Evaluation of Information Infrastructures and Social Development Among the Visegrad-Four Countries of Central Europe

László A. Poók and Norman E. Pence, Metropolitan State College of Denver, USA

ABSTRACT
The paper examines the developmental status of four of the next candidate countries’ information infrastructures for accession into the European Union (EU). It develops significant relationships between nations’ levels of information infrastructure development and their economic and social developments, and applies these relationships to evaluate investment needs for a select group of accession countries called the Visegrad Four. Using cross-country analysis the candidate countries were compared to other countries and were classified into like groups using cluster analysis while their relative developments were evaluated using regression modeling. Developmental requirements and capital needs to promote growth in their information and communications industries were then identified. It is hoped that the paper will offer a comparative glimpse of the information and communications infrastructures of some Central and East European countries as compared to other nations.

Keywords: information infrastructures; social infrastructures; technology; investment; Visegrad Four; Czech Republic; Hungary; Poland; Slovakia; accession countries; European Union

INTRODUCTION
In 1991 after the fall of communism and the disintegration of the USSR, four of the Eastern block nations institutionalized a policy of coordination and laid the foundations of their transition from totalitarian regimes to free, pluralistic, and democratic societies. Their agreement was formalized as the Visegrad Declaration (at the Hungarian city of Visegrad), and Visegrad-Four (or V4) is the name sometimes given the four Central European post-communist countries of the Czech Republic, the Republic of Hungary, the Republic of Poland, and the Slovak Republic (TASR, 2002). The Visegrad Declaration led to a continuation of free trade agreement among the four signatories; trade increased with Western Europe; however, it decreased with other
former communist countries, and declined considerably with the former Soviet republics (Baylis, 1994, pp. 100-103). Also, agreements among the Visegrad-Four lead to these four countries simultaneously and jointly submitting their applications for European Union (EU) membership (Shea and Stefes, 2002).

To date the EU has had accession talks with thirteen Eastern European nations, and designated ten countries as candidates for integration into the EU to join in a first wave in 2004. The ten front-runners, named at a summit in Laeken, Belgium, in December 2001, are the original V4 of the Czech Republic, Hungary, Poland, and Slovakia; the three Baltic nations of Latvia, Lithuania, and Estonia; the two Mediterranean island nations of Malta and Cyprus; and the well-advanced ex-Yugoslav federation state of Slovenia. Bulgaria and Romania were designated as second-wave candidates.

Motives of the V4 countries for joining the EU range from purely ideological to desire for political, economic, and military stability, and for foreign direct investments in their economies. Conversely the motives of the EU to expand eastward are moral, fear, and economic: moral because there is no other region in the world closer to Central and Eastern Europe capable of defusing potential strife in a historically war-prone region, fear because in case of strife it is Western Europe which would first have to receive migrants from the east fleeing potential conflicts and repressions, and economic because these ex-satellite states of the USSR constitute enormous markets and educated and under-paid work forces ready to be plugged into the West’s production systems.

Accession into the European Union is a lengthy process of meeting designated criteria on several factors, one of them being enabling laws, policies, and development on telecommunications and information. We will employ cross-country analysis to evaluate the information and telecommunication preparedness of the V4 nations and the extent to which their national information infrastructures are developed enough to contribute to their needed economic growth for accession to the EU, and once admitted, to match the information infrastructures of the advanced members of the present European Union. Furthermore, the Visegrad-Four (V4) countries as a group are of particular interest to the EU because of their relative political stability and proximity to present union boundaries. As part of this investigation, we will also examine the practice by the World Bank of assessing information penetration by using telephone main line counts as surrogate for the penetration of information technologies.

RESEARCH MODEL

In the ensuing discussion, by social development we mean the extent to which major sources of social distress and instability for the family and for society have been eliminated (United Nations, 1995). Sources of distress are traditionally described by a collection of factors measuring social well-being. Accordingly a Social Development Indicator (SDI) was described, though not constructed as such, by the World Bank (1997) and by the United Nations (1989, 1996), to include measures of social condition. The indicator was constructed and verified by Meso (1999, 2000) for African countries and by Pook and Pence (2001) in a 210-country analysis. National Information Infrastructure (NII) is a robust collection of widely used media for the creation, dissemination, and use of basic information. NII forms the founda-
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