
- b. has sought to accommodate labour market flexibility and economic competitiveness, and in particular has placed great emphasis on education and training with the intention of building a knowledge-skilled workforce, as well enterprises competent in the KBE both at the central and at the municipal and local level
- c. has been postnational, constructed around the EU and its member states, so as to promote a European IS/KBE in accordance with the Lisbon agenda and the related eEurope policies and adopting an open method of coordination leaving important steps to be decided at the national level, as well as involving other international institutional arrangements and sub-national and local actors and institutions
- d. has been a governance, rather than a government, regime, involving as it has non-state mechanisms, corporate and industrial actors (e.g. IT firms and their representative association SEPE, civil society organisations, professionals, and other experts).

The Greek state can be seen as an entity within this SWPR, or more specifically, as a 'Schumpeterian competition state' within this SWPR. Through its IS policies in the period under examination, the Greek state has played the key role in promoting the IS/KBE in the national context both in material and in discursive terms and has attempted to manage the socio-economic transition to the IS/KBE. In doing so, it has anchored its activities and policies in international developments involving different spatial scales, notably by following the spirit of EU directives and policies for the IS/KBE, and has also sought to involve national, sub-national and local government units. In addition, it has operated in an environment of other state and non-state mechanisms, including for instance its interest in evolving public-private partnerships.

In adopting the role of Schumpeterian competition state, the Greek state has absorbed in its approach (as demonstrated in the 1999 White Paper and the OPIS) the international shifts in economic discourse that have been taking place since the 1990s: emphasis on flexibility, lifelong learning, and most importantly emphasis on knowledge as an engine for growth and productivity. Moreover, the Greek state has provided new regulatory frameworks which are taken to be more suitable in the new economic order. This process has involved adjustment to EU regulatory imperatives and directives, albeit with difficulties and delays in certain cases, not least regarding the telecommunications liberalisation framework and the resistances generated by the incumbent OTE. Further, it has institutionalised new and autonomous regulatory institutions, notably EETT.

Further, and in accordance with Jessop's outline of the role of the state in the IS/KBE, the Greek state has not limited its activities to the economic sphere, but has sought (through its IS strategy) to address the whole socio-political sphere and the problems of social cohesion and social conflict as they re-emerge in the IS/KBE and in particular as they are re-coined in the prism of knowledge management (as knowledge has become the acknowledged central asset for economic growth and social development).

Our empirical study has shown that as far as its IS/KBE *strategy* goes, the Greek state has been paying attention not only to 'competition' aspects, but also to more developmental sides of the IS/KBE project. The acknowledged importance of knowledge has indeed been demonstrated in the centrality of the management of knowledge through IS policies. The approach of the Greek state has been one trying to balance the commodification of knowledge, through emphasis on intellectual property regimes, with intellectual commons, the social basis and public availability of knowledge.

Indeed, there have been cases showing that the Greek policy-makers have promoted the social character of knowledge and its availability to all. The example of education has been characteristic in this respect, at least as far as infrastructure is concerned, as all primary and secondary institutions have been provided with PCs and have been connected to the Internet early on in the programme. Moreover, in the area of

higher education the deployment of the infrastructure of EDET on the one hand, together with equal access to funding granted to all universities and technological institutions has resulted in state-of-the-art ICT infrastructure for all such educational institutions, regardless of their geographical location, prestige or quality of study offered; this clearly has not been the case in other countries, where access to infrastructures has rather been determined by market forces operating under rationalities of demand, cost, and profit.

- In the area of broadband, the relevant White Paper of 2002 reveals the need for the state to stimulate the broadband market by means of appropriate policies: 'The rapid development of appropriate, generally accessible and affordable broadband infrastructure and the development of relevant applications and services must be set as a top priority for the State. The above national infrastructure, coupled with international broadband connections, is a necessary step in bridging the "digital divide" among citizens, both within and between regions of Greece, thus providing opportunities and potential for regional development of local communities up to a common European standard. The development and use of broadband services by the Public Administration, particularly in the sectors of Education and Health, could be a major enabler in raising awareness and ensuring penetration of these services across the State, promoting their use to citizens and businesses. The State, by actively promoting the development of broadband infrastructures and services can be a catalyst in Greece towards the targets laid down in the European Initiative eEurope 2005' (White Paper on Broadband 2002).
- At the sub-national level, there have been significant initiatives involving public/private partnerships for the absorption of ICTs in municipalities. In 2004, for instance, the Central Union of Greek Municipalities and Communities (KEDKE) undertook a strategic initiative for the formulation of a development strategy so as to advance the IS/KBE at the local level. This initiative has been carried out in conjunction with a relevant research group on IS/KBE at the National Technical University of Athens and PETA SA, a consultancy firm for local development. There have also been examples of 'digital cities' where a digital platform has been in use, notably the cities of Trikala (e-trikala.gr) and Amaroussion (maroussi2004.gr).

