
Financial Intermediation and Economic Growth: A Semiparametric Approach

Thanasis Stengos¹ and Zhihong Liang²

¹ Department of Economics, University of Guelph, Guelph, Ontario N1G 2W1, Canada.
tstengos@uoguelph.ca

² Department of Economics, University of Guelph, Guelph, Ontario N1G 2W1, Canada.
zliang@uoguelph.ca

Summary. In this paper we examine the effect of financial development on economic growth in an additive Instrumental Variable (IV)-augmented Partially Linear Regression (PLR) model using panel data of 66 countries for the period 1961-1995. Three common measures of financial development are used. Our results show that the effect of the exogenous component of a financial intermediary development index on economic growth depends greatly on the definition and measurement of that index. Financial development affects growth in a positive but non-linear way using a Liquid Liabilities index and in an almost linear way when using a Private Credit index. The effect becomes ambiguous when a Commercial-Central Bank index is used.

1 Introduction

The role of financial development on economic growth has been examined both theoretically and empirically in the recent literature. As summarized by Levine [11], financial intermediaries act as facilitators to (i) produce information ex-ante about possible investments and allocate capital accordingly (ii) monitor investments and exert corporate governance after providing finance (iii) facilitate the trading, diversification, and management of risk (iv) mobilize and pool savings and (v) ease the exchange of goods and services. Below we will provide a brief review of the recent theoretical and empirical literature on the subject.

The theoretical models focus on modeling the particular services provided by the financial sector and how these services influence resource allocation, productivity improvement and economic growth. Diamond [4] highlights the role of improving corporate governance of financial intermediary. In his model the intermediary mobilizes the savings of many individuals and lends these resources to firms. The financial intermediary has a gross cost advantage in monitoring and eliminates the free-rider problem since the intermediary does the monitoring for all the investors. Furthermore, as financial intermediaries and firms develop long-run relationships, the information acquisition costs can be further lowered. Bencivenga and Smith [2]

emphasize the role of the financial intermediaries in diversifying the liquidity risk. In their endogenous growth model, agents have to leave a part of their assets as liquid assets, which is unproductive to meet their unforeseeable liquidity risk. Financial intermediaries which pooled savings together enable the economy to reduce the fraction of savings held in the form of unproductive liquid assets. Consequently, higher proportion of savings is shifted to productive asset, which in turn affects the equilibrium growth rate. Greenwood and Jovanovic [7] develop a model in which both financial development and economic growth are endogenously determined. Financial intermediaries collect and analyze information, improve capital allocation and promote growth. Concurrently, growth stimulates financial development because it allows for implementation of costly financial structures. King and Levine [10] construct a model in which the financial intermediary sector plays an active role in identifying, managing, and financing the most promising productivity-enhancing activities. In these ways, better financial systems stimulate economic growth by accelerating the rate of innovation.

The empirical studies examine the evidence regarding the possible contribution of the financial sector to economic growth. The advent of large macroeconomic data sets makes these empirical studies possible. The empirical work involves cross-country studies, panel studies, pure time-series investigations, and country case studies. One of the most influential studies on the subject is King and Levine [9]. They construct four different financial development indicators, and based on data covering a cross-section of 80 countries during the period 1960-1989, they report that higher levels of financial development are significantly and robustly correlated with faster current and future rates of economic growth, physical capital accumulation, and economic efficiency improvements. In addition, they conclude that the link between economic growth and financial development is not just a contemporaneous correlation. Instead, finance seems to lead economic growth in an important way. This work does not, however, confront the potential biases caused by simultaneity or omitted variables, including country-specific effects, as pointed out by Beck, Levine and Loayza [1].

Levine, Loayza, and Beck [12] use econometric techniques that directly confront the potential biases induced by simultaneity, omitted variables and unobserved country-specific effects to examine the role of financial development: a cross-sectional instrumental-variable (IV) estimator and Generalized Method of Moments (GMM) dynamic panel estimators. The cross-sectional and panel results confirm that the weakly exogenous components of financial intermediary development exert a statistically significant and positive influence on economic growth. The authors therefore conclude that the data suggest a strong, positive, link between financial intermediary development and economic growth.

However, the above studies all rely on the notion that the relationship between economic growth and financial intermediaries is linear. Some recent studies explore the possible non-linear relationship between financial development and economic growth. Economic theory exploring this aspect suggests that there is a nonlinear effect of financial intermediary development on economic growth. Khan [8] presents a non-linear relationship between financial and economic development. Financial