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Financial development, technology, growth and performance: Evidence from the accession to the EU☆

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ABSTRACT

During the past two decades, many countries have embarked on a path of developing their financial markets, strengthening their technological base and stabilizing their economies. This paper finds that financial development and investment in information and communications technology (ICT) have significant positive impacts on GDP during macroeconomic structural reforms. We investigate eight Central and Eastern European countries that recently joined the EU. To secure macroeconomic stabilization, the countries have gone through privatization, harmonization and adjustments of the economies based on convergence criteria. Since some instruments are chosen based on the decision of the countries to satisfy the EU economic requirements, this unique experience along with a GMM methodology mitigates potential endogeneity problems. We estimate systems of simultaneous equations by GMM methods for GDP per capita, financial development and investment in telecommunications technology (TEL). We also find that financial development positively impacts TEL and that TEL weakly contributes to financial development.

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1. Introduction

During the past two decades, many countries around the world have embarked on a path of developing their financial markets, strengthening their technological base and establishing a more stable economic environment for businesses because these are crucial factors for economic prosperity. In this paper, we combine these factors and investigate the direction and simultaneity of the relations for eight Central and Eastern European (CEE) countries that recently joined the European Union (EU). The main goal of the study is to analyze the impact of financial development and investment in information and communications technology (ICT) on the economy with a focus on emerging economies that have passed through a series of macroeconomic structural reforms, which highlights the uniqueness of our data set. Another goal of the paper is to assess the effect of initial stages of financial development on the host country's GDP and economic growth. The study captures initial stages of financial development using a financial development size measure starting in 1997, representing an early year when data is available for the sample countries. We can examine initial stages of financial development because the paper covers the early years of stock market establishment and banking sector deregulation of the CEE countries (Flier et al., 2001; Romero-Avila, 2007). The development process of financial markets and institutions that took many decades for advanced economies is compressed to less than a decade for the eight transition economies. Moreover, using systems of equations allows us to link the development of the financial system with investment in telecommunications technology (TEL) and examine their relation with GDP per capita. An additional goal of the study, in line with Levine (1997), is to evaluate in details the technology channel in the theoretical approach to finance and economic growth within the context of emerging markets.

This paper finds that initial stages of financial development and investment in ICT have significant positive impacts on GDP per capita during macroeconomic structural reforms. To secure macroeconomic stabilization and join the EU, the countries have gone through privatization, harmonization and adjustments of the economies based on convergence criteria, such as price stability, credible interest rates, stable exchange rates and sustainable public finances. Since some instrumental variables are chosen based on the decision of the countries to join the union and their continuous work to satisfy the EU economic requirements, this unique experience along with a generalized method of moments (GMM) methodology mitigates potential endogeneity problems for the explanatory variables. We estimate systems of simultaneous equations by GMM methods for GDP per capita, financial development and TEL. We also find that financial development has a significant positive impact on TEL and that TEL weakly contributes to financial development through GDP per capita. Moreover, in line with the literature, we demonstrate that GDP per capita has a positive relation with both financial development and TEL. Further, we highlight the essential role of the legal system, corruption, monetary and fiscal policy, stability of exchange rates and sustainability of public finances in economic development. More importantly, evidence on the positive impacts of macroeconomic structural reforms, financial development and TEL on GDP per capita carries critical policy implications when emerging countries attempt to promote financial and economic development.

Since the mid-1990s, the financial sector began to receive significant attention for its central role in economic development. A large body of research documents the positive connection between financial development and economic growth (Goldsmith, 1969; King and Levine, 1993; Rajan and Zingales, 1998; Beck et al., 2000; Demirguc-Kunt and Levine, 2001). There is a debate on the direction of the causal relationship between financial development and economic growth. Most empirical studies, including Levine (1997), argue that deeper financial systems foster economic growth by increasing economic activity. Yet causality can run both ways as economic growth can create demand for a developed financial sector with more financial instruments (Shan et al., 2001). According to Demirguc-Kunt and Levine (2001), as countries become wealthier, their financial systems tend to become larger, more active, more efficient and more market-oriented.

According to Rioja and Valev (2004), financial development enhances both productivity growth and capital accumulation. Since technological knowledge is capital intensive and specific, greater amount of liquid liabilities and private credit in the financial system boosts technology transfer. Romero-Avila (2007) finds that the process of financial deregulation and harmonization of banking laws has increased economic growth over the period 1960–2001. The paper by Saint-Paul (1992) presents a