The Greek state has also demonstrated considerable eagerness to help enterprises enter the digital era (through the 'Go-Online' and 'eBusiness' initiatives) and thus to stimulate demand in the private sector through public procurement processes. In 2003 92 per cent of firms with 11-250 employees possessed PCs (94 per cent in the EU), 82 per cent were connected to the Internet (83 per cent in the EU), while 48 per cent had also a website (52 per cent in the EU). These tendencies were reinforced through the "eBusiness" action of the OPIS, resulting in an 87 per cent Internet connection in 2004 (90 per cent for the EU-15) (EDET 2005). Very small enterprises (up to 10 employees) were significantly behind the EU average in 2002, but by 2006 had increased their Internet connectivity substantially (72.4 per cent) (Observatory for Greek IS 2008).

3.3 The Greek state as developmental state in the Greek IS

However, and despite the developmental aspects of the strategy and the undeniable stories of successful completion of certain projects of the Greek state, the overall impression is that the IS in Greece has faced serious implementation problems (Caloghirou and Constantelou 2006). These have been reflected in the following picture of ICT diffusion in Greece, as captured by some basic indicators. In 2006 Greece presented the lowest percentages in EU-25 in the following indicators: Internet usage at least once a week by individuals (25.8 per cent compared to 47 per cent for EU-25), Internet access by households (23 per cent compared to 52 per cent for EU-25), as well as Internet usage for interaction with public authorities (9 per cent of the population over 15 in 2006, compared to 26 per cent for EU-25). It also occupied one of the last positions in PC usage among the population (37 per cent in 2006). Internet access among enterprises was about 94 per cent (93 per cent for EU-25), but broadband access was 58 per cent (74 per cent for EU-25). Perhaps the most dramatic part of the picture emerges in broadband Internet access by households (4 per cent), which was the lowest percentage even in the EU-27 (i.e. including also Romania and Bulgaria) (Eurostat 2007).

Moreover, in 2006, the overall Internet use in the Greek population presented certain digital divide patterns in terms of sex, age, educational level and geographical location:

- i) The percentage of 36.1 per cent for men was contrasted with 24.4 per cent for women.
- ii) Very low use was observed in the 46-55 age group (20.4 per cent) and the 56-65 group (8 per cent), compared to 55.6 per cent in the 16-25 group.
- iii) Only 1.7 per cent of men and women with primary education, and 35.5 with secondary education were connected, compared to 65.5 per cent of the population with higher education.
- iv) The lowest usage was recorded in the Thessaly municipality (17.7 per cent) and the highest in the Athens municipality (35.4 per cent) (Observatory for Greek IS 2008)

In Peter Evans's conceptualisation, the ideal type of the developmental state incorporates the pillars of 'embeddedness' and 'autonomy', which Evans link in his notion of 'embedded autonomy' (Evans 1995). In his discussion of the IT sector in Korea, India and Brazil, Evans attributes the different technological trajectories to different state structures and different state-society relations. In the case of Korea, a robust and coherent bureaucratic apparatus and its dense ties to private industrial capital is seen as the source of technological progress. The network ties between state and firms have been crucial in developing local IT capabilities.

By contrast, in India, the state/industry relation, at least in the beginning, has been characterised by Evans as 'aloof' and 'semi-adversarial' and not conducive to local IT development. Last, in the Brazilian case, the state was better connected with local entrepreneurs, but its fragmentation presented obstacles in following a programme of transformation and in using the links with local firms effectively; while individual state agencies were cohesive, the overall state apparatus was 'badly divided' as a result the Brazilian state was not autonomous enough and this was exemplified in its inability to prevent free rider activity (Evans 1995).

While embeddedness in the above examples refers to links between bureaucracy and private capital, in Evans's subsequent reconceptualisation it is extended and includes multiple groups (i.e. civil society as well).

Following Evans's approach, the state structures and the state/society relations in Greece have been presenting the following dimensions, which can be linked with aspects of the evolution of the IS/KBE project in the Greek context.

Firstly, bureaucracy in Greece has historically been quite fragmented, with lack of expertise and coherence within public authorities and agencies and wide divisions across agencies. Public administration has been systematically subject to abusive interventions by successive governments for purposes of bureaucratic clientelism, something which has prevented the development of a Weberian bureaucratic culture based on rational/legal expertise (Lyberaki and Tsakalotos 2002).

Following from this, there has been observed an overall incapacity of the state to carry out, monitor and implement certain IT projects, due to limited experience on the part of the design, implementation, monitoring and management mechanisms, as well as in the unbalanced distribution of personnel and resources. As a central figure of the OPIS Management Authority remarked, "The most obvious reason for this has been the lack of project management personnel both capable and aware of the contours of the Greek reality that could navigate through a labyrinth of problems and procedures". On the other hand, as a senior member of a large IT firm put it: "Implementation has also been impeded by the complexity of the legal, administrative and institutional framework for IT projects. Certain administrative procedures (e.g. procedures for acquiring funding) have continued to be quite complicated". This seems to have characterised public procurement mechanisms as a whole, reflecting the fragmentation of public administration that has been formed historically.

Overall, the public sector has presented inadequacies as provider of digital products and advanced applications, as well as consumer of digital products and services. According to a former member of the Special Secretariat, “there has been fragmentation within public organisations, perpetuation of quite obsolete structures (e.g. different departments for telephony, IT and Internet, and different departments dealing with procurement for those technologies), inflexible institutional frameworks which were only suitable for large public projects”. Incorporation of a project in the daily administrative routines has been particularly difficult as lack of understanding and motivation on the part of employees.

Secondly, state/economy relations have been historically characterised by over-regulation and strict legal frameworks on the one hand, while suffering on the other from relations of mutual dependence which involve corruption and patronage in the allocation of favours and contracts; further, the links between state and entrepreneurs at the local level have been weak.

Unlike national cases where large ICT firms have acted as leading edge technological innovators (e.g. Nokia in Finland) the IT sector in Greece has been characterised by a very small number of large firms and a vast majority of small and very small enterprises. The IT sector has not been competitive and capable of developing integrated IT solutions; the relationships of dependence of firms on the state observed in the industrial era have been reproduced in phenomena whereby the IT firms, have relied extensively on state promises for funding. As an advisor to a former Special Secretary remarked, “In most countries, the IT sector pushes the public sector forward, while here this does not happen, on the contrary often the public sector needs to make the IT sector aware of developments. This is reflected in the way the market deals with projects: it does not create its own dynamic, but expects the state to generate projects”. Moreover, as a former OPIS Management Authority expert remarked “a vicious circle between the IT sector and the public procurement system” has been observed, dominated by phenomena of micro-corruption, “whereby an IT firm would bribe a member of a committee deciding on the purchase of an IT solution”. In other cases, “large, hegemonic IT firms were in a position to determine the specifications of a project due to their political connections”. This has been confirmed by other state actors, as well as representatives of the IT sector in further interviews.

On the other hand, as several IT sector representatives have claimed, “Implementation has been impeded by the complexity of the legal, administrative and institutional framework for IT projects” (but also characterising public procurement mechanisms as a whole). Certain administrative procedures (e.g. procedures for acquiring funding) have been quite complicated, reflecting the fragmentation of public administration.

Thirdly, formal civil society (measured in terms of organisations and participation rates) has been arguably limited and its organisations often dependent on state mechanisms; importantly, interest mediation has been characterised by a potent rent-seeking behaviour from sectional interests, which reveals a civil society strong in its appropriating potential; and the state/business/labour industrial relations have shown a ‘disjointed corporatism’, whereby labour unions tend to be patronised by the state and the political parties, while the policy capacities of the state regarding business are weak, a situation which accounts for the fact ‘that social dialogue in Greece remains an exercise with a limited scope’ (Lavdas 2005, p.298).

As a result, there has been a lack of social consensus as to what the information society involves at the societal level and what its objectives are. This is owing to the generally recognized fact that there has not been so far a social dialogue between political authorities and implementation mechanisms on the one hand and citizens, firms and social forces on the other for identification of goals and priorities in a kind of consultative process. And this seems to be a historical trend as well, as it has been observed that the programmes of all CSFs, including the OPIS, have been operating through the interaction of state mechanisms and experts with IT sector players, but without clear priorities regarding the societal level and without the building of social consensus towards these priorities. Notwithstanding the role of certain professional associations that have promoted IS developments in Greece (e.g. the Greek Technical

Chamber TEE, or the Greek Association of Information Technology and Communications Scientists and Professionals EPY) and enthusiastic individuals (e.g. the team behind EDET), these activities have not managed to link the vision and knowledge of certain individual or team experts with broader societal structures and mechanisms of diffusion.

4 CONCLUSIONS

Drawing on recent theorisations linking the IS/KBE paradigm and the transformation of the functions of the nation-state, the paper has argued for the importance of the state and its mechanisms for the sustainability of the IS/KBE. In particular, it has drawn on a generic model of 'competition state' and has attempted to outline the ways in which it is involved in the establishment of the IS/KBE paradigm. Going beyond this model, however, I have also argued that the imperative for a sustainable IS/KBE (present in the IS/KBE, not least in the EU) calls for a more developmental role for the state.

Empirically, the paper has drawn on the Greek case of IS/KBE, which has been in the making since the 1980s, but notably since 2000, when a comprehensive IS strategy was put forward by the Greek state in deliberation with the EU administration and following the EU policy objectives. My research has revealed a picture of limited ICT diffusion and deployment at the societal overall compared to the other EU countries, despite a clear articulation of a strategy and despite an active 'competition state' operating within a Schumpeterian Postnational Workfare Regime, namely the EU, in Jessop's theorisation. This picture has also shown the limitations of the 'competition state' model in accounting for the establishment of a solid IS/KBE at the national level. This model has therefore been complemented by deploying that of the developmental state, as conceptualised and applied by Evans, and by examining the state/society coupling in Greece. This has provided an explanation of the current situation of IS/KBE in Greece, which through the language of 'embedded autonomy', can be summarised as follows: on the one hand implementation of policy has been enmeshed in various personal and institutional interests, clientelistic relations and micro-corruption (lack of autonomy of the state from society); on the other hand the IS project has been designed top-down without social dialogue and with subsequent limited mobilisation of civil society, while the links between state and IT entrepreneurs have been weak and presenting problematic aspects (inadequate embeddedness of state into society).

Overall, the paper has adopted a critical stance to simplified models of state transformation. It has sought to combine an analytical framework of state transformation with an empirical experience of IS building and the role of the state in the process. In doing so it has ultimately claimed that the role of the state in a sustainable information society is both significant and possibly differentiated across national contexts in accordance with their historical societal legacies; these can be captured through a socio-historical approach looking into the state/society coupling of any national case under examination.

References

- Barry, A. (2001). *Political Machines: Governing a Technological Society*. New York: Athlone Press.
- Bell, D. (1988). *The End of Ideology : On the Exhaustion of Political Ideas in the Fifties : With a New Afterword* Cambridge, Mass.: Harvard University Press.
- Caloghirou, Y., & Constanelou, A. (2006). Addressing the complexity challenge: Some reflections on the non-linear route of putting policy into practice. Paper presented at the European Communications Policy Research Conference (EuroCPR).
- Castells, M. (1996). *The Rise of The Network Society*. Oxford: Blackwell.
- Castells, M. (1998). *End of Millennium*. Oxford: Blackwell.
- Castells, M., & Himanen, P. (2002). *The Information Society and the Welfare State: The Finnish Model*. New York: Oxford University Press.

- Constantelou, N. (2001). *In Search of a Vision: Information Society Policies in Peripheral and Middle-Income Countries*. Athens: National Technical University of Athens.
- Council of the European Union. (2000). *Conclusions of the Lisbon European Council*. Lisbon.
- Eurostat. (2007). *Statistics on the Information Society in Europe*. Luxembourg: Office for Official Publications of the European Communities.
- Evans, P. (1995). *Embedded Autonomy: States and Industrial Transformation*. Princeton, NJ: Princeton University Press.
- Evans, P., & Rauch, J. E. (1999). Bureaucracy and growth: a cross-national analysis of the effects of "Weberian" state structures on economic growth. *American Sociological Review*, 64(5), 748-765.
- Form, W. (1997). *Embedded autonomy: states and industrial transformation*. - Book Review. *Administrative Science Quarterly*.
- Hellenic Republic. (1995). *Greek Strategy for the Information Society: A Tool for Employment, Development and Quality of Life - White Paper*. Athens: Hellenic Republic.
- Hellenic Republic. (1999). *Greece in the Information Society: Strategy and Actions -White Paper*: Hellenic Republic.
- Hobson, J., & Ramesh, M. (2002). Globalisation makes of states what states make of it: between agency and structure in the state/globalisation debate. *New Political Economy*, 7(1), 5-22.
- Hobson, J. M. (1998). The historical sociology of the state and the state of historical sociology in International Relations. *Review of International Political Economy*, 5(2), 284-320.
- Jessop, B. (2000). The state and the contradictions of the knowledge economy. In J. R. Bryson, P. W. Daniels, N. D. Henry & J. Pollard (Eds.), *Knowledge, Space, Economy*. London: Routledge.
- Jessop, B. (2001). Capitalism, the regulation approach and critical realism. In A. Brown, S. Fleetwood & J. Roberts (Eds.), *Critical Realism and Marxism*. London: Routledge.
- Jessop, B. (2002). *The Future of the Capitalist State*. Cambridge: Polity.
- Jessop, B. (2005). Cultural political economy, the knowledge-based economy and the state. In A. Barry & D. Slater (Eds.), *The Technological Economy*. London: Routledge.
- Lavdas, K. (2005). Interest groups in disjointed corporatism: social dialogue in Greece and European 'competitive corporatism'. *West European Politics*, 28(2), 297-316.
- Lyberaki, A., & Tsakalotos, E. (2002). Reforming the economy without society: social and institutional constraints to economic reform in post-1974 Greece. *New Political Economy*, 7(1), 93-114.
- May, C. (2002). *The Information Society: A Sceptical View*. Cambridge: Polity.
- McGrew, A. (1992). A global society? In S. Hall, D. Held & A. McGrew (Eds.), *Modernity and Its Futures* (pp.61-102). Cambridge: Polity Press in association with the Open University.
- Ministry of National Economy. (2000). *Operational Programme for the Information Society* (Publication no. <http://www.infosociety.gr>). Retrieved March 2005:
- Mitelman, J. (2000). *The Globalisation Syndrome: Transformation and Resistance*. Princeton: Princeton University Press.
- Nash, K. (2000). *Contemporary Political Sociology: Globalisation, Politics and Power*. Oxford: Blackwell.
- Observatory for the Greek Information Society. (2008). "Online eEurope statistical indicators" <http://stats.observatory.gr/pxweb2006/Database/eEurope/databasetree.asp>. Retrieved August 2008.
- OECD. (2001). *Regulatory Reform in Greece*. Paris: OECD.
- Ohmae, K. (1990). *The borderless world : power and strategy in the interlinked economy*. London: Collins.
- Papakonstantinou, G. (2005). *Policies for research and innovation in the EU and Greece*. Athens.
- Perrons, D. (2004). *Globalisation and Social Change : People and Places in a Divided World* London and New York, NY Routledge.
- Rodrigues, M. J. (2002). Introduction : for a European strategy at the turn of the century. In M. J. Rodrigues (Ed.), *The New Knowledge Economy in Europe* (pp. 1-27). Cheltenham: Edward Elgar.
- Rodrigues, M. J. (2003). *European Policies for a Knowledge Economy* Cheltenham: Edward Elgar.
- Sklair, L. (2000). *The Transnational Capitalist Class*. Oxford: Blackwell.

- Smith, D., Solinger, D., & Topik, C. (Eds.). (1999). *States and Sovereignty in the Global Economy*. New York: Routledge.
- Steinberg, P. E., & McDowell, S. D. (2003). Global communication and the post-statism of cyberspace: a spatial constructivist view. *Review of International Political Economy*, 10(2), 196-221.
- Thatcher, M. (2002). Analysing regulatory reform in Europe. *Journal of European Public Policy*, 9(6), 859-872.
- Hirst, P. & Thompson, G. (1999). *Globalization in Question : The International Economy and the Possibilities of Governance* Cambridge: Polity.
- Torring, J. (1999). *New Theories of Discourse: Laclau, Mouffe and Zizek*. Oxford: Blackwell